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Alternative Futures

16th Issue, 03/2022

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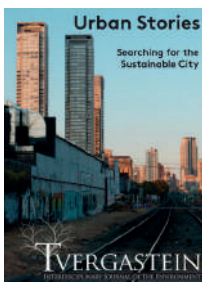
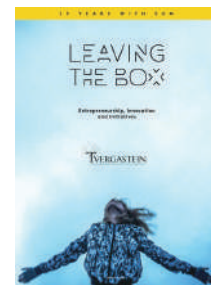
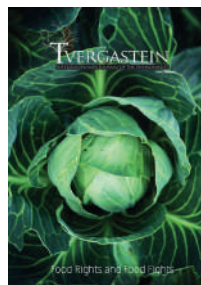
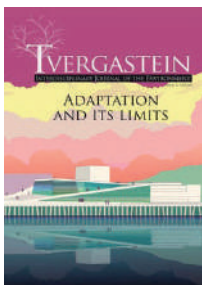
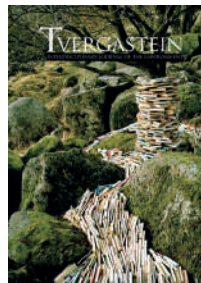
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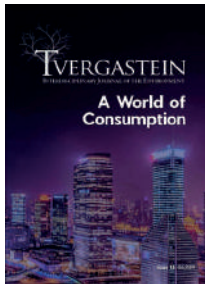
10 years of Tvergastein!

This year, we do not only look forward, exploring the theme of Alternative Futures, we also look back as we celebrate Tvergastein's tenth anniversary. In 2012, a group of master's students started this interdisciplinary journal on environmental issues, the first of its kind in Norway, as an attempt to establish new connections between environmental activism and academia. Recognising that the scale of environmental problems is such that they affect nearly all disciplines, they envisioned a place for sharing and developing ideas, where different perspectives come together. Tvergastein has kept these core elements for the past decade, while also evolving to meet the present moment.

Thank you to all editors, writers, artists, supporters, and readers that have contributed to Tvergastein in the last decade! Together we have published 16 issues, plus a special publication, on a wide variety of themes, all of which you can read digitally through our website.



Write for us



Soon we will be looking for new submissions, ranging from creative texts and artwork to opinion pieces and academic articles. We accept pieces in English, Norwegian, and any other language we have the editing capacity for. Please reach out if you would like to submit an article in another language and we will do our utmost to find editors for the submission.

Op-ed style pieces aim to range from 2,500-5,000 characters, and academic style pieces range from 10,000-20,000 characters.

Follow us to find out the theme and deadline for our next issue. Also, feel free to submit to our blog anytime.

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We also welcome master's students of any discipline at the University of Oslo to join our editing team.

If interested, please reach out through tvergastein.journal@gmail.com.

A Word from the Editors

Heya readers,

Welcome to the sixteenth issue of *Tvergastein* which looks towards the future—by necessity an open-ended endeavour. As we celebrate our tenth anniversary amidst uncertainty, turmoil, and a global pandemic, we wanted to embrace just how many alternative associations 'the future' can evoke. When we sent out the call for alternative futures, the responses we got back were insightful and varied. They now fill these pages with a multitude of possibilities that you may, or may not, hope for, predict, or engage with for the very first time.

We start off by tackling the underlying and problematic conditions of the systems we currently exist within. Janne Salovaara and Sophia Hagolani-Albov start us off with an evaluation of the possible paths for breaking away from capitalism within sustainability transformations. Johannes Volden's in-depth discussion of the sustainability of meat and alternative proteins within growth and degrowth paradigms illustrates how such basic and systemic principles determine possible future outcomes. In their response to Julia Cagé's book, *The Price of Democracy*, Sanne van den Boom and Hendrik Prühl look at how political systems, like parlia-

mentary democracies, also have built-in (im)possibilities. Kylie Wrigley shows us the potential for constructive change, that is made within the vein of degrowth, in an analysis that looks at how proponents of degrowth can struggle discursively to define alternatives to our future that match the degrowth narrative. Finally, Matteo Redaelli takes us on an artistic journey of modern landscapes in comparison with those of past eras, juxtaposing our gaze into the future with past nostalgias.

As we move past systemic change, we look at one of the most highlighted issues of the modern, western world: our consumption. Sam Anderson discusses his new company, CarbonGraph, and the possibilities of changing our consumption habits within the current capitalist system. Wouter de Rijk then looks at the historical narratives of energy consumption and production, with an argument intertwining dimensions of the current culture in the Netherlands with its energy transition from the 20th century. Hendrik Prühl continues the conversation of energy in Europe. He examines the tension produced by Germany's plans to change where their energy is sourced from while leaving the underlying cultural elements of growth and consumption untouched. Finally, Sofie Van Canegem provides

a thoughtful reflection on her own attempts to switch her consumption habits in regards to food waste, and the outside pressures she felt throughout this journey.

Amalie Rugård Jensen provides another artistic break with her imaginative engagement with a fictional fern-talking scientist, to make room for uncredited individuals. She also graciously ushers in the final topic of our visions for the future: resistance. Andrew Poeppel examines our ethical responsibilities for the future, and how activism and resistance, both through action and thought, can be a necessary part of this ethical dilemma. Jean-David Rizo writes in Spanish about his experiences as an urban gardener in Colombia, and the resistance of the Indigenous peoples to former land grabs in the region. Elena Salmansperger then looks at the economic growth paradigm, and resistance to it, through squatting in Leipzig, Germany. She focuses especially on the agency that squatting can have within transformations. Finally, Alejandro Ruelas examines the resistance of activist Roger Hallam, and how fixating on resisting ‘correctly’ might endanger the resistance in itself. Haneer Jang provides an illustration focusing on life for this piece, as well as her own experiences in Norway through her other depiction, ‘Living in Nature’.

Each of the following articles is a stand-alone piece that looks at its own facet of one possible path. We hope that in showing some of these possibilities, in giving a glimpse of what we face, how we got here, and what may materialise as a result, we can all come to envision some of the myriad of alternatives that have yet gone unmentioned. We encourage you to peruse the perspectives here and take them on as building blocks in answering the question that has accompanied us for the last year: what is my place in creating an alternative future?

Editorial Board, 2021-2022

Contents

A Word from the Editors	4
Contributors	8
Inescapable Path Dependency and Unbreakable Barriers: The Overpowering Presence of Capitalism in Sustainability Transformation	10
<i>by Janne J. Salovaara and Sophia Hagolani-Albov</i>	
Can We (De)Grow Meat? Bringing Alternative Protein in Dialogue with Degrowth	23
<i>by Johannes Volden</i>	
Rethinking Democracy: a Response to Julia Cagé	36
<i>by Hendrik Pröhl and Sanne van den Boom</i>	
Degrowth's Discursive Struggle for Utopia	42
<i>by Kylie Wrigley</i>	
Landscape Discovery	57
<i>by Matteo Redaelli</i>	
Chasing Carbon: The Story of CarbonGraph	62
<i>by Sam Anderson</i>	
Alternative Futures in the Past: Dutch Discourses around Natural Gas in the 1960s	69
<i>by Wouter de Rijk</i>	
What Makes a Transformation – The German Hydrogen Economy as an Example of Radical Change to Business as Usual	80
<i>by Hendrik Pröhl</i>	

Living in Nature <i>by Hanee Jang</i>	93
Climate CHALLENGE <i>by Sofie Van Canegem</i>	94
Arrival of the Ferns <i>by Amalie Rugård Jensen</i>	101
The Vanguard of Climate Ethics: Seeking a Livable Future in an Age of Accelerating Change <i>by Andrew Turner Poeppel</i>	106
¿Qué significa liberar a la Madre Tierra en las ciudades? Una mirada al proceso de Liberación de la Madre Tierra desde la perspectiva de un huertero urbano en Cali <i>by Jean David Rizo</i>	116
Creativity, Urban Margins, and Global Transition: The Case of Occupy Leipzig <i>by Elena Salmansperger</i>	121
Of Many Worlds in Resistance, and Why Roger Hallam is Dead Wrong <i>by Alejandro Ruelas</i>	135
Editorial Board	147
Sponsors	148

Contributors

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Sanne van den Boom is a master's student in Development, Environment and Cultural Change at SUM. In 2021, she was one of the holders of the annual stipend by the Arne Næss Programme on Global Justice and the Environment. For her thesis, she is currently researching citizens' assemblies on climate change and thinking about the relation between democracy and the environment.

Sofie Van Canegem from Belgium, holds a master's degree in Law from the University of Leuven. Thanks to her participation in the Philip C. Jessup International Moot Court Competition, she discovered a keen interest in International and Environmental Law. She holds a second master's degree from the University of Oslo where she specialized in these fields of law.

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Amalie Rugård Jensen has a B.Sc. in paper conservation and is now a student at Art & Craft at Oslo National Academy of the Arts, where she will finish her bachelor this summer. She works with lithography, writing, letterpress printing, book-binding, and collecting objects. She enjoys reading Ursula Le Guin, walking in forests and making things up.

Andrew Turner Poeppel holds a bachelor's degree in environmental and urban studies from New York University. His research interests include: the history of environmental movements, ecological awareness in cities, and the ability of activists to affect social and cultural change. He is currently pursuing a master's degree in development, environment, and cultural change at the University of Oslo.

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Wouter de Rijk is pursuing a research master's degree in History: Politics, Culture, and National Identities at Leiden University, in the Netherlands. His research interest lies at the junction of political and environmental history.

Jean David Rizo soy profesional de Filosofía de la Universidad del Valle en Cali, Colombia. Soy tejedor y artesano, a eso me dedico. Desde hace mucho tiempo he estado involucrado en los temas de la siembra. Por ello, he estado haciendo y apoyando huertos universitarios, huertos en barrios y comunitarios. Asimismo, he continuado mi autoformación a través de los viajes que he hecho en Colombia y en otros países de Abya Yala, o sea Latinoamérica, donde he aprendido y compartido con comunidades indígenas campesinas y afrodescendientes temas en torno a la defensa de la Tierra y el cuidado de la vida.

Alejandro Ruelas completed a Bachelor's degree in Journalism in Mexico City, where he was born, and a decade later came back to academia to engage more meaningfully with environmental issues. He is currently pursuing a master's degree in Development, Environment and Cultural Change at the University of Oslo. He spends most of his time talking about conservation, ruminating about everything that is wrong with capitalism, and wondering whether it is time to watch a football match and have a beer.

Elena Salmansperger is in her second semester of the DECC master's program at SUM. She plans to write her thesis on public perceptions of urban squatting in Frankfurt, and how squatting might affect peoples' worldview and behaviour. Her academic interests are usually in some way related to degrowth and urban settings.

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Kylie Wrigley is a research assistant and PhD candidate at Edith Cowan University in Western Australia, with a master's degree from the University of Oslo and an interdisciplinary background in geography and environmental humanities. Her current research partners with local climate justice activists to develop and evaluate effective community organising strategies through decolonial feminist participatory action research.

Inescapable Path Dependency and Unbreakable Barriers: The Overpowering Presence of Capitalism in Sustainability Transformation

by Janne J. Salovaara and Sophia Hagolani-Albov

Abstract

This paper is a contribution to a philosophical dialogue on the sustainability transformation, motivated by our observations of the modern world, wherein sustainability discourses often centre on transformation as a goal without critically examining where that transformation needs to occur. The continued seeming inability to achieve sustainable transformation seems to root in the very fabric of how the capitalist system operates. Trying to achieve sustainability within a system that has an opposing intent seems unable to produce transformation. The tension within sustainability transformation is described herein as a battle between truth and power and a threat to society's ability to reimagine itself out of this path-dependent development, and thus requiring true autonomy, modernity, and civility. Through negative loops, such as accepting the normalisation of unsustainability as sustainability and taking path-dependency as inescapable, the narration of the inability to change becomes reality.



Introduction

This paper is a musing and the initiation of a philosophical dialogue, based on our observations as researchers working within sustainability science. We, the authors, utilise a definition of sustainability science that conceptualises it as a basic, critical, persuasive, and applied science concentrating on human/environment dynamics, in strong contextualization and co-creation, with a deliberate aim to transformation (Salovaara et al. 2020). We do not claim to have a detailed plan as a definitive answer to the issues at hand, nor are we able to present all relevant questions related to the topics broached herein. This is not a systematic literature review or the result of an empirical analysis of any specific data. Rather, this reflection evol-

ved through continuing discussion and mutual distress over the development of the discipline of sustainability science as well as the application and execution of the concept of (sustainability) transformation in the larger societal sphere.

Transformation can be understood in many ways; as a deliberate change into our societal meaning-making (O'Brien 2011), as a radical societal transition on a macro-scale (Geels and Shot 2010), and as the transformational adaptation of our societal system to another (Park et al. 2012), to name a few that pertain to this discussion. In practice, (sustainability) transformation seems to be relegated to buzzword status, rather than seriously undertaken as a legitimate path towards something new, different, or better. Based on our observations, understanding, and discussion of the literature, we postulate that the transformation approach in sustainability (science) – in its multiple meanings (Feola 2015) – is not possible while we operate within the current capitalist (world) system.¹

We (worryingly) observe how the overarching discourses of sustainability – as educated, researched, and/or professionally practised – centre on transformation as a goal, often without a robust critical analysis of whether it is the outcome of a particular process that needs to be transformed or the process itself.

¹ We see the capitalist system as the contemporary expression of the neoliberal mindset. We agree with Richland (2009), who calls neoliberalism a “social disease,” whose symptoms (among others) are a disregard for future wellbeing in favour of a narrow approach to wellbeing measured via capital accumulation and ability to participate in consumption. This is reinforced via educational and other socio-cultural institutions that compel the uptake of this narrow approach to wellbeing.

Herein, we explore our interpretation of the state of sustainability and transformation. We expose some of the barriers to transformation and societal assumptions that need to be critically examined to avoid continued path dependency (e.g. the inability to break free from typical mechanisms and casualties).

We (worryingly) observe how the overarching discourses of sustainability – as educated, researched, and/or professionally practised – centre on transformation as a goal, often without a robust critical analysis of whether it is the outcome of a particular process that needs to be transformed or the process itself. The way value is assessed and assigned under the capitalist system is a further impediment to meaningful transformation. We have observed that proposals for transformative alternatives under the capitalist system, whether related to food systems, fibre systems or other systems, are often still valued by their potential for capital accumulation, which is a short-sighted measure for “success.” Many economically “successful” capitalist projects come at the expense of human/non-human wellbeing (Kröger 2021). This prompts us to ask, how can transformation be enacted as a process-centred endeavour to achieve sustainability? We think that even before a transformation can be fully realised in

practice, there needs to be more mental space to allow for thoughts and the development of systems outside of, or at least apart from, the capitalist system. When thinking and operating within capitalism, is it even possible to curb the endless growth of capital in the form of monetary wealth in favour of other forms of capital, for example social or intellectual wealth? Or are we bound to the established path of capital accumulation as one of the most important measures of success in any particular endeavour? In the process of daily life, it can feel at times that one is indeed paralyzed to break free from this particular path dependency within the capitalist system, which has become a vacuum for all that emerges against or as an alternative to the mainstream. How are we supposed to fix a broken system with, and within, a broken system? Thus, we have come to the realisation that a so-called sustainable approach to the urgent need for change, starts to appear narrow and (self-)diluted.

When thinking and operating within capitalism, is it even possible to curb the endless growth of capital in the form of monetary wealth in favour of other forms of capital, for example social or intellectual wealth?

Situating Sustainability

Sustainability, when understood as seeking a balance between human progress and environmental stability (Keeble 1988), weighs the tensions between economic/industrial development and the preservation of natural environments. This preservation of the natural environment is often expressed as necessary for the use and enjoyment of future generations (Kuhlman and Farrington 2010).² Sustainability as a principle is conceptualised as three pillars of development – economic, ecological, and socio-cultural (Purvis et al. 2019). We contend that this framing often obscures what is needed to enact a systemic transformation and allows sustainability in any specific transformative project to be treated as if it pertains to only one of its facets. In other words, the measure of success of any project promising transformation only evaluates economic sustainability or environmental sustainability, but not sustainability as a whole. Since the world is not neatly divided into separate spheres but is a complex and interrelated system of systems, adopting this framing fails to capture the

nuanced and complex reality of a world-system resistant to change (Moore 2015).

Sustainability – as understood and operationalized within a capitalist system – fails to mitigate the harm that humans are causing to the human/non-human environment.

Sustainability is often employed as a response to competing development goals as well as a push back to the extractivist tendencies of the capitalist system (Kröger et al. 2021). While progress toward actualizing the magnitude of change needed is sluggish, sustainability as an “agenda item” has become nearly all-pervasive in academia, business, and media. At present, seemingly all projects are enacted with the goal of promoting “sustainability” or are framed in relation to the United Nations Sustainable Development Goals. Even with this intense push of sustainability rhetoric and strategy, the promised sustainable future seems to continue to escape practical realisation. Sustainability – as understood and operationalized within a capitalist system – fails to mitigate the harm that humans are causing to the human/non-human environment.³ This capitalist-coloured

² The authors agree with Kuhlman and Farrington (2010) in their argument that the three-pillar approach to sustainability unnecessarily intensifies the contradiction between economies and societies.

³ It should be noted here that the authors are not implying that humans are a homogenous group

sustainability does not seem to produce the transformative changes needed or promised. Sustainability in practice, under critical examination, is often reduced or diluted to different forms of greenwashing (Furlow 2010), and the transformation promised is often frustratingly incremental. While one could claim that sustainability is a popular framework, with a continual increase in initiatives, talks, and agreements – we should wonder whether it is producing transformation at the systematic level. Even though society at large has demonstrated its endorsement of the idea of sustainability, some questions remain: what kind of sustainability do we want? Are we really satisfied with greenwashing? With which and through which processes do we aim to achieve this transformation?

In our view, this type of sustainability, while it accepts and even celebrates certain human processes in their current (capitalist) form, condemns their output – the negative effect on the environment. Pawson et al. (2011) highlight how often humans are oriented towards issues in terms of what we know and what we know we do not know. Concentrating on the outcome, rather than the process itself, is akin to

causing equal damage to the Earth (a nuanced discussion of this important topic is beyond the scope of this paper, see Kröger [2021] for a deeper exploration).

trying to solve issues by their symptoms rather than their causes. Under the capitalist system, there is an attempt to fill the sustainability-void by matching perceived problems to society's existing abilities for correction. This dynamic lends itself to only being able to identify shortfalls at the end of a process, and often not being able to identify the shortfalls that are inherent in the process itself. Can the outcome of a process be changed without changing (i.e., transforming) the process itself? Even when trying explicitly to change sustainability science, the aim is often to solve the problems of the outcomes of harmful processes (such as extraction and resources processing) by adjusting and amending the inputs of these processes. Yet changing the inputs of the processes does not transform the outcomes in any substantial way, as the process itself remains the same. Even though this should come as no surprise, there seems to be some confusion about the reasons why the desired sustainability transformation has not been achieved.

We see the rhetoric, whether in academic research (Luederitz et al. 2017),⁴ higher

⁴ Luederitz et al. (2017) analyses and groups four main narratives in transition studies. The four narrations are: green economy, low-carbon transformation, eco-topian solutions, and transition movements. While two of them suggest that there is a green growth to be found, the latter suggests alternatives to the current development, but at a small scale, and in that isolation as radical alternatives (i.e., directives or strategies

education (Weisser 2017),⁵ or development policy discussion (Luke 2005)⁶ to strongly conceptualise a materialistic and shallow sustainability, measured and assessed by the outputs of actions without much critique to the process itself. In the habit of juxtaposing sustainability to (material) prosperity, sustainability is interpreted as implying recession or surrendering the prosperity achieved by past development. Material recession implies lessened wellbeing. The two possible outcomes of either a flourishing environment or a flourishing humanity both present a threat to the other—either the environment or human prosperity is at risk. Thus, the belief that we are between two paths of doom seems to be well accepted. It is continuously echoed in bleak evaluations of potential futures that will play out under the current trajectory (e.g., the discussion of the necrocene in the concluding chapter of Kröger [2021]).

for the whole planet).

⁵ Weisser (2017) concludes that many of the definitions of sustainability can be exemplified in organisations “performing sustainably.” Sustainability can be summarised as “people, planet, and profit,” the pursuit of which is a “competitive advantage,” and the aims for social equity are addressed somewhere in the future.

⁶ Luke (2005) criticises the employment of the term sustainability in development rhetoric, assessing that it leads to neither sustainability nor development. Instead, as an initiative to satisfy human needs, sustainable development gets predominantly utilised as a commodification campaign.

Path Dependency and Societal Barriers

Monbiot (2016) points out that no new general economic framework has been suggested in order to replace the current (broken) neoliberal system, characterised by Monbiot as having its roots in the Great Depression (though it should be noted that many argue that the system has much deeper roots, e.g. Moore [2015]). This implies that capitalist countries are running their societies with a broken system. For this, rather than an environmental, economic, or societal crisis, we seem to suffer from an intellectual crisis to reinvent and replace the parts of the system that no longer serve as desired.⁷ To remain in the capitalist system brings material comfort to many, yet it fundamentally operates on short-sighted measures of value. Sustainability rhetoric somewhat downplays its threat to material prosperity; however, it simultaneously operates within a population that is taught to produce and reproduce prosperity – even though in practice some trapping of prosperity could be reduced without too much harm. Thus, we are beginning to see that transformation is measured in its impact on human material prosperity or wellbeing rather than measured in inputs, outputs, and processes. We see that this barrier to transformation is somewhat like the

⁷ Discussed in Mirowski (2014).

barrier described over 70 years ago by Polanyi,⁸ by Marx over 200 years ago,⁹ or by Aristotle over 2000 years ago.¹⁰

We acknowledge that there are many grassroots projects, eco-innovations, sustainability initiatives, policy pitches, future projections, climate agreements, summits and declarations for sustainability at play. Yet the general societal state of sustainability still feels thin or inadequate in its implementation. Many parties are willing to communicate widely about their sustainability efforts, yet simultaneously are not challenging the status quo with their material actions. Thus, the unsustainable processes keep going, even when the intention of the project in question is sustainable transformation. Without a systematic and meaningful societal buy-in, the imagined transformation will never take

place, as true sustainability calls for a different shared societal intent. Even if we successfully end this struggle over strategy, another battlefield awaits between truth and power (Latour 2004).¹¹ With all the knowledge that we have on sustainability, and more precisely on unsustainability – how much does it weigh over, say, the economic force in the hierarchy of decision making? Which basic element “won” the COP26? To this end, it seems there is no process in the mainstream for meaningful transformation. Mainstream does not imply most of a society by raw numbers, but rather the decisive societal ethos – in this case, the (capitalist) regime. This regime has developed in a way that has pushed alternatives beyond the reach of mainstream institutional actors, which leaves little hope for individuals. Moreover, the debate seems endless as capitalism benefits from this quagmire and can afford the fight. This intellectual crisis of our logic and societal structures is both a cause and outcome of our path dependency.

The truth one produces, in the context of sustainability, perhaps has a disruptive

⁸ Polanyi (1957) wrote about the fear of the institutional vacuum that could result from dismantling the industrial economy to move to a free market economy, in which he saw the same profound and unnatural flaw – no economy, that is the organising power of a society, should run based on self-interest.

⁹ Marx’s conceptualization of the issues in private ownership can be seen as the debilitating factors to the foreseeable, and observable, problems in a society running on a self-interest-based economy.

¹⁰ Aristotle’s writings on happiness seem relevant in the sustainability discussion, in the belief that happiness – the ultimate well being – comes from the fulfilment of one’s own human potential, and under the realisation that this has no source in material accumulation.

¹¹ Latour (2004) addressed the dichotomy of power versus truth – albeit a truth as a matter of perspective or critique. That any critique as a matter of personal concern against the power can be interpreted under power as false and proven so when reflected to the truth ruled by power. Latour (2012 [1991]) suggested that humanity has never been modern as it has not been able to separate truth and power.

ve aim, but the surrounding system harnesses the action to further the process of the larger system rather than towards the disruption. This re-conceptualization of sustainability amends the ethos of the once perhaps radical initiative - to have real-world applications and to be relevant - while diluting the initiative itself. When used as input to the machinery of capitalism, unsurprisingly, sustainability is produced to follow the form of capitalism, not the transformation of the systems operating under capitalism. Time after time sustainability gets shaped in the machinery of capitalism. One begins to believe that they are seeing sustainability, though in essence it is now just a further gear in the machinery of capitalism. We (re)internalise what has become real, the negotiated, contested, battle-proven, but scarred, real-world application of our truth as the “real” reality. We exist in a cultural vacuum that has the power to render invalid our opposing

truth, endurance to survive the efforts of resistance, and a mechanism that reshapes and internalises, or alienates, nullifies and disregards, *what* and *who* seem not to fit. Through this negative feedback loop, we normalise¹² (or are normalised to accept) the narration of an inability to change. We embody reality, and through our consciousness reality gets embodied (de Bruin and Kästner 2012). The normalisation mechanism creates path dependency by way of strengthening the resistance to alter the path.

Radical and Transformative Sustainability

So where do we break free from the vacuum and find true autonomy (Esteva and Pérez 2001)?¹³ How can sustainability and transformation be conceptualised and enacted in a way that is strong enough to survive the overpowering capitalist machinery, yet clever enough not to be disregarded by the system? While the operational framework of sustainability (science) remains true to the *problematique*, *mode*, *context*,

How can sustainability and transformation be conceptualised and enacted in a way that is strong enough to survive the overpowering capitalist machinery, yet clever enough not to be disregarded by the system?

¹² Not simply as making something societally normal but doing so through mechanisms of power (see Taylor [2009] discussing Foucault).

¹³ Esteva (translated by Pérez) (2001) defines radical democracy – the public conceptualization of autonomy – as implying a person’s ability to improve their lives and transform their social relations. This is an initiative that reorganises society from its base, instead of merely engineering legal and institutional changes.

and aim¹⁴ – we suggest sustainability for a radical transformation (measured by the scope of change)¹⁵ takes better use of the philosophical thoughts suggested in this paper. We believe the root problems lie with the nature of certain human processes, and not only in the outcome of those processes (Moore 2015). What do we dare and imagine to be able to challenge and how do we struggle out of a system under which we lack autonomy and feel distinctly powerless? As Baldwin (1962) famously said, “Not everything that is faced can be changed, but nothing can be changed until it is faced” – thus before entering in the engagement of either of these options, we need to pinpoint and verbalise the base issues around sustainability and their root causes, which are the barriers to transformation. Thus, in addition to a litany of pragmatic barriers to making the world more sustainable (discussed at length in Leal Filho [2022]), what we are addressing, is a meta-level problem at a profound epistemic, sense-making, and value level.

¹⁴ Through our academic work, we have collected a framework of sustainability science from the literature by several authors of the field: the problematic roots from the human environment dynamics, the mode is inter- and transdisciplinary – mode-2 scientific (Nowotny et al. 2001), it is use-inspired science, contextualised and co-created, and sustainability science has a deliberate aim for transformation.

¹⁵ In the list of characteristics of radical transformation (Geels and Schot 2010) our view aligns most with a lean to the scope of the change – to change from a whole system to another.

Concluding Remarks and Final Thoughts

This is the point to which we have gotten with our thoughts and reflections. Our apologies to those who have read this far, as there is no ingenious suggestion of how to surmount these issues and “fix the world.” This paper emerged from our reflections on the disconnection between theory and practice in sustainability science. We conclude these thoughts about sustainability and the barriers to sustainable transformation with a call for a more critical take on the utilisation of the term sustainability, and an aim to challenge the casual or deceptive use of sustainability (e.g., greenwashing). We want sustainability to be biased only by its own complex, uncompromising, and at times even puritan intent. We make this call not only for the sake of sorting out the semantics, but to pave the way for a better grounded and firmly free-standing epistemic identity of sustainability, which would perhaps be less susceptible to being fumbled by the capitalist mainstream.

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Can We (De)Grow Meat? Bringing Alternative Protein in Dialogue with Degrowth

by Johannes Volden

Abstract

Unsustainable global meat production and consumption are major obstacles to a sustainable future. Ecomodernists put their faith in the burgeoning food-tech industry to create a new market for 'meatless' meat. Meanwhile, sceptics of 'green growth' call for broad systemic and cultural changes in how we deal with food. To truly understand implications for sustainability, I argue, these new meats must be seen in the context of (de)growth in production and consumption.

"With Impossible Burger, it's never been more delicious to save the planet."
– Impossible Foods¹

¹ Quote from the front page of the company's website: <https://impossiblefoods.com/> (accessed 30 November 2021).

1. The meatless meats

For decades, meat replacements have been a niche product segment marketed to vegetarians and vegans. But as global industrial meat production is facing scrutiny from health and environmental advocates around the world, a new industrial sector of alternative proteins is on the rise.² In recent years, cutting-edge (bio)technology has been leveraged by ambitious start-up companies to create processed plant and cell-based meats that are more like the real deal than ever before. ‘Lab-grown’ meat first appeared on the market in 2020, in the form of a cell-cultured chicken nugget on a high-end Singaporean restaurant menu (Bennett 2021). With the advent of food-tech startups like Beyond Meat and Impossible Foods, plant-based meat analogues have proliferated and ‘explosive growth’ in the industry is predicted (Bloomberg Intelligence 2021).

Reinventing meat as sustainable, ethical, and healthy, the alt-protein sector aims to *upgrademeat* into a new form – what I call Meat 2.0.³ The thorny goal with this new ‘generation’ of technologically advanced meat substitutes (He et al. 2020) is to

escape the meat-free supermarket aisle and become the new meat. Against the backdrop of a bleak future with meagre meat rations, there is the dream of a new era of plenty. But is this vision of sustainable meatless abundance realistic?

Alt-protein offers an appealing promise of dismantling the meat industry, which is at the very root of global unsustainability. But it also presents a technological fix for a problem with deep systemic – as well as social and cultural – roots. In this exploratory essay, my goal is therefore to grapple with the question of *growth* in the alt-protein industry. The notion of ‘decoupling’ production and consumption from their environmental footprint is well known in the narrative of green growth, and frequently critiqued by supporters of the *degrowth* movement, who argue that shrinking the global economy is necessary to achieve true sustainability. With the recognition of alt-protein’s unequivocal growth imperative as a starting point, I address meatless meat from the vantage point of these opposing sustainability ideologies.

How does Meat 2.0 fit within the green growth and degrowth discourses, and to what extent do – or can – they speak to one another? With the potential to degrow the conventional meat industry but at the same time expand the protein

² A 2021 business forecast report predicts an 11% global protein market cap for alternative proteins by 2035 (Witte et al. 2021).

³ Though not used in an academic context yet, the Meat 2.0 term has been applied in a similar way by journalists (see e.g., FutureBridge 2019).

market and reinforce the desire for meat abundance in consumer culture, it is not straightforward to position Meat 2.0 within the debates on ‘growth’ in future foodscapes. Framing meatless meat in the broader context of (de)growth, I argue, allows for a more holistic understanding of its implications for sustainability.

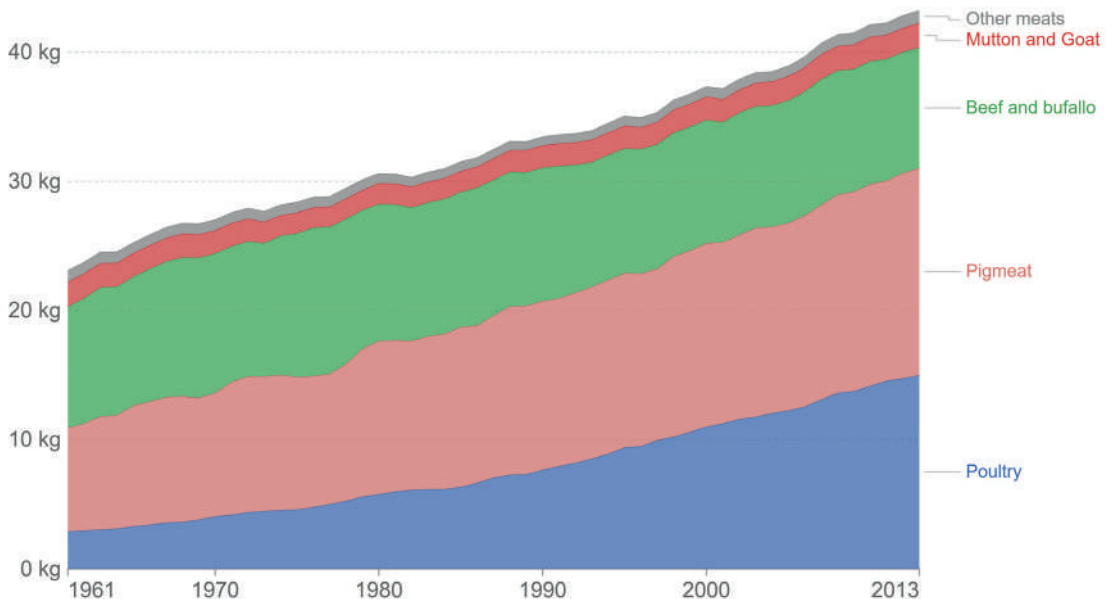
2. From meat to alternative proteins

In the past century, we have witnessed an astounding growth in meat production and consumption, per capita and in absolute terms. Statistics tell the story of a global yet unevenly distributed ‘meati-

fication’ of diets (Gray and Weis 2021). Collectively, we eat almost twice as much meat as we did 60 years ago (see fig. 1). Most of this meat comes from industrial livestock production and is consumed by the rich as well as those hailing from the Global North. Today, there are ten times as many livestock as wild mammals and birds on the planet (Ritchie 2021). But the abundance of cheap meat comes at a high cost. The global livestock sector is responsible for 18% of all anthropogenic greenhouse gas emissions and requires 30% of Earth’s land surface (Vergunst and Savulescu 2017).

Per capita meat consumption by type, World, 1961 to 2013

Average per capita meat consumption broken down by specific meat types, measured in kilograms per person per year. Data is based on per capita food supply at the consumer level, but does not account for food waste at the consumer level.



Source: UN Food and Agricultural Organization (FAO)

OurWorldInData.org/meat-production • CC BY

Figure 1: Global increase in meat consumption. Source: Our World in Data. Accessed November 30, 2021. https://ourworldindata.org/grapher/per-capita-meat-consumption-by-type-kilograms-per-year?country=~OWID_WRL.

Extensive infrastructures are required to breed, slaughter, process, package, and distribute livestock and their meat.

Against this grave reality of global meat production, alternative proteins offer promise for change. Whole plant proteins have a much smaller footprint than meat but lack popularity among consumers (Röös et al. 2020). Meanwhile, the environmental status of processed and synthetic meat substitutes is uncertain. Compared to conventional meat, both plant-based meat substitutes and cell-cultured meat seem to be favourable in terms of environmental footprint, although pork and

chicken have lower impacts in some analyses (see Rubio et al. 2020, 7). However, cell-cultured meat has a high energy usage – in some estimates even higher than beef – and relies on ‘clean’ energy to be sustainable at scale (Lynch and Pierrerhumbert 2019).

And of course, like livestock, alternative proteins require material inputs – whether in the form of amino acid ‘feed’ for cell cultures or various (more or less processed) ingredients for plant-based products. Sustainability at scale depends on a myriad of factors tied to the sourcing of ingredients, energy use, distribution, packaging, food waste, and so on. Technological limitations may thus challenge sustainability further as the industries scale up.

3. Questioning growth in (un)sustainable food futures

In debates on sustainable food systems transformation, there are disputes between two ideological camps – those believing in technological progress and those believing we need to switch paths away from endlessly pursuing

At the root of alt-protein’s promise is the notion that sustainability can be achieved through growth and innovation.



Image credit: Artem Beliaikin, [pexels.com](https://www.pexels.com).

more efficient production. In this essay, I frame these different ‘normative ideals’ through the lens of ‘green growth’ and ‘degrowth’ visions. Both represent strategies for sustainability, but they prioritise economic growth and environmental preservation differently (Sandberg, Klockars, and Wilén 2019). Alt-protein actors’ relations to this question of growth are ambiguous, with multiple discourses existing simultaneously. This ambivalence offers a starting point for considering alt-protein as a technology that can be leveraged for both growth and degrowth: though premised on the logic of industrial expansion, it seeks to ‘disrupt’ the incredibly polluting and resource-intensive conventional meat industry (Gertenbach et al. 2021).

Green growth and the decoupling narrative

At the root of alt-protein’s promise is the notion that sustainability can be achieved through growth and innovation. Proponents of food-tech for sustainability have been labelled ‘ecomodernists’ by critics (e.g., Jönsson 2020).

According to the *Ecomodernist Manifesto*, ecomodernists believe that the only way to tackle pressing global issues such as climate change and environmental degradation is to leverage human technology (Asafu-Adjaye et al.

2015). Humans are cast as the custodians of the Earth, with the power to transform the ills of our current age into something good. “A good Anthropocene”, the self-professed ecomodernists write, “demands that humans use their growing social, economic, and technological powers to make life better for people, stabilize the climate, and protect the natural world” (ibid., 6). The broader point is to ‘decouple’ human activity – and the economic growth associated with it – from its environmental impact so that “humanity’s material dependence upon nature might be less destructive” (ibid., 25). Replacing animal meat with a ‘better’ alternative, from this perspective, seems like the only logical way forward.

Humans are cast as the custodians of the Earth, with the power to transform the ills of our current age into something good.

The orthodoxy in recent agricultural history has been to leverage technology to increase outputs through upscaling and improved efficiency. Current technological developments in agriculture and the food system may be framed as a form of green growth – technology that allows food production and consumption to expand in, allegedly, sustaina-

ble ways. But by resorting to perpetual growth and technological development, critics contend, we have entered a vicious circle. Rather than reinforcing this trend, it is argued, we need alternatives beyond 'extractive' capitalism to produce food (Anderson and Rivera-Ferre 2021).

From green growth to degrowth

As an antidote to perpetual economic growth, the degrowth movement has challenged growth trajectories in the food system (Nelson and Edwards 2021) and in alternative proteins more specifically (Gertenbach et al. 2021). Degrowth's vision can be understood as an antithesis to technological 'solutionism' – "the techno-scientific imaginary that a social problem could be solved by mere technological means" (ibid, 6). According to Hickel (2020, 2), degrowth refers to "a planned reduction of energy and resource use designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being".

Emphasising the need to shrink the global economy by cutting down industrial processes of production, construction, agriculture, and distribution (Burton and Somerville 2019), the degrowth movement supports grassroots initiatives to provide an alternative to further

industrial expansion. Moreover, since growth tends to operate through the elite's accumulation of resources, degrowth seeks to reduce inequality (Hickel 2020). Today, the global protein industry converges around a small number of powerful actors (Howard et al. 2021).

A recurring argument is the need for structural and cultural change in the way we produce food and relate to nature, animals, and fellow humans. In practice, this may involve putting power back in the hands of smallholder farmers, localising production and consumption, and switching from intensive monocropping to regenerative forms of agriculture. Applying concepts like sufficiency, wellbeing, and conviviality, degrowth perspectives also consider the changing role of consumption and consumer culture in a sustainable society.

Drawing on some degrowth principles, the Food Sovereignty Movement (FSM) has been a particularly influential counterforce to the dominant framing of sustainable food systems focused on further upscaling and intensification through new technology (Roman-Alcalá 2017). With the ultimate aim to reverse the modernist development narrative of "feeding the world" (McMichael 2009) – also prominent in the alt-protein discourse – movements like the FSM

“seek to reconnect agriculture and the environment by challenging capitalist and industrial practices in agriculture” (Wittman 2009, 813). Rather, it is argued, we ought to take inspiration from peasant farmers’ livestock practices and regenerative approaches to agriculture (e.g., Anderson and Rivera-Ferre 2021).

But degrowth has received plenty of criticism as well. While degrowth activists argue that growth and sustainability are incompatible trajectories, critics crunch numbers to show that ‘massive investment’ in clean energy will reduce emissions at a faster rate than lowering the global GDP (Pollin 2018). Pollin (2018) criticises the degrowth perspective for too often being “all-purpose, broad-brush”, instead of acknowledging the qualitative differences across industries.

As Hickel (2020) points out, degrowth is first and foremost about reducing material and energy ‘throughput’ – i.e., what is passing through the system – not only lowering GDP. Burton and Somerville (2019, 98) further clarify: “Proponents of degrowth have never argued that some sectors should not grow...[but] sectoral adjustment needs to take place within an overall envelope that contracts, so that aggregate human activity remains within safe planetary limits and its ecological footprint does not exceed the

available biocapacity”. Following this reasoning, green growth and degrowth do not need to be understood as binary strategies for sustainability per se.

Here, we enter a possible point of convergence between green growth and degrowth. If replacing conventional meat with Meat 2.0 is framed as a ‘sectoral adjustment’ rather than a ‘solutionist’ growth project, alt-protein might still find support among degrowth proponents.

4. Growing and (re)assembling meat in the great Anthropocene

Meat 2.0 seeks not only to provide better substitutes that *resemble* meat but to *reassemble* meat for a whole market of meat eaters (and even meat lovers). Recognizing the deep-rootedness of meat

Assembling meat ground-up is framed as more efficient – and by extension more sustainable – than to ‘extract’ it from animal bodies.

in consumers’ foodways, startups across the world work to develop products that mimic real meat down to the smallest details – from the way it sizzles in the pan to the way it bleeds (Sexton 2016). While plant-based analogues rely on ul-

tra-processing of plant materials mixed with a range of chemical – and in some cases bio- or genetically engineered – additives, cell-cultured meat originates from single animal cells grown into ‘real meat’ outside the animal in large bioreactors.

Alt-protein campaigns evoke the idea that protein can effectively be decoupled from resource use through ‘game-changing’ technologies.

What is interesting about these products is not only what they are made of but how they are discursively construed. Arguably, they contribute to the redefinition of meat through not only material but also discursive intervention. Assembling meat ground-up is framed as more efficient – and by extension more sustainable – than to ‘extract’ it from animal bodies.

In true ecomodernist spirit, alt-protein campaigns evoke the idea that protein can effectively be decoupled from resource use through ‘game-changing’ technologies (Klerkx and Rose 2020). Novel techno-meats offer the possibility of the ultimate decoupling in the food system, not only of protein production and the implications of conventional meat production, but also of meat and livestock animals. As an industry resting within the ‘embrace’ of ecomodernism,

Jönsson (2020) argues, there is an implicit narrative of the making of a ‘great’ Anthropocene through groundbreaking technology such as cellular agriculture.

Therefore, alt-protein is characterised by a sense of molecular reductionism (Sexton 2018), conceiving meat as no more than an assemblage of ‘stuff’ (proteins, muscle, cartilage, bone, fat tissue, etc.) – no more than the sum of its parts. While critics may point to their technological processing as inadequate to replicate the complex biological processes required to produce meat in and through animal bodies, alt-protein proponents turn this logic on its head, representing instead the animal body as an outdated and inefficient ‘technology’ for meat production. The efficiency of meat assemblage is represented in the Meat 2.0 discourse in different ways. In cell-cultured meat, efficiency is established by the assertion that tons of meat can be produced through only a couple of animal cells. In plant-based meat, emphasis is put on how meat analogues allow us to build meat directly from plants, thereby bypassing the resource-intensive and low-yielding practice of the ‘cycling’ of food grains through animals (Gray and Weis 2021).

Largely funded by venture capital, Meat 2.0 is further associated with the ‘culture of prediction’ (Wurgraft 2020) that



Image credit: Tom Fisk, pexels.com.

the startup tech scene is famous for. The cellular agriculture industry has, for instance, been criticised for constantly overstating the promises of their products and being overly optimistic about launch dates (Fassler 2021). Trying and failing and moving targets are hallmarks of the industry's external discourse, along with a promise of radical transparency towards consumers vis-à-vis the conventional meat industry (Guthman and Biltekoff 2020). The industry's trajectory is further determined by all the actors playing part in its social and material constituency, including not only business and research personnel, but also journalists and others reproducing the discourse of alternative proteins – 'socio-technicians', in Jönsson's (2016) terms.

But despite promises of sustainable protein, the success of alt-protein requires the build-out of a new industrial sector.

As a 'market-in-formation' (Mouat and Prince 2018), the alt-protein industry has one foot in the present and the other in the future. Alt-protein actors thus engage in what Jönsson (2020) calls 'present futures'. By constructing future food narratives starring different alternative proteins – often still 'ontological objects' belonging to the collective imagination (Stephens and Ruivenkamp 2016: 349), depending on their current level of market implementation – the alt-protein industry sells a vision for a different future as much as it sells tangible foods.

The massive infrastructural development required to scale up new industries in the construction of this market must not be omitted from the environmental equation. The potential ramification of growth projects such as building new production infrastructures strengthens the worry of Meat 2.0 having limited sustainability potential (Fassler 2021). The question is therefore whether predictions of massive growth in this market are reconcilable with a sustainable food system.

5. Poking holes in the dream of sustainable 'meat' abundance?

And still, the promissory discourses surrounding alt-protein tell tales of abundance – "an imagined food future where humanity can still enjoy the products that

have resulted from generations of nature's pacification, but without the guilt that comes with awareness of the negative consequences" (Mouat and Prince 2018, 316). Of course, privileged consumers already have an abundance of protein. But while our current abundance of animal protein is often framed as problematic, the envisioned alt-protein abundance is framed as sustainable, healthy, *good*. The message is, according to Gertenbach et al. (2021, 17), that we can "eat ourselves out of industrial excess".

Sustainability is not only about efficiency in production but also about sufficiency in consumption.

From a degrowth perspective, this notion of protein abundance is troublesome in and of itself. Because availability and access drive demand, abundance is also resource-intensive: alternative proteins may not be much more sustainable than those derived from animals if consumed at twice the rate. Here, conventional meat can teach us a lesson. Meat is a striking example of the Jevons paradox: technological improvements have reduced the climate impacts of meat *production*, but by also enabling a rapid increase in meat *consumption*, any potential environmental gains are cancelled out.

Representing first and foremost a production-centric solution to the meat problem, the vision of abundant protein is at least in part blind to the role of consumption in sustainability. Sustainability is not only about efficiency in production but also about sufficiency in consumption (Allievi et al. 2015). It is not only the products we consume that are unsustainable but the consumption patterns – especially of the richest among us (Boström 2020). And, as is evident in the current food system, abundance may promote overconsumption and food waste. Moreover, in societies where resources are unequally distributed – which is always the case to some extent – an abundance for some means scarcity for others (Salonen 2021).

While a degrowth strategy may allow for a 'recalibration' across production and consumption domains and practices, alternative proteins would only intervene



Image credit: Valeria Boltneva, [pexels.com](https://www.pexels.com).

in the domain of food (and, in the case of cellular agriculture, animal by-products such as leather). If a new generation of protein products enable consumers to “enjoy the products that have resulted from generations of nature’s pacification...without the guilt” (Mouat and Prince 2018, 316), how will that affect our expectations of daily life beyond the realm of food? With its unprecedented meatiness, Meat 2.0 to some extent leverages – and relies on – consumers’ craving for meat rather than suppressing it. Instead of promoting change in the practices and traditions of meat-eating, Meat 2.0 reinforces meat as a central component of our diet and lifestyle. In this sense, Meat 2.0 may change “what it means to be meat and a meat-eater” (Muhlhauser et al. 2021, 5) without necessarily challenging the ‘carnist’ ideology asserting meat as normal, necessary, natural, and nice (Piazza et al. 2015).

6. Conclusion: Alternative proteins as a (de)growth project

In debates over the future of meat, the ambiguous identity of alternative proteins – imagined as either a *solution to* or *emblematic of* a broken system – becomes evident. This essay has explored tensions between two different ideological ‘camps’ among actors working to make the food system more sustainable. On the one hand, the ecomodernist, techno-

-optimist, revolutionary alt-protein stakeholders believing in a post-animal global food system; on the other, degrowth proponents framed as system reformers and believers in cultural change, transitions to regenerative forms of agriculture, and in ultimately reversing economic growth over technological fixes. For the alt-protein sector, the problem of meat is something to be solved, whereas for growth sceptics, it is something to be reckoned with and adapted to through systemic change. These are both, in a sense, utopian visions – a ‘technological utopia of modernism’ versus a ‘political utopia of degrowth’ (Gomez-Baggetun 2020, 2).

Meat 2.0 reinforces meat as a central component of our diet and lifestyle.

In fast development, Meat 2.0 still belongs to a non-uniform and highly ambiguous category of food (Stephens and Ruivenkamp 2016). If alternative proteins will ever be truly sustainable, the transition will have to go hand in hand with a qualitative shift in how we eat and think about food. As I have shown here, with alternative proteins, the problem is not just economic growth, but socio-cultural expectations of abundance. Substituting the old meat with new ‘meatless’ meats may not support the broader cultural change needed to ensure sustainable lifestyles in the future. The advent of

food-tech in the form of Meat 2.0 – constantly improved to satisfy consumers' meaty cravings – complicates this issue of transforming consumer culture further.

If alternative proteins will ever be truly sustainable, the transition will have to go hand in hand with a qualitative shift in how we eat and think about food.

Greater dialogue between degrowth, green growth, and alt-protein proponents (e.g., Gertenbach et al. 2021) could provide a fruitful avenue for considering different routes for a transformation in the food we eat and how we relate to it. Arguably, degrowth perspectives can inform alt-protein by considering the frameworks and systems within which these are embedded, thereby helping to pay attention to matters such as potential inequalities and uneven distribution. Even if achieved, degrowth would naturally be an uneven process across sectors. If deemed a constructive industry in the end, there might still be room for alt-protein within the 'envelope' (Burton and Somerville 2019) of an overall contracting global economy.

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Rethinking Democracy: a Response to Julia Cagé

by Hendrik Pröhl and Sanne van den Boom

Julia Cagé, the 2021 Arne Næss Chair, draws attention to the “crisis of representation” caused by the disproportionate influence of corporate and private money on parliamentary politics. For effective and just climate action, indeed more voices need to be heard, but rethinking democracy should go beyond political funding and party politics. What other changes in politics are needed, and how can we give space to those who are currently excluded?



Image credit: Peter Piotr Kuzinski.

In 2021, the Arne Næss Programme on Global Justice at the University of Oslo's Centre for Development and the Environment awarded the annual Arne Næss Chair to Julia Cagé, Associate Professor for Economics at Sciences Po Paris. Cagé's most recent book, *The Price of Democracy* (2020), analyses how private and corporate wealth has come to hold disproportionate influence in politics. At the 2021 Arne Næss Symposium, Cagé elaborated on her findings and offered several solutions. As holders of this year's Arne Næss stipend, we responded to some of her arguments but wanted to elaborate on a central concern we could only mention briefly during the symposium: rethin-

king democracy cannot simply entail the improvement of current representative institutions, as mounting ecological breakdown necessitates a wider questioning of the underpinnings of said institutions. In this article, we want to outline Cagé's main arguments and expand on what we consider are much-needed additions.

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In *The Price of Democracy*, Cagé argues that the capture of representative democracy by private interests via party and campaign funding has produced a "crisis of representation". With figures, statistics, and examples, she substantiates the simple yet daunting problem that "money still occupies centre stage in politics; democracy means who pays wins" (Cagé 2020, 1). To curb the influence of private and corporate money, "the price of democracy," (i.e. campaign expenditures and political parties' funding), needs to be paid by the public. Cagé proposes a drastic limit on private donations coupled with a system

of Democratic Equality Vouchers (DEVs). With these, citizens could allocate funding to the political movement of their choice once every year. Because the representation deficit goes much deeper than funding alone and as a response to the exclusion of the working class in politics, she also argues for a Mixed Assembly in which a proportion of seats in parliament would be reserved for deputies elected from lists that are representative in terms of social-occupational status.

Our response to Cagé is focused on the possibilities that her ideas offer for decisive action in order to address the climate crisis. The representation deficit that Cagé talks about pertains not only to the working class but also to young people, a group whose voice we think is especially important when it comes to climate politics, as they will be most impacted by the climate crisis throughout their lifetime. Therefore, we asked Cagé: is there space for a dedicated number of seats for young people in the Mixed Assembly, beyond occupation alone? We also suggested that the proposal of DEVs, which would already increase young people's influence on parliamentary politics, may do even more if the age for eligibility was lowered to, for instance, 15 years old. One caveat we see with the introduction of DEVs is that they may well encourage an annual competition for pu-

blic support, thereby narrowing attention and efforts to short-term promises. The climate crisis, however, needs a long-term orientation in politics to ensure that the necessary changes are implemented consistently, at the required scale and with an eye for social justice. While we agree that Cagé's proposals are important steps to improving the representativeness of parliaments, we believe it is necessary to try and think beyond them and reflect on what such institutions and their conventions can achieve in the first place. The "crisis of representation" that needs to be addressed is then not just one of underrepresentation in and exclusion from parliaments, but one of "representation" understood as purely parliamentary politics itself.

The introduction of DEVs, by extending funding to non-established organisations, would work to lower entry barriers to parliaments and facilitate "the rapid emergence of new political movements" (Cagé 2020, 285). The only requirement for these organisations to receive this funding is to be allocated DEVs by 1% of the electorate. This remains tied to the aspiration for seats in parliament and requires formal structures to run campaigns, field candidates, and handle bureaucratic requirements. Spontaneous, small-scale associations not pursuing a presence in parliament are thus exclu-

ded from participation in determining the political orientation. The emphasis on national politics heightens this tension. It obscures how many issues are salient in their specific locales alone and does little to address questions cutting across state boundaries. Cagé's proposals for "permanent democracy" likewise only include "the option [for citizens] each year to fund the political groups to which they feel closest" (Cagé 2020, 257). No mention is made of political participation beyond elections and funds allocation, compensating for wealth but only amongst the electorate. Non-humans, non-citizens, and future generations are still excluded. The "crisis of representation" thus implies only reforms to existing institutions but stops short of reflecting on what these institutions are able to represent and what positions they exclude.

Since the task of deputies is to represent the interests of their voters, can parliaments ever represent the interests of groups that are not a part of the electorate?

Non-humans are inherently excluded from parliamentary and party politics as they quite literally cannot speak for

themselves in a language that human institutions are equipped to understand.¹ Biodiversity loss is now so rampant that we are speaking of the sixth mass extinction (Kolbert 2014), and for the first time such species loss is driven by human activity. The human impact on non-human nature is therefore undeniable, yet politics remain a strictly human affair. Non-human nature does not have a vote, but it is also not viewed as a “stakeholder” in the way that, for instance, corporations are. The latter can donate and hold, as Cagé (2020) demonstrates, immense sway in politics, but do so to the direct detriment of the former. There are many regulations that aim to protect the environment, but they often primarily aim to protect human interests. Like environmental interests, the interests of future generations and of those who are affected across borders are also not represented in national parliaments. Since the task of deputies is to represent the interests of their voters, can parliaments ever represent the interests of groups that are not a part of the electorate? Accepting forms and forums beyond national parliaments can be one way of invigorating political life and allowing new

voices to emerge, as can the extension of personhood beyond humans – which finds precedents with corporations’ legal personhood. It has sometimes been extended to rivers and lakes, marking a beginning for representation that goes beyond individual human subjects alone.²

To truly account for “the price of democracy”, we need to factor in its cost beyond financial expenses.

Central to these questions of rethinking democracy are fundamental values and convictions that can only be addressed and reframed collectively. This compounds with how ecological issues cut across national borders and may require wholly new political narratives to account for deeper entanglements in the web of life. We argue that Cagé’s proposals to “change the rules of the game” remain too limited, as the “game” being played remains unquestioned. Besides analysing how to bring various new perspectives into

¹ The fact that non-human animals are excluded from human politics should not be taken as a given. Meijer (2019) demonstrates how animals speak and act in political ways and argues that existing political practices and institutions should be transformed to incorporate animal voices.

² For an overview of how legal personhood has been implemented for Te Awa Tupua, the Whanganui River in Aotearoa/New Zealand, and what changes this brings for environmental protection and legislation, see: Rodgers (2017). For a more general introduction to the Rights of Nature as a legal and political concept, see: Kauffman and Martin (2021).

parliament, we need to bring politics back to the people: to local initiatives, people — especially indigenous groups — familiar with the land and ecosystems contributing to ecological stabilisation, and wherever issues like deforestation, pollution, and drought most immediately arise. “Permanent democracy” (Cagé 2020, 324) could devolve decisions to lower levels, empower grassroots associations and initiatives, allowing for communities to form around shared values and to put these into action. Representative institutions could strengthen political action outside themselves, where parliamentary debate would combine with more informal, decentralised action to reflect on and re-negotiate narratives and values. It is in the direct encounter of people with each other and their concerns that such key reorientations can take place, open-endedly and collectively.

To truly account for “the price of democracy”, we need to factor in its cost beyond financial expenses. This should include the narratives and visions foreclosed if parliaments are taken as the only legitimate theatre of politics, as well as the consequences of decisions made in parliament: from destroyed ecosystems to loss of cultural and biological diversity. Change here cannot happen without the reforms Cagé advises, and ensuring more voices are heard and are given

equal weight is crucial to get to climate action that is both effective and just. However, as existing ways of living are proving insufficient or actively destructive, sticking to parliaments can only be one approach. It needs to be combined with a willingness to look critically at what is taken as a given, be it institutions such as parliaments, or values like the unconditional prioritisation of human interests. We need to rethink more fundamentally what sort of representation we want and for whom, so that comprehensive decisions on our futures can become part of our everyday lives, everywhere.

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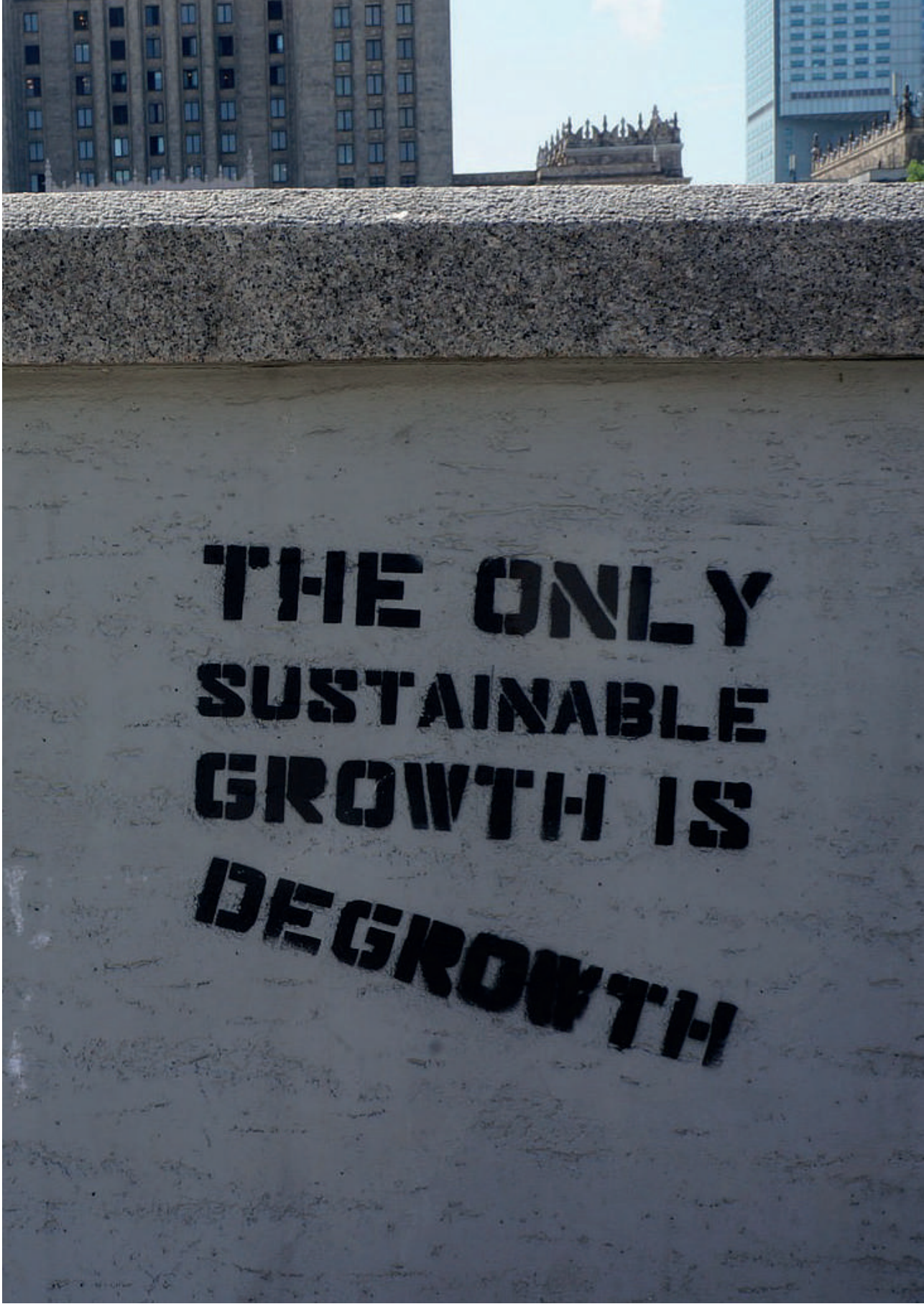
We need to rethink more
fundamentally what sort
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Degrowth's Discursive Struggle for Utopia

by Kylie Wrigley

Abstract

This article examines movement intellectuals engaged in debates on degrowth through a critical discourse analysis informed by social movement theorising on framing and collective identity. It applies the concept 'tightrope talk' to explain how proponents of degrowth experience a creative discursive struggle as they attempt to develop alternative narratives within economic and scientific discourses.



**THE ONLY
SUSTAINABLE
GROWTH IS
DEGROWTH**

The degrowth movement fights for a vast socio-ecological transformation, particularly in the global North, that among many things decentres the dominant growth-based paradigm which grips green and sustainable political discourses and mainstream economics (Hickel and Kallis 2019; Weiss and Cattaneo 2017). Degrowthers have sparked great debate, arguing that green growth will not be sufficient to avoid the catastrophic degradation of nature (Sandberg, Klockars, and Wilén 2019). However, the movement has not had a visible influence on local or international policymaking and institutions (Bina and La Camera 2011; Buch-Hansen 2018). Its marginality cannot be explained by its infancy, nor can it be explained by a lack of urgency or necessity – it is about as old as the Brundtland sustainable development and ecological modernisation discourse, and robust in terms of its attempt to address multiple complex and uncertain problems.

This article is adapted from a master's research project (Wrigley 2020), where I used social movement theorising on framing (Benford 1997) and collective identity processes (Jasper and McGarry 2015) in a critical discourse analysis of intellectual advocates engaged in the debate on economic growth and degrowth. The research explored how intellectual advocates of degrowth might be contri-

buting to their movement's marginality. Movement intellectuals are particularly influential in shaping a movement (McCalman and Connelly 2019), and their debates with other academics are easily and publicly accessible for this analysis. The eight videos and texts analysed occurred between 2015 and 2019 at universities and conferences among European academics who take a vocal stand in the debate between green growth and degrowth (they are introduced throughout the article). The corpus illustrates how degrowth proponents defend their activist slogans; how its allies point out limitations but agree with degrowth's underlying assumptions; and how pro-growth actors, who oppose degrowth, denounce the concept despite sharing concern for decarbonisation, material distribution, and the overemphasis on GDP.

It is not my intention to essentialise or belittle the degrowth movement, which collective identity analysis has been critiqued for doing (Jasper and McGarry 2015). Like other new social movements with emancipatory goals, I find that degrowth does not easily fit into existing frameworks of politics (Giddens 1991, 228). This article illustrates how the novel and incongruent narratives that actors produce are the result of their creative struggle to affirm the legitimacy of their scientific work under the con-

straints of dominant economic frames. Ultimately, academic degrowth advocates reproduce some frames while attempting to create new utopian visions.

Degrowth's Discursive Dilemma

Degrowth offers a *Vocabulary for a New Era* (D'Alisa, Demaria, and Kallis 2014). The point of departure for this article is that the success of a political idea and the social movements behind it are contingent, in part, on discourse. Drawing on Hayer (1995) and Dryzek (2013), discourses are embedded in shared language, assumptions, ideas, categorisations, identities, and frames that are produced, reproduced, and transformed through practices (including speech). Discourses construct meanings and relationships for their subscribers, helping them define common sense and legitimate knowledge.

Demmer and Hummel (2017, 614) explain that “[t]o achieve socio-ecological transformation towards a degrowth society, it is imperative to overcome and decentre the growth-imaginary and to build a new imaginary with fresh images, concepts and narratives”. Buch-Hansen (2018) scores degrowth against four prerequisites for a paradigm change and finds that it lacks two: support from a comprehensive coalition of social forces and con-

sent from the majority of people. Thus, a coalition of agents and their allies would need to decentre green growth with new stories and imaginaries about the transition to a more sustainable, post-growth future. As such, the degrowth movement may benefit from examining the transformative potential of its discourse.

Degrowth is destined to remain marginalised if it appears incoherent, fragmented, and unable to allure the public will with compelling stories and visions.

Despite the challenges and critiques that degrowth faces (see, e.g., Brand et al. 2013; Dres and Antal 2016; Rodríguez-Labajos et al. 2019), I would not suggest dismantling the degrowth discourse or writing off anti-growth movements as fundamentally flawed, as some critics have proposed (Ferguson 2015; Glasson 2015). However, degrowth is destined to remain marginalised if it appears incoherent, fragmented, and unable to allure the public will with compelling stories and visions (Buch-Hansen 2018; Ferguson 2015). The insufficiency of existing linguistic resources (metaphors, frames, and stories) to talk about a post-growth economy, post-fossil fuel society, or any type of eco-socially transformed society,

is a significant challenge for degrowthers and their allies (Hajer and Versteeg 2018). With the realisation that not all of their vocabulary is appealing, degrowth advocates can, if willing, change their (dis)course (Sandberg, Klockars, and Wilén 2019). Discourses are always being (re)constructed (Dryzek 2013) and movements, as well as their collective identities, are not static (Melucci 1995). In fact, transition discourses, in general, have not yet sufficiently crystallised within larger orders of discourse (Audet 2016). Amidst a lively discursive terrain, there is room for actors to redefine identities and frames with a broad coalition of allies. Degrowthers are thus in a position to find, try, and test counter-frames and narratives to articulate and popularise their alternative vision.

Tightrope Talk

By virtue of being a post-normal science and an activist-led science (Demaria et al. 2013), the degrowth movement's intellectual advocates enact an identity of *both* activist *and* scholar. The following section demonstrates how movement intellectuals enact a both/and identity as they draw from two discourses. In one moment, actors engage in deviant language to contend with the hegemonic growth paradigm and reject 'positive', 'rational', and 'pragmatic' reasoning. In the

next, they conform to standard economic and scientific rhetoric to be accepted by mainstream economists and audiences. The activist/scholar binary is somewhat simplistic – it does not capture the plurality of roles that intellectual advocates play within and outside of the chosen texts. However, the binary does aid in understanding how they are both challenged and creative when empowering new narratives through their boundary work.

'Tightrope talk' is a useful concept to understand the challenges and opportunities for degrowthers when enacting multiple discourses at once. Suzanne McKenzie-Mohr and Michelle Lafrance (2011) introduced the term to describe the difficulties and possibilities that emerge when women struggle to tell stories of living well after rape, as these accounts are seldom reflected in mainstream culture. When ill-fitting master frames and narratives are predominant, and suitable counter-narratives are scarce, marginalised people struggle to articulate their experiences (McKenzie-Mohr and Lafrance 2011). They are forced to translate themselves into novel forms and to use language in non-standard ways in order to empower alternative narratives and counter-stories.

The term tightrope talk relates to degrowth advocacy because movement

intellectuals can draw from and toggle between *either* deviant *or* standard language. For example, it is necessary that scholars who are proponents of a post-growth transition succumb to some amount of “epistemological excess” of other economists and scientists in order to be perceived as legitimate in the arenas they share (McCloskey 1998). Yet in those same arenas of economic and scientific discourse, it may be foreign to discuss utopian ideals or ‘fluffy’ elements such as personal, emotional, and relational pathways for socio-economic transformation (O’Brien 2018). Attempting to mix the two socially situated languages and identities can be a clumsy endeavour that renders an actor’s argument (and, by extension, the movement they advocate for) incoherent and incongruent.

Pessimism of the Intellect and Optimism of Will

Tightrope talk also mirrors the “contradictory tension” between actors and groups engaged in the movement that Giorgos Kallis, a prominent degrowth advocate who is an ecological economist and political ecologist, describes as a “creative aspect of the degrowth community” (Post-Growth Conference 2018). Another paradox that aptly illustrates tightrope talk can be summarised as: pessimism of the intellect and optimism of the will.¹

¹ An aphorism often related to Antonio Gram-

Politics of Pessimism

Historical precedence is often used to defend arguments made in the scientific work and discourse of economists (McCloskey 1983). However, green growth and degrowth proponents alike often argue that the past does not predict the future. Economist and political scientist Michael Jacobs, for instance, says that history does not determine what the future will be like (PEC 2018), and David Folkerts-Landau, the pro-green growth Chief Economist of Deutsche Bank, argues that throughout history predictions of the future have been wrong (ZEIT Wirtschaftsforum 2018). They are optimistic, as is environmental economist and ‘A-growth’ proponent Jerorn van den Bergh (2017), who says:

I have to add that there’s also in all my writings on this topic, I have to write, always a paragraph to say that I am optimistic about the economy, [which] in principle has tremendous flexibility to change. But we have to put pressure on it. It won’t change by itself.

On the side of degrowth, Tone Smith, an ecological economist on the Rethinking Economics Norge board, also argues that

sci which describes the dual tension between pessimism resulting from knowledge that must be balanced with optimism that disaster can be avoided.

things that have not happened before can happen (SUM 2019). Despite their similar optimism, some opponents and allies of degrowth discredit degrowth because it is simply *too* different, doo-mist, not grounded in reality, and “a very, very long shot” (Jacobs, PEC 2018). However, it can be counter-argued that green growth is no less utopic or unrealistic than any other strategy to address climate and environmental crisis.

The use of prophetic discourse and non-standard language in arenas of economic debate is neither received well nor articulated easily.

Green growth’s vision is a technological utopia of material abundance (de Geus 2002). However, this future has weak normative justifications (Sandberg, Klockars, and Wilén 2019); its visioning of the future is based on optimistic and yet unproven predictions for technological solutions, such as carbon capture and storage (Wilhite 2016). Furthermore, green growth is modest in its view as it has not conceptualised the full scope of social and environmental issues at hand (Wilhite 2016).

Some proponents of degrowth state on public platforms that they are not optimistic about their vision either, and there is a disconnect between what they say ought to be done and what they believe is possible. To illustrate this disconnect, Kallis on two separate occasions hedges his argument by being pessimistic, saying that a voluntary and prosperous degrowth transition is unlikely (UoB 2017; PEC 2018). Given the position of influence that movement intellectuals have, it seems neither hopeful nor helpful for building the movement that a key public supporter is unconvinced by his own argument. However, the term tightrope may explain easily missed hidden meanings when Kallis “close[s] on a pessimistic note” (PEC 2018).

Kallis admits that degrowth might be politically *impossible*, but he argues that because green growth will not be sufficient, “[one] generation has to be brave enough”. He further states: “I wouldn’t concede that we have to stop talking about [degrowth] because then we make this pessimism a self-fulfilling prophecy”. Thus, he insists it is vital to “agree on the diagnosis” – that economic growth is not compatible with greening society – and adds, “I don’t think we should adjust the diagnosis to be politically possible” (PEC 2018).

Collectively, actors can draw from the discursive resources available to them and walk a tightrope between both cultures, attempting to create new, hybrid identities and counter-frames to support their vision for the future.

The use of prophetic discourse and non-standard language in arenas of economic debate is neither received well nor articulated easily. When rebutted for being unrealistic and “living in a world of [his] own imagination” (PEC 2018), Kallis hedges his arguments as an attempt to affirm his credibility as a ‘rational’ economist (Melucci 1995, 48). In other texts, where the credibility of degrowth scholarship is not being questioned, he is more enthusiastic about his involvement in the movement and says that degrowth is inevitable (Kallis 2015; Post-Growth Conference 2018). In these settings, actors have a figurative safety net underneath their tightrope to create new narratives that are both hopeful and dubious. Another degrowth panel discussion, as described in the next section, illustrates this clearly.

The tightrope talk analogy may be interpreted as a constraint on the creative

opportunities for degrowth advocates enacting two seemingly contradictory discourses: an activist’s radical critique and a scientist’s pragmatic prognosis. However, when overshadowed by the power of dominant discourses, subtle shades of meaning can be missed if researchers are not listening carefully (McKenzie-Mohr and Lafrance 2011). On closer inspection, there is subtlety in the creativity and duality that some actors demonstrate. Collectively, actors can draw from the discursive resources available to them and walk a tightrope between both cultures, attempting to create new, hybrid identities and counter-frames to support their vision for the future.

Utopian Willpower

At the SUM degrowth panel in 2019, Smith and Cecilie Sachs Olsen, an interdisciplinary urban architecture researcher and a curator of the degrowth-themed 2019 Oslo Architecture Triennale, enacted a prophetic discourse that also made use of a utopian imaginary. It is relevant to note that they did so in a safe context with fellow degrowth activists on the panel. When asked by an audience member to provide “pragmatic attempts” rather than “utopian policy changes”, Sachs Olsen and Smith rejected the call for pragmatism. The former elaborated that utopianism versus pragmatism is an unhelpful binary.

Sachs Olsen argues that utopianism is something positive that should be used as a way to critique what is wrong in society, discover things to avoid, and steer towards more positive alternatives (SUM 2019). Her call for utopia to be part of the politics of degrowth, serving to imagine a possible future, is echoed in the degrowth literature (D'Alisa, Demaria, and Kallis 2014). Specifically, “nowtopians” are celebrated as an essential part of the politics of degrowth. Homegrown initiatives and trials of eco-conscious behaviours are seen as a crucial first step for societies embracing degrowth (Carlsson 2014). Moreover, references to nowtopias and utopian narratives demonstrate “techniques of futuring”, whereby actors can deploy narratives of what is not yet normalised degrowth behaviour but could become policy or social practices (Hajer and Versteeg 2018).

Smith claims that in a democratic society, it is neither necessary nor useful to start with the pragmatic option because compromise will find a “middle way” (SUM 2019). On the SUM degrowth panel in 2019, Smith expressed: “I actually think that we’ve had too many decades now talking about pragmatism, and I have no interest in talking about pragmatic solutions.” An insistence upon pragmatism reflects how already marginalised groups are set up to fail when consensus-built

ing demands are placed on them, and when non-inclusive hegemonic politics demand that social movements serve every other interest as well as their own (Purcell 2009). More so, utopia is often not recognised in politics, as it is seen to be incompatible with postmodernism and pragmatism, and it has negative connotations for being potentially totalitarian (de Geus 2002). However, its resistance to pragmatism illustrates how degrowth does not aim to be the chosen path for everyone – it aims to encompass a plurality of worldviews rather than be a totalising ideology (Deschner and Hurst 2018).

Creative Struggles of Narrating the Future

Many social movement actors oscillate between perspectives depending on the social context (Benford 1997). Some transition movements attempt to make use of *ecological utopias* or *utopias of sufficiency*, in contrast to the ecomodernist, technologically advanced, and materially abundant utopias. Prophetic discourses and utopian narratives are useful for transition discourses (de Geus 2002; Kamminga 2008). However, opponents and allies of degrowth alike may not immediately recognise the power of prophetic discourses, futuring narratives or emerging counter-frames as they debate.

Moreover, intellectual pessimism is unsurprising. Post-normal sciences, such as ecological economics and degrowth, might not aim to be right (for example in diagnosing the unsustainability of infinite growth) but rather intend to be useful (by prognosing transition strategies) (Funtowicz and Ravetz 1994). Tightrope talk across multiple socially situated identities and activities can lead to linguistic incongruence, as speakers draw from the discourses available to them to express novel ideas. So, when advocates in the movement are treated holistically and compassionately (Polletta and Jasper 2001), intellectuals are neither pessimistic nor wilfully optimistic. They can, in a cognitive struggle, be both.

Opponents and allies of degrowth alike may not immediately recognise the power of prophetic discourses, futuring narratives or emerging counter-frames as they debate.

Tightrope talk is creative and clumsy work (McKenzie-Mohr and Lafrance 2011). As Klammer and Leonard (1994, 31) explain, “[new] concepts do not come to us ready-made; their novelty defies our existing language and conceptual schema”. For example, if life satisfaction and suf-

ficiency are pursued by the movement, then it is conflicting to use negative frames such as austerity and sacrifice to argue for degrowth. To chart the unknown, public advocates need to find metaphors, among other counter-frames and discursive resources (Klammer and Leonard 1994, 31). The use of counter-stories can serve the function of “narrative repair” to reorient dominant ways of thinking and speaking (McKenzie-Mohr and Lafrance 2011, 66). For example, the economy has become associated with infinite growth through sticky political rhetoric that claims: ‘it’s the economy, stupid’ and ‘there is no alternative.’² Utopia, more so than a heuristic of fear, is a useful narrative to attend to and thicken. Not because actors aim to be right and live in an idealistic world, but because transition narratives and alternatives to growth are scarce. Through democratic processes and a coalition of support, the degrowth movement may influence politics and pull society towards the post-growth future (Bollier and Conaty 2014; Buch-Hansen 2018).

Change agents need not be deterred by slights made against uto-

² These were aphorisms popularised under Clinton’s political campaign and Thatcher’s term as Prime Minister. The former says that citizens care most of all about the economy over other electoral issues, and the latter says that a neoliberal market economy is the only economic model that works.

pia. Deviance in the form of divergent meanings and unconventional language and practices is a norm for sciences and institutions in the Anthropocene (Hoffman and Jennings 2015). The term *tightrope talk* illuminates not only how marginalised actors attempt to empower novel ways of speaking but also how these attempts are not recognised *because* they are novel. However, intellectual advocates of degrowth must traverse both internal and public arenas; they should be aware of how audiences receive their tightrope talk. For example, among those that are not yet convinced of the credibility or trustworthiness of an actor (and the movement they support), tightrope talk will inevitably be met with criticism. Even with supportive allies, there will be a struggle to reach consensus and create shared meanings.

Conclusion

This article has examined the discourse of degrowth's intellectual advocates through a compassionate and critical discourse analysis of collective identity and framing during their debates and dialogues. From its marginal position, the degrowth movement is evidently attempting to decouple growth-oriented thinking and re-moralise social life with other imaginative and creative ideas. Ho-

wever, the analysis also illustrates what might be counterproductive or contradictory about the prophetic and negatively perceived degrowth discourse and the debate it provokes. The incongruent counter-framing and degrowth identity may not be appealing enough to garner the necessary support for a post-growth future from the general population and coalition groups. Moreover, the advocacy of movement intellectuals is regulated by the standard academic, economic, and the pragmatic speak they are familiar with performing, or pressured to enact by other actors in those arenas.

Elsewhere, I (Wrigley 2020) suggest what degrowthers can do to make their movement more discursively effective. In times that feel urgent, I invite degrowth intellectual advocates to engage with our hybrid selves and plural ideas – to play and perform tricks on the tightrope. My invitation echoes that of hybrid forms of “coyote environmentalism” (Anderson 2010, 974) and Bayo Akomolafe's reimagining of activism to story new futures into existence (Jain and Akomolafe 2016). As importantly, to safely traverse the tightrope, degrowth intellectuals must be more rhetorically self-aware (McCloskey 1998). That is, they must be self-reflexive about what antithetical identities and frames they may unwittingly use that reinscribe po-

wer structures and behaviours that are unjust and unsustainable. Solidarity with historically marginalised and Indigenous groups that have a long history of resistance and resilience may inspire alternative ways of being and organising in society (Ritchie 2021; Sultana 2021). Together, utopian willpower and brave talk may construct pathways to futures unbound by the growth paradigm.

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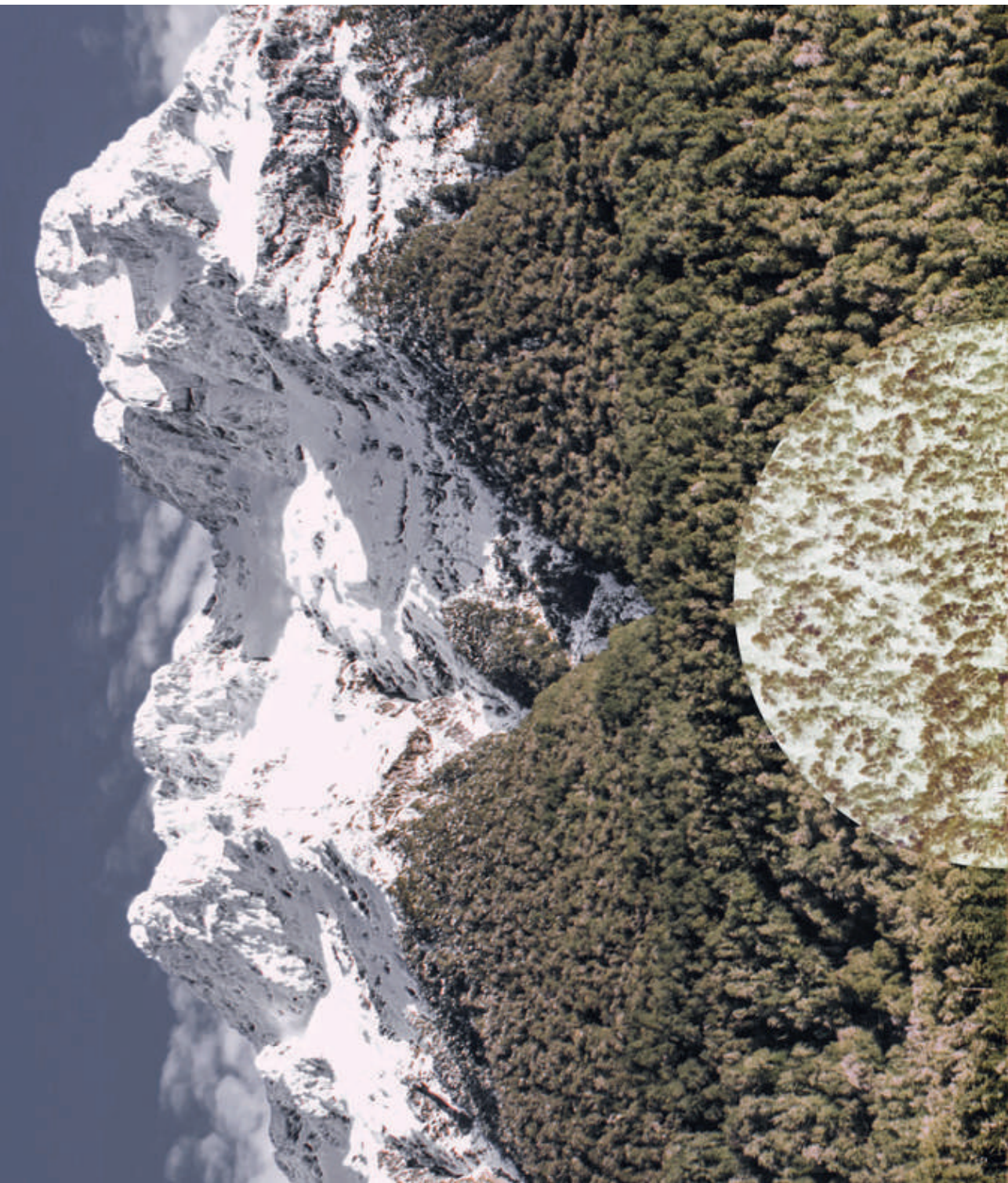
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Landscape Discovery



by Matteo Redaelli

Landscape Discovery

is a project created through the exploration of landscapes with the desire to juxtapose old and new worlds as well as to emphasize the rawness and emptiness of both urban and natural landscapes. The intention of this project is to represent the rough and the ancient through a mystical and breathtaking distortion of common landscapes.



Image Credit: Matteo Redaelli, www.redaellimatteo.it.

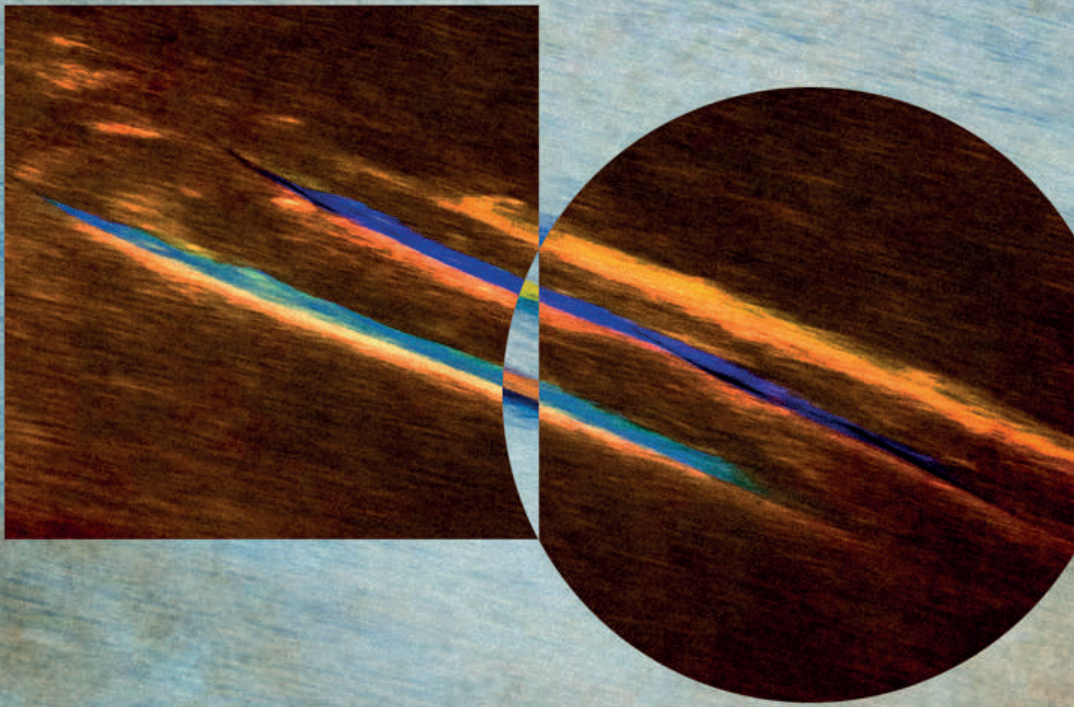


Image Credit: Matteo Redaelli, www.redaellimatteo.it.



Image Credit: Matteo Redaelli, www.redaellimatteo.it.

These photographs are meant to capture moments where the past, present and future converge into a new conceptualization of the fluidity of time. This is represented using advanced technology to manipulate contemporary landscapes in order to mimic past nostalgias—an artistic representation that connects what has been, what is, and what will be.



The stories
behind each place
encountered on this
fantastical journey led
me to search within
my own imagination to
find ways to become
more attuned to the
land, the nature, and
the wonders that
surround
us.



Chasing Carbon: The Story of CarbonGraph

by Sam Anderson

The world needs to reach carbon neutrality, but the carbon footprint of most consumer products remains unknown. CarbonGraph is a new digital platform that measures the carbon footprint of products and their supply chains.

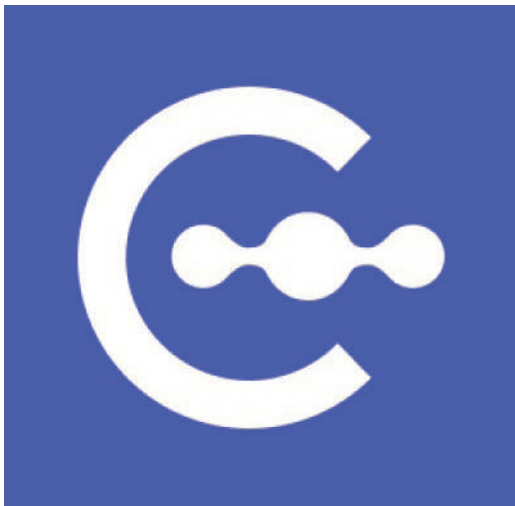


Image credit: CarbonGraph, www.carbongraph.io.

The world is at a tipping point

The curtain is closing on humanity's chances of avoiding significant global impacts due to our greenhouse gas emissions (IPCC 2018). For many environmental experts, the climate disaster is an inevitability that most people have yet to realise is already happening. Yet, I believe that humanity will mount a collective response to the threat of environmental destruction. We won't avoid widespread ecosystem loss, human tragedy and economic turmoil, but we will ultimately weather the storm and emerge with systems that allow us to better protect the natural world and its most vulnerable populations.

I was born in 1995, so I have never lived in a world without the scientific consensus that human greenhouse gas emissions would lead to the widespread destabilisation of natural systems within our lifetimes. It took until 2015, when the Paris Agreement was signed, for decisive action on climate to become the governmental norm. It took until 2018 for me to realise I had a moral obligation as an engineer,

working for some of the world's largest emitting mining companies, to dedicate my career towards helping humanity greatly reduce its greenhouse gas emissions.

Our present economic system seems incapable of encouraging individuals and businesses to make decisions that will benefit future generations at the expense of near-term profits. Many people study and advocate for new political and economic systems that would change this situation. As an engineer, I take a pragmatic perspective: we don't have enough time to evolve a new political system before it's too late to limit runaway climate change in the next decade. Therefore, I focus on solutions to climate change that function within the constraints of our current system, which is market capitalism.

Turning sustainability into profitability

I spent the last two years of my professional engineering career working in the nascent industry called Decarbonisation. It combines accounting and business strategy with developing new tech and tweaking existing systems in order to reduce the carbon footprint of the world's largest sectors: energy, transportation, mining, construction, food, clothing, and software. I worked on building solar farms, designing biofuels, smelting bat-

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tery metals, controlling electricity grids, and writing software to track carbon, all for the purpose of helping large emitters exponentially reduce their carbon footprints without destroying their core businesses. Working for mining companies like my last employer, De Beers Group, helped me identify a major obstacle to the reduction of global emissions: a majority of emissions are overseen by multinational corporations which will have to invest massively, without near-term financial returns, to reduce their footprints.

The problem is price. In many cases, reducing a business's carbon footprint increases its costs. That means it needs to sell its products at a higher price, rendering the vast majority of low-carbon products less competitive. There are many

proposals at the government level, such as the European Taxonomy for Sustainable Activities (European Union 2020),¹ that seek to implement a price on carbon in one form or another. Yet all of these systems currently appear infeasible to implement at scale due to the lack of available data on the true carbon footprint of companies and their products.

In June 2021, I left my job to work full-time on the creation of CarbonGraph, a software tool that measures and shares the carbon footprint of the products that businesses make. Our team designed CarbonGraph to solve a very specific problem: nobody knows the carbon footprint of the products they buy, and consequently there's no incentive for the businesses that make those products to lower their carbon footprint. Large organisations that have committed to carbon neutrality often pledge to reduce the carbon footprint of the things they buy and sell, known as their Scope 3 carbon footprint.² Today it costs hundreds of thousands of dollars in consulting fees to determine the carbon footprint of a product

or a business. Even then, the results come with error bars and asterisks because businesses have to estimate the carbon footprint of their supply chain all the way back to the extraction of natural resources. Many of the businesses we work with don't even know what constituent materials that make up their product come from, let alone the operational details about the history of those materials that are necessary to calculate the product's carbon footprint.

CarbonGraph's hypothesis

CarbonGraph functions on a simple principle: when a business sells a product, they can also share the product's carbon footprint in a digital and auditable format. For consumers, this offers a new source of information to make responsible decisions, but most businesses don't sell directly to consumers. Instead, they are one step in a long chain of companies that work together to turn natural resources into consumer products. CarbonGraph creates value for business-facing companies as well.

One of the sectors that is the furthest from consumers is mining. These companies often operate in developing countries, far from markets with carbon pricing, and their direct customers are often an opaque network of industrial

¹ This webpage references the following law: Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (Text with EEA relevance).

² Further information on Scope 3 can be found at: <https://ghgprotocol.org/standards/scope-3-standard>.

companies and materials traders. The carbon footprint of mining companies is far removed from consumers' eyes, and thus they have little financial incentive to reduce their carbon footprint today.

Consider electric vehicles (EVs): while they can have a lower carbon footprint than internal combustion engine vehicles (ICEs) over their entire lifetime by drawing on renewable electricity, the process of manufacturing EVs emits more greenhouse gases than the process for manufacturing ICEs (Hausfather 2019). A major source of the carbon footprint of EVs is the battery, which is made of metals and minerals like nickel and lithium that require a massive carbon footprint to mine and purify.

Most automobile companies will be launching new EVs into the market in the next few years, but many will have no idea what the carbon footprints of their vehicles will be, primarily because they won't know where the nickel and lithium in the batteries come from. The mining companies producing these materials will sell to refining companies, which will sell to battery cell companies, which will sell to battery integrators, which will sell to the automobile companies. Throughout that long supply chain, the carbon history of these products will be erased by supplier confidentiality to the point

We are creating this digital infrastructure for a world in which every individual and organisation can easily see the environmental and societal impacts of the products they buy.

that the only thing that the automobile companies will be able to say is that their cars contain nickel and lithium. The automobile company will have to use average carbon footprint estimates for those materials, which assume business-as-usual carbon emissions throughout the supply chain. Therefore, even if the EVs are being sold in Europe (where the carbon pricing laws are the most progressive), there will be no financial incentive for overseas mining companies to choose more sustainable technologies and renewable power sources to create their products, because the carbon history of those products will be erased by the time they reach the regulated consumer markets.

CarbonGraph helps to address this problem. It is a digital platform that allows each company in a supply chain to package the necessary lifecycle carbon data and third-party validation alongside their products and then share it with their customers. Importantly, this data can be shared without requiring compa-

nies to reveal proprietary information to their customers, suppliers, competitors and regulators. We are creating this digital infrastructure for a world in which every individual and organisation can easily see the environmental and societal impacts of the products they buy. In this world, low carbon products will be competitive and profitable; fair and transparent carbon pricing systems will be possible; and developing countries will be able to invest in lowering their carbon footprints without compromising the economic situation of their citizens.

The road ahead

We launched a prototype of our software in September 2021, and we are now testing it with a wide range of businesses around the world. One of these, RENU, is a sustainable fashion brand focused on creating athletic clothing out of recycled materials. CarbonGraph was able to analyse RENU's supply chain and determine the carbon footprints of their products - which turned out to be less than half of the footprints of traditional polyester clothing. For a small business like RENU, this is a vital tool to make their sustainable business succeed. On a personal level, RENU's founder told our team that being able to share the environmental impact of her products "validated why she started the brand in the first place."

CarbonGraph does not address every aspect of understanding the environmental impact of products. It relies on estimates, incomplete scientific understanding of natural processes and, in the worst case, fraudulent data. However, by creating a mechanism for multiple companies in a supply chain to report their data and by allowing third-party validation (like audit reports) to be factored into our reliability calculations, CarbonGraph is pushing back the veil of uncertainty on quantifying carbon footprints. One important parameter that CarbonGraph does not currently attempt to quantify is social metrics, like labour conditions or the economic impact of purchases on local communities. As we grow our platform and expand into new sectors, we will need to focus on capturing the best data we can to promote products that have net positive societal impacts compared to their alternatives.

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Alternative Futures in the Past: Dutch Discourses around Natural Gas in the 1960s

by Wouter de Rijk

Abstract

In 1959, the largest natural gas reserve of Europe was discovered in the Dutch province of Groningen. This discovery marked the start of an unprecedented energy transition that would transform energy consumption in the Netherlands. Building on insights from the discipline of energy humanities, this essay argues that this energy transition was not only material in nature, but was also closely intertwined with cultural changes. By examining the discourses around natural gas, this essay explores how the future was imagined through this new energy source. This envisioned future was characterised by three main elements: prosperity, modernity and abundance. Understanding the cultural dimension of this past energy transition is relevant for our current moment in history, where a truly alternative future beyond the twentieth-century model of fossil fuel-based mass consumption has to be imagined.

On July 22, 1959, at 6:33 in the morning, a drilling team of the Nederlandse Aardolie Maatschappij (NAM, translation: Dutch Petroleum Company), a joint venture of Shell and Standard Oil/Esso, hit the jackpot in a field in the northern province of Groningen. At that moment, nobody realised the profound impact of the discovery. In the following months, as the NAM continued further explorations in the region, they slowly came to realise the enormous size of their finding (Correljé, Linde and Westerwoudt 2003, 28). Under that very clay field, a field so characteristic of Groningen, lay

the largest natural gas reserve of Europe. This so-called Groningen field was so vast that it, as we now retrospectively know, changed the future of Dutch energy consumption. Only ten years after the discovery of the reserve, about 80 per cent of Dutch households were connected to the gas grid and natural gas quickly accounted for the majority of residential energy consumption. Moreover, the availability of cheap energy caused the rise of one of the most energy-intensive industrial sectors in Europe (Correljé, Linde and Westerwoudt 2003, 60-66).

Typical Groningen farmland with natural gas production in the background. Image credit: Wouter de Rijk.



However, as I will argue in this essay, the Groningen field did not only alter Dutch energy consumption in the material sense. The effects of this discovery reached much deeper into society and influenced cultural changes. I aim to trace some of the discourses that were created around natural gas to uncover how they envisioned the future. As I will demonstrate, they can be characterised by three main elements: prosperity, modernity, and abundance. Before moving to my main argument, I will provide a short overview of the literature that serves as the backbone of this argument.

The social and cultural dimensions of fossil fuels

For this essay, I build on insights from the relatively young discipline of energy humanities. The field of energy humanities examines the complex relationship between modernity and energy, focussing particularly on fossil fuels (Szeman and Boyer 2017). Within energy humanities, it is argued that modernity is inherently dependent on the use of energy and that the historical development of our societies would not have been possible without fossil fuels. Here, modernity can be defined as the development of mass communication and mass mobility, which are both dependent on mass production and consumption of energy (Woud 2006, 17). As such, the use of

fossil fuels does not only have a material dimension, but also important social and cultural dimensions. In the light of the energy transition that we currently have to make, understanding these social and cultural dimensions is crucial (Wilson, Szeman and Carlson 2017, 3-4).

I consider the proposals of several authors who have analysed the social and cultural dimensions of fossil fuel consumption. Firstly, Mitchell (2011) and Chakrabarty (2009) argue that the very conception of liberal democracy and its connected freedoms assume an ever-expanding availability of energy made possible by fossil fuels (Mitchell 2011; Chakrabarty 2009, 208). It was the abundant availability of fossil fuels that – at least until the 1973 oil crisis – allowed governments to administer “collective life based on the novel principle of unlimited economic growth” (Mitchell 2011, 9). This reading of the post-war history of the U.S. and Western Europe provides an entirely new perspective on the way these societies were organised.

Secondly, Huber (2013), Worden (2012) and Canavan (2014) have, amongst others, drawn attention to how fossil fuels have shaped everyday culture. Huber (2013) argues that fossil fuels in general and petroleum products in particular, underlie the normative vision of family,

work, and social belonging in late twentieth-century culture. Discourses around fossil fuels, then, refer to how many aspects of everyday life are dependent on them (Huber 2012, 302). For example, fossil fuel advertisement campaigns often evoke images of family and urban life, implicitly pointing to how fossil fuels are essential to maintaining the pictured lifestyles. Worden (2012) and Canavan (2014) have analysed these discourses around fossil fuels more closely, looking at their role in works of fiction. They demonstrate that narratives around fossil fuels detach them from the environmental realm, while putting them in the cultural realm. As such, the environmental effects of fossil fuel consumption are obscured.

Building on these accounts, I will analyse some of the discourses around natural gas in the Netherlands, which I have found in textual sources of the parliamentary archives, the Dutch National Library, and the online newspaper archive Delpher. Understanding these sources in terms of discourse entails that I assume that these sources do not only provide an understanding of the world but also produce it (Bryman 2016, 523). As such, I take for granted that discourses around natural gas coproduce a certain future. Because the Dutch state was the most influential actor in Dutch natural gas exploitation, the main source I analysed is the 1962

Ministerial Memo on Natural Gas. Subsequently, the discourse in this memo was communicated to the larger public through brochures published by the NAM and Gasunie, which is the state-owned gas distribution company. Therefore, a 1963 NAM and Gasunie brochure also serves as an important source. Additionally, the analysis will include newspaper and magazine articles.

From traditional to industrialised

The first decades after the Second World War can be characterised as a transition period for the Netherlands, where many changes that shaped late twentieth-century Dutch society took form. Those changes are characterised by one common denominator: the transition from more traditional forms of life into industrialised forms of life, characterised by mass communication and mass mobility (Woud 2006, 17). During the formative decades of the 1940s and 50s, the Netherlands started industrialising the previously mostly agrarian economy as growth-oriented policies were deemed the most effective strategy to increase the prosperity of Dutch society (Schuyt and Taverne 2000, 42). While the economy indeed started growing at an impressive rate, the population waited for the expected changes in their standard of living (Schuyt and Taverne 2000, 40).

However, wages remained low, frugality reigned supreme as the most significant normative characteristic for households, and the attempts to break the confessional-secular divide in politics had not been successful (Rooy 2014, 216). In other words, the breakthrough of modernity that had been promised and expected since the end of the Second World War remained long-awaited.

In the 1960s these changes finally rose to the surface. In the political domain, the 1960s are marked by a transition from ideologically driven mass politics to more depoliticised and technocratic forms of administration (Schuyt and Taverne 2000, 63). In the Netherlands, ideologically driven mass politics existed as a phenomenon known as pillarisation: the strict demarcation of both social and political life based on religious and ideological convictions. In the economic domain, the 1960s can be distinguished by an enormous rise in prosperity for most parts of the Dutch population. During the 1940s and 50s, wages had been kept artificially low to favour the process of industrialisation, which had started relatively late in the Netherlands (Oldenziel et al. 2001, 103). The policy of wage control was terminated in the 1960s, resulting in an explosion of the purchasing power of the Dutch population. In 1964, wages increased by 17 per cent and in subsequent

years, an average annual growth of 10 per cent was recorded (Kennedy 1995, 45). In the cultural domain, the 1960s are characterised by the rise of a modern consumption culture, based on the American model (Rooy 2020, 28). This is for example illustrated by the introduction of all kinds of electrical appliances in households, such as electric irons and washing machines (Oldenziel et al. 2001, 104).

It was at the eve of this big transition, which required enormous amounts of energy, that the Groningen field was discovered in 1959. As the enormous size of the field became clear, its potential significance was understood. The expanding Dutch economy was in increasing need of more energy, while the country had thus far only been in possession of a minor coal mining industry in the southern province of Limburg. Now, the most important question was what to do with the recent discovery of natural gas. Thus far, natural gas had mostly been a by-product of oil production and it had never been used in quantities of the scale of the Groningen field (Correljé, Linde and Westerwoudt 2003, 26). In order to solve this question, the Dutch government negotiated with the NAM. Their solution had to take into account the then broadly shared assumption that natural gas would only remain of relatively high value until the introduction of

nuclear energy, which was at that time expected to happen in about twenty years (Smits and Gales 2000, 87). Esso, one of the partners in the NAM, came up with the unexpected idea of a sales strategy aimed at households, which was logistically significantly more complex than focusing on industrial users (as was the case in earlier plans). It was argued that this would potentially be the largest sales market, making a quick depletion of the field possible, while at the same time generating most profits for the Dutch State and the NAM, which would work together in a partnership (Correljé, Linde and Westerwoudt 2003, 30). This strategy was adopted even though it required enormous investments into the distribution network and marketing to convince households to transfer to natural gas. In the household, natural gas could be used for cooking, heating, and warming water. Therefore, households had to be persuaded to change their cooking equipment, which was paid for by municipal governments, and to change heating and warm water installations, which they had to pay for themselves. This decision to target households allowed natural gas to become narrowly intertwined with cultural changes.

Discourses around the new energy source

It was in this context of the need to deplete the newly discovered field as quickly as possible to reap the largest economic benefits, that the discourses around natural gas took shape. These discourses are characterised by three main elements in how they envisioned the future: prosperity, modernity, and abundance. Firstly, natural gas is connected to the notion of prosperity on two levels. On the one hand, prosperity is envisioned in a national sense, where the gas is connected to the idea of the Netherlands as a prosperous nation. For example, the Memo on Natural Gas, mentions that “[g]iven the current circumstances, the possession of the Groningen natural gas represents an enormous value for our economy” (Pous 1962, 10; translation by this author). The envisioned future prosperity is implicitly contrasted with notions of the Netherlands being relatively poor in mineral resources in the past (Gales and Smits 2000, 19). On the other hand, the discourse frames the use of natural gas as a sign of prosperity for households. For example, in this period, having a central heating system, which was usually gas-fired, was considered a luxury and households widely aspired to have one (Overbeeke 2001, 243). Moreover, it was encouraged to use more natural gas as higher energy con-

sumption was seen as a sign of industrial development and prosperity (Overbeeke 2001, 11). The government stimulated high energy consumption for example through the pricing policy for natural gas, where the consumer price per cubic metre decreased as one's total annual use increased (Overbeeke 2001, 229-230).

Secondly, in the 1960s, the discourses around natural gas are connected to the notion of modernity. An information brochure published by the NAM and Gasunie in 1963 mentions that "[t]he near future will be a natural gas future. Modern energy for modern people. We are crossing a threshold of a new energy era.

Natural gas energy from our own soil" (NAM 1963, 38; translation by this author). This message is emphasised by the design of the brochure, which is clearly influenced by modernist art in terms of the forms, colours, and minimalism used. This discourse refers directly to the transition period that the Netherlands was experiencing, shifting from traditional forms of life to forms of life defined as 'modern'. It should be noted that in this discourse, the term modern has the connotation of 'new' rather than referring to modernity as a historical period. In this context, the consumer choice for natural gas is framed as a conscious choice for embracing modern life over tradition.

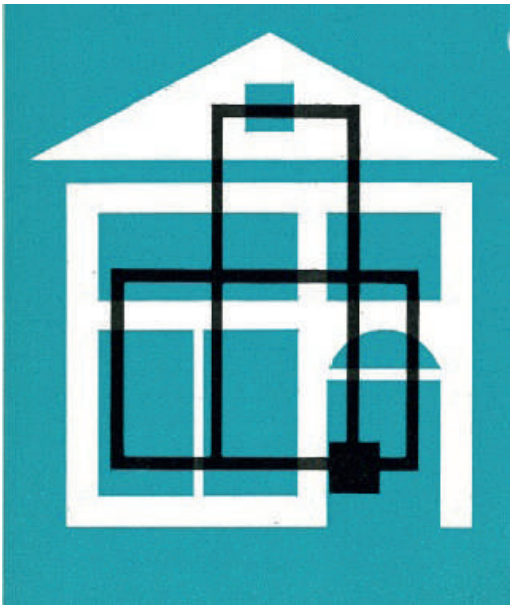


Image from a natural gas brochure. Image credit: NAM, Gasunie and Gasinstituut van de Vereniging van Exploitanten van Gasbedrijven. 1963. *Aardgas in aantocht*, 32. Available in the collection of the Dutch National Library.

"The near future will be a natural gas future. Modern energy for modern people."

- NAM 1963.

An example of this can be found in *Beatrijs*, a Catholic weekly for women, which regularly published articles about the use of natural gas in the household. In a 1964 issue of this magazine, it is stated that the use of gas – that is, city gas produced in coal and industrial gas plants – had become outdated and had mostly been replaced by the use of electricity in the household. However, the article continues that natural gas has now taken the title of most modern form of energy

from electricity (Houtert 1964). Besides notions of modernity in the household, the discourse of modernity is connected to examples of the United States, as this country was seen as the paramount example of a modern society. For example, the 1963 NAM brochure states that ‘go modern, go gas’ is the slogan in the U.S., adding “[b]ut what is normal in America today, can be modern here tomorrow” (NAM 1963, 35). The fact that



Image credit: Wouter de Rijk.

the discourses connect natural gas to notions of a modern future, is underlined if we take a look at discourses that are produced by the coal sector, the direct competitor of natural gas. In their advertising for the use of coal for domestic heating, the coal sector connects coal to notions of traditional Dutch cosiness, which is seen as the binary opposite of the notions of modern life connected to natural gas. A 1968 television commercial stated: “[i]t is good that one half of our population still stokes coal, then the other half can come by to warm themselves” (Hertogdom Limburg 2015).

The third aspect of the discourses around natural gas is the notion of abundance. This notion is recurrent in various contextual constellations, although the essence always boils down to the following: natural gas is plentifully available, for now and in the future. For example, the 1963 Gasunie brochure mentions that “[it] is needless to say that the use of natural gas will increase significantly in the coming period because of the many advantages of natural gas as an energy source” (NAM 1963, 16). The sense of abundant availability is arguably a result of the size of the Groningen field. In the 1962 Memo on Natural Gas, it is mentioned that “theoretically speaking, the quantity of natural gas is so large, that it could cover the entire energy use of our country in

the future” (Pous 1962, 4). Together with the widespread belief that nuclear energy would soon become widely available, the availability of natural gas created the idea that energy was no longer a scarce good (Smiths and Gales 2000, 87). This resulted in energy use that we would now consider wasteful. For example, until the 1970s, there was not much attention to the insulation of buildings or other measures to prevent the waste of energy.

It is interesting to note how the last two aspects of the discourses around natural gas, modernity and abundance, converge in cultural changes in the household specifically. As mentioned before, the 1960s marked the definitive breakthrough of a modern consumption culture after the American model in the Netherlands. In this model, households became defined as the largest potential group of consumers (Oldenziel et al. 2001, 107). Although consumption is in itself an ahistorical concept – it is something that has always existed – modern

consumption culture is characterised by the fact that the act of consumption is not just connected to fulfilling material needs but more so to coming closer to a normative ideal type of life (Weber 2002, 42). As a result, consumption becomes intimately entangled with identity, both of the family and the individual. With the rise of the modern consumer culture, the normative ideal type of the household changed. Whereas before the 1960s, the ideal household was frugal and modest, this was replaced by the ideal type of the consuming household focused on affluence and comfort (Oldenziel et al. 2001, 103). Because the discourses around natural gas appealed to the idea of the modern household, consuming natural gas became closely intertwined with attaining a particular way of life. Moreover, because of the abundant availability of natural gas, there was virtually no limit to the realisation of the modern household.

Conclusion

The discovery of the Groningen field in the Netherlands set in motion an energy transition that has not (yet) been equalled in the post-war history of the country. As sketched in this essay, it was not only a transition in the material sense of the word. The introduction of this new energy source entailed an entire cultural transition, whereby life became shaped by and

The discourses around natural gas envisioned and subsequently coproduced a future in which the production and consumption of natural gas were fundamental elements.

ultimately dependent on natural gas. Through the discourses on natural gas, a particular future was envisioned, both for the Dutch nation as a whole and for individual households within the nation. For the nation as a whole, these discourses envision the Netherlands as a prosperous nation, fully modern, following in the footsteps of the United States, which was seen as the archetypical example of a nation that embraced modernity.

Understanding our past is imperative to creating an alternative future.

Because of the abundant availability of natural gas, nothing threatened the realisation of a prosperous and modern future. For individual households, these discourses also envisioned a particular future, where the consumption of natural gas was framed as the way to become a prosperous and modern household. This notion is linked to the normative ideal type of the consuming household. In other words, the discourses around natural gas envisioned and subsequently coproduced a future in which the production and consumption of natural gas were fundamental elements.

Now that our societies are in urgent need of a full-scale energy transition to divert the disastrous effects of years of burning

fossil fuels, it is important to note how, for a large part, these transitions are cultural. Looking at the transition to natural gas in the Netherlands in the 1960s, it is noteworthy that the discourse that was created then connects the use of natural gas to positive ideas of the future. Extrapolating this to our current situation, we can appreciate the importance of connecting the energy transition to a positive and optimistic envisioning of the future, rather than buying into discourses created by the fossil fuel sector that undercut a true energy transition. Building on and engaging with insights from energy humanities, I hope to have demonstrated the value of a historical approach to creating a better understanding of our current relationship with energy. This knowledge has emancipatory potential: the potential to change our complex and destructive relationship with fossil fuels. Understanding our past is imperative to creating an alternative future.

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What Makes a Transformation – The German Hydrogen Economy as an Example of Radical Change to Business as Usual

by Hendrik Pröhl



Abstract

Germany's plans for a "green hydrogen economy" seek to supplant climate-active greenhouse gases (GHG) in industrial processes with hydrogen produced using non-fossil energy sources. With the cutting of the link between economic growth and ecological breakdown that greenhouse gases form, the prospect of continued growth is heralded as "transformative." This article explores just how disruptive this change would be, and how the goalposts dictated by the relevant narratives determine such assessments.



Germany's *Energiewende*, its "energy transformation", is entering a new phase now that solar and wind power are relatively well-established: to aid the transition away from fossil fuels, energy is supposed to be derived from hydrogen. This gaseous energy carrier can be produced from water using non-fossil electricity and stored in tanks or underground caverns, to be transported in existing gas pipelines. When burnt, it produces thermal energy that can be used directly or reconverted into electricity – but crucially, it releases nothing but water in the process. National and regional strategy documents have been drafted to outline this transition to a long-known but still rarely used energy source. At the core of the envisioned "green hydrogen economy" is the continuation of Germany's international lead in industrial production, all while radically reducing carbon and other greenhouse gas emissions (GHG). It would mean the adoption of a new mode of energy production guided by environmental criteria, and a revolution in how human actions impact the environment: with industrial emissions a prime driver of global heating, economic growth could continue unabated if only water was emitted. These plans for a hydrogen economy will here serve to explore just what makes a "transformation", by outlining the way the definition of a "problem" and the status quo define how inci-

sive changes can be. This will look at how the ecosphere's condition comes to be defined and how these definitions make some actions vital, while leaving others unnecessary (or even unthinkable), ultimately empowering some actors over others. It does not aim to assess the viability or desirability of any one approach, but rather to highlight how much such judgments themselves depend on underlying assumptions and narratives that outline where such transitions are headed.

All the colours of the gas

A brief note on the technology involved and the main "colours" of hydrogen (which is, in fact, a colourless gas): most hydrogen is currently produced through steam methane reforming (Rödl et al. 2018) by which methane undergoes a series of reactions that produce hydrogen, carbon monoxide (CO), and carbon dioxide (CO₂). If this carbon mono- and dioxide is allowed to escape and accumulate in the atmosphere with other greenhouse gases, the hydrogen attained is labelled "grey" to reference the black hue of coal and oil. If instead coal is turned into gas with the same by-products, the hydrogen is "brown." If the CO_x by-products of steam reformation and coal gasification are captured and stored to prevent escape into the atmosphere or solidified into coal, the "grey" hydrogen turns "blue" or "turquoise" respectively.

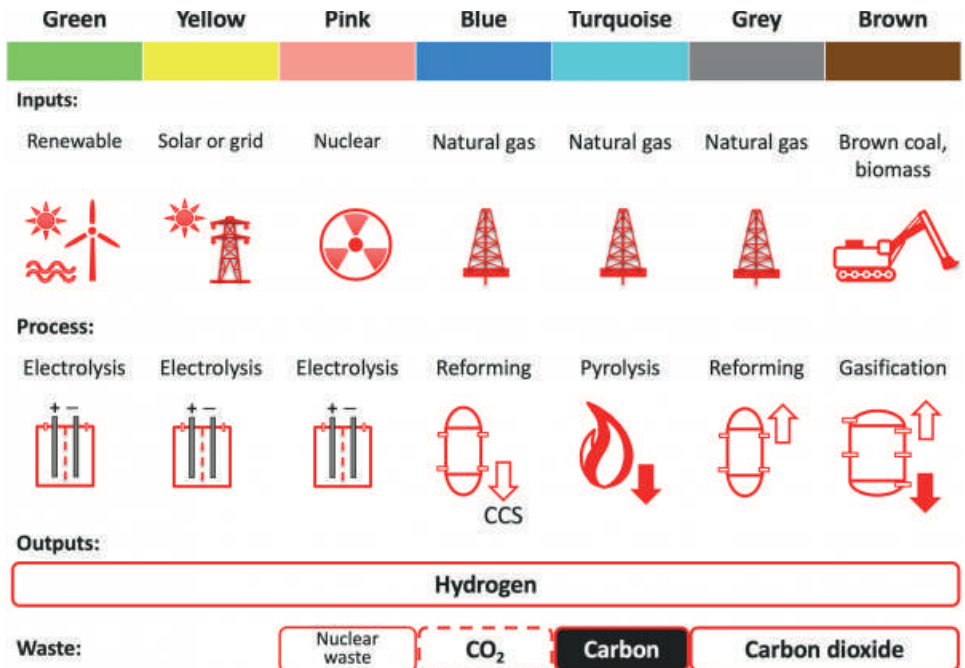


Figure 1: Hydrogen "colour scheme." Image credit: Broadleaf, 'The Colour of Hydrogen,' <https://broadleaf.com.au/the-colour-of-hydrogen/>.

A different route for hydrogen production, and the most relevant for what follows, is the separation of water into hydrogen and oxygen using electricity – if this is derived from non-fossil sources like wind and sun, the product is “green;” if from nuclear power, it is labelled “pink.” This categorisation scheme, which is dependent on source and process, is visualised in figure 1. While interest and investments have been soaring, none of these technologies are currently available, or even economically viable at industrial scale, which is why a key pillar of “hydrogen economy” strategies is to facilitate their further development and implementation.

Hydrogen’s environmental impact is then defined by its production rather than its combustion: whether it is produced from methane or water and whether fossil or non-fossil energy input sources are used in the process. It is “green” hydrogen made from water using non-fossil energy that would fuel a “green hydrogen economy” and cut the link between energy-intensive industries and climate change. It can be stored and transferred (including in existing natural gas infrastructures), it combusts into water, and allows for converted non-fossil energy to be stored when supply exceeds demand. Intermittency, storage, and non-electrifiable processes – key we-

aknesses of wind and solar power – are all covered by this supposed silver bullet (Momirlan and Veziroglu 2002). All that is required is to install hydrogen infrastructure at scale; with greenhouse gas emissions virtually cut, so the idea goes, no further action is needed.

What changes the climate, and what changes are needed?

The central narrative of climate change that the hydrogen economy targets is one of rising greenhouse gas concentrations in the atmosphere that drive global heating. With greenhouse gas emissions as the focus, the elimination of further emissions would allow for a gradual re-absorption into natural sinks such as the oceans or forests, in essence preventing dangerous temperature increases (IPCC 2021, SPM-25). This echoes the scientific consensus that: “human influence has warmed the atmosphere, ocean and land [and] widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred” (IPCC 2021, 8). What follows aims to show that this assessment, while well-evidenced, is not the only nor a comprehensive way to describe the planet’s condition. The main idea is that, “people can make very different things of these phenomena and – especially – their interconnections” (Dryzek 2013, 12), and that different consequences follow.

In Germany, the 2015 Paris Agreement’s aim of limiting global heating to 1.5°C by the end of this century has been legislated into a 2045 carbon-neutrality target and forms the policy benchmark for greenhouse gas emissions reduction (Bundesministerium der Justiz 2019, revised 2021). The Agreement and Germany’s commitment to: “become GHG-neutral and meet its international obligations” (BMWi 2020, 3) is underpinned by an understanding of human-nature relations as mediated by climate gases, with energy/resource use and ecosystem impacts as secondary concerns. Based on this view of greenhouse gases as an ecological linchpin, “certain types of carbon emissions from the industrial sector such as process-related emissions from the cement industry are to be eliminated in the long term” (BMWi 2020, 2). Cement, chemical, and steel production are key examples of high-emission sectors that are difficult to electrify, yet remain central to Germany’s economy. They rely on thermal energy that can be derived from burning fossil fuels or hydrogen but not from non-fossil electricity. In the North German city-state of Bremen, for example, the steel plant is both a key employer and one of the largest emitters (HB, HH, MV, MV, NDS, 2019, 5) – responsible for more than 50% of the state’s carbon dioxide but not currently included in the state’s GHG accounting

(Spethmann and Hellmers 2021). These high-emissions sectors are often marked as strategic economic interests that need to be retained and helped to grow.

When it comes to assessing the transformative potential of a “green hydrogen economy,” this focus on greenhouse gases and carbon dioxide specifically lowers the threshold for disruptive change. End-of-pipe emissions would be reduced if the required infrastructures were installed at scale, yet the “hydrogen revolution” is specifically meant to not disrupt the material processes of industrial production at large, nor necessitate a reconsideration of growth-based wealth. It is based on the narrative of global heating and ecosystem breakdown primarily being caused by greenhouse gas emissions. Such a narrow focus on one factor, however, obscures inherently related issues like species diversity and habitat protection.

What is locked in by cutting out carbon?

Such a narrative that Earth is undergoing large-scale atmospheric changes caused by greenhouse gases, primarily CO₂, includes calls for addressing the consequences of human action understood as emissions to prevent catastrophic temperature increases. If greenhouse gas emissions were to be cut, the climate

crisis would largely be addressed, and there would be no deeper changes called for. The term “narrative” here serves to emphasise the processes through which scientific insights are related to each other and socio-cultural values built into: “a meaning structure that organises events and human actions into a whole, thereby attributing significance to individual actions and events according to their effect on the whole” (Polkinghorne 1988, 18). In the section above, the reasoning behind a change to hydrogen as an energy carrier to target CO₂ emissions has been outlined. The following section will look at how this framing locks in some possible approaches and obscures other alternatives from view.

With the ecosphere’s condition narratively framed as undergoing greenhouse gas-induced climate change, the focus is set on energy use and the moment it becomes usable for other practices, away from energy resource production – which is the decisive factor in hydrogen. Activities consuming large amounts of energy and resources are thus re-legitimated as environmentally sound if no end-point emissions occur. A focus on consequences over whole processes also speaks to an ethical concern with final outcomes only, not with the changes wrought throughout. Precisely this occurs when the aforementioned North

German Hydrogen Strategy identifies the most emissions-intensive target industries but leaves their resource use unaddressed, considering “the steel foundry as the largest energy consumer and various vehicle production processes” (HB, HH, MV, NDS, SH 2019, 5). This approach, in solely focusing on end-of-pipe emissions, “invisibilizes the extractive, processing, manufacturing and transportation components as well as the various labour regimes” that underwrite hydrogen energy production as well as the material extraction for large-scale photovoltaic and windmill construction (Dunlap 2021, 84). Soil composition and air flow changes in local ecosystems are also affected by the construction of these infrastructures (Abbasi et al. 2016). It has also raised calls for ocean floor mining to cover rare minerals requirements despite a lack of knowledge about the environmental impacts of such endeavours (Steiner 2015). The same processes that lead to ecosystem breakdown would thereby be accelerated.

The language used in policy documents expresses a commitment to exactly this, based on a narrow concern over emissions. Through “ambitious *economic* policies”, industries are to generate “incentives for innovation and economic growth” (HB, HH, MV, NDS, SH 2019, i; emphasis added) in hydrogen producti-

on and usage alike. Included in promises of growth is a commitment to increasing economic throughput, “the energy and resource flows in and out of an economy” (Kallis et al. 2018, 292) with all the destruction that it entails. Yet evidence is mounting that: “absolute decoupling [of production from resource use] is not feasible on a global scale in the context of continued economic growth” (Hickel and Kallis 2020, 476), indicating that a focus on energy alone is insufficient. Yet human interventions into ecosystems go far beyond climate-changing emissions, all the while feeding back into ecological resilience more widely understood. To focus not only on outputs but on the consumption of materials, life, and the potential for life, too, could re-centre what this economic activity is predicated on, and open pathways for more widely rethinking humans’ ecological role.

Who matters, and how?

A narrative frame of the ecosphere’s condition as undergoing rapid and increasing degradation from greenhouse gas emissions, especially CO₂, still sets the focus squarely on gaseous exhausts. By prioritising expert knowledge and elevating predetermined outcomes, it depoliticises the decision, on which there are a myriad of alternative changes to pursue, by removing a significant portion

of people (not to mention non-humans) from the debate and constrains what factors can meaningfully be considered. In this last section, the effect of a narrative concerned with only the consequences of human actions for the ecosphere, not the practices or values that give rise to them, will be contextualised within approaches from ecological ethics to see what such a narrative enables and forecloses, and what alternatives exist.

And while emissions and heating reduction can be measured and modelled objectively on a global scale, a 1.5°C-heating limit that will see entire island communities submerged certainly has political consequences.

In the form of GHG measurements, accounting, and reduction goals, the focus on gaseous consequences themselves moves the debate to a highly specialised plane detached from the everyday practices emissions derive from. Consequently, “only those experts, who are capable of seeing things ‘from above’” are in a position where they “can judge the legitimacy of the life models chosen by common people” (Romano 2012, 583). An approach of “rational management in the service of a clearly defined public interest, informed by the best

available expertise” (Dryzek 2013, 88) displaces the political and value-base contestation over what course life needs to take to be sustainable and what is in the public interest. While surveys and measurements surely are important to assess what contributions are made, the allegedly neutral standard still “favours expert knowledge and hence reproduces the depoliticizing technical bias” (Cattaneo et al. 2012, 520) that risks denying “the existence of politics of any sort” (Dryzek 2013, 89). And while emissions and heating reduction can be measured and modelled objectively on a global scale, a 1.5°C-heating limit that will see entire island communities submerged certainly has political consequences.

Again, the example of Germany’s envisioned “hydrogen economy” is helpful: with carbon emissions reduction as the aim, energy-intensive sectors need to be retrofitted with emissions-free energy infrastructure. It is government officials and corporate leaderships that make decisions; individuals as citizens and consumers only come in to sustain economic growth through their consumption practices. The narrative of emissions degrading global climatic stability here does serve to call for drastic changes in outcomes. But when applied to emissions and technical adjustments alone, the theoretical possibility of eliminating emissions

(except water) means that even such a drastic shift could preserve many of the underlying economic and political structures and facilities. A transition to another energy source would be transformative in the reductions of emissions; but far less so when factors like resource extraction impacts and access to decision-making power are accounted for.

What is at stake here is how the fact that these gases have severe impacts on the atmosphere and that decisive action is needed to prevent climate breakdown (IPCC 2021) is given meaning. This is the world-making interpretive work that is done by relating facts, tying them to values and pre-existing narratives from which, “the subjects and objects that appear in the order of meaning” (Polkinghorne 1988, 158) arise. In the focus on emissions as the end-products of human

actions and the impact of global heating, a consequentialist perspective dominates, where “the subjective motivations of objective actions are irrelevant” and only the objectively measurable impacts have relevance (Curry 2011, 47). For global heating, the consequences of rising temperatures will be quantifiable, and they will make entire regions virtually uninhabitable. If it is greenhouse gases that are climate-active and if something does not emit greenhouse gases, this ethic argues, it is not of immediate concern – and in turn, if a technology can get rid of the carbon emissions in steel processing, more iron can be mined. This reasoning exculpates steel, concrete, and other resource-intensive and energy-demanding industries in Germany’s plans for a “green hydrogen economy”: they can continue to grow unabated so long as they no longer rely on fossil fuels.

A transition to another energy source would be transformative in the reductions of emissions; but far less so when factors like resource extraction impacts and access to decision-making power are accounted for.

But while the logic of such judgments is important for understanding *how* plans for change are formulated, the substance of these proposals is determined by ontological questions; that is, who and what enters as subjects of ethical concern. Projections for global heating that focus on food insecurity as well as an increased frequency of extreme temperature and precipitation events (IPCC 2021, SPM-23), for example, emphasise the possible impacts of such events on humans.

They are anthropocentric in that they have: “human beings as [their] principal or even sole focus” (Curry 2011, 54). A focus only on human actions and their impacts on the ecosphere similarly obscures all the work and energy constantly being expended by non-humans to regulate ecosystem conditions (Daggett 2019; Moore and Pattel 2017). To focus on how ecological breakdown affects humans specifically means to make affected non-humans disposable.

Some of the forms these “reduction” efforts may take are the destruction of precisely those parts of the ecosphere that constantly work to sustain life.

One consequence of this privileging of human over non-human interests is the insistence on continued economic growth. A framing of Germany’s hydrogen economy as an *economic* project that would bring “fresh potential for industrial policy and can help the German and European economy deal with the consequences of the coronavirus pandemic” (BMW 2020, 3) reaffirms the state’s commitment to growth. But such economic growth, when predicated on increasing resource and energy (including non-fossil) throughput (Kallis et al. 2018; Hickel and Kallis 2020), will continue to incre-

ase its negative impacts on non-human and human health – albeit much more locally contained and removed. Some of the forms these “reduction” efforts may take are the destruction of precisely those parts of the ecosphere that constantly work to sustain life, like old-growth forests or ocean floors teeming with life.

A possible corrective (and one that would require starkly different alternatives to the status quo) would be to strongly embrace ecocentric perspectives, which place “ultimate value in the natural world” (Curry 2011, 57). By not giving special value to human interests, the balance of actions and consequences would shift. The matter of emissions and global heating would still have to be addressed, and this could nonetheless be framed with a concern for consequences: species and individual non-human lives as well as the potential for future ones lost or preserved, and the integrity of entire ecosystems. Yet a radical shift would occur in whose interests come into consideration, necessitating a wider reconsideration of what, under anthropocentrism, can be retained. A hydrogen economy, however decarbonised, would have to account for all the actions and extractions it facilitates – not only its emissions. To retain an anthropocentric-consequentialist ethic, on the other hand, would mean that even if radical changes in the ways

of producing energy were to occur, fundamental tenets would endure. As such, both the extent of change achieved by the “hydrogen revolution” itself would be much more limited, and future pathways likely to stay in more familiar territory.

What makes a transformation?

When it comes to envisioning alternative paths into the future, the above has sought to explore how such “transformations” come to be envisioned, using the German “green hydrogen economy” as an example. The extent of “change” then depends not only on substantive questions but also on the parameters applied: by ways of applied technology and emissions, hydrogen-based energy production is a radical divergence. Yet both in the distribution of decision-making power and underlying central aims, this “revolution” very much aims to retain and intensify the familiar: expert knowledge will be used by policymakers and corporations to facilitate continued and greater economic growth. When it comes to assessing just how “transformative” change is (to be a little on the nose: how “alternative” any alternative future is), we must then ask ourselves: what is defined as the baseline? What does the proposal aim to address – and does it achieve that? What does it leave unaltered, and what alternatives are left

unaddressed or even foreclosed? And how does it deal with the fundamental questions of value and organising visions?

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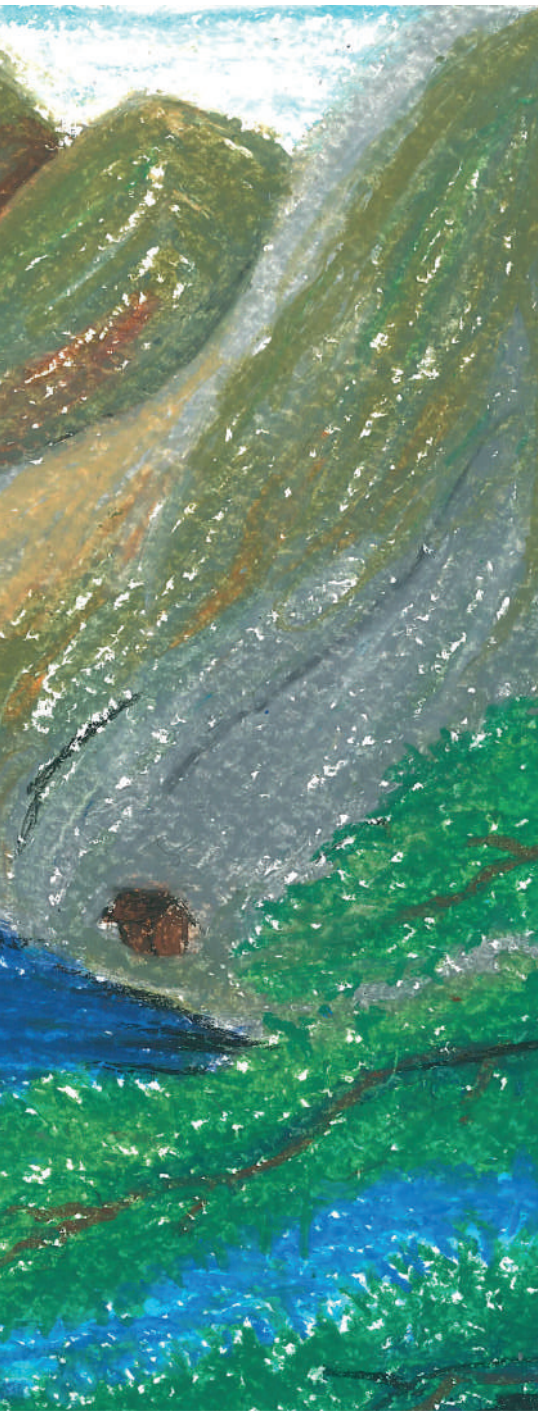
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자연에서 살다

Living in Nature

by Hanee Jang



나는 피오르드를 지날 때마다 하나 혹은 몇 개의,
작거나 혹은 큰 집들을 발견하곤 했다.
언제나 나는 저런 곳에서 사는 건 어떤 기분일지 궁금했다.
끝이 보이지 않는 높은 산에 둘러싸여,
그 깊이를 가늠할 수 없는 바다인지 강인지 모르는 물 앞에서,
부드럽고 포근한 구름과 무한히 넓은 하늘을 보면서,
나 혼자서 그러한 자연들과 산다는 것은 어떤 기분일까.

Whenever I pass the fjords, I tend to find one (or many) small (or big) cabins in the middle of nowhere. I always wondered what it would feel like to live there. (I am) surrounded by the giant mountains with no end in sight, being in front of the deep water (that is) unknowable whether it is river or sea, and looking at the infinitely wide sky with fluffy clouds. How does (how would) it feel to live alone with such a nature?

Climate CHALLENGE

by Sofie Van Canegem

The aim of this reflection paper is to share my experience with the cCHALLENGE, a 30-day experiment on an environmentally friendly change in my daily life. This paper will first discuss the cCHALLENGE I chose, namely to reduce my food waste, and why I chose it. It will thereafter discuss how I experienced the challenge and my reflections on it, with the Three Spheres of Transformation Framework in mind. The paper concludes that the three spheres of transformation – the practical, political, and personal spheres – positively and negatively affect one another, meaning that a transformation in one sphere can impact or facilitate change in another sphere.

cCHALLENGE

We live in a consumer society, a society in which people are encouraged to buy services and goods (Smart 2010). This excessive lifestyle does not match the need for a more sustainable society, a society that fosters the primary needs of our planet. As an individual, and as a consumer, I wonder how much difference I can make in the bigger picture by changing to a more sustainable lifestyle, and how much my behaviour will be influenced by other players, for instance by companies whose market model is built around maximising profit. To find out, I accepted the cCHALLENGE developed by cCHANGE and Karen O'Brien (cCHANGE n.d.). cCHALLENGE is a 30-day experiment on a self-selected change in your daily life that leads to a more sustainable way of living. It brings you, the individual, in relation to the bigger picture by requ-

esting you to evaluate how you are influenced by the "Three Spheres of Transformation Framework" as developed by O'Brien and Sygna, after Sharma's ideas (O'Brien and Sygna 2013; Sharma 2007). The practical, personal, and political spheres are cultural and social norms, systems and structures, and your own assumptions and beliefs, respectively (cCHANGE n.d.). The aim of the challenge is not to calculate how much your changes in daily life reduce your climate impact, but to reflect on your transformation process, for instance on the barriers and limits that you experience.

This reflection paper will discuss my cCHALLENGE: "During the next 30 days I will reduce my food waste". First, I will explain why I chose this challenge. Afterwards, I will share my experience with the challenge and reflect on how the three spheres of transformation influenced it. In the end, the changing

food customs in the political sphere positively shaped my cCHALLENGE and the personal sphere enabled me to take on the obstacles I experienced in the practical sphere. The company and state practices from the political sphere, however, restrained me from influencing the food waste that happens before food hits the stores, limiting my efforts to reduce waste to my fullest potential.



The Three Spheres of Transformation. Image credit: O'Brien and Sygna, 2013, after Sharma 2007.

Less food waste

To find a suitable cCHALLENGE, I walked myself through my daily routines. I noticed that the food bin was quite full. How so? Before I started this challenge, I already tried not to throw away food. For instance, food leftovers end up in a reusable container, perfect as a snack or for a lazy day. When looking closer at the food bin, I noticed it was mainly filled with vegetable peels.

In 2008, food systems accounted for 19-29 percent of global anthropogenic greenhouse gas emissions (Vermeulen et al. 2012). Therefore, my cCHALLENGE was to use as much of the food I bought as possible.

Experience and reflection

I will discuss my experience in light of the Three Spheres of Transformation Framework, a model that helps us understand why, how, and where transformations to enhance sustainability can take place (O'Brien and Sygna 2013). The three interacting spheres are the practical, political, and personal sphere. The practical sphere concerns physical actions, behaviours, and technical solutions to climate change; the political sphere contains governance systems and institutions as well as social and cultural institutions that shape peoples' actions; and the personal sphere consists of values and beliefs (O'Brien and Sygna 2013; Leichenko and O'Brien 2019).

Since the three spheres interact with one another, a transformation in one sphere can facilitate a change in another. The practical sphere at the core can trigger or support systematic and structural change in the political sphere, as well as beliefs, worldviews, or values in the personal sphere; the individual and collective transformations in the perso-

nal sphere usually drive the changes in the political and practical sphere (O'Brien 2018; O'Brien and Sygna 2013). Transformations can happen from the core to the periphery and vice-versa.

Practical sphere

Some weeks ago, I had a couple of hard bread crusts. Usually, I save them up for the birds.¹ Although this also is a noble goal, I instead decided to crush them and coat pieces of brie, bought under the tag "food going out of date", with it. A nice salad with crusty cheese was the result. A week ago, I made pumpkin soup, using the whole pumpkin from skin to seeds. The skin of a butternut can be eaten after boiling and the seeds can be roasted on a pan, which adds a crunchy element to a silky soup. Also, the remainders of the leek I had prepared earlier came in handy. Instead of throwing the dark green parts away, I used it in the pumpkin soup. No trash and extra taste, wonderful! I did the same with the tasty water of boiled carrots, onion, and potatoes. I had used these vegetables earlier to make a mash. Before, I would throw the boiled water away and it would feel like the most normal thing in the world when I did it. However, thinking of the rich taste and amount of nutrients it contains, I now used it as a base for a new soup.

¹ Bird-friendly note: do not feed birds with only bread (RSPB n.d.), but mix it with nutritious foods, such as seeds, peanut butter, or fat. Otherwise, they might develop diseases.

Practical and personal sphere

I spent the earliest years of my childhood mainly with my grandparents. They experienced the second world war and were a typical old-style Flemish family: they grew their own potatoes, vegetables, and fruits on the field next to their house; they had some chickens, a rooster, and rabbits and; they made their own bread in a traditional stone bread oven and chopped wood in the forest near their house. Except for milk products, oil, wheat, and some meat, they did not buy anything at the store, to which my grandfather biked. Vegetable peels as well as the crumbs on the table were given to the chickens, and eggshells were a perfect way to keep their calcium level in balance. This upbringing has left me with personal values of being grateful for what we have and using everything out of respect for nature. The values belong in the personal sphere and align well with the actions I aimed to take in the practical sphere. For instance, thinking of breadcrumbs or boiled vegetable water stimulated my cooking creativity and led to new and more intense flavours. I must admit that it is more time-consuming to work around a whole vegetable. My positive mindset, stemming from my personal values, helped me to see the benefit: it is edible food, meaning I could save to buy another vegetable instead. Saved

food is saved work hours. The same goes for “50% shopping due to expiration date” or using the Too Good To Go app. It costs more time, but brings creativity to the plate, a surprise dish into the week’s menu, and an extra dime in your pocket.

Political sphere

In 2017, the Norwegian government entered into an agreement with 12 food industry organisations in order to reduce food waste in Norway by 50 percent before 2030. By 2020, 103 companies signed a declaration of endorsement, and many have already come up with great initiatives. For instance, Sørlandschips now sells chips from both small and big potatoes and does not peel them, which saves 10 million potatoes from going to the trash (Matvett n.d.). Tine changed the expiration date message on their products to “Best før – ofte god etter” (“Best before – often good after”). This caused the number of consumers that throw away food due to expiration dates to drop by 64 percent (Matvett n.d.). These and other initiatives, such as food quizzes and the “look, smell and taste” campaign, educates consumers about expiration dates and food waste, and stimulates them to change their attitudes towards it. This led to improved 2020 food waste figures (LMD 2020; Matsentralen 2020), which illustrates how the political sphere can positively influen-

ce the practical sphere. For instance, thanks to the publicly available information about expiration dates, I now have the courage to buy food that is about to expire. Additionally, when watching cooking shows and reading food blogs, I noticed a change in food customs. In the past few years, chefs and food bloggers have started to explain how you can optimally use a vegetable or leftovers. Thanks to a cooking show, I know that the skin of butternut is edible after boiling. These changing food practices inspired me and led to my cCHALLENGE.

However, the story is not all positive. In October 2019, NRK wrote about “the hidden food waste” (Vinding et al. 2019). As stores only want perfect potatoes, farmer Lars Erik dumps the imperfect, yet perfectly edible, ones. In 2019, he dumped almost 20,000 kilos, other years even 100,000 kilos. Farmer Arne Torgersen grew 3,000 kilos of perfect tomatoes, exactly what he and the warehouse agreed to at the start of the season. However, when he delivered the tomatoes to the warehouse, no orders came in. In Norway, a chain has no obligation to purchase goods when it comes to fruits and vegetables, even though the chain and the farmer reached an agreement at the start of the season. Buyers can thus buy up imported tomatoes when they are cheaper than the Norwegian-grown tomatoes,

which must wait in the warehouse, losing quality, nutrients, and shelf life. Every day, stores throw away nearly 50,000 tomatoes due to their short shelf life.

Almost all the food waste that happens before reaching the stores is invisible in the statistics. In 2017, the government and food industry promised to map this food waste. The time is due for them to finish their food waste map, and offer solutions to producers and companies in the food business. For example, by subsidising locally grown tomatoes which are ruled out by cheaper imported variants, the State is subsidising food waste. It is time for these stories to reach the public, so I can say “local first” instead of “cheap first” or “I do not mind imperfect”. Stores do not want to buy imperfect potatoes since they assume consumers, being spoiled with perfection, will not buy the imperfect ones. The assumption that stores make, based on the food practices of consumers, hinders me from buying imperfect potatoes. These practices stand perpendicular to the values I was taught as a child: be grateful for what you have. I would gladly use imperfect vegetables. Who sees their imperfections when cut up? Therefore, the political sphere negatively affects the practical sphere. The lack of rules and willingness to make change, for instance not finishing the food waste map, also affect my

personal sphere, more specifically my view of politics and the food industry.

Conclusion

After 30 days of the food waste challenge, it has become a new way of life. The background of my grandparents, my culinary genes, and my love for nature helped me in my cCHALLENGE. In the past month, I also realised that although I am eagerly searching for an alternative future, parts of the solution lie in looking back. Thanks to the values I was brought up with, the personal sphere, I looked positively at my food waste challenge and had an optimistic mindset when I encountered problems, for instance when I came across new ingredients or had to reschedule my evening since my “cooking with a whole vegetable menu” took more time than expected. Although I had a positive approach to it, living up to my values of not wasting food and using all edible parts of vegetables was challenging in a hectic modern life, which belongs in the political sphere. The personal and political spheres also interacted when I found out about ‘invisible’ food waste, to which I cannot make a change. It negatively affected my perception of state regulations as well as business practices, which are partly rooted in consumer behaviour: consumers are used to seeing perfect products in the stores, which limits their ability to view

imperfect vegetables as equally edible. Therefore, stores do not buy imperfect products. The political sphere also affected the practical sphere, both positively and negatively. On the one hand, the food waste campaigns taught me which parts of a particular vegetable are edible, so I could optimally use it. On the other hand, the invisible food waste that takes place before food enters the store prevented me from saving those locally grown tomatoes and perfectly imperfect potatoes. I realised that I, as an individual, have a small impact on food waste and that tackling food waste means tackling structures and systems that are larger than myself. This realisation has interacted with my values and my belief in a better world, causing a positive (re)action in the practical sphere. There are still actions I can undertake as an individual to make a change and influence the political sphere. In the future, I will advocate for more transparency with regards to food waste in the early production and manufacturing phases, more consumer inclusion as to “buying imperfect” and a better support framework for Norwegian farmers: revising the Norwegian subsidies for farmers on products that are not bought, reviewing the legal framework with regards to agreements on the production of vegetables and fruits, etc. It is not a challenge for 30 days, it is a challenge for life.

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Arrival of the Ferns

by Amalie Rugård Jensen

What future would come out of a past where ferns wrote poetry and people started photosynthesizing?

A better one, I imagine. The project *Arrival of the ferns* is centered around Franciska Birchen, a scientist that I made up. She's a Danish-German therolinguist, member of the psychochromatic society and translator of the writings of ferns. The project borrows its title from the first selection of poetry written by the ferns of the Oslo Nordmarka in translation by Birchen.

If it sounds strange, that's ok. There's something compelling about making art that makes people stop and wonder for a second or more, is this really true? Well. What if it was? A lot of scientists who also happened to be women have been grossly miscredited or entirely written out of history over the years. Somaybeitisn'tsounlikelythatsomeone with the name Franciska Birchen who translates plant poetry actually existed without you hearing about it.

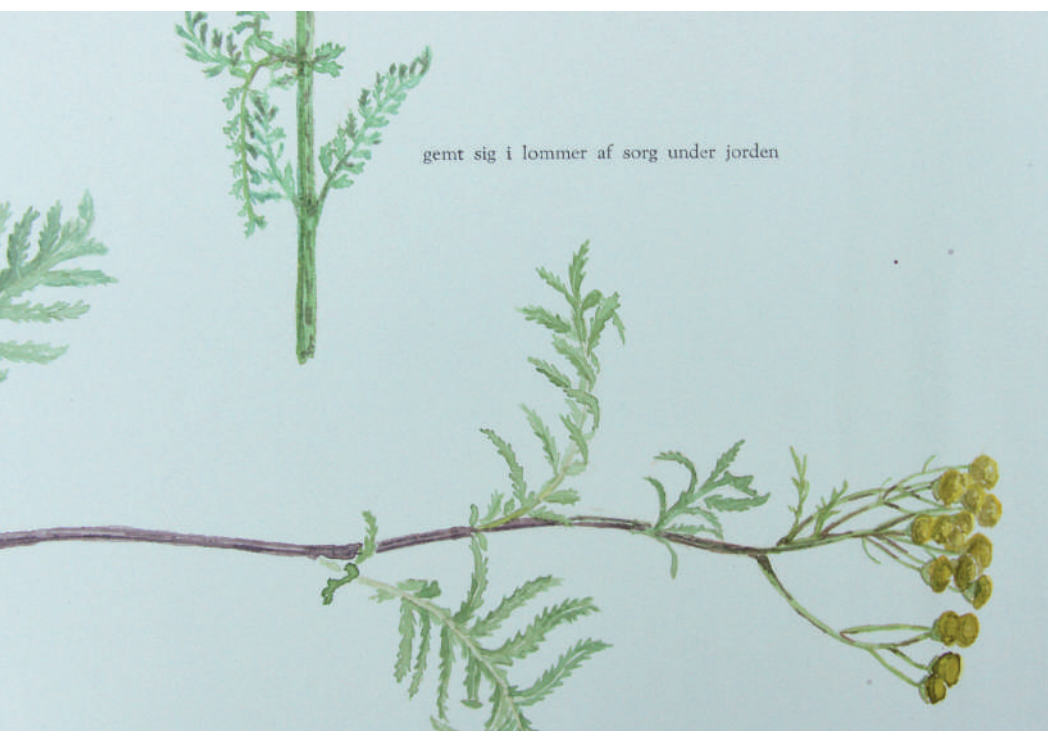


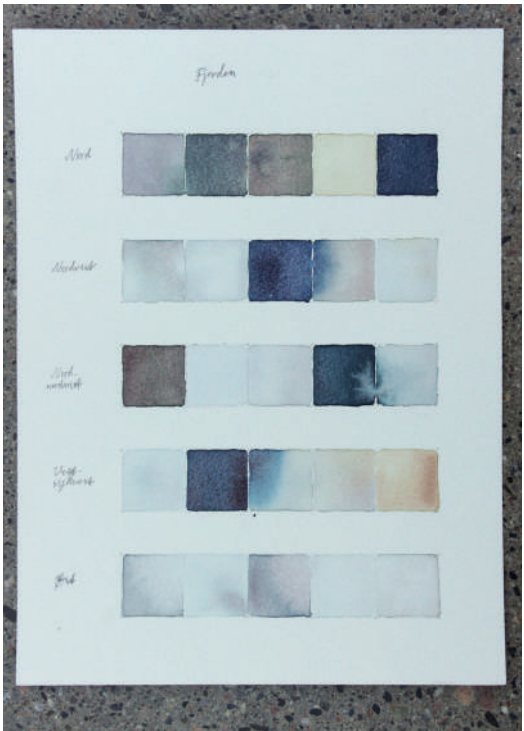
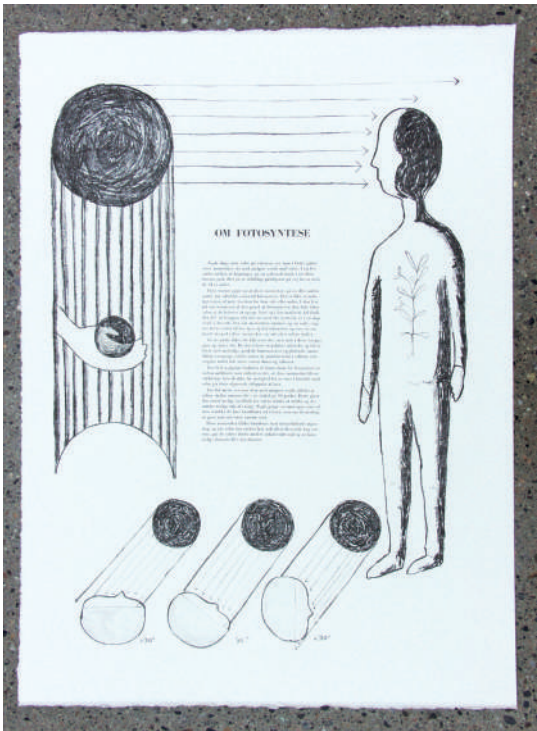
Image Credit for all of the following images:
Amalie Rugård Jensen.

With this, and other related projects, I'm trying to make room for those who have been uncredited. By creating worlds that, although fictional, are close enough to this one, I imagine other ways of being and make people wonder.



I envision a future where people take the time to read the poems of ferns, stones and grouse. If more people would listen and put themselves in the place of the marginalized, maybe this could be a more caring and considerate world. And if they also learned photosynthesis, oh boy, there would be no end to the beneficial effects!





OM FOTOSYNTESE

Nogle dage, især sidst på vinteren, ser man i Oslos gader visse mennesker stå med ansigtet vendt mod solen. I en lysstribe mellem to bygninger, på en sydvendt bænk i en ellers frossen park eller på et tilfældigt gadehjørne på vej fra et ærinde til et andet.

Flere teorier peger på at disse mennesker, på en eller anden måde, har udviklet evnen til fotosyntese. Det er ikke så tydeligt resten af året, hverken for dem selv eller andre. I den lyse tid om sommeren af den grund at fotosyntesen sker hele tiden uden at de behøver at opsøge lyset og i den mørkeste tid fordi den del af kroppen, der har ansvaret for syntesen, er i en slags dvale i den tid. Men når mørketiden nærmer sig sin ende, vågner dette center til live igen og det udmærker sig som en ren fysisk længsel i disse mennesker, en sult efter solens stråler.

De er måske ikke selv klar over det, men inde i deres kroppe gror og ulmer det. De står i deres respektive solstråler og bliver fyldt med underlige, grødede fornemmelser og glødende varme. Solens energirige stråler sætter de mindste korn i cellerne i bevægelse indtil hele deres væsen dirrer og vibrerer.

Den helt nøjagtige funktion af denne form for fotosyntese er endnu uafklaret, men sikkert er det, at disse mennesker bliver ulykkelige hvis de ikke får mulighed for at være i kontakt med solen på dette afgørende tidspunkt af året.

For det meste ser man dem med ansigtet vendt således at solens stråler rammer det i en vinkel på 90 grader. Dette giver den størst mulige overflade for solens stråler at dække og det mindst mulige tab af energi. Nogle gange ser man også visse af dem strække de bare håndflader ud i lyset, som om de modtog en gave man må være varsom med.

Disse mennesker fylder hænderne med tilsyneladende ingenting, og når solen har sunket lavt nok til at forsvinde bag træerne, går de videre derfra med et indadvendt smil og en hemmelig, ulmende ild i brystkassen.

The Vanguard of Climate Ethics: Seeking a Livable Future in an Age of Accelerating Change

by Andrew Turner Poeppel



Climate protest in downtown Oslo, October 2021. Image credit:
Andrew Turner Poeppel.

The Call for a Livable Future

In early October, standing among roughly a hundred activists in front of the Norwegian Parliament in downtown Oslo, I watched a succession of students and young organizers voice their opposition to climate inaction. The gathering of demonstrators included members of Extinction Rebellion, Greenpeace, Natur og Ungdom (Nature and Youth), and Rød Ungdom (Red Youth), forming a united front in opposition to continued dependence on petroleum. Norway's new prime minister, Jonas Gahr Støre, leads a coalition government made up of Social Democrats and the Center Party, which has simultaneously highlighted the urgency of the climate crisis and defended the country's petroleum industry. Although climate change had been a key feature of the Norwegian parliamentary elections in September 2021, policy documents reveal that the Støre government advocates for a "high level of activity on the Norwegian continental shelf" (Skrede 2021). In response to this support for continued drilling, the youth activists voiced their opposition to the extraction of oil and advocated for a dramatic shift in climate policy.

Dressed in bright colors, with some wearing yellow vests, the activists listened intently to a handful of speakers and chanted slogans in unison. Many carried signs

and some raised banners, with statements ranging from "*Norwegian oil creates dangerous climate changes for you and your environments,*" to "*Give us a livable future.*" As an outsider in an unfamiliar city, I was arguably not a fitting representative of those gathered that day. Nevertheless, their collective call to rethink climate policy in response to growing awareness of the global ecological breakdown was, by no means, unfamiliar to me. The demand for a social and political response to the climate crisis has been voiced by activists, researchers, and countless concerned citizens across the world. As a sympathetic observer, I watched the demonstrators work to bring their vision of a just climate future in line with political practice and civic responsibility; standing shoulder-to-shoulder, putting their philosophies and ethical perspectives to work on the streets of the capital.

As we enter an age of accelerating environmental change, the clash of optimism and despair warrants greater consideration of our ethical responsibilities to future generations.

The demonstration presented a portrait of contemporary climate activism, one marked by tensions between awareness

of the global state of crisis, and the hope for a just ecological future. Navigating this tension will remain one of the central challenges of 21st century environmentalism. As we enter an age of accelerating environmental change, the clash of optimism and despair warrants greater consideration of our ethical responsibilities to future generations. Examining the portrait of climate activism raises a host of questions centered on the nexus of nature, culture, and ethics. How are our conceptions of moral responsibility changing alongside the growing awareness of the climate crisis? Can we reshape our approaches to environmental ethics in order to mediate relationships to the biosphere and better suit the needs of the most vulnerable? These questions must remain in the foreground as activists and scholars re-engage with the field of environmental ethics and consider how the actions we take in the present will shape the material conditions and wellbeing of future generations.

Climate Ethics in the Twenty-First Century

The history of environmental ethics (or *eco-ethics*) is a story of both failures and successes. The ‘age of ecological innocence’ ended with the publication of Rachel Carson’s *Silent Spring* in 1962, which brought concerns over environ-

mental health into the mainstream of American political discourse. Carson’s work laid the foundation for a broader public conversation on the ‘slow violence’ perpetrated against nonhuman nature, to borrow a term from Rob Nixon, the Rachel Carson Professor of English at University of Wisconsin-Madison. *Silent Spring* brought notions of environmental ethics to a far larger audience, leading to the birth of the Environmental Protection Agency in 1970. However, the discussion of moral responsibility in relation to nonhuman nature remained somewhat contentious. The American naturalist and philosopher Aldo Leopold, whose prioritization of human interests and perspectives was fiercely criticized by Carson, wrote in *A Sand County Almanac* that, “Ethics are possibly a kind of community instinct in-the-making” (Leopold 1949, 239). Debates surrounding the formation of this ‘community instinct’ continued in the subsequent decades, with immense activity occurring in the field throughout the 1970s and 1980s.

Certain environmental ethicists took on the role of activists during this period, particularly with the formation of the environmental justice movement in the United States. Nevertheless, theoretical and practical disagreements over eco-ethics persisted within academic circles. While some arrived at anthropocentric ju-

stifications for the protection of nature, others argued that the inherent worth of nonhuman nature provided enough of an incentive to rethink interspecies relations. These divergent approaches revealed that Carson's critiques of Leopold were indicative of fundamental disagreements among scholars when it comes to ethics and moral theory. She was particularly opposed to his anthropocentric approach to conservation, as well as the methods he advocated for to manage wildlife populations. The instrumental use of nature remains a central concern among contemporary environmental philosophers to this day. However, there is an argument to be made that the field of eco-ethics remains a largely academic exercise – one that often presented itself to broader audiences as being somewhat obscure or inaccessible. The debate over anthropocentric versus ecocentric ethics reminds us that the issue of how ethical perspectives are put into practice has not disappeared. In recent years, concern over global ecological crises such as climate change and biodiversity loss has reinvigorated these debates and arguably made them more accessible to those outside the academy.

We certainly have not escaped the question of how conceptions of eco-ethics are evolving in contemporary environmental discourses. The field of environ-

The connection between ethics and the web of life requires renewed engagement both inside and outside the academy as the prospect of climate breakdown brings us into unfamiliar territory.

mental humanities has already been shaped by the accelerating changes taking place as a result of climate change, the Great Acceleration, and global ecological crises more broadly (Castree 2014, 240). Academics engaging with the field of eco-ethics have questioned the implications of these planetary-scale changes for the moral responsibilities of humans, ranging from utilitarian philosophers (Holmes 2011, 3) to ecofeminist scholars (Merchant 2020, 127). These theoretical approaches vary widely and reveal the diversity of thought that exists when it comes to our collective obligations to one another, to nonhuman life, and to the Earth as a whole. Though interest surrounding the future of eco-ethics has steadily increased with growing awareness of the climate crisis, intergenerational responsibility has been a central topic of debate within the field for several decades. Does the pursuit of justice across generations go far enough to mediate relationships to the biosphere, or

does it represent yet another form of anthropocentrism? Resolution of this issue has arguably been a significant obstacle for scholars from a range of academic disciplines. While some advocate for an intergenerational approach to eco-ethics, others have expressed skepticism about humanity's ability to conceptualize relationships to future generations.

Writing in the *Columbia Journal of Environmental Law*, legal scholar Jeffrey Gaba suggested that: "Rather than focus on the obligations we have to the future, perhaps we should focus on our obligations to ourselves" (Gaba 1999, 283). Aligning himself with *virtue ethics*, which use the moral virtue of a specific actor as the foundation for moral analysis, he argues that we have not yet arrived at a consensus surrounding the metaphors that help individuals to recognize our obligations to future generations (Gaba 1999, 288). But can an anthropocentric approach to virtue ethics really bring about the changes needed to avoid a global climate collapse? This outlook would certainly be rejected by those who align themselves with the *deep ecology movement* and the teachings of Norwegian philosopher Arne Næss. The deep ecological tradition has arguably faded into the background of contemporary eco-philosophical debates. However, Næss' emphasis on our responsibilities to the *web of life*

(that humans and nonhumans depend on) remains a central concern, given that future generations will face the impacts of current environmental policies and practices. The connection between ethics and the web of life requires renewed engagement both inside and outside the academy as the prospect of climate breakdown brings us into unfamiliar territory. The American philosopher Holmes Rolston has been among the most prolific writers shaping the debate around "an ethic for Earth with its family of life," noting that "we have been traveling into progressively less familiar ethical terrain" (Rolston 2011, 22). Nevertheless, this terrain will not remain unfamiliar for long.

Our responsibility to Earth might be thought the most remote of our responsibilities; it seems so grandiose and vague beside our concrete responsibilities to our children or next-door neighbors. But not so: the other way round, it is the most fundamental of our responsibilities, and connected with these local ones. Responsibilities increase proportionately to the level and value of the reality in jeopardy. The highest level that we humans have power to affect, Earth, is the most vital phenomenon of all.

- Rolston Holmes III,
"The Future of Environmental Ethics"

With climate researchers, ecologists, and geologists pointing to humanity's severe impact on Earth Systems since the beginning of the Great Acceleration (Steffen et al. 2015, 82), we have received a mandate to face the great ethical responsibility that accompanies our capacity to shape the world around us. As Holmes points out in his essay on "The Future of Environmental Ethics," the remoteness of this moral predicament has long served as a barrier to action. However, this mandate will surely seem less and less faraway or abstract as millions across the world face the impacts of climate change. It has already left the world of abstraction for those who are currently experiencing the direct consequences of ecological breakdown, whether it has arrived in the form of droughts, wildfires, rising tides or heat waves.

In light of these consequences, we must recognize that more work needs to be done in the pursuit of a "long-term nonanthropocentric climate ethic" (Nolt 2011, 710). Though much disagreement still exists surrounding the conclusions to be drawn from this effort, there is a strong argument to be made that climate activists and organizers are actively bringing these concerns to the world of daily political practice. We might conclude that the pursuit of eco-ethics is an ongoing conversation, and one that requires new

interlocutors as we face the accelerating changes taking place in the 21st century. Concern for the web of life may seem remote; however, this conversation can be grounded by recognizing that, while we may rely on human perspectives, we are also capable of reconceiving what "being human" truly means. Acknowledging that humanity is entangled in the web of life reframes this discourse as a fundamental question of human identity and responsibility, rather than an abstract exercise. It is therefore necessary to identify the spaces where individuals are encouraged to rethink their conceptions of ethics, justice, and identity – to locate the cultural avant-garde pushing for social and ecological change.

Environmental Activism as a Cultural Avant-Garde

In 1939, essayist and New York art critic Clement Greenberg made a number of definitive statements about the avant-garde, a term that continues to be shrouded in ambiguity. Greenberg was a prolific writer and art theorist who argued that the avant-garde movement was made possible by emerging historical critiques of society, stating that "...our present bourgeois social order was shown to be, not an eternal, 'natural' condition of life, but simply the latest term in a succession of social orders" (Greenberg 1939, 4). According to his essay,

“Avant-Garde and Kitsch,” the central figures of the 20th century avant-garde movement were not interested in presenting utopian ideas or idealistic principles to the public. Rather, these artists and intellectuals aimed to hold up a mirror to mainstream culture and society. Greenberg states that this goal was achieved through a historical examination of the function and underlying mechanisms of the social order. The avant-garde can therefore be thought of as a shift towards radical socio-cultural reform, actively pushing back against the conventions established by “mass culture” (or the dominant set of established practices and beliefs within society). The avant-garde has a range of connotations, though it is generally understood as an aesthetic term referring to artists, intellectuals, or works that are experimental and radical in their approach. It originates from French military terminology – the ‘advance guard’ or ‘vanguard’ – referring to the offensive flank. It was first used in reference to the arts by French philosopher Henri de Saint-Simon, who believed that artists remain on the edge of social progress. According to Saint-Simon, the cultural ‘vanguard’ moves in the direction of social progress well before the institutions associated with mass culture.

In the age of global environmental crises, the domains of cultural activity are

not immune to ecological developments. Awareness of the environmental challenges and threats faced by human civilization has certainly shifted the narrative and produced cultural reactions to crises such as climate change. These cultural reactions are already taking place in popular culture, and they have a clear relationship to the state of environmental science and activism, whether implicit or explicit (Nikoleris et al., 2019, 67). This state of affairs reveals why a comprehensive social response to climate change is urgently needed, given that the crisis is already underway and affecting cultural change. Considering that we have thus far failed to mobilize an effective response, environmental activism is arguably functioning as the ‘front guard’ in an unprecedented environmental conflict. It is incumbent on us to recognize how the vanguard of climate activism is paving the way for alternative futures that avoid the catastrophes of climate breakdown. These issues require a more careful examination of climate activism as a vehicle for cultural change.

The front guard in the defense of climate ethics must advocate for both social and environmental justice if any form of genuine sustainability is to be achieved.

At a time of increasing ecological anxiety and grief, engagement with environmental research and literature is more important than ever before. A wealth of scholarships exists around the ability to improve social wellbeing and environmental health while charting an ambitious path to lower carbon emissions. Climate activists can form a unified front in the face of global ecological challenge with the knowledge that this path exists. However, the climate futures that humanity might face will look dramatically different for the most vulnerable populations when compared to those living in developed areas of the global North. Those who do not have the capacity to adapt to the impacts of climate change will face an uncertain future. The front guard in the defense of climate ethics must advocate for both social and environmental justice if any form of genuine sustainability is to be achieved. Therefore, the pursuit of social and intergenerational justice is inherently linked to the protection of the web of life. It cannot be said enough – the fossil fuel cultures of the present day are not an “eternal, natural condition of life,” to quote Clement Greenberg. The vanguard climate cultures of the 21st century are only now capturing attention, and they must be actively defended if the fossil fuel cultures of the past are to be left behind.

Ecological Solidarity in Uncertain Times

*Clever beyond all dreams
the inventive craft that he has
which may drive him one time or
another to well or ill.
When he honors the laws of the land
and the gods' sworn right
high indeed is his city; but stateless the
man
who dares to do what is shameful.*

- Sophocles, *Antigone*, c. 441 B.C.

The famed chorus of *Antigone* reminds us that concerns over humanity's collective powers are, in fact, ancient. The passage above re-appeared in German-born philosopher Hans Jonas' *The Imperative of Responsibility*, which played a critical role in bridging the gap between ethics and technological development. Though the chorus centers on the 'wonderous' nature of our abilities – made possible by “the self-taught powers of speech and thought and social sentiment” (Jonas 1973, pp. 2) – the final stanza underscores the need to temper our ambitions with an understanding of ethical responsibility. This concern over our collective powers is arguably more relevant than ever. Without a shared sense of humility and moral obligation to guide us, our capacity to cause change at a planeta-

ry-scale may lead us to cause irreparable harm to the biosphere. This notion of restraint is particularly important as climate change has led some to advocate for geoengineering and ‘techno-fixes’. The impact of human activity on the nonhuman world has become clear since the acceleration of economic growth and development in the mid-20th century. This capacity underscores the need to exercise caution in our relations with nonhuman nature as we adapt to a rapidly changing world. Sophocles introduces the issue of citizenship in this passage, and some may question whether or not the climate and biodiversity crisis might lead us to rethink the ways in which we achieve social and ecological solidarity.

From ancient times to the present-day, our domination over Earth Systems and the life within them has reached new heights. The uncertainty we face over the pursuit of climate ethics and intergenerational equity brings Sophocles’ concerns back into the present. This issue has been addressed by scholars such as Robin Attfield, who recognizes that moral agents face the challenge of balancing the vital interests of present and future generations. Attfield suggests that, “the basic needs of future generations are to be weighed up alongside the similar needs of contemporary generations” (Attfield 1998, 212) – a task that becomes

far more difficult given the accelerating changes associated with the Anthropocene Epoch. Here we must ask how exactly ‘weighing’ these intergenerational needs can drive social, political, and economic change. Which perspectives are taken into consideration, and how much weight are they given? Although pursuing environmental justice across vast temporal and spatial scales remains a difficult task, we can already identify this effort in the actions of those resisting climate catastrophe and advocating for the defense of the biosphere. Awareness of humanity’s ecological responsibilities and obligations will only bring about just climate futures if individuals are guided by an imperative to safeguard the wellbeing of the most vulnerable human and nonhuman populations. It will undoubtedly lead us towards catastrophe if we take for granted the tremendous responsibility placed on our shoulders as ecological citizens of the 21st century.

Despite the existential challenges faced by humanity in the climate crisis, the uncertainty we face today over the future of environmental ethics cannot be met with hesitancy and inaction. Nor can hollow and broken promises be the end result of the collective effort to pursue an ecocentric ethic that bridges philosophy, activism, and political practice. We can and must do better. Here, altruism and

the community survival instinct must come together as we respond to the call to *give us a livable future*. The search for a new environmental ethic in response to anthropogenic climate change may well require a more thoughtful reconsideration of conceptions of justice and solidarity in an age of accelerating change. Standing among the potential thought leaders on the future of climate ethics in downtown Oslo, I am reminded that spaces already exist for experimental ideas surrounding social and ecological solidarity. This cultural avant-garde can be identified in climate protests taking place in Oslo, Mumbai, New York, Dakar, Yokohama, and countless other cities. It exists among those passionate few who take to the streets, giving voice to the ecological concerns of the many.

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¿Qué significa liberar a la Madre Tierra en las ciudades? Una mirada al proceso de Liberación de la Madre Tierra desde la perspectiva de un huertero urbano en Cali

by Jean David Rizo

Pocas personas, incluso el más escéptico, hubieran imaginado que aquella movilización que se convocó para el 28 de abril del 2021 en Colombia sería la chispa que incendiaría las principales ciudades del país después de años de abandono, violencia, pobreza, desigualdad y falta de oportunidades. El estallido social en plena pandemia duró aproximadamente tres meses y concluyó de la peor manera, con cientos de heridos, muertos y desaparecidos.

La causa de las revueltas fue el proyecto de ley que buscaba implementar una reforma tributaria en el país. Mujeres, hombres y jóvenes salieron a las calles para rechazar un alza de impuestos en plena pandemia. Durante estos tres meses hubo diferentes formas de presión a través de la acción directa: concentraciones, marchas, cacerolazos y bloqueos de vías principales.

Las protestas se sintieron con mucha fuerza en la ciudad de Cali, y el estado

colombiano, al no encontrar una solución para mitigar el descontento, recurrió a la represión. Las manifestaciones mostraron una de las peores caras del neoliberalismo en Colombia: un gobierno de derecha que se niega a oír las demandas de su pueblo; un gobierno que responde mediante el uso de violencia. Sin embargo, el movimiento también reveló que hay muchas personas dispuestas a luchar por su dignidad. La resistencia tejió lazos de solidaridad y hermandad entre gente del campo y de la ciudad. Esto es lo que propone este escrito: enfatizar las relaciones que se forjaron entre la Minga Indígena y las personas de las ciudades desde la perspectiva de los huerteros urbanos. De este modo, comprendemos algunos de los principios que sostienen la lucha por la tierra y cómo pueden ser replicados en las metrópolis para defender y cuidar el territorio.

La Minga Indígena, Social y Campesina es un conjunto de organizaciones de los pueblos originarios y campesinos

en Colombia, cuyo objetivo es poner en acción las decisiones que se toman en las asambleas locales. La palabra minga también es un concepto de los indígenas nasa, el cual se refiere a una forma de apoyo mutuo que involucra a toda la comunidad. Por lo tanto, los colectivos que integran la Minga Indígena basan sus acciones en el bien común y la colaboración. Además, los principios de la minga fueron imprescindibles para impulsar la unidad en tiempos de crisis y para imaginar alternativas al modelo neoliberal, represivo e insostenible.

Los nasa, habitantes de las montañas del departamento de Cauca, se han levantado contra el modelo extractivista de la industria cañera en su territorio, contra el oligopolio¹ que les quita la tierra y la mantiene esclavizada. Este proceso autónomo de resistencia es llamado Liberación de la Madre Tierra, el cual busca desterrar los monocultivos que envenenan el suelo con agrotóxicos y que están acabando con el agua y la vida.

Su lucha ha inspirado a varios colectivos, entre ellos, a las movilizaciones del 28 de abril. Éstas replicaron una de sus principales formas de protesta: bloqueos de

Aprendimos que es posible compartir el alimento y el fogón para darle abrigo, calor, sabor y color a la lucha por la Tierra.

las vías principales en el Cauca a través de la organización de los movimientos de la Minga Indígena, Social y Campesina. En las ciudades, colectivos de huerteros también han retomado el mandato del movimiento. A través de acciones de siembra, apropiándose de diferentes espacios para cultivar alimento y defender el territorio, ellos siguen los principios de la minga y han organizado encuentros con los indígenas nasa. Dichos encuentros desembocaron en la Marcha de la Comida, parte de las manifestaciones en Cali, donde toneladas de alimentos liberados –aquellos que crecieron donde antes sólo había caña de azúcar²– se trajeron del campo a la ciudad y se compartieron con las personas de los barrios marginales que padecían escasez por la pandemia.

La Marcha de la Comida apoyó las ollas comunitarias durante las manifestaciones. Éstas se instalaron en los puntos de bloqueo de vialidades, donde unas personas ayudaban en la preparación de comi-

¹ Los cultivos de caña de azúcar ocupan grandes extensiones en el departamento del Valle del Cauca y en el departamento del mismo nombre. La mayoría son usados en la producción de azúcar y biocombustibles.

² La Marcha de la Comida pudo traer varias chivas cargadas con plátano, yuca, maíz y frijol, las cuales fueron de gran ayuda en momentos claves de la pandemia y de las protestas sociales, donde escasearon muchos alimentos.

Hacer huerta es una apuesta por la vida como alternativa al neoliberalismo insostenible. Es retomar el ejercicio de producir diversidad de semillas, de plantas y de saberes. Es una forma de sujetar los lazos colectivos para aprender entre todos, a través del diálogo y el intercambio de conocimientos.

da mientras otras avivaban el fuego. Las ollas sirvieron para alimentar a mucha gente que no tenía sustento, para nutrir a los manifestantes y su lucha. Entendimos así que esta resistencia nace del amor, la solidaridad, la empatía y el apoyo mutuo. Aprendimos que es posible compartir el alimento y el fogón para darle abrigo, calor, sabor y color a la lucha por la Tierra.

La Marcha de la Comida se realizó en cinco ocasiones y fue un evento que unió a las comunidades indígenas con los sectores más vulnerables de la ciudad de Cali. Estos principios de solidaridad y colaboración entre los pueblos son los principios del buen vivir que tenemos que recuperar de los pueblos indígenas. La Marcha de la Comida nos enseñó cómo, a través de los alimentos y de la siembra, del contacto directo con la tierra, pode-

mos sanar nuestra relación con ella y ayudar a las personas más necesitadas. Los indígenas nasa nos transmitieron la importancia de sembrar el maíz, de hacer milpa y de trabajar colectivamente.

A raíz de la movilización del 28 de abril y de la convulsión social, ha habido una suerte de crecimiento de las huertas en los barrios más marginales de Cali y en otras partes de la ciudad. Simbólicamente, en cada punto de resistencia nació una huerta y éstas se fueron replicando en muchos barrios de la urbe. Así, nacieron pequeños focos donde se libera la Madre Tierra en la ciudad, lugares donde se resiste y donde reaprendemos lo caminado por nuestros ancestros en barrios y comunidades. Además, impulsados por el elevado precio de los productos básicos, las y los jóvenes empiezan a tener conciencia sobre la importancia de sembrar sus propios alimentos.

Hacer huerta es una apuesta por la vida como alternativa al neoliberalismo insostenible. Es retomar el ejercicio de producir diversidad de semillas, de plantas y de saberes. Es una forma de sujetar los lazos

Volviendo a las raíces, recuperando la memoria, es como vislumbramos el porvenir.

colectivos para aprender entre todos, a través del diálogo y el intercambio de conocimientos. Que los jóvenes se acerquen cada vez más a la siembra llena de esperanza y ayuda a soñar con un mundo donde podamos relacionarnos con la tierra, donde no tenga cabida la idea de guerra.

¿Qué significa entonces liberar a la Madre Tierra en la ciudad? Significa, ante todo, cambiar los paradigmas que destruyen y contaminan el territorio a través de un ejercicio permanente de siembra y recuperación de los suelos. Significa replicar la lucha de los nasa en las urbes para desalambrar el corazón y recuperar el camino en armonía.

Las luchas y las resistencias en nuestros territorios nos llevan a reaprender lo caminado por nuestros ancestros. En este volver a la tierra hemos aprendido una nueva manera de relacionarnos con ella a través de los principios del amor, la libertad, la solidaridad, el apoyo mutuo y el trabajo colectivo. Por eso, nosotros en la ciudad también soñamos con liberar a la Madre Tierra. La lucha de los nasa nos enseña el camino para resistir en estos tiempos de crisis, los cuales tienen que dar paso a nuevas formas o alternativas. El movimiento de huertas urbanas en Cali nos muestra que es posible pasar de la resistencia a la creatividad. Este acto de

sentipensar la tierra³ por medio de la siembra nos indica que la resistencia no es solo aguantar, sino construir algo nuevo.

Volviendo a nuestras raíces, recuperando la memoria, es como vislumbramos el porvenir. Desalambrar la tierra, dicen los nasa, no tendría ningún sentido si no desalambramos nuestro corazón. Para hacerlo es preciso desaprender todos aquellos adoctrinamientos que recibimos. Es necesario volver a la tierra como a nuestra madre. Eso no lo enseñan en ninguna institución, eso lo aprendemos con nuestros mayores. Lo aprendemos en las huertas, que son las verdaderas aulas a través de las cuales cumplimos un mandato ancestral.

³ Sentipensar, según Orlando Fals Borda es “pensar con el corazón y sentir con la cabeza”.



Creativity, Urban Margins, and Global Transition: The Case of Occupy Leipzig

by Elena Salmansperger

Abstract

This article explores the thematic question of Tvergastein's sixteenth issue: whether the economic growth paradigm is inescapable or if there are alternative futures. This contribution explores the dynamics between global transition (the global expansion of neoliberal ideology) and local resistance from the urban margins, using the example of a squatters' platform called Occupy Leipzig in the city of Leipzig, Germany. The first aim is to understand what constitutes the misleading narrative of 'squatters as gentrifiers' by applying a theory offered by post-socialist scholar Oleg Golubchikov, according to whom global transition is all-encompassing and co-opts Occupy Leipzig's resistance. The second aim is to weaken the 'squatters as gentrifiers' narrative by using a framework from post-colonial scholars Ana Aceska, Barbara Heer, and Andrea Kaiser-Grolimund, who emphasise the agency squats have in transforming and actively shaping the city.

Few people today would reject the idea that capital and capitalism 'influence' practical matters relating to space, from the construction of buildings to the distribution of investments and the worldwide division of labour. But it is not so clear what is meant exactly by 'capitalism' and 'influence.'

- Lefebvre [1974] 1991, 9.

As a global mega trend, urbanisation continues to put increasing pressure on many cities to provide affordable and adequate housing for their residents. Additionally, other global dynamics, such as privatisation, tourism, as well as 'smart', 'sustainable', or 'creative' city ambitions, which often accompany neoliberal policies, add pressure to urban housing markets. Urban space is turning into an increasingly valuable commodity, making life in the city exclusively available to people of a certain income level and lifestyle. These dynamics invite property owners to speculate with "their" land, which leads to underused spaces in vibrant parts of the city. At the same time, many people struggle to either find accommodation or pay their rising rents.

Leipzig is Germany's fastest growing city, and the rising demand for affordable housing is a central concern in Leipzig's current urban development plans

(Stadt Leipzig 2018). While population and average rent prices are increasing, 2.8% of houses in Leipzig remained vacant as of 2019 (Statista 2022). Leipzig is widely portrayed as a thriving city with high satisfaction among its residents (Stadt Leipzig 2018). However, an association of autonomously acting groups called "Leipzig besetzen" (Occupy Leipzig) generated nationwide media attention in September 2020 by occupying vacant spaces and organising protests. As a platform for squatter initiatives active in Leipzig, Occupy Leipzig and its supporters denounce the city's urban regeneration and housing policies, claiming they commodify housing and foster gentrification (Leipzigbesetzen 2021a).

As an act of civil disobedience and direct action, squatting in Europe evolved into a social movement in the 1960s and 1970s. Although highly diverse, squats are united in not only providing an alternative way of living, but also highlighting and responding to the mismatch between the need for affordable housing and the existence of underused space. Occupy Leipzig emphasises how current urban development is driven by market logic and capital, rather than the needs of Leipzig's residents (Leipzigbesetzen 2021a). Despite their engagement, squats across Europe experience increasing repression, for example through evicti-

ons and anti-squatting laws. In response, Occupy Leipzig launched a campaign called #Leipzigbesetzen (#OccupyLeipzig), inviting their supporters to make the summer of 2021 the ‘summer of occupations’ (Leipzigbesetzen 2021b).

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In one of their blog posts regarding two occupations in May 2020, Occupy Leipzig remarked that subcultures, including squatting, contribute to making cities interesting for investors (Leipzigbesetzen 2021a). As such, subcultures can be seen as contributing to gentrification by adding cultural capital to cities, thereby attracting higher income residents who displace lower income communities and transform their neighbourhoods (Holm 2009). While Occupy Leipzig claims that gentrification ultimately leads to the displacement of certain groups that initially make cities more attractive, they, in some ways, reproduce a common narrative that squatters are middle-class artists who are

“functional to the capitalist city” by contributing to gentrification (López 2019, 171). Miguel Martínez López (2019, 171) criticises this narrative as being “produced by wealthy groups as a homogenising label”, used to misrepresent squatters and direct attention away from the actual contributors to gentrification.

I will illustrate this process of misrepresentation and distraction by exploring the dynamics between neoliberal expansion and squatting as a form of local resistance, using Occupy Leipzig as a case study. Applying Oleg Golubchikov’s (2016) theory of the *urbanisation of transition*, I will first analyse how Occupy Leipzig’s resistance is connected to Leipzig’s socialist past, and how it is co-opted by current neoliberal urban development, which serves the misleading ‘squatters as gentrifiers’ narrative. Secondly, I will apply a framework offered by postcolonial scholars Ana Aceska, Barbara Heer, and Andrea Kaiser-Grolimund (2019), which weakens the ‘squatters as gentrifiers’ narrative by emphasising how the urban margins actively shape their city according to their agendas. The term ‘urban margins’ refers to those residents who are displaced or inhibited from living in attractive parts of the city (its centre) due to ongoing processes of gentrification and their socio-economic backgrounds. They are socially, econo-

mically, and spatially marginalised, often settling in a city's outskirts. As such, I will explore how Occupy Leipzig establishes visible and powerful connections between the urban centre and its margins.

What Is Global Transition and How Does It Unfold?

Golubchikov (2016, 608) argues that global transition – meaning the global expansion of neoliberal ideology through the market-oriented processes of privatisation, commodification, individualisation, and competition – leads to the “appropriation of space by capitalism”. This process does not unfold seamlessly by replacing a socialist ordering of society with a capitalist one. Rather, socialist legacies are used as infrastructure for neoliberal expansion. In the case of Leipzig, its socialist legacies are foundational to a strong squatting community, whose values are co-opted by neoliberal urban development. Referencing Marxist philosopher Henri Lefebvre, Golubchikov (2016) argues that cities are constituted and mediated by the ideological (macro) and the everyday (micro) levels of social reality, as well as by the neoliberal transition and resistance to it. Golubchikov (2016) understands global transition as all-encompassing, because social, economic, and ideological alternative imaginations are eradicated and because it

transforms all three of Lefebvre's levels: the ideological, the everyday, and the urban level. However, global transition is also constituted and shaped by multiple smaller and contextualised transformations on the level of everyday life, for example through local protest initiatives like Occupy Leipzig. As a mediator between the ideological and the everyday levels of social reality, the urban level actively contributes to “the production and reproduction of new relationships of (neoliberal) capitalism” and thus co-constitutes global transition (Golubchikov 2016, 620). These dialectical dynamics, the co-production of the global and the local, and their mediation in cities, comprise what Golubchikov (2016) describes as the *urbanisation of transition*. This process will now be illustrated using the example of Leipzig as a site of mediation between the ideological level (neoliberal urban development) and the everyday level (squatting as local resistance).

Global Transition on the Ideological Level: Leipzig as a Creative and Smart City

In economic and social theorist Richard Florida's controversial work *The Rise of the Creative Class*, he identifies a correlation between urban economic growth and the presence of what he calls the ‘creative class’, including artists, entertainers, architects, and engineers (Moss 2017).

Florida inspired policymakers across the globe to implement a “growth-oriented policy style” (Köllner and Denzer 2019, 292), focused on attracting creatives to increase a city’s prosperity, for instance by ensuring cultural diversity and providing cafes, bars, and galleries (Moss 2017). However, urban researchers like Jamie Peck (2005, 740; 742) were quick to criticise Florida’s theory, calling it “a cult” that “work[s] quietly with the grain of extant ‘neoliberal’ development agendas, framed around interurban competition, gentrification, middle-class consumption and place”. More recent critiques denounce creative city strategies because they “commodif[y] culture and cultural producers” (Köllner and Denzer 2019, 292) and “exacerbate urban inequality, and justify the neo-liberal, pro-gentrification policies that have enabled such inequality to grow” (Moss 2017, 19).

Leipzig’s use of a creative city narrative is guided by neoliberal ideology, as economic growth remains the ultimate goal and the privatisation of communal assets and public services increases.

Nevertheless, a creative city narrative is prominent in Leipzig’s current *Integrated Urban Development Concept for 2030* (INSEK), a plan adopted by its city council in 2018. To address the challenges of rapid urbanisation, INSEK promotes “socially, ecologically and economically balanced” growth (Stadt Leipzig 2018, 2). For instance, INSEK’s strategic goals include success in international competition for jobs and skilled workers by “remain[ing] attractive for employers and other creatives” (Stadt Leipzig 2018, 28), strengthening Leipzig’s internationality, ensuring cultural diversity, and hosting “major image-shaping events” (25). Embedded in its creative city narrative, INSEK also articulates smart city ambitions by emphasising “interdisciplinary science and outstanding research”, as well as Leipzig’s involvement in innovation and emission reduction projects like Triangulum and SPARCS (Stadt Leipzig 2018, 30; Stadt Leipzig, n.d.).

Leipzig’s use of a creative city narrative is guided by neoliberal ideology, as economic growth remains the ultimate goal and the privatisation of communal assets and public services increases (Mayer 2019). Smart cities often promote business-led development and so-called innovative technological solutions. While smart city ambitions are increasingly used to appeal to global investors and

have received extraordinary attention in EU economic policies, they distract from the social problems that cities face and can in fact worsen inequality by generating financial gains for "business elites" (Grossi and Pianezzi 2017, 79; 81). Additionally, smart city ambitions distract from global resource justice.

Furthermore, INSEK contrasts the contemporary diverse and hip Leipzig to its "grey" past during and after socialism (Stadt Leipzig 2018, 2). This framing generates what Golubchikov (2016, 612) refers to as "the closure of global pluralism by neutralising actually existing socialism" and thereby producing a taboo on political and imaginative alternatives to capitalism. In conclusion, INSEK's emphasis on economic growth, interurban competition, and Leipzig's grey socialist past to promote creative and smart city ambitions illustrates the central role of Leipzig's urban development in the unfolding of neoliberal global transition on the ideological level.

Co-opting Leipzig's Socialist Legacies: Mediation on the Urban Level

[Global transition] subjugates and modifies pre-existing terms of social order, the meanings, and dynamics of social and economic relations, changing

not simply institutions, regulations, and property rights, but the state of mind, consciousness, and the way of life . . .

Transition is not simply domesticated by local practices; it subsumes them in the first place.

- Golubchikov 2016, 615.

Following Golubchikov, Occupy Leipzig's resistance to neoliberalism as a local practice is subsumed by global transition. To be clear, it is not the squats themselves that are appropriated by the municipality's creative city narrative. Instead, it is Occupy Leipzig's values and aspirations of non-commercial, 'alternative' cultural spaces that attract the so-called creative class and are then co-opted by the City of Leipzig. I argue that this co-optation is enabled by the legitimisation of a neoliberal creative city narrative based on the combination of three socialist legacies: exceptional population growth, vacancy, and Leipzig's strong civil society.

Firstly, Leipzig experienced uniquely high rates of population growth after the collapse of the socialist German Democratic Republic (GDR) and the period of strong de-urbanisation from 1989 until 1998. Today, 605,407 people reside in Leipzig, and its population is estimated to increase by another 60,000 residents by 2040, representing a growth rate of more than 10% (BBSR 2021).

This enormous influx of people has resulted in a growing need for housing and infrastructure, and serves to legitimise Leipzig's goal of economic growth as a way to ensure prosperity. The logic of economic growth is implied in Leipzig's guiding principle that "Leipzig grows sustainably" (Stadt Leipzig 2018), which suggests that growth is unavoidable and aligned with the city's sustainability goals. To achieve economic growth, the City of Leipzig strives to stay competitive for funds and investments, justifying the distribution of accumulation opportunities to private businesses. These are, in the realm of the creative city, supposed to provide alternative, sustainable, or smart spaces and infrastructure.

Leipzig's creative city narrative is further legitimised by Leipzig's way of dealing with vacancy, a result of significant de-urbanisation after 1989. A prominent example emphasised in INSEK is an initiative called "Wächterhaus" (guardian house). Supported by the City of Leipzig, guardian houses provide temporary, non-commercial use of empty buildings. "Rental contracts" are based on the principle of provision through usage, providing cheap or free urban space for tenants while reducing maintenance and refurbishment costs for the owner. Authors like Andrej Holm (2007; 2012) are critical of such temporary use con-

cepts, describing for example the Agency for Temporary Use in Berlin as pioneers of gentrification. The extent to which this critique holds in the case of guardian houses is disputable, as they do not intend to purposefully upgrade the buildings in question (Baldin 2012). However, the City of Leipzig follows what Anne Köllner and Vera Denzer (2019, 295) call "the mainstream vein of creative neoliberal urban development", by supporting these projects as a cheap way to attract the so-called creative class.

Leipzig's combined socialist legacies legitimise its creative and smart city ambitions, which strengthen the 'squatters as gentrifiers' narrative.

Lastly, Leipzig is known for its strong civil society, specifically regarding its role in initiating the 'Monday demonstrations' in autumn 1989 across Eastern Germany to protest GDR's socialist regime, culminating in the 'Peaceful Revolution'. These significant political protests helped form the identity of following generations, resulting in today's increased political engagement (Köllner and Denzer 2019), as demonstrated by Occupy Leipzig. Leipzig's strong civil society is a socialist legacy that legitimises Leipzig's creative city narrative, which is promoted

by city leaders pretending to respond to the wishes of Leipzig's residents for a more colourful, diverse, and free city.

Leipzig's combined socialist legacies legitimise its creative and smart city ambitions, which strengthen the 'squatters as gentrifiers' narrative. Creativity now provides new opportunities for capital accumulation, subsuming local practices under capitalism. My analysis shows how it is not squatters on the everyday level that actively provide opportunities for gentrification, but Leipzig's creative city strategies on the ideological level that instrumentalise the spaces and values that squatters and other subcultures create. The co-optation of Occupy Leipzig's values in INSEK illustrates Golubchikov's (2016, 608) *urbanisation of transition* approach, according to which the ideological level (INSEK), where neoliberal expansion is all-encompassing, dominates the practical level of everyday life, and thus leads to the "appropriation of urban space by capital".

Moving Beyond the 'Squatters as Gentrifiers' Narrative

Every legitimate form of resistance against capitalism, as well as every form of emancipatory achievement, always had to be won by breaking the rules.

- Leipzigbesetzen 2020c; blog post after the eviction of Luwi71, translated by the author

In line with the arguments of Golubchikov (2016), Aceska, Heer, and Kaiser-Grolimund (2019) argue that urban margins are not simply a product of global transition. Instead, they play an active role in defining and transforming the city. However, these authors focus less on the subsumption of local resistance to global transition, which in the case of squatting paves the way for the 'squatters as gentrifiers' narrative. Instead, they contend that "urban margins constitute spaces and places of change, which bring to the fore urban dwellers' agency in sometimes unexpected ways" (Aceska, Heer, and Kaiser-Grolimund 2019, 3). In order to neither romanticise the agency of urban margins, nor condemn their futures and opportunities, Aceska, Heer, and Kaiser-Grolimund (2019) outline three features of urban margins' agency. I will apply two of these features to the example of Occupy Leipzig in or-

der to move beyond understanding what strengthens a 'squatters as gentrifiers' narrative, and towards understanding what weakens it: their creative engagement with structural limitations and how they connect to spaces of power. By referring to Occupy Leipzig's resistance as creative, I do not mean to suggest that all squatters are creatives, but that their engagement with limits is inventive.

Aceska, Heer, and Kaiser-Grolimund's (2019) analysis draws upon anthropologist Angel Aedo's (2019) concept of *emplacement* in the context of informal migrant settlements in Arica, Chile. Squatter camps are, according to Aedo (2019, 6), "the materialisation of the will of their residents to settle, take root, and become present in the space of the city", representing the emplacement of the displaced. Similarly, Occupy Leipzig is actively "push[ing] the boundaries of how the city can be inhabited and used" by occupying neglected spaces and using them for housing, cultural activities, and political protest (Aedo 2019, 6). In doing so, squatters pursue "politics of presence" (Aedo 2019, 12), whereby economically and socially marginalised individuals reclaim recognition as equal residents. It is through their "disruptive potential" that "unimaginable things can very quickly enter into the field of possibilities" (Aedo 2019, 16).

Occupy Leipzig's Creative Engagement with Structural Limitations

The occupation of Leipzig's Ludwigstraße 71 (Luwi71) in August 2020, after the building had been vacant for two decades, is an example of Occupy Leipzig's *politics of presence*. Occupy Leipzig did not perform this occupation discreetly, but provocatively attached banners and flags to the exterior of the building. They remained non-violent and tried to enter into dialogue with the City of Leipzig and the property owner. The movement proposed a detailed mixed-use concept, which suggested using Luwi71 to host workshops, concerts, and support groups, as well as to provide emergency accommodations, community gardens, and spaces for artists (Leipzigbesetzen 2020a). The "unimaginable things" that materialise through Occupy Leipzig's *politics of presence* entail living in spaces like Luwi71 that do not correspond to standards commonly seen as appropriate. Moreover, the occupation of Luwi71 had *disruptive potential* by directly challenging the concept of private property. Lastly, the occupation accomplished "unimaginable things" by disrupting the normalisation of liveable cities as exclusive to residents with certain incomes. Through their occupations and alternative ways of living, Occupy Leipzig's constituents reclaim their

rights to participate in creating the city and benefit from its resources (Harvey 2003, 1). They enact *politics of presence* by giving physical form to otherwise invisible structural violence and establishing a visible relation between urban margins and the urban centre (Aceska, Heer, and Kaiser-Grolimund 2019).

Connecting to Spaces of Power

The *disruptive potential* of Occupy Leipzig's *politics of presence* is precisely what has allowed them to make connections to various powerful actors, generating the potential for urban transformation. As such, Occupy Leipzig is an example of how "socially and politically marginalised groups engage in manifold practices that connect and entangle their marginalised position with other actors across spatial and social divides" (Aceska, Heer, and Kaiser-Grolimund 2019, 8-9). The manifold practices exhibited by Occupy Leipzig include protests, sham occupations (fake occupations only meant to draw immediate attention to vacancy) and "real" occupations like the occupation of Luwi71. Through these practices, Occupy Leipzig is able to connect to private property owners, the public, supportive neighbours, media outlets, online networks, and local politicians, all of which represent and exercise different forms and degrees of power.

Most apparently, the *disruptive potential* of occupations allows Occupy Leipzig to connect to property owners, who are powerful through their property rights. In the case of Luwi71, Occupy Leipzig was not able to establish direct contact with the owner due to a lack of interest from his side. However, they managed to connect to him by making him aware of the maintenance duties he had neglected for his building, and by proposing a non-commercial mixed-use concept or guardian house contract (Leipzigbesetzen 2020a; Leipzigbesetzen 2020b).

Secondly, Occupy Leipzig engages with the public and supportive neighbours, who are indirectly powerful since they cannot decide what happens to a given property. However, supportive neighbours of Luwi71 supplied Occupy Leipzig with food, water, and tools, and notified them to leave Luwi71 before the police could evict them (Leipzigbesetzen 2020c). Moreover, the neighbours' support allowed the demonstrators to feel welcomed and reassured in their ambitions. Occupy Leipzig established this connection by arranging neighbourhood assemblies to discuss the future use and users of Luwi71 (Leipzigbesetzen 2020c), and by encouraging the public to participate in Leipzig's summer of occupations (Leipzigbesetzen 2021b).

Thirdly, through performing *politics of presence*, Occupy Leipzig connects to media and online squatter networks. Like other projects in Leipzig and Berlin, the occupation of Luwi71 resulted in nationwide media attention and heated public debates on the issue of gentrification, which influenced public discourse on housing governance in gentrifying cities (see, e.g., Julke 2020; Zimmermann 2020; Freitag 2021). Together with Occupy Leipzig's engagement with various online squatter networks, such as squat.net, these debates resulted in solidarity demonstrations and further occupations in Leipzig shortly after the eviction of Luwi71.

In addition to establishing a physical connection between the margins and the centre through their creative engagement with structural limitations, the occupation of Luwi71 allowed Occupy Leipzig to connect with various powerful actors.

Lastly, Occupy Leipzig connects to local politicians, who hold power over urban governance and housing policies, and make decisions over vacancies and occupations. The media attention genera-

ted after Luwi71's eviction controversy enabled Occupy Leipzig to gain recognition from their local politicians, and even support from Leipzig's Left and Green Parties, who welcomed their engagement and the proposed mixed-use concept (*T-online* 2020). Furthermore, Leipzig's Green Party proposed the establishment of vacancy tracking systems within Leipzig's city administration shortly after Luwi71's eviction. By creating an overview of vacancies in Leipzig, with details such as property owners and reasons for vacancy, the tracking systems aim to hold property owners accountable for their maintenance responsibilities. Alternatively, property owners and the municipality can negotiate temporary use concepts (Julke 2020). This attempt to counter speculative vacancy is anticipated to be implemented in 2023 or 2024 (Freitag 2021). In the same month, Leipzig's municipal government agreed to implement a cap on rent prices to prevent further increases. However, this ambition still requires approval from the National Supreme Court (Schöler 2021). Much of the ongoing public and political debate around vacancy management and rent caps in Leipzig references the occupation of Luwi71. In addition to establishing a physical connection between the margins and the centre through their creative engagement

with structural limitations, the occupation of Luwi71 allowed Occupy Leipzig to connect with various powerful actors.

Remembering Lefebvre's ([1974] 1991) words, capitalism's influence on urban life is indisputable. However, understanding this influence is a complex task. This essay has explored the relationship between global neoliberal transition and anti-capitalist local resistance, in order to understand the preconditions for a 'squatters as gentrifiers' narrative and to challenge it by focusing on local agency. Following Golubchikov's theory of *urbanisation of transition*, I explored the co-optation of Occupy Leipzig's values via a combination of socialist legacies. These legacies are subsumed and instrumentalised by neoliberal urban governance through a creative city narrative in Leipzig's INSEK, resulting in the misrepresentation of squatters as gentrifiers. I have attempted to weaken this misrepresentation, by elaborating on how Occupy Leipzig is not just a product of this co-optation, but actively negotiates urban development in Leipzig. They creatively engage with structural limitations and connect to spaces of power by performing *politics of presence* and by influencing public discourse as well as political debates. Occupy Leipzig's agency in co-producing the city provides a hopeful example of how globally

expanding neoliberal ideology does not simply dominate everyday life, but can in fact be disrupted at the urban level.

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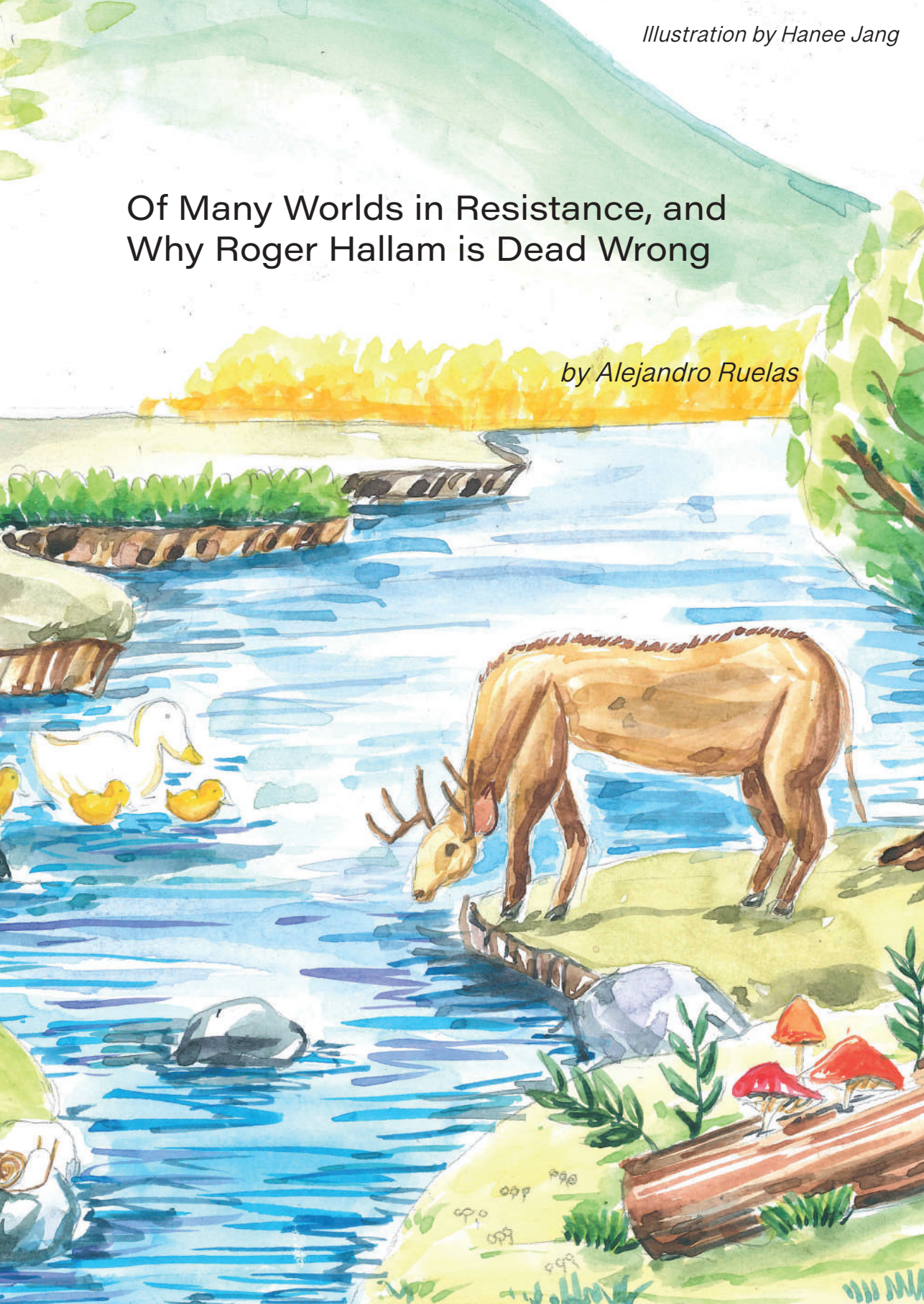
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Of Many Worlds in Resistance, and Why Roger Hallam is Dead Wrong

by Alejandro Ruelas



Roger Hallam, the co-founder of Extinction Rebellion (XR), is not great at making friends. In an impassioned video message called *Advice to Young People as they Face Annihilation* (Hallam 2021), he makes a heartfelt plea for disruptive direct action. The world is in mortal danger, he says. The climate crisis is in full swing and, unless we take the streets and force drastic measures now, this generation might be humanity's "last chapter". His message is powerful and his goal is noble: to get as many people as possible on their feet and actively resisting what he calls a "murder project" that will end the human story. However, despite all his passion and urgency, Hallam has isolated himself in a world full of perils, with no hope and wet gunpowder.

The video runs for a bit over two hours. During that time, Hallam, who introduces himself as an expert on civil resistance with more than 30 years of experience and a nice rap sheet to brag about, presents a detailed exposition of the state of affairs. He begins with a tour of horrors. After a brief introduction, he draws on a selective compendium of climate science to paint the picture of a world in flames. Within a few decades, Hallam argues, the Earth will be several degrees hotter, beset by famine, war, and all kinds of atrocities. "There is no hope", he insists as he tries to scare his young viewers. Then he

moves on to the obstacles for "effective direct action", namely the complicity of the 'liberal left' and the complacency of the 'radical left'. Finally, he lands on a recipe for what "actually works", a playbook with all the tricks for "maximum disruption", from glueing bodies to the gates of Downing Street to blocking railway lines.

Hallam is a disciple of the tradition of civil disobedience. Having participated in countless mobilisations and even conducted some academic research on the topic, he follows the principles first sketched by Henry David Thoreau in his 1849 essay *On the Duty of Civil Disobedience* (Thoreau 1966, p. 231). In this piece, written after spending a night in prison for opposing the American war in Mexico, Thoreau revises the relationship between the individual and the state. He contends it is the duty of conscientious citizens to disobey the law in the face of injustice. Men – always *men*, in Thoreau's mind – must rebel against the fundamental immorality of the government and valiantly revolutionise, "though it costs them their existence as people."

Thoreau's ideas and writing became foundational in subsequent years. Leaders such as Mahatma Gandhi and Martin Luther King were deeply inspired by his tenets and channelled them into some of the most important social movements of

the 20th century. Hallam aspires to follow in their footsteps. Although he does not mention Thoreau, he invokes the Indian independence movement and the civil rights movement as beacons to be recovered from the past to guide present struggles. "What changes the world is action," he affirms and calls for individuals to break the law to uphold morality. If one must put oneself in harm's way, to endure arrest and police brutality, so be it. "A total fearlessness is what changes society."

Hallam's brand of activism requires a certain kind of hero. His intent to "bring the inherent violence of the opposition out in the open" demands non-violent demonstrations to be crushed by the capitalist state apparatus. It necessitates skulls fearless of batons, lungs undaunted by tear gas, and freedoms uncontained by prison cells. The plan is that this display of courage will capture, via media exposure, the heart of public attention and prod the masses into action. "There is nothing pretty about civil resistance", he dictates.

In a sense, we have seen this approach work before. To illustrate his point, Hallam mentions the historic Children's March of 1963, also known as the Children's Crusade, when more than one thousand African American students skipped school in Birmingham, Alabama, to protest for the civil rights of black Americans. As they

approached police lines, they were met with brutal force and were catapulted into global consciousness. The National Museum of African American History and Culture relates how "images of children being blasted by high-pressure fire hoses, being clubbed by police officers, and being attacked by police dogs appeared on television and in newspapers, and triggered outrage throughout the world" (National Museum of African American History and Culture 2017). The power of such images prompted President John F. Kennedy to express support for the Civil Rights Movement and paved the way for the passage of the 1964 Civil Rights Act. Resistance became violence. Violence became image. Image became change.

Environmental groups are no strangers to the power of images. In his book *Image Politics: The New Rhetoric of Environmental Activism*, Kevin DeLuca (1999) demonstrates how they have become experts at producing what he calls 'image events', spectacular occurrences transmitted through audio-visual media that capture public attention. Greenpeace crafted one of the most iconic image events in the history of the environmental movement when, in 1975, activists hopped on a flimsy zodiac to stand in the way of a Soviet whaler ship. They failed to save the whales. A massive harpoon flew past them and landed on its

target. But the images of that tiny boat manoeuvred by humans willing to risk their lives to stop the industrial death machine became a symbol, one repeated many times by the media and lodged in public imagination. DeLuca calls these psychic accelerators ‘mind bombs’, “crystallized philosophical fragments that expand the universe of thinkable thoughts” (p. 6). In other words, a memorable event that shifts our consciousness and opens possibilities for change.

Hallam is fond of mind bombs. When he asks young people to be fearless and to say to the police “do what you will with me”, he is hoping that this selflessness in the face of peril will spread around the world and inspire others to follow. To make his point, he strongly criticises two groups he considers obstacles for effective action. On the one hand, the liberal left, “the NGOs, the Green parties, the campaign groups, the local environmental campaigns”, the people who will lie about the “real” implications of environmental collapse. These organisations, says Hallam, will “stop you from getting into harm’s way, which is going to stop greater harm coming down the line”. On the other hand, he presents the radical left, “people who want to talk the talk but not walk the walk”. In other words, privileged folks in the global north who say all the right things but

are not willing to act. In his narrative, the only thing that works is civil resistance, and whatever all these people on the ‘left’ are doing is not only insufficient, it is complicit with the ‘murder project’ seeking to exterminate life on Earth. He hits a high note by saying:

If you have any consistency or morality or political credibility, you have to engage in civil resistance, [...] the material disruption of the oppressor. You have to glue yourself to doors, block roads, go on hunger strike, [...] which will result in you going to prison. It is the only thing that is going to remove the oppression. In other words, if you are not arrested and put in prison, then you’re not resisting. And if you’re not resisting, then you are part of the problem.

- Hallam, 2021.

Bombast aside, there is more than one grave oversight packed in this rant. Firstly, for this logic to work, Hallam must reduce all of the environmental crises to one problem – global warming, or an issue of adding too much CO₂ to the atmosphere. And while he is good at creating a list of forthcoming horrors, with starvation and rape featuring at the top of the list, his entire Real World section (see Hallam 2021, min. 22:50) is a selective description of climate science that looks at nothing but rising temperatures.

He chooses to leave out of his analysis the political, economic, and historical causes of climate change, which would complicate his argument. He presents the physical drivers of warming as the only objective truth. Thus, we are left with a single problem and a unique formula for “effective action”, which is the main problem of his argument. In his obsession with solidifying his expertise in one fool-proof path, he dismisses the very notions of diversity and community, burning every bridge with possible allies. No wonder he sees no hope.

Hallam has isolated himself in an unwinnable fight against a formidable enemy. Collapsing the politics of resistance and a diversity of tactics into a single strategy leaves him with only one bet: that millions of people, inspired by a catalytic event and the fear of imminent death, will simultaneously glue themselves to doors and save the future. The veteran disruptor hopes a large enough civil resistance movement will topple corporate-government power, end fossil fuels and halt global warming.

Tough luck. Hallam forgets climate change is not a disease, it is a symptom. It is one of the physical manifestations of an economic, social, political, and ideological system that requires the exploitation of nature – and people within it – to exist.

It has many complex facets – capitalism, industrialism, modernity, extractivism, progress, patriarchy, imperialism – and is dispersed, rooted in discourse and impossible to attack in a single location or with a unique strategy. Like Kevin DeLuca writes, “industrialism is not concentrated in a centralized seat of power” and thus “revolutionary overthrow of such a seat of power is not possible” (DeLuca 1999, p. 60). Think of it as a creature with many legs, each oppressing different people; some oppressed by more than one. Educator and artist Rachel Schragis came up with a beautiful illustration to map how “all of our grievances are connected” in a structure that is intricate and mutating.

Hallam seems to understand this: his mention of social justice and solidarity with people in the Global South suggests as much. Why, then, does he limit himself to a single path of action? The silver lining of such a multi-sided problem is that it offers so many pressure points! Rather than trying to come up with a panacea, we should focus on everyday matters that ordinary people can influence directly. Naomi Klein calls these “all kinds of prosaic issues: the right to decide where the local garbage goes, to have good public schools, to be supplied with clean water” (Klein 2001). If we manage to demystify ‘the system’ and begin to see it operate close to home, in the stress of an



Image credit: Rachel Schragis 2011, Flowchart of the Declaration of the Occupation of NYC.

overdue insurance bill, the pressure to be productive and to work longer hours, or in the increasing isolation from our neighbours, then everyone can get involved.

Because the problem is right here at street level, we can engage with the issues we care about personally using all kinds of creative strategies. Given the scattered nature of the problem at hand and its countless incarnations, committed actors all around the globe can re-

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sist from their own corners, forming “a broad nonideological movement [...] that does not invoke the masses’ fantasized will but rather engages citizens’ localized needs” (Hawken 2007, p. 51). According to Paul Hawken (2007, p. 36), this social movement, the largest of all time, is currently underway. Like the planet’s immune system deployed against infection, it is decentralised and acts simultaneously on multiple fronts, more a collection of struggles than a coordinated unit. The movement is made up of a myriad organisations and individuals anchored by “three basic roots: environmental activism, social justice initiatives, and indigenous cultures’ resistance to globalisation, all of which have become intertwined”. Whether or not resistance to climate change can be seen as a movement is a difficult question. In fact, there is no agreement on what a movement is. It is not an object that one can observe and quantify, but rather a set of actions and ideas (Hawken 2007). This coalition of peoples in struggle is connected by common values and symbols (DeLuca 1999), as they work towards a common dream: “a reimagination of public governance emerging from place, culture, and people” (Hawken 2007, p. 52).

The goal here is not to belittle organised direct action. Not in the slightest. The streets have long been, and

will continue to be, the primary stage for social eruption, the grand battlefield for change. Extinction Rebellion, Hallam’s co-creation, has done crucial work to this end. It was founded in the UK in 2018, and just a few years later it had a presence in over 45 countries. It has staged protests on different continents and prompted thousands to join the cause. However, as they globalise, these kinds of organisations have a history of rigidising into power structures of their own (Trägårdh, Witoszek, and Taylor 2013).

While we must continue to mobilise and occupy public space the way XR and other collectives do, we need to revalue the smaller, more constant forms of resistance that keep us connected to global struggle from our everyday arenas.

They are prone to end up cooperating with big money and the state, distancing themselves from the daily experiences of ordinary folk. While we must continue to mobilise and occupy public space the way XR and other collectives do, we need to revalue the smaller, more constant forms of resistance that keep us connected to global struggle from our everyday arenas.

As Naomi Klein points out, activism often sees two kinds of solitude:

On the one hand, there are the international anti-globalization activists who may be enjoying a triumphant mood, but seem to be fighting far-away issues, unconnected to people's day-to-day struggles. [...] On the other hand, there are community activists fighting daily struggles for survival, or for the preservation of the most elementary public services, who are often feeling burnt-out and demoralized.

- Klein, 2001.

Our best option to rebuild this connection is to spread out and “turn into thousands of local movements, fighting the way neoliberal politics are playing out on the ground” (Klein 2001) while keeping an eye on the global scale. It is the consciousness of fighting a common battle on different fronts that will turn us into the cells of an insurgent organism. Further, this optic means that everyone can join the kaleidoscopic environmental-social movement regardless of their choice of cause. It means togetherness in the dark distance. Contrary to Hallam’s reduction, which ignores countless leverage points and appeals solely to abject fear, it means we have one incredibly important thing that he so decisively neglects – hope. Does this sound too optimistic? Maybe.

The stakes are indeed incredibly high, and the odds are not in our favour. But if Hawken is right, “evolution is optimism in action”. It is time for humanity to evolve.

The word evolution may sound grand, but it is no exaggeration. In their book *The Human Planet: How We Created the Anthropocene*, Mark Maslin and Simon Lewis (2018) pose a startling question: Are humans akin to bacteria in a petri dish, destined to die off after eating up the resources available in our finite space? They conclude that we are not. We are aware of the multiple environmental issues and can solve them. Nordhaus and Schellenberger (2007, p. 8) propose a similar reflection by saying “The problem [of the ecological crisis] is so great that before answering ‘What is to be done?’ we must first ask, ‘What kind of beings are we?’ and ‘What can we become?’”

It seems that we are seeking evolution in thought. It is the re-conceptualisation of humanity in nature and the re-weaving of the narratives we create about ourselves in relation to the rest of the world that will lead to change. For this to happen, we need to free ourselves from the limitations of a single ideology and course of action. Hawken writes that: “Because we are educated to believe that salvation is found in the doctrines of a single system, we are naively susceptible to dissimula-

tion and cant [sic!]. Ideologies prey on these weaknesses and pervert them into blind loyalties, preventing diversity rather than nurturing natural evolution and the flourishing of ideas.” (Hawken 2007, p. 43) After analysing the emergence of thousands of citizen initiatives, he sees the key contribution of such a heterogeneous movement as “the rejection of one big idea in order to offer in its place thousands of practical and useful ones” (Hawken 2007, p. 51). Maybe it is that radical diversity of approaches that will reach a critical mass and lead to a change of paradigm. Katherine Burke (2021) calls this type of paradigmatic inception ‘regenerative culture’, an emergent set of relationships in complex interaction within a system that can respond to its individual members and its environment in ways that enhance the health of the group. It relies on mutuality and synergism to build a new entity that is greater than the

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sum of its parts. Diverse and autonomous elements interact in different ways of doing and being to create one thing: life.

Does this sound familiar? We are talking here about the distinct ways in which people relate to the world, which in turn create an interdependent community. But we have seen this kind of entanglement before. Look at a forest, for instance. Under the green canopy, itself composed of many kinds of leaves and branches, there is a mesh of extraordinary complexity. Plants, insects, mammals, reptiles, fungi, and innumerable other living beings interact in a tightly woven net we know as a biotic community. This symbiotic entity is composed not only of different anatomies – some creatures with eight legs, some with two and a pair of wings – but also of different ways of knowing. Just stop for a moment and think of how vastly different life is for a willow and a bee; how dissimilar reality must appear for a lichen and a deer. Each species is equipped with sensorial capacities that create a world that is unique to them. Thus, they exist in different realities and are required to interact in distinctive ways to produce particular kinds of knowledge. A sprouting oak tree must learn how to find the sunlight. A moose must figure out the most nutritious plants to eat. A fungus must manage vast underground networks. All these creatures exist

in a cosmos of their own, with different stimuli to guide them, even different experiences of space and time. Yet, they all depend on each other. It is because of their linkages that they are alive.

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This is, of course, an exercise of thought. Although brilliant work has been done to interpret the sentience of non-humans (Muller 2017) and the unexpected connections between creatures (Tsing 2017) we still have much to learn about other ways of knowing. (We might even ask ourselves what ‘knowing’ is!) But let’s stick with the metaphor for a second and wonder: What would humanity look like if we saw it not as one specie, but as many? Each of those species would have its own conceptualisation of what the world is – what we sometimes call ontology. In turn, they would have special ways of knowing that particular world – what we often call epistemology. Like the creatures of the forest, that richness would create relationships of cooperation, mutual aid networks that enable a diverse community to exist. These different

ways of experiencing the world would translate into a vibrant mesh of interdependence. Not domination, but solidarity. Further, if diversity is what makes the biotic net adaptable to change, shouldn’t we stop trying to concentrate all energies on a single way of acting, of being, of rebelling? Perhaps Hallam is wrong and there is no “real world”, but many worlds, each full of possibility, the articulation of which becomes the very fabric of hope.

Constructing such a narrative is not that far-fetched. After all, humans tend to create themselves through stories, which is why Martin Lee Mueller calls the human a “storytelling animal”. In his book *Being Salmon, Being Human* (2017, p. 13), he relates how, in the early 1600s, René Descartes came up with a very powerful thought: that the only real thing is human intellect. His idea introduced a split between humanity on one side and nature on the other. At the same time, it made all non-human beings “ontologically, epistemologically and morally irrelevant”. This long-lasting philosophy was created when the previous narrative was exhausted and Copernican ideas removed the Earth from the centre, leaving humans confused about their place in the vast universe. Cartesian thinking then took hold and remained in force for centuries. That story has determined, to a large extent, the future of humans ever since.

The Enlightenment and modern science paved the way for the industrial revolution, which in turn birthed voracious globalising capitalism. For centuries, Western thought has regarded humans as superior, self-righteously dissecting and dominating their environment. Now, amid environmental collapse, Descartes' narrative is exhausted too.

Like Mueller (2021) has often said, there is a need to reinvent the human. The good news is that reinvention is already underway. The story of radical diversity is currently being embodied in fights for life around the planet, from indigenous land defenders and feminist marches that flood the streets to community food gardens and art spread through social media. In fact, other visions of humanity and our place in nature have long existed. They are alive in diverse ontologies that have resisted centuries of colonial Eurocentric knowledge (Escobar 2016). Together, these movements are creating new symbols, rewriting relations, and challenging deeply entrenched myths of industrial society - among them, that humans are little more than selfish economic units; that humanity and nature are separated categories; and that non-human beings have value only when turned into resources.

Joining and empowering that multifaceted effort is our best chance of overcoming barriers that appear insurmountable. Charles Guignon (quoted in Mueller 2017, p. 27) wrote that "[w]hen a worldview becomes firmly entrenched, it tends to perpetuate a set of problems that are taken as natural and obvious. The possibilities of thought become calcified". This, I am afraid, is something Roger Hallam fails to understand. Barring ourselves in "what works" not only makes civil resistance predictable and manageable, but it also prevents us from creatively building other possible worlds and finding new ways of being.

This will inevitably bring us to a conclusion very similar to that of Naomi Klein when she wrote her speech *Reclaiming the Commons* (2001), an idea uttered by the Zapatista before her: we need to build "a world where many worlds can fit". The original Zapatista phrase, "Un mundo donde quepan todos los mundos", comes across as a wish, a goal to remind us of the direction we should be heading towards and a reason to resist the totalising veil of industrial globalisation. But perhaps we already live in such a world. We may inhabit a single biosphere, but the realities of octopi and locusts coexist. Conversely, we may have different visions of the world and how to improve it, but we share a single home.

Perhaps we will learn that this diversity is what brings us together in a vibrant community, from which a new story and a new culture that regenerates with the Earth can emerge.

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Rafael Solís is a master's student at the Center for Development and Environment at the University of Oslo. A pre-pandemic lifetime ago, he completed a BA in political science and international relations at Mexico's CIDE, and a master's of public policy and administration at the University of Melbourne. Looking at a Pacific-centred world map had a silent but profound effect on him. He ditched a grueling career as a bureaucrat and set foot on (literally) greener pastures with crisp vistas of the fjords. In hopes of producing a readable thesis, he wrangles with issues of sustainability in technology. *Editor*

jenna stepanic, from canada, currently pursuing masters in development, environment, and cultural change at the university of oslo. working on an intellectual history of anarchist principles and their intersections with environmentally guided imaginaries. present interests include, but are not limited to, anarchy studies, intersectional feminisms, environmental philosophy, and relearning playfulness. *Issue Coordinator & Editor*

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og gemt sig i lommer af sorg under solen



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.