5TH ANNUAL CONFERENCE ON ANTICIPATION

BOOK OF ABSTRACTS

11- 14th September 2024
Lancaster University, UK

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About the Conference

Anticipation 2024 is a unique, radically interdisciplinary conference for exploring how ideas of the future inform action in the present. Foregrounding the significance of context, the conference invites us to locate ourselves in the first quarter of the 21st century to explore new understandings, framings, skills, imaginaries and means of instigating positive change for future generations. We invite reflection on how anticipations emerge from and are shaped in particular places at particular times, however globally interdependent connections might be across individuals, groups, institutions, systems and cultures.

Consolidating an open, convivial and interdisciplinary forum for scholars, practitioners, researchers, and citizens in the field of anticipation and future studies, the 5th International Conference on Anticipation seeks to deepen and widen the exchange of new ideas, and possible future directions, and to debate key issues of relevance to reflecting on and acting upon better futures.

Building on the success of previous conferences (Trento, London, Oslo, Tempe) and the leadership of previous conference chairs (Poli 2015, Facer 2017, Morrison 2019, Selin 2022), contributions to the 2024 edition seek to use Anticipation as a means of engaging with the climate emergency, transitional justice, AI and ethics, energy security, social inequalities, public health and wellbeing, socio-technical systems, innovation, food security, cultural values, activism, and more. It is our hope that contributors will do so in ways that highlight context as central and formative for anticipatory action and thought.

This book of abstracts provides a good sense of the range of topics, approaches and methods across several fields of thought and practice, taking Anticipation in new exciting directions. As regulars of the Anticipation conference will be able to tell, sessions speak to themes explored in previous conferences but we are confident that the nuance and tone will be different and new.

Thank you once again for joining this collective intellectual and practical endeavour which strikes me as fitting, timely and crucial for the futures we wish to shape.

Professor Carlos López Galviz
Chair in History and Social Futures, Lancaster University, UK

The Anticipation Conference in 2024 at Lancaster is devoted to opening up the study of anticipation to new voices, new spaces, and new approaches.

Main themes

This fifth conference will emphasise questions of justice in 7 thematic areas:

i.   Social futures
ii.   Environmental crisis and societal change
iii.   Decolonising futures
iv.   Past futures and generational ancestries
v.   Storytelling, imagination and the right to anticipate
vi.   Timescapes, timelines and timespans
vii.   Ideas of the future informing action in the present

About Lancaster and Lancaster University

Nestled amidst 560 acres of scenic parkland, Lancaster University offers a unique blend of academic excellence, vibrant student life, and breathtaking surroundings. Established in 1964, the university has rapidly gained recognition for its high-level contributions to interdisciplinary research, earning awards in various rankings for the quality and impact of its work.

Lancaster's strategic location offers easy access to a variety of destinations, including Liverpool, Manchester, Edinburhg, Glasgow, and London. The historic city of Lancaster, with its Roman past, is situated on the River Lune, overlooking Morecambe Bay. With its traditional charm and friendly atmosphere, Lancaster invites exploration. Beyond the city limits, visitors can embark on adventures in the captivating Lake District, a UNESCO World Heritage Site renowned for its breathtaking scenery and rich literary heritage. The vibrant coastal towns of Morecambe and Blackpool offer a contrasting experience, with their bustling art scenes and iconic attractions.

Lancaster University fosters a collaborative environment where researchers from diverse disciplines come together to address critical global challenges. Renowned research centers like the Centre for Social Futures and Energy Lancaster explore the future of society and sustainable energy solutions, respectively. Additionally, the university boasts institutes dedicated to security, data science, materials science, and mobility studies, highlighting its commitment to a comprehensive research approach.

Lancaster's collegiate system fosters a strong sense of community, with students residing in dedicated colleges that provide academic and social support. The university prides itself on its international outlook, attracting students from over 100 countries. This creates a multicultural environment where everyone can learn from each other and develop global competencies.

Lancaster University has been pioneering in the field of social futures research. The Centre for Social Futures and Imagination at Lancaster are but two of the examples playing a pivotal role in exploring the intersection of arts, design, social sciences, humanities, and computer science to envision and shape desirable futures. By fostering interdisciplinary collaboration and critical thinking, Lancaster's community aims to challenge conventional perspectives and explore alternative pathways for a more sustainable and equitable future.

We warmly invite you to join us and experience the university's beautiful campus which, arguably, creates an ideal environment for convening and discussing the future of our world.

Further Information

For a detailed exploration of Lancaster University, its research centers, and its surrounding attractions, please visit the university website: Lancaster University.
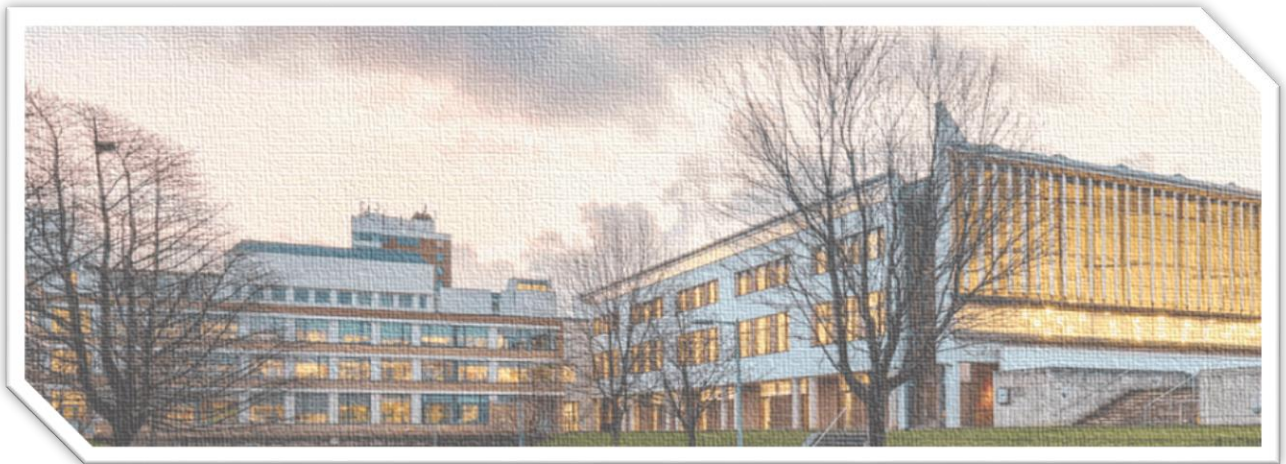
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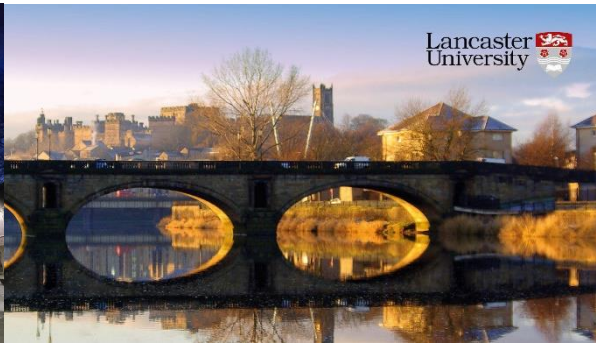
KEY NOTE SPEAKERS

Lola Olufemi

Lola Olufemi is a black feminist writer and Stuart Hall foundation researcher from London based in the Centre for Research and Education in Art and Media at the University of Westminster.

Her work focuses on the uses of the political imagination and its relationship to cultural production, political demands and futurity.

She is author of Feminism Interrupted: Disrupting Power (Pluto Press, 2020), Experiments in Imagining Otherwise (Hajar Press, 2021) and a member of 'bare minimum', an interdisciplinary anti-work arts collective.

Vlad Glaveanu

Vlad Glaveanu is Full Professor of Psychology in the School of Psychology at Dublin City University, Ireland, and Professor II at the Centre for the Science of Learning and Technology, University of Bergen, Norway.

He has published extensively on topics related to creativity, imagination, collective futures, wonder, collaboration, culture, and human possibility.

He is the founder and president of the Possibility Studies Network, editor of the Palgrave Encyclopaedia of the Possible, and founder and editor of Possibility Studies and Society, a Sage journal.

His recent books include "The Possible: A Sociocultural Theory" (Oxford University Press), "Wonder: The Extraordinary Power of an Ordinary Experience" (Bloomsbury), and the novel "The Wish Thief" (Possibility Press).

Manuela Celi

Manuela Celi, an Associate Professor at Politecnico di Milano's Design Department, specialises in Metadesign and design processes and has focused extensively on Design Futures and Anticipation for the past 15 years.

Her research explores various forms of design knowledge, metacognitive skills, and advanced design processes.

Employing a transdisciplinary approach, she investigates the intersection of design with humanities and social sciences, emphasizing intermediate design products with significant cultural content such as trends and scenarios. Recently she was Polimi's principal investigator for the FUEL4Design E+ project.

She integrates research with education through publications in academic journals like Futures and The Design Journal, fostering innovation and experimentation among students and in applied research.

Mshai Mwangola

Oraturist/Performance Scholar, Dr Mshai Mwangola, uses Story and the lens of culture in her work as an academic, artist and activist.

Her intellectual work is characterised by her practice of performance for the purpose of research, teaching and advocacy.

Mwangola serves as Chair of Uraia Trust, Vice President, the Transitional Council of the Society of International Development (SID); and Member, Executive Committee of the Council for the development of Social Science Research in Africa (CODESRIA).

A founding member of The Orature Collective and The Elephant inf, she also serves on the Advisory Board Literary Festival.

Roberto Poli

Roberto Poli (PhD Utrecht) is Professor of Philosophy of Science and the UNESCO Chair on Anticipatory Systems at the University of Trento (Italy).

Roberto teaches Social Foresight and Epistemology of the Social Sciences; he directs the Master in Social Foresight, currently in its eleventh edition.

Roberto is a fellow of the STIAS — Stellenbosch Institute for Advanced Study. He is the President of AFI-Association of Italian Futurists, and Skopìa, a company offering professional anticipation services. Roberto has published 7 volumes and more than 250 papers.

He has edited the Handbook of Futures Studies (Elgar 2024) and is in the Stanford list of the most quoted scholars.

KEYNOTE SPEECHES

Plenary Keynote 1: Vlad Glaveanu and Lola Olufemi
Day and time: Wednesday, 11th September, 14.00 pm (BST).
Room: Margaret Fell Lecture Theatre.

Title: *Possible Futures: Perspectives in Dialogue*

Abstract: This keynote has been designed as a dialogue between two interventions. Vlad Glaveanu's will argue that complexity, emergence, and multiplicity of perspectives are at the heart of imagining possible futures and that these characteristics make such acts of imagination at once personal, ethical and political. Lola Olufemi's, in turn, will explore how specific resistance movements conceptualise futurity through creative analysis of cultural production; disrupt the notion that time is linear; and offer a critique of traditional processes of historiography. Lola will argue that the imagination is not a privatised and subjective experience of the sublime but a collective and relational force best expressed through refusal of dominant power. Vlad will develop a sociocultural approach to understanding how individuals, groups and societies engage with the possible and transform themselves and the world around them through this engagement.

Plenary Keynote 2: Manuela Celi, Design Department, Politecnico di Milano
Day and time: Thursday, 12th September, 14.00 pm (BST).
Room: Margaret Fell Lecture Theatre.

Title: *Poetics of Futures: Anticipation, Narrative, and Ethics of Design*.

Abstract: As Postmodernism challenges established frameworks, traditional approaches to understanding the nature of things are increasingly being questioned. The once-clear distinctions between objective reality and subjective experience are increasingly blurred and emerges a pressing need for a more artful and nuanced approach to design and inquiry. Beginning with a critical review of the semantic evolution of the ancient Greek concept of "poiêsis" and its subsequent development into "poetics", this essay seeks to interrogate the nature of the Poetics of Futures as an open opera (Eco, 1962) a dynamic construct, inherently embedded within the anticipatory design inquiry. Design compels us to engage in the active making of the future, where narrative as a key domain that remains underexplored within both Futures Studies and Design emerges. Narrative, one of our most ancient and widely practiced cultural

resources, is indispensable for sense-making, communicating, and envisioning future scenarios, as well as for navigating interpersonal relations. It enables us to conceptualize pathways and processes for addressing the not-yet-built, situating these within a dramaturgical framework that transcends mere planning and strategy. Design futures narratives are thus pivotal in shaping and navigating the intricate landscapes of our contemporary world, offering materialization through artifacts while also generating structured yet imaginative explorations of possible futures (Celi & Morrison, 2017). The integration of narrative elements within design processes facilitates the creation of plausible and compelling visions, fostering agency among diverse contributors.

These narratives are not merely storytelling tools but are fundamental in engaging participants, constructing identities, and analyzing systemic complexities. When scenarios are employed as narrative and reflexive tools, they serve as a medium for fabulation and the crafting of future mythologies. The poetics inherent in Design Fictions formalizes various techniques, such as prototyping potential futures and exploring the roles of utopias and dystopias in design research experiments, ultimately shaping the types of knowledge that emerge from the practice of design fiction (Markussen & Knutz, 2013). This approach necessitates a poetics of futures—a way of conceptualizing and expressing future possibilities that embraces uncertainty and the multiplicity of perspectives inherent in contemporary challenges. By embedding a Poetics of Futures within design, we can address the ontological and epistemological questions that arise in "otherwising"—the process of imagining and creating alternatives to dominant narratives. This poetics provides a means to navigate the uncertain terrain of future-making by incorporating cultural, temporal, and spatial dimensions into the narrative, allowing for a richer and more nuanced exploration of what might be possible..

Plenary Keynote 3: Mshai Mwangola
Day and time: Friday, 13th September, 14.00 pm (BST).
Room: Margaret Fell Lecture Theatre.

Title: *To be confirmed*.
Abstract: To be confirmed.

Plenary Keynote 4: Roberto Poli
Day and time: Saturday, 14th September, 12.00 pm (BST).
Room: Margaret Fell Lecture Theatre.

Title: *Why should we anticipate?*

Abstract: This keynote is organised around three main topics: **(i)** _Mapping anticipation_. "Anticipation" is used in many ways and no acceptation of anticipation will soon likely become mainstream. Learning to translate among different acceptations of anticipation may pay dividends. **(ii)** _Failures of anticipation_. Anticipation, however understood, may fail. Knowing when and why anticipation may fail is mandatory for robust decision-making. **(iii)** _Anticipation and Futures Studies_. Anticipation is both wider than FS and a specific sector within FS. I'll explain how to make sense of this apparent contradiction.

Wednesday, 11ᵗʰ September, 2024

Session 1: Anticipatory Visions Part 1

* The Future Isn't What It Used to Be
* Doing without the future: working in a thick present
* The question of time for Norbert Elias
* Unpacking the Futurists
* Desirable Future Thinking
* Contextualising anticipatory practices

Session 2: A World of Futures

* Beyond Western models: Cultural dimensions in Anticipation
* Anticipating geopolitical change in the context of complexity
* Which futures for the welfare state?
* Imagined futures of crisis in the UK and Norway
* Futural politics: Protagonists and levers for change in future visions of water management in the Netherlands
* Anticipation in Morocco: discourse and practices

Session 3: 7/7 Flash Talks

* Bringing hopeful futures to light: EXF and the Ukrainian art of Vyshyvka
* Future Studios: Materialising issues, doing democratic politics
* Ancestral futures as a key for decoloniality
* The Travelling University
* Transforming anticipatory capacity to accelerate energy transitions
* Energy Future Stories – participatory narrative hackathons
* Reinhabiting the Shadows: Art, Anthropology, and Speculative Future(s) in the Darkness
* Recognition Games: modelling for the future wellbeing
* More-than-human future personas

Session 4: Feeding the Future

* Anticipating and negotiating the change: The orienteering approach to sustainable foor systems

* Experiential Futures for sustainability transformations: Learnings from an imagined foodcourt
* Imagining the agri-food future of a post-colonial French island during the 1960s. Perspectives from the two major student movements.
* Analyzing the conflicts and cooperations among pastoral communities in northern Kenya
* Anticipation through affective relations in climate-wise farming

Thursday, 12th September, 2024

Session 9: Anticipatory Visions Part 2
* Rewilding imagination for regenerative futures
* From dystopia to protopia
* Knowing differently: An investigation of human exploration
* Power. Pleasure. Privilege.

Session 10: Sustaining the Future – Part 1
* Garden of Ziangong: toward eco-centric and plural futures of living
* Envisioning just sustainable futures
* Sustainable development goals meet post development
* Using cross impact balances and serious gaming to foster sustainable water resource policies

Session 11: Designing the Future – Part 1
* Design and other ways of knowing the future
* Infusing actionable presents through anticipatory design scenarios
* VACANT
* Exploring imaginaries of "sustainable" futures through design education

Session 17 – Anticipatory Futures – Part 3
* Foressing like a state
* Bridging the symbolic and factual parts of anticipation
* Futures in displacement or Displaced Future
* "Go regulate yourself" Participatory worldbuilding for a secure decentralised future
* Co Creation as anticipation of the collision of work ethos and play ethos
* Spatial metaphors and the moral nature of the future

Session 18: Sustaining the Future – Part 2

* Government targets as outcomes of anticipation towards sustainable futures: The role of boundary objects as navigation tools in social systems
* How uncertainty can help envisioning sustainable futures to address climate change
* The role of biotechnology in pathways towards a sustainable, nature-compatible and circular bioeconomy
* Scenarios for the Lower Rio Negro, Brazilian Amazonia, 2040
* Envision sustainable futures through stories
* Resilience reimagined

Session 19: Designing the Future Part 2

* Pedagogy: Queer / Futures / Architecture
* Towards more than human city futures
* The potential of interbeing in exploring the future of "human-built_environment-nature" relationships
* Building humility into resilient design.
* Experiments and exposure: Critical design in a workshop context
* How we tell stories matters: World Expos as Futures Lab

Session 25: Anticipatory Visions – Part 4

* Becoming archipelago of the foresight and Futures landscape
* Travelling companions. Travelling companions: material culture and time travel
* Who are the 'future generations'? Searching for the demos from an epistemic perspective.
* Post-Colonial Narratives on Futures and Technologies in the Amazon Rainforest

Session 26: Designing the Future – Part 3

* Building the right to anticipate
* Putting the pluriverse design paradigm into practice by anticipatory moral imagination
* "Orchestrating" collective imagination: generating situated narratives.
* Typological framework for design futures practice cases: sources, typologies and representative examples

Session 27: Leading the Future – Part 1

* Making leadership futures
* Revising leadership

* Care and responsible research and innovation
* Imagining public tradeoffs: scenario interventions as exercises in dilemmatic reframing

Session 28: Futures Literacy – Part 1

* Disturbing Futures: Towards a theory of Futures Literacy
* Future skills development for Futures Literacy
* Elements of Futures Literacy – Towards the operationalization of FL as a competency
* Future-making capabilities and anticipatory action in contexts of divergent social imaginaries: transdisciplinary alumni perspectives

Friday, 13th September, 2024

Session 33: Anticipatory Visions – Part 5

* From anticipation to corroboration
* Towards a transformation assessment
* The Futures circle
* From anticipation to action: Crafting your future with lasting impact and agency

Session 34: Futures Literacy – Part 2

* Master in Social Foresight now in its 10th edition: training a generation of Italian professionals
* Place as undercarriage in youth art and activism for positive youth cultures
* Embracing a broader understanding of ageing
* Speculative pedagogies and assessment

Session 35: Climate Futures – Part 1

* Anticipating alternative pathways for just green transition
* Energy transition and potential socioecological harms to be anticipated
* (Un)fulfilled promises of the past and (im)possibility of Sweden's Green Industrial Revolution
* Envisioning nature futures for Europe: Inspiring transformative change at the biodiversity nexus

Session 41: Climate Futures- Part 2

* Using data to make the future
* University climate futures.

- ∗ Empowering stakeholders in climate change adaptation. Directions from action-based scenarios
- ∗ Anticipation, justice and responsibility in the Dutch energy transition
- ∗ 'What words mobilise those who need help to want help?' Make banners with us.
- ∗ Zero-carbon imaginaries: Fictional resistance to dominant narratives

Session 42: Fore(casting/sight)
- ∗ Foreseeing like a state
- ∗ Foresight and interconnected transformations
- ∗ Trend forecasting
- ∗ A new technology foresight tool in strategic decision making
- ∗ Future-making responsibly: An examination of ethics in foresight methods
- ∗ Insights from applying strategic foresight

Session 43: Techno-Futures

- ∗ Futures in practice, how the Department for Transport used Futures to inform the AI strategy.
- ∗ Promising the future of nuclear fusion: Performativity of a materialised vision
- ∗ Problematising interventive uses of Futures in STI:
- ∗ AI narrative imaginary: Moving from dystopian to solarpunk narratives
- ∗ Preparing emergency law for future crises and disasters
- ∗ Encouraging alternative futures for the satellite industry

Session 44 Leading the Future – Part 2
- ∗ Exploring anticipatory responsibility and responsible anticipation.
- ∗ Fictioning the futures of corporations
- ∗ Defining the sustainable enterprise of the future
- ∗ Perception and application of strategic foresight within the banking sector in Morocco: exploration of banks labeled CSR by the General Confederation of Moroccan Enterprises
- ∗ Deconstructing anticipated futures in journalism
- ∗ Anticipation at the BBC

Session 52 Hydrogen Futures
- ∗ Unfolding versus upholding: Incumbent sociotechnical imaginaries in hydrogen policymaking in Chile, Germany and the United Kingdom.

* Histories repeating or newly emerging futures? Green hydrogen visions and emerging projects in Europe and Africa.
* Sustainable fuel of the future? A multi-criteria mapping of potential hydrogen futures

Session 53: Affective Prefiguration

* Affective prefiguration – a creaturely overview
* Loss, hope, and collective imagined future - artist led initiatives and their role in moving communities toward collective imagined futures, through a journey of intangible loss and rediscovering hope in post industrial towns and cities
* Betwixt and between - an exploration of the potential role of Turner's framework of liminal and liminoid experience in designing affective prefigurative scenarios and seeds
* Affective ocean literacy: resonances and dissonances in more-than-human oceanic relations

ANTICIPATION 2024: LIST OF ABSTRACTS

Wednesday, 11th September, 2024

SESSION 1: ANTICIPATORY VISIONS PART 1

∗ The Future Isn't What It Used to Be, by Virginia Leavell
∗ Doing without the future: working in a thick present
∗ The question of time for Norbert Elias
∗ Unpacking the Futurists
∗ Desirable Future Thinking
∗ Contextualising anticipatory practices

[15.30-15.50]

The Future Isn't What It Used to Be: Anticipatory Control in the Digital Transformation of Water Infrastructure
Virginia Leavell

This study is organized around one central research question: How do organizations anticipate new technologies? I advance the thesis that technological anticipation shapes both structure and action in organizations long before the technologies themselves arrive on site. I provide support for this thesis through an ethnographic study of two organizations conducted over a three-year period before an expected technological change was to take place. In total I conducted over 830 hours of observations, more than 90 interviews, and nine surveys and collected more than 13,000 pages of documents. With my study of two water agencies that managed the production and distribution of drinking water, I show how field workers, office staff, and managers anticipated a new automated and digital metering system. I find that not only do people not need to interact with new artifacts for the process of technologically induced organizational change to begin, but that the changes brought about, in part, by technological anticipation are themselves a significant phenomenon for the organizations that experience them. I advance the thesis that technological anticipation works in part through a process of *anticipatory control*. I define anticipatory control is a process of enacting organizational change in the hope of bringing about a desired anticipated future. While anticipatory control may or may not ever bring about the future in question, I show that anticipatory control has extensive ramifications and unintended consequences for organizations in how technologies are selected, implemented, and eventually used by the adopting organizations. These findings help us to reconsider the

process of technologically induced organizational change. Importantly, I argue that predictions of possible futures actively shape work and organizing. I present a model of anticipatory systems and urge scholars to consider the social and material implications of how actors imagine and predict technological futures in organizations.

[15.50-16.10]

Doing without the future: working in a thick present
Richard Sandford

Many groups are concerned with improving the quality of anticipation in social life, and are vocal champions for thinking more about the future. But focusing on the future is not always a positive thing to do, and locating our concerns there comes with risks: the false promises of politicians and business leaders, the vulnerability of our interests to 'tradable' futures (Adam and Groves, 2007), the weakening of claims of harm (e.g. Ruckenstein, 2023), or the deferral of necessary action. This paper describes some of the ways in which working with the future is risky. It suggests these are reason enough to ask where we might do without the future, or which aspects of our life do not, after all, require us to talk about the future, and offers an account of an alternative temporal frame: the thick present.

Various authors have offered different accounts of the thick present, from within futures studies (e.g. Jönsson et al., 2021; Poli, 2011) and beyond (e.g. Haraway, 2016; Neimanis & Walker, 2014). The paper offers an account of how the present may be 'thickened', suggesting that it becomes so through the exercise of agency, and draws on theories of practice (e.g., Welch, Mandich, & Keller, 2020; Emirbayer and Mische, 1998) to describe how action in a thick present might be imagined to avoid the risky and unreliable future, working instead with lived futures (Adam and Groves, 2007), reliable insofar as they are bounded and produced by existing relations of care between people, places, and practices, and utopian futures (Thompson and Zizek, 2013; Levitas, 1991), which being eternally 'not yet' may be relied upon to never come about. This account of action in a thick present, the paper claims, might help us recognise where we can do without the future, and avoid its risks, while continuing to act.

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[16.10-16.30]

The question of time for Norbert Elias
Monica Mastrantonio

Typological Framework for Design Futures Practice Cases: Sources, Typologies and Representative Examples Abstract: Design Futures (DF.) originates from the combination of the fields of design and futures studies, and has become the meeting point of many tributaries (e.g., transition design, discursive design, design fiction, etc.) through the use of a wide range of practical and creative approaches from the fields of design and art. However, the complex diversity of subgenres of DF. practice has created significant (even disastrous) inconveniences for research, reflected in the status quo of confusing and proliferating terminology and overlapping concepts. This confusion and inconsistency continues to grow due to the burgeoning and rapid development of the field. Therefore, there is a need to systematically sort out the genres of DF. Practice Cases to establish a typology to promote the development of the discipline. This paper firstly traces back the roots of the two philosophical perspectives and deeply discusses the relationship between design and the future; then, we start from the sources and deeply investigate the three sources of DF. practice cases (critical design, futures studies and design studies); lastly, this paper proposes a genealogy chart of DF. practice cases, which consists of the sources, the typologies and the representative cases. We extracted five representative types for DF. practice cases. Among them,

Speculative design and Design Fiction are representative types of critical design; Visionary design, as a redefined category, highlights important features and trends for the futures studies combined with design (experiential and participatory, etc.); Transition design and technological innovation are representative types from design studies. The former represents the long-term project capabilities of design to transform the current situation into an ideal state at a macro level, and the latter describes the practice forms that are reshaped by technology futures and moving towards interdisciplinary (art, science, design, and engineering) at a specific level. The study provides a holistic and systematic knowledge framework, which helps to integrate the multiple genres and overlapping concepts of design future practice cases, and lays the foundation for the development of the discipline

[16.30- 16.50]

Unpacking the Futurists' Toolkit: Patterns of Growth in Futures Studies Methods, Practices, and Tools"
Guillermina Benavides & Alfonso Ávila-Robinson

The development of research fields is closely linked to the advancement of methods, practices, and tools that support practitioners and researchers in their knowledge-creation efforts. The latter is also true for the field of futures studies. Previous research on the futurist's toolbox has primarily focused on categorizing methods, practices, and tools related to futures studies through taxonomies (Popper, 2008), classification schemes (Poli, 2018), and body of-knowledge descriptions (Slaughter & Hines, 2020). However, these studies have not thoroughly examined the growth patterns of these methodological approaches. This study aims to answer the following research questions: (a) How have methodological approaches in futures studies evolved?; (b) To what extent have these methodological approaches been (re)combined in existing studies?; and (c) To what extent are these methodological approaches unique to the futures studies field? To achieve this goal, we first utilized network visualization techniques to map the futures studies research field using an extensive bibliographic search spanning the past two decades. This futures research landscape was the basis for extracting a set of bibliometric indicators to examine trends in the use of futures studies-related methods, practices, and tools across cognitive fields, geographies, and content type domains in time, integration, and uniqueness dimensions. As the field of research studies continues to develop under changing contextual landscapes, we expect an increased adoption of methods, practices, and tools, higher levels of integration, and the gradual creation of a unique futures studies toolkit. Nevertheless,

these trends may go against the existing fragmentation permeating the field (Fergnani, 2019). Our results provide insights into the future of futures studies as a discipline.

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[16.50- 17.10]

Desirable future thinking: the influence of imagining a better future in the making of research projects

Giulia Volpini

Recent literature on future studies and transition management agrees on the importance of a shared guiding vision to plan sustainability transition (Berkhout, 2006; Kivimaa, 2012). This is particularly true when ideas of the future incite present actions, as for backcasting methodologies (Coffay et al., 2022; Dolez et al., 2019; Granjou et al., 2017). The assumption is that backcasting should not only entail scenario exercises, but it should also tackle the implementation of the collectively defined desirable futures. It should include follow-up activities in line with the future vision, such as experimentations, orientations, guidance and evaluation (Eame & McDowall, 2010; Vergragt & Quist, 2011). Therefore, Phdungsilp (2011) expresses the belief that future studies can transform development planning. In this paper, hence, we question the impact of anticipatory practices on project planning. What do these practices bring to the process? In other words, how encouraging people to imagine a better future can help them to concretise it ? What changes when a project adopts these techniques? To answer to this question, we contributed to the design and implementation of five different projects which introduced these anticipatory reflections after one or more years since the beginning of the project. This allowed us to observe how the project transformed from before and after using these techniques. The paper aims to discuss how this process of desired future thinking brings participants to significantly revise their project planning. Particularly, we could observe that the participatory futuring approach generated three main dynamics: 1. an increase of the project ambitions, 2. the

acknowledgement and the easing of the participants' disagreements and 3. an important restructuring of the project plan. Moreover, we argue that, while scientific literature is unanimous on the validity of desired future thinking and backcasting techniques for planning transformations, these approaches are rarely used by researchers and practitioners when creating their projects. Hence, this comparison allows to understand how projects are usually structured, instead of how they could be.

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[17.10- 17.30]

Contextualising anticipatory practices
Eva Knutz & Thomas Markussen

The transition pathways towards sustainable futures are often hindered or even counteracted by exiting systemic barriers (political, economic, and so on). However, at a small scale in our societies, we find rich examples of how creative communities have

invented new experimental ways of living, working, and consuming that are eco-friendly and socially just (Manzini, 2015; Meroni, 2007). Sociologists have used terms such as 'real-utopias' (Wright, 2010) or 'micro utopias' (Wood, 2007) to refer to these examples, since they offer innovative alternatives that are not (yet) deemed plausible or possible at a systemic level. This is because the practices used, for instance in ny housing, energy cooperatives, and critical farming are contextually bound to the 'hyper local' and therefore defy up-scaling to prompt systemic change. Nevertheless, real utopias hold potential for 'de-scaling' and 'out-scaling' in the form of ripple effects that may inspire or provoke other social groups to adapt niche innovations to their own ecologies. In this paper, we present a study of three real utopias found in a European context. First, we demonstrate how real utopias essentially involve the collective enactment of anticipatory practices (Poli, 2019) in combination with design fic on experiments. Secondly, we show that a full understanding of real utopia's potential for future change rely on a detailed contextual analysis of the interlocking dynamics, resistance and power balances between civic society, state power and capitalist power (Geels, 2014; Wright, 2013). Thirdly, by relating our findings to extant literature, we discuss how the paper contributes to Anticipation on Studies (Celi & Morrison, 2019). Our study will be presented at the conference in the form of three anecdotes that pay special attention on to the social actors, species, organisms, sites and ecologies of each real utopia.

* Beyond Western models: Cultural dimensions in Anticipation
* Anticipating geopolitical change in the context of complexity
* Which futures for the welfare state?
* Imagined futures of crisis in the UK and Norway
* Futural politics: Protagonists and levers for change in future visions of water management in the Netherlands
* Anticipation in Morocco: discourse and practices

[15.30-15.50]

Beyond Western models: Cultural dimensions in Anticipation

Per Dannemand Andersen[1], Monamie B. Haines[2]

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2) Virginia Polytechnic Institute and State University

One of the key questions in scenario planning and futures thinking concerns the availability of frameworks for understanding of how individuals, groups, and cultures use ideas of the future to act in the present. This question particularly relates to how the future is anticipated and approached across cultures and political traditions. It is frequently noted that the practices and methodologies of scenario planning and futures thinking are crafted from Western models of futurism and future studies (Seefried, 2014; Jones, 2019). Additionally, in the realm of imagining the future roles of science and technology, under the banner of responsible research and innovation, scholars have noted how practices of deliberating what constitutes ethics and responsibility are also approached from predominantly Western perspectives, even as they attempt to be inclusive of diverse experiences. An expanding literature examine differences in perspectives rooted in classical East Asian (e.g., Confucianism) philosophy. Also a wealth of contributions from the global south, as well as religious and indigenous perspectives increasingly underline the diverse cultural perspectives in futures studies. This diversity in approaches leads to an overall question about how values, cultures and political traditions affect anticipation (scenario planning and futures thinking) around the world. We do not seek to pigeonhole different approaches but rather to discuss the most salient aspects to take into account with considering scenario planning and futures thinking across national cultures and traditions.

This piece's overall aim and study approach is a conceptual contribution inspired by existing literature. Our study's conceptual point of origin is based on Hofstede's dimensions of culture and Jasanoff's concept of civic epistemologies. Through these conceptual lenses we have carried out a partly systematic review of conceptual and practice-oriented literature in foresight and futures studies.

[15.50-16.10]

Anticipating geopolitical change in the context of complexity: Revisiting the role of historical patterns in trends and megatrends foresight analysis and scenario building
Adrian Pop

Complexity, with its in-built features of uncertainty, unpredictability, non-linearity, self-organization, and emergence, represents a serious challenge for anticipation. Nonetheless, the complexity analytical framework presents also several opportunities for anticipating geopolitical change and devising peace- preserving scenarios. Taking a long-term perspective on the US-China-Russia triangular interaction informed by complexity allows us to comprehend the role of multiple rivalries and pivotal peripheries in the remaking of world (dis)order. It also makes us comprehend the rise of hybrid regimes in the post-Cold War era and the global trend of democratic crisis. It also signals the greater potential of conflict of multiple rivalries taking place in an evolving multipolar and multi-order international system increasingly marked by a de facto bi-polarization. Last but not least, by taking into account some lessons of the past regarding interstate rivalry termination illustrated by the case of the Anglo-American rivalry termination, one could devise alternative scenarios premised on the avoidance of a global war in the 21st century. The paper argues that by embracing complexity, one can overcome the limitations of structural realist theorizing premised on its assumptions about state-centrism, system-level interactions, and linear patterns, high levels of order and predictability, and behavioural preferences. Moreover, thus, one can overcome the historical determinism of the Modelski model of world leadership, predicated on the importance of great powers an sea-power and incorporate some of the latter's historically informed insights into the geopolitical trends and megatrends foresight analysis and scenario building.

[16.10-16.30]

Which Futures for the Welfare State?

Three Scenarios Mapping the Complex Interactions between Climate Change and Policies against Child Poverty in the Walloon Region by 2050
Calay, Vincent & Claisse, Frédéric.

Since the early 2000s, with the ratification on of the UN Convention of the Rights of the Child, child poverty has become a major public problem in many countries, prompting governments to develop specific policies to tackle it. These policies, addressed to a specific public, has come into tension with the universalist model of the Welfare State, accompanying its transformation on into an Active Welfare State. In Belgium, this rationale became more pronounced in the 2010s with a significant reduction on in public spending on social protection, even though poverty levels among the popula on, particularly among children, were tending to worsen. This situation on came to a head with the outbreak of the COVID-19 pandemic, when public authorities had to relaunch a universally applicable social protection system to deal with this health, social and economic crisis. In the a aftermath of this unprecedented situation, many uncertain es emerged about the possible futures of the fight against poverty, particularly in view of the increasingly recurrent major social impacts of climate change. Against this backdrop, the Walloon Institute for Evaluation, Foresight and Sta s cs was commissioned by the Walloon government to carry out a foresight study about the possible futures of policies to combat child poverty (and, by extension, of the Welfare State). The study produced three scenarios developing three contras ng forms of Welfare State, making it possible to understand and map out possible trajectories for the transformation of social policies in response to climate change and environmental transition issues. Based on the methodology of the French school of prospective, this research mobilized a large panel of experts and stakeholders through various workshops and participatory processes to study the possible interactions of 33 variables in a systemic way. The results of this study highlight issues for the future that concern not only the Walloon region, but also European democracies.

[16.30-16.50]

Imagined futures of crisis in the UK and Norway
Daniel Welch, Audun Kus and Nina Vatvedt Heidenstrom

The promissory legitimacy (Beckert 2020) of twentieth century democratic capitalism was based on an understanding of the inextricable linkages of modernity, democracy, capitalism, and technological progress; and a future of 'prosperity for all' and ever-rising living standards in the 'consumer society'. Concomitant with accelerating climate change, ecological crisis, and, following the 2007/8 financial crisis, secular stagnation,

spiralling inequality and the rise of political populisms, there has been a profound loss of faith in this promissory legitimacy. The paper explores how people imagine the future in the context of the loss of this widely shared cultural understanding of the future. The paper draws on research from two projects, one in the UK and one in Norway, that have asked people to imagine the future: 'Imagined Futures of Consumption' (2018-2021) funded by the UK Economic and Social Research Council and 'IMAGINE: Contested Futures of Sustainability' (2021 – 2024), funded by the Research Council of Norway. The first produced data through collaboration with the UK's Mass Observation Project, the second through a qualitative questionnaire issued by the Norwegian Ethnological Research Institute. Both projects produced free text responses to neutrally framed prompts or questions about imagining life in the future and produced rich data on people's engagement with understandings of the future, climate change and ecological crisis, capitalism and modernity. The paper explores key discursive figures that emerge from both datasets and reflects through these on our contemporary historical moment.

[16.50-17.10]

Futural politics:
Protagonists and levers for change in future visions of water management in the Netherlands
Laura Barendregt, Roy Bendor, Bregje F. van Eekelen

Keywords: future visions, critical futuring, social change, futural politics, water, Netherlands

Futural politics feature contesting future visions produced by different actors, stakeholders, or 'protagonists of the future' attempting to realize their particular, desired futures. Such visions not only sketch a picture of what the future should look like, but also suggest how and why it should be pursued, and who should play a role in realising it (Barendregt, Bendor & van Eekelen, 2023; Rutting et al., 2022). These efforts, however, do not occur in a vacuum as all future visions are conditioned by their contexts. The futures we imagine and pursue are both enabled and constrained by existing structures and discourses (Goode & Godhe, 2017), as well as our expectations (Beckert, 2013; Polak, 1973), understandings and actions in the present (Adam & Groves, 2007; Tutton, 2017). Unaware of this influence, even when calling for change to 'status-quo' or 'business-as-usual' policies and worldviews, future visions run the risk of perpetuating instead of undermining hegemonic discourses, ideologies and arrangements of power.

This paper reports on a study of future visions circulating in and around water and flood risk management in the Netherlands. As other critical futuring scholars have pointed out, understanding how contextual conditions shape ideas and practices around 'the' future and, more broadly, temporality, is key to unlocking the potential of futuring as a means for social transformation (Ahlqvist & Rhisiart, 2015; Goode & Godhe, 2017; Inayatullah, 1990; Maze 2019). Our paper considers how these future water visions contest and/or support the status quo of the water sector by identifying the protagonists of the future they feature, and the levers for change they propose. For this task the paper combines tools of thematic-content and multimodal critical discourse analysis to study future vision documents produced by government bodies, knowledge institutions and civil society groups.

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[17.10-17.30]

Anticipation in Morocco: discourse and practices

Manal Mouhsine

This communication originates from my thesis, which focuses on studying Morocco's public long-term anticipatory system, including its structure, actors, and outputs. I am particularly interested in the role and importance of strategic foresight in policy-making and public action.

From Morocco's independence until 1987, the country pursued biennial, triennial, and quinquennial planning to ensure economic growth and meet social needs. Economic planning ceased in 1992 with the end of the structural adjustment program but saw a revival after the enthronement of His Majesty King Mohammed VI in 1999. In parallel, Morocco conducted three long-term national reflections: "Prospective Morocco 2030" in 2005, "50 Years of Human Development, Perspectives 2025" in 2006, and "New Development Model: Unleashing Energies and Restoring Confidence to Accelerate Progress and Prosperity for All" in 2021.

At the sectoral level, several long-term national strategies have been adopted since the early 2000s, predominantly developed by consulting firms. From our perspective, questions arise about the impact of long-term national reports on the conception of sectoral strategies over the past twenty years.

This presentation first focuses on presenting the theoretical framework proposed by my research to approach the anticipatory system (Nadin, 2016 ; Poli, 2017; Durance & Monti, 2017) as both a component of the national knowledge regime (Campbell et Pederson, 2014) and the anticipatory governance system(Fuerth, 2009). Secondly, it presents an analysis of the Moroccan long-term anticipatory system.

This work is based on a qualitative research method combining literature review proposing a new analytical framework for an anticipation system, semi-structured interviews with public actors, and content analysis of reports produced by various national institutions. Fieldwork began in December 2023 and will conclude in April 2024."

SESSION 3: 7/7 FLASH TALKS

[15.30-15.50]

Bringing hopeful futures to light: EXF and the Ukrainian art of Vyshyvka
Kelly Kornet Weber

As Jim Dator says, "Images of the future are the heart and soul of futures studies," [Beyond Identities, 2022]. Since 6000-3000 BCE, Ukrainian women have carefully stitched motifs representing prosperous futures onto both the clothing worn by their loved ones and ritual cloths (rushnyks) displayed in the home to guard against evil spirits [Autumn Salon]. Stitched only when their thoughts were pure, these sacred artifacts were produced abundantly and passed down from generation to generation. Ukrainian historian Tetyana Kara-Vasilyeva writes "the soul of the people was vividly and completely revealed in the embroidery or vyshyvka. His primordial desire for beauty, a sense of rhythm, compositional measure in the construction of ornaments, harmony of color combinations was widely developed. This is an ancient and eternally young art," [The History of Ukrainian Embroidery, 2008].

This 7/7 session will speak to my personal journey of connecting past, present and future generations as a Ukrainian-Canadian through the art of vyshyvka, or Ukrainian embroidery). As an embodied act of spiral time, this personal futures project invites a "return of the past but onward into the future" [Sohail Inayatullah, From Who Am I to When Am I?, 1993]. Centering on the "tree of life" rushnyk passed down by my great-grandmother, this session will weave together the ancient art of vyshyvka with the emerging Ethnographic Experiential Futures framework [Candy and Kornet Weber, 2019] as a means to bring preferred futures to light and to life. For current and future generations.

[15.50-16.10]

Future Studios: Materialising issues, doing democratic politics
Lucy Kimbell

This paper argues that the materialising practices of the 'studio' enable negotiation of future controversies in ways that enact democratic politics.

There is a long-standing dialogue between futures and design. To date, these dialogues have often emphasised the experiencing of futures, in which the materialising practices

of design can make futures available in the present (e.g. Candy and Potter, 2019). Researchers in design have emphasised the ontological politics associated with design (e.g. Fry, 2009; Maze, 2019; Brassett and O'Reilly, 2021) and its potential for doing politics differently (e.g. Dixon, 2021). However there has been less attention paid to how design can open up the democratic politics of futuring. To address this, the author turned to research that highlights the material articulation of controversies and issues (e.g. Marres, 2007; 2015).

The author used a practice research methodology to materialise controversies associated with future professional design practice, carried by around 1.97 people (Design Council, 2022) shaping business, government and civil society. One the one hand contemporary design is understood as entangled with neo-liberalism (e.g., Julier, 2017) while on the other it is seen as having potential to bring into being more equitable and sustainable ways of living (e.g. Design Council, 2022).

Working with a team of design graduates, the author produced a set of three installations, made public at Central Saint Martins in May 2024. These were created in relation to three scenarios produced by adapting the Oxford scenarios approach (Wilkinson and Ramirez, 2016). Through discussion of these installations with students and professionals working in the UK design ecology, these future studios brought design's controversies into view. This case illuminates how materialising issues can stimulate deliberation – enacting a politics at the level of professional practice and its institutions.

SESSION 4: FEEDING THE FUTURE

* Anticipating and negotiating the change: The orienteering approach to sustainable foor systems
* Experiential Futures for sustainability transformations: Learnings from an imagined foodcourt
* Imagining the agri-food future of a post-colonial French island during the 1960s. Perspectives from the two major student movements.
* Analyzing the conflicts and cooperations among pastoral communities in northern Kenya
* Anticipation through affective relations in climate-wise farming

[15.30-15.50]

Anticipating and negotiating the change: The orienteering approach to sustainable foor systems
Anna Kirveennummi, project researcher, PhD;
Co-Author: Riikka Saarimaa, research coordinator, M.A, Finland Futures Research Centre, University of Turku

In our presentation, we will discuss an adaptable and strategic approach to addressing the challenges of sustainable food systems. By incorporating the metaphor of orienteering and exploration in futures workshops we aim to problematise the roles of the participants when making changes. We will explore a case, which illustrates a cultural change management process involving a diverse array of stakeholders, representing both consumers and producers, that engage in dialogue and decision-making processes.

During the process of organizing futures workshops, we have observed how the change process has been articulated and anticipated, and how the complex web of interests has emerged. We will ponder how futures are utilized in this context and in the reciprocal relationship between actors, participants and researchers. Alternatively, we can delve into how we interpret the connections between current ideas, values, cultural practices, and their adaptation into the future, investigating barriers to the adoption and realization of the new concepts and ideas of sustainability transitions.

Our Food Futures -project has gathered insights on the convergence of different actors' expectations and their capacity for change, strategies for continuing and the conditions under which policy interventions are deemed acceptable by various stakeholders.* This

demands a better understanding about the use of futures— in our presentation we would like to discuss not only how the futures inform our advocacy for diverse future interests, such as green transformation/sustainability, but also the ethical questions on how researchers act as knowledge brokers in the field of changes.

As part of our experimentation, we will co-develope methods that serve as a 'future tool' tailored to the vernacular needs of food system actors. This includes workshop process designed to facilitate the active participation of the actors in shaping the future of food systems. (We could concentrate on this orienteering method).

*The project is funded by the Ministry of Agriculture and Forestry of Finland, stakeholders being policymakers, researchers, farmers, farmer organizations, and their advisors and consumers answering a survey conducted during spring 2024.

[16.30-16.50]

Between the future and the present. Norwegian food imaginaries
Justyna Jakubiec, Lisbeth Løvbak Berg, Virginie Amilien and Atle Wehn Hegnes

Food consumption is one of the major consumption areas that need to be reimagined to create a sustainable future. Policy documents and business strategies play a significant role in imagining and manifesting food futures on the consumer level. As such, they largely influence the consumers' perspectives and their sense of agency in imagining possible food futures. Through a comparative study based on an analysis of Norwegian policy documents and business strategies, 137 stories collected from Norwegian consumers, and fieldwork on local food initiatives in Oslo, we ask: Whose voices and ideas of food futures are included in the imagining of Norwegian food futures and what imaginaries are manifesting on the consumer level? With Norwegian consumer narratives as a reference point, we approach our research question by exploring the narratives of the official documents. We further position the local initiatives in relation to these narratives. Our analysis shows that the narratives of national government policy and business strategies often overlap but differ from consumer narratives. In contrast, more resonance with the consumers' perspectives can be found in the narratives of local government policy. For example, while business strategies reflect government policy's focus on healthy food and propose on-the-go food products, consumer stories of a simpler life are reflected in local government policy's focus on urban gardening. The more marginal imaginaries contained within the local food initiatives, however, resonate well with these consumer imaginaries. Hence, the analysis indicates that the narratives of official policy and business documents do not

resonate with the consumer perspectives despite their significant influence on them. Thus, the paper highlights the need for more negotiations between these dominant narratives and imaginaries from consumer narratives, manifested more marginally in local initiatives, to guide policy efforts towards manifesting futures that are desirable to the consumers who will inhabit them.

[16.50- 17.10]

Carbon Frontiers:
Analyzing the conflicts and cooperations among pastoral communities in northern Kenya

Evelyne Atieno Owino

Your air, our land: Anticipation and contestation at the carbon frontier

Pastoral communities in northern Kenya are at the forefront of a complex landscape of opportunities and challenges in the pursuit of sustainable development goals and the fight against land degradation in sub-Saharan Africa. Mitigating climate change through the commodification of nature is being addressed through the expansion of community-based conservancies funded by carbon offsetting schemes. Since 2013, the Northern Rangeland Trust (NRT) has implemented a carbon offsetting programme across 2 million hectares of land in 14 community conservancies in northern Kenya, generating over 4 million tons of carbon in the 2013 to 2016 period. However, this expansion has been met with anticipation and challenge from pastoral communities. Pastoralists on the one hand feel fortunate to benefit from the "sale of air" and on the other, express concerns and fears about the commodification of their land and resources without their full participation and consent in carbon harvesting, and feel marginalised and excluded from discussions that directly affect their livelihoods. The findings are based on extensive exploratory research between October 2022 and February 2024, incorporating 75 interviews with pastoralists, conservationists, civil society, national government officials, Samburu and Isiolo county governments, and local NGOs working in pastoral areas. The analysis highlights the tensions between conservation objectives and community livelihoods, and provides a nuanced understanding of the complexities surrounding the carbon frontier in northern Kenya. It highlights the need to involve pastoral communities as active stakeholders in conservation efforts and to ensure that benefits are shared fairly to promote sustainability.

[17.10-17.30]

Anticipation through affective relations in climate-wise farming

Riikka Armanto

The manifold roles of agriculture as causing, hindering, and suffering from climate change has produced the need for wide adoption of climate-wise farming that both mitigates and adapts to climate impacts. Since the knowledge on climate change and other environmental issues does not automatically translate into farming practices, much has been studied why certain environmental measures are or are not implemented in farms. A great deal of these farm-level studies has tended to approach the issue with concentrating on farmers' attributes, like their abilities, identities, and views and beliefs. By the "relational turn" in sustainability research, it has been acknowledged that such an emphasis on human agency and capacities is not sufficient for understanding how farming is performed within socio-ecological processes. Relational approaches have thus allowed for re-figuring agriculture through the assemblages of human and more-than-human worlds. However, what yet needs to be endorsed, is how the relationality of farming embeds with futures thinking and anticipation. Therefore, this study examines how climate-wise farming unfolds when it is regarded as relational and anticipatory. Research material is consisted of two rounds of interviews with seven Finnish farmers conducted in 2017-2019. By thinking farmers' accounts with anticipation theory and process-relational perspective, the vivid entanglements of futures, farmers and more-than-human are explored. The qualitative inquiry of the study engages to stay at the thresholds for thinking with, inviting for becoming-questions of newness to emerge. What the questions bring forth, is to remark how anticipation emerges in various affective relations through farms' self-referential feed-back loops. To follow, it is concluded that the notions of complexity and affectivity crucially arrive to matter how we think of, and should endorse, climate-wise farming.

SESSION 9: ANTICIPATORY VISIONS PART 2

* Rewilding imagination for regenerative futures
* From dystopia to protopia
* Knowing differently: An investigation of human exploration
* Power. Pleasure. Privilege.

[9.00-9.20]

Rewilding imagination for regenerative futures
Dana Klisanin

Rewilding Imagination for Re

generative Futures Imagination is pivotal to our ability to anticipate and navigate the myriad possibilities of future scenarios. The capacity to envision alternative futures is fundamentally shaped by our collective and individual imaginations, which have increasingly come under the influence of technological advancements—from the advent of television to the digital ubiquity of computers and artificial intelligence (AI). This paper argues for the urgent need to 'rewild' the human imagination as a critical response to the technologically mediated constraints on our anticipatory faculties. Rewilding the imagination involves deliberately reconnecting our envisioning processes with the more-than-human world, encouraging a deeper engagement with the complexities of environmental and social ecosystems. By examining the historical trajectory of technological influences on imagination and proposing a framework for rewilding, this analysis offers a novel pathway for creating regenerative and alternative futures. These futures prioritize the well-being of the natural world and human communities, asserting the role of a liberated imagination in driving anticipatory action and thought. Through an interdisciplinary lens that intersects psychology, environmental science, and futures studies, this paper contributes to a broader understanding of how reimagined futures can inform and inspire actions in the present, aligning with the conference themes of environmental crises, societal change, and the transformative potential of storytelling and imagination.

[9.20-9.40]

From dystopia to protopia

Elizabeth Hofvenschioeld

From Dystopia to Protopia: unpacking used futures and towards the anticipation of preferred futures at the European School of Business, Reutlingen University. This paper describes the integration of futures literacy within the curriculum of the BSc. International Business programme at Reutlingen University in South Germany. As in many countries, late teens and young adults in Germany are attempting to navigate the world in the midst of ever-increasing environmental, social, economic, and political crises. The introduction of futures was an attempt to alleviate the anxiety that many young people have about increasing complexity and despondent images of the future and offer an alternative to the "normal way" of learning about and doing business. Futures was integrated into the curriculum in the form of a "futures thinking" elective for 6th and 7th semester students. The course is founded on the tenets of futures literacy and students learn a range of methods from horizon scanning to narrative foresight. The primary focus is on mindfully letting go of used futures, imagining preferred futures, and developing stories to make the desired futures images more tangible. When given a safe space to explore and anticipate, the business students expressed their curiosity about domains outside typical business school themes and decided to imagine and create stories on topics such as the futures of water supply, secondary education, mental health, cultural equality, rising sea levels, and contraception. Lessons learned from the futures course development process and insights from students and teacher alike are discussed. Selected student stories will also be presented.

[9.40-10.00]

Knowing Differently:
An Investigation of Human Exploration on Earth and Beyond in "To Be Taught, If Fortunate" by Becky Chambers

Jade Arbo

This paper delves into the issue of (space) exploration within Becky Chambers' novella, "To Be Taught, If Fortunate", and the ways in which it articulates issues of science, knowledge, and humanity's interference in the environments it populates and occupies. Framed by the theoretical perspectives of Donna Haraway and Ursula K. Le Guin, the analysis focuses on the novella's nuanced portrayal of the desire for knowledge and its consequences to that which is known. Haraway's "string figures" and Le Guin's "carrier bag theory of fiction" serve as critical frameworks, shedding light on the text's emphasis

on the ethical dimensions of human exploration on Earth and beyond, offering a compelling narrative that grapples with the challenges and wonders of venturing into the unknown. Set in a distant future, the novella unfolds through a letter penned by one of the crew members on a spacefaring mission to explore planets for potential habitability. Our analysis focuses on the way in which Chambers' narrative sheds light on ethical dilemmas posed by human interference and observation in uncharted territories, and how it responds to an ongoing relation between Science Fiction and the critique of scientific and territorial exploration. We believe that Becky Chamber's narrative to be a poignant reflection on the consequences of human exploration, delving into themes of adaptability, interconnectedness, and the repercussions of observing life on Earth as well as looking for it elsewhere. This paper aims to read Becky Chambers' novel as "string figures", as a "carrier bag" that encourages us to rethink the way in which we view the intricate relationships between humanity, knowledge and that which is known, in order to be able to know differently and to know better. Thus, the novella fosters contemplation on the delicate balance between exploration and preservation in earthly and extraterrestrial spaces, inspiring us to look for different, kinder ways of knowing.

[10.00-10.30]

Power. Pleasure. Privilege
Pierre Shaw (Collective superFUTURES)

superFUTURES research focuses on the urgent issues of today through speculations of tomorrow, not through prediction but through the design, testing and critiquing of future narratives. Combining Futures Literacy with design criticality and action, a pedagogy has been developed to help prepare today for the uncertainties of tomorrow. Members use futures and foresight methods such as scenario planning, speculative design, storytelling and worldbuilding techniques to speculate on the changes to environments and exploration of new uses of space. With three research foci; futures of genders and identities, futures of relationships and interaction, and futures of pleasure and entertainment we are motivated by guiding principles of feminist pedagogy that foreground the validity of members' lived experiences. Projects include explorations of social futures, environmental crises and societal change, decolonising futures, and the right to participate. Working as a collective to investigate plural futures, the studio pedagogy of co-discovery centres collective knowledge-making and creating spaces for the safe exploration of complex topics. The session brings together the work of four superFUTURES members whose research projects tackle power, pleasure, privilege. Academic year 22-23 saw a collaboration with Charleston House, East Sussex allowing for a host of imaginary futures that questioned mainstream societal projections and

definitions of 'pleasure'. What of the position of privilege in the equation of identity? As a space established for its progressive thinking around how we might live, work, love 'differently', Charleston House is the jumping off point for presentations by Alice Penner and Lucy Nurnberg entitled Fleshy Apparatus and, U-Haul Dyke Rescue respectively. Year 23-24 sees superFUTURES members critique power and pleasure in media and entertainment industries. Here, power and pleasure are intrinsically, institutionally and complexly united to one another in content, aesthetic, process and production, to human behaviour, collective imagination, and individual experience. Through worldbuilding techniques superFUTURES members will tell new stories of mediated futures, two exemplary projects will be selected (upon completion) for inclusion in the programme.

SESSION 10 SUSTAINING THE FUTURE – PART 1

* Garden of Xiangong: toward eco-centric and plural futures of living
* Envisioning just sustainable futures
* Sustainable development goals meet post development
* Using cross impact balances and serious gaming to foster sustainable water resource policies

[9.00-9.20]

Garden of Xiangong: toward eco-centric and plural futures of living
Yue Zou

In light of technological singularity, various crises across ecological, geopolitical, and economic domains call for alternative futures that challenge and question the human world we build both physically and culturally. Drawing from emerging perspectives in Posthumanism and New Materialism, this paper presents an eco-cultural-techno approach to crafting experiential and non-binary eco-centric futures that can foster novel relationships between human and nonhuman, existing and unexisting, artificial and unartificial, thereby enriching our understanding of everyday life and enhancing our conceptual and technical capacities to live in pluralistic ways. To this end, I explore my ongoing practice-based design project, the Garden of Xiangong, as an example of this approach. The Garden is an interactive, immersive, and multi sensory installation featuring both arti cial and natural plants. The artificial plants draw on Chinese mythology and emerging technologies, such as Artificial Intelligence and neuroscience, to blend existing mythological beliefs with everyday life, artificial and unartificial life, and human-made and natural habitats. Positioned as a probing and documentation tool, the Garden seeks to identify, mediate, and generate relationships between experiential futures, personal stories, and new modes of eco-centric living based on pluralistic withdrawal forms into nature. This is not another cyberpunk or utopia story. Instead, I discuss how materialized and immersive imaginaries with sensorial, kinetic, and intelligent responsive features can be leveraged to create interpretive, affective, and performative stories that influence designers' practices toward eco-centric future living. Additionally, I discuss how stories of eco-cultural-techno imaginaries with mixed views can be a diffractive way to bridge the gap between visions of eco-centric futures and everyday life.

Envisioning just sustainable futures in Brussels by 2050
Aurore Fransolet, Amy Phillips & Deborah Lambert

In recent years, the concept of 'just transition' has evolved from a reactive social project, aimed at protecting workers in industries affected by environmental regulations, to a proactive social-ecological project aimed at simultaneously reducing social inequalities and ecological degradation. Such integration of social justice and sustainable transition objectives is particularly relevant for the urban context, where social and ecological issues concentrate and intertwine. Despite the growing prominence of the just transition in political agendas and academic literature, questions of what a just urban sustainability transition could and should look like remain underexplored. A review of the literature indeed reveals that most research on just sustainability transitions in urban contexts is retrospective and evaluative, while future-oriented analyses are lacking. Yet, envisioning alternative pathways to just sustainable futures could help societies prepare for anticipated changes and bring about desired changes, thus enabling them to overcome the economically and socially costly logic of crisis management. The paper presents the approach, outcomes and preliminary policy implications of a foresight exercise aimed at building and analyzing contrasted just sustainability transition scenarios for the Brussels Capital Region at the horizon 2050. Its conceptualization of sustainability transitions considers two interrelated transitions, i.e.: the transition to carbon neutrality in housing and mobility, and the transition to climate resilience through urban greening. The scenarios for a just transition to carbon neutrality and climate resilience in Brussels are developed and analyzed using a participatory scenario approach mainly founded on the tools and methods developed by the French school of "la prospective". Built on systems theory, this approach aims to explore alternative futures of a system based on an analysis of the interactions between the variables that constitute it. To provide a more thorough understanding of the issues related to the spatial context, the prospective approach is complemented by cartographic tools.

Sustainable development goals meet post development
Beatriz Carneiro

The UN Sustainable Development Goals (SDG) are the aspirational outcome of global diplomacy .They are framed by the three pillars of sustainability and have percolated as

discourse/metrics to the sustainable development agenda. However, trade-offs exist within/among the goals. The agreed sustainability transition that gave us hope has not reconciled with socio environmental goals, and solutions are not as simple[2]. Multiple crises and the fear, trauma and anxiety experienced made us aware of our inability to perceive/ respond to emergence. These imply a need for a new sustainability agenda. SDGs extend hegemonies of the present- we argue, therefore, that they represent a harmful hope. Western solutions reiterate the very problems we are trying to circumvent i.e. SDG being co-opted by the capitalist establishment for superficial engagement [2].

To escape this, we need to train our imagination beyond the boundaries of "what is possible" to get unstuck from dominant narratives. Since 'development' (and sustainable development) led to profound impact on the Global South, a series of movements collectively called 'post-development' emerged to question its ability to achieve a desirable state .Buen Vivir, Ubuntu, Degrowth, Ecofeminism, and others rise using collective wisdom in exploring futures and alternative political imaginaries, advocating for a wiser and just world. We understand that dialogue between distinct worldviews are key to fostering a state of planetary wellbeing that allows for the healthy and peaceful coexistence of the various "universes" that inhabit our planet. Thus, this paper aims to explore synergies between the SDG discourse and multiple post-development philosophies, highlighting aspects which contribute to the rise of active hope. Therefore, through dialogue the harmful hope posed by the SDG might transform itself, opening up space for a multitude of possibilities to co-exist.

[10.00-10.30]

**Using cross-impact balances and serious gaming
to foster sustainable water resource policies in complex and uncertain futures**
Janina Moschner, ZIRIUS, University of Stuttgart, Germany

Sustainable resource use is a complex challenge for policy-makers and users alike. In Germany, technical efficiency significantly reduced water use over the past decades, especially in industry. Other sectors, however, will rather need more water due to future developments, i.e. urban and agricultural irrigation in increasing drought periods. Climate and water use developments are both locally distinct, which demands resource sustainability policies to be anchored on the spot and in close consultation with stakeholders. A shift from resource *management* through central authorities to tailored resource *governance* is crucial to address these issues.

Cross-impact balance (CIB) analysis allows to combine potential future context developments (such as climate, economy, politics, etc.) and stakeholders' policy mixes. Thereby, the complexity of interrelations, the uncertainty of potential developments, and the effect of one's own and others' policies on each other can be shown, improving the base for understanding and decision-making in the field of water use. Complementary to the most synergetic mixes identified by CIB, the underlying CIB matrix serves as a base for serious gaming (SG) with stakeholders to pay respect not only to scientifically robust scenarios but also to social relations in the realm of resource use and distribution. Building on a case study on irrigation in South Germany, it is shown how computed (CIB) and social (SG) solutions differ and what we can learn for successful future resource policies within a broad sustainability understanding (social, economic, and ecologic).

∗ Design and other ways of knowing the future
∗ Infusing actionable presents through anticipatory design scenarios
∗ Vacant
∗ Exploring imaginaries of "sustainable" futures through design education

[9.00-9.20]

Design and other ways of knowing the future
Ramia Mazé

The contemporary and emerging field of 'design futures' puts forward a vast object for design – the future, or futures. While the historical 'object' of design has been primarily centred on material and *spatial* form, and more recently emerging fields of interaction, experience and service design reveal *time* as central, the prospect of *futurity* as an object of design raises a host of critical questions for design theory and practice. While design to date has borrowed selectively from the interdiscipline of futures studies, the proposition of this paper is a set of distinct relationships between design and futures studies that can provide a more reciprocal and profound knowledge basis for theory-building at the intersection of design and futures-related disciplines including anticipation, transition and transformation studies.

My analytic proposition builds on a framework by Gidley et al (2009) and Gidley (2017), which elucidates a distinct goal – or objective – for each of several different types of futures approaches. For example, foresight approaches premised on positivism may have the objective of prediction, while critical and cultural approaches may draw upon continental critical theory toward the objective of normative and emancipatory action, while prospective or participatory futures may aim at empowerment of particular constituencies or entities. I examine ways in which such different futures approaches can align with distinctly different approaches (and knowledges) within design. Ultimately, I argue that each different futures (and design) approach, is oriented toward a distinctly different objective, or object. Thus, dispelling a spectre of the future, or futures, or futurity as an object of design in a totalizing or totalitarian sense, I put forward a proposition articulating multiple, more precisely scoped, grounded and practicable 'objects' for design in the area of futures and anticipation studies.

[9.20-9.40]

Infusing actionable presents through anticipatory design scenarios

Andrew Morrison & Corbin Raymond

Embedded within planning, management and strategic decision-making in Foresight Studies (e.g. Schnaars, 1987; Durrance & Godet, 2010; Conway & Voros, 2003), scenarios have been taken up in a range of work with futures, not least in Design education, practice and research (Candy, 2019; Candy & Cornet, 2019). In this paper we adopt a relational design (Blauvelt, 2012; Taylor, 2020) inflected take on shaping futures (Morrison, 2023) by developing a situated, reflexive and recursive approach to the conceptual, contextual and polylogical development of 'anticipatory scenario design' (Morrison & Raymond, 2023). First, we reframe foresight views on scenarios towards culturally communicative, pluralistic orientations to collaboration and governance in re-positioning scenarios in alternative, improvisational, conceivable and actual outcomes and effects in the complex contexts of the 'Anthropocene' (Sarpong & Maclean, 2011; Tyszczuk, 2021). Second, we give accounts of processes of co-designing and implementing two completed scenario-rich 'artifacts' (tools, techniques, platforms, performatives). The first relates to the Arctic extremes of Norway, in virtual-only mode, and the second to on-site work in the southern peninsula of South Africa. These 'design scenarios cases' were developed to draw creative-critical exploratory and politically positioned work between designers, educators, participants, communities around intertwined issues of climate, geo-politics, water and ecological and environmental change. They included recursive looping of canvases, scenes and roles around 'design for sustainability' and water restitution in South Africa and counter-narratives of climate geo political repercussions around the Nordic-Russian maritime interface. Third, we consider the dynamics of these two 'cases' in facilitating perceptions and applications of a diversity of participants in rethinking complex contexts and processes of shared change-making through 'anticipatory scenario design'. We offer a set of analytical and pragmatic reflections as to how Anticipation Studies may draw on such insights with caution on over saturating scenarios as panaceas for ongoing contemporaneous anticipatory negotiations.

[9.40-10.00] VACANT

"

[10.00- 10.30]

Exploring imaginaries of "sustainable" futures through design education
Dan Lockton & Femke Coops,
Eindhoven University of Technology, Netherlands

How do people imagine what a 'sustainable' future might entail in everyday life— and where do those ideas come from? How does the age of planetary crises affect these imaginaries at the level of everyday societal experiences? Can speculative and participatory design methods play multiple roles: by materialising aspects of diverse (and divergent) possible futures in engaging and experiential ways— enabling provocation, confrontation, emotion, and reflection; and also by helping people imagine different futures, beyond dominant imaginaries? Can this approach be valuable as part of the ongoing processes of (just) transitions? IMAGINE: Contested Futures of Sustainability (Welch et al, 2022) is an interdisciplinary research project across humanities, social sciences, design, and arts, bringing together researchers from Norway, the Netherlands and the UK. The project aims to address the societal power of cultural imaginaries of sustainability— specifically in relation to imagined futures—via a programme of research including working with design students in Norway and the Netherlands. Consumption-related practices around eating, dressing, and moving are taken as focal points for exploring these imaginaries. In this paper we will examine specifically our work with industrial design students in the Netherlands, at a technical university where largely techno-optimistic imaginaries of futures dominate, to explore where the ideas come from (in culture, media, and education), how they are socially performative (Oomen et al, 2021) within design, and how creative projects around 'researching the future everyday' (Kuijer, 2019; Kuijer & Robbins, 2022) can challenge, provoke, and build a broader base for imagination and transformative conceptions of sustainability in design. We discuss, through examples, methods and exercises which support this way of working, how elements of speculative fiction, hauntology (in the 'lost futures' sense of Fisher (2014), and other activities centred on imagination can contribute to a practical educational context for anticipation and design (e.g. Celi & Morrison, 2019; Morrison et al, 2023), We suggest how these approaches can be situated in relation to other work on futures and design, including Transition Design (Irwin et al, 2015; Juri et al, 2021; Coops et al, 2024; Lockton & Candy, 2018) and the wider fields of design fiction (e.g. Hebrok & Mainsah, 2022) and speculative design (e.g. Mitrović et al, 2021).

* Foreseeing like a state
* Bridging the symbolic and factual parts of anticipation
* Futures in displacement or Displaced Future
* "Go regulate yourself" Participatory worldbuilding for a secure decentralised future
* Co Creation as anticipation of the collision of work ethos and play ethos
* Spatial metaphors and the moral nature of the future

[11.00-11.20]

Foreseeing like a state
Jess Brand

Whilst *seeing like a state* denotes the simplifying and ordering of society as legible for the functions of statecraft (Scott, 1998), *seeing like a digital state* rests on the collection and processing of data in order to align society with the state's models and predictions (Fourcade and Gordon, 2020: 81). I suggest the notion of *foreseeing like a state* to explore the increasing turn to a pre-emptive mode of state intervention underpinned by deployments of predictive analytics, where the very illegibility of social need to algorithmic systems becomes integral to the functioning and meaning of pre-emptive welfare. In the first part of this paper, I demonstrate this illegibility by showing that predictive analytics in homelessness prevention refute Bradshaw's (1972) taxonomy of social need by systematising normative and comparative need while failing to incorporate expressed and felt need. In the second part, and invoking Nancy Fraser's work (2013), I suggest that a shift in the way in which social needs come to be defined and interpreted has significant implications for what political struggles over such needs can be. Using the illustrative case study of struggles for housing justice, I highlight the importance of sustaining "the radical imagination in pre-emptive times" (Andrejevic et al, 2020), responding to Fourcade and Gordon's call for "seeing like a citizen" (2020). In conclusion I propose that if pre-emption is now a template for institutional action (Mikkel and Garsten, 2021), then imagining more just futures will also require stronger understanding of how predictive analytics work in practice, including what becomes of Lipsky's (1980) street level bureaucrat and what opportunities there are for egalitarian, dialogical processes of need interpretation to take hold (Fraser, 2013).

[11.20-11.40]

Bridging the symbolic and factual parts of anticipation

Bettina Bouchayer, PhD, Cnam-Lirsa, France, bettina.bouchayer@hotmail.com
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When futures are to be assessed according to our deeds (Poli, 2021), how might the effects of a strategic planning decision be updated over time, when stakeholders' strategies and action rules change (Marchais-Roubelat and Roubelat, 2016)? Addressing the time gap between strategy future implementation and future discontinuities to come, this paper aims to explore how future strategic discontinuities may be anticipated and managed during the implementation of strategic planning. Within action processes seen as the development of a complex mix of activities and changes which goes beyond human intentions, strategic planning decisions may be viewed as events which effects unfold over time to produce a strategic implementation of the decision. As events, such decisions can be divided into a factual part and a symbolic one. The factual part generates effects over time but, once the fact – such as a strategic planning decision – is made, it does not change, although new facts may be produced over the different time sequences of action processes. The symbolic part consists of the interpretations over time of the factual part and of its effects. The longitudinal study of two business polar cases highlight that the symbolic part may evolve over time to the point of changing the strategic representation of both past and future effects of the strategic planning decision, as well as the meaning of the strategic planning decision itself. As a result, strategy adaptation to transforming stakeholders' strategies and rules depends on organizational capacity to anticipate strategic futures through strategic planning decision seen as the factual part of an event, then to work on its symbolic part to reinterpret its effects when future uncertainty becomes actual fact. This result contributes to assess the contribution of anticipation to strategy and opens new research avenues on the role of events in organizational strategic anticipation.

[11.40-12.00]

Futures in displacement
Arne Rieber

Futures in Displacement or Displaced Future – The Capacity to Anticipate Promised Infrastructure Infrastructure projects often face delays, suspensions or outright abandonment, particularly in the case of megaprojects that were planned decades ago

but have yet to materialise. These lingering efforts, repeatedly promised and planned, create deep uncertainty among potentially affected populations. Such uncertainty may lead to stagnation in long-term investment and planning for some, while for others it may prompt proactive engagement with anticipated futures, leading to what has been termed economies of anticipation (Cross 2015; Greiner 2016). We seek to investigate this social phenomenon through the lens of the capacity to anticipate. Drawing on Appadurai's (2013) notion of the capacity to aspire, we conceptualise the capacity to anticipate as a navigational ability that aims to gain control over upcoming scenarios and assert agency over one's future. Infrastructure initiatives have the potential to reshape livelihoods, precipitate displacement and marginalisation, but also offer opportunities for those affected to seize. Key facets of the capacity to anticipate include access to information, financial resources and the navigational skills to act towards imagined futures. By examining the capacity to anticipate in the context of dam projects, we highlight its central role as a prerequisite for the emergence of economies of anticipation. However, contrary to the capacity to aspire we understand the capacity to anticipate primarily as a preparatory mechanism for anticipated disruptions within the domain of infrastructure politics, as individuals prepare for the next impending shock. This becomes most visible in the anticipation of displacement.

[12.00-12.20]

"Go regulate yourself"
Participatory worldbuilding for a secure decentralised future
Claude Heath, University of London

A major challenge of sustained interrogation of futures is how to model and anticipate intended and unintended consequences of new technology adoption when it is still in the process of development. Emerging technologies (the CHERI/Morello chip design produced by ARM) challenge us to map future regulatory contexts where business and governmental systems have been reinvented. Over 12 months a leading innovator, Katlas Technologies, engaged with a participatory worldbuilding study to model a blockchain-enabled service design utilising this technology. The aim was to understand the roles and responsibility-formation of actors that might be maintained as patterns of practice in a future ecosystem (Schatzki).

The Katlas mission is to use next-generation Web 3.0 technologies to create a web of interconnectivity, knowledge exchange and mutual support where individuals own and are empowered by their data. This is a vision of an equitable decentralised world where

the technology stack protects and compartmentalises users' data, promising to thwart and 'reduce the blast zone' of attacks.

The worldbuilding approach follows use cases within healthcare, looking at the interplay between different dimensions and contexts, including rewards and incentives for patients, role-to-role (R2R) protocols, smart contracts, global and local supply chains, analytics, security and data compartmentalisation as-a-service, and distributed governance. A two-dimensional worldbuilding canvas, or template, allowed participants to select and manipulate research materials grouped by ideas, practices, objects and addressing seven world-dimensions: Scientific & Technological, Environmental, Philosophical, Political, Economic, Social and Artistic (McDowell, Zaidi). The worldbuilding canvas led to a multidimensional visualisation, a 3D-printed tabletop model, hand-painted to highlight world-elements and responsibilities that comprise future Katlas use cases. This haptic visualisation 'rich picture' (Checkland) carries a pictorial narration, showing how the planning horizons of this ecosystem anticipates illness and offers care before it is even known that it is needed.

[12.20-12.40]

Co Creation as anticipation of the collision of work ethos and play ethos
Lars Geer Hammershøj

The aim of the paper is to develop two diagnostic hypotheses: 1) that conditions of current society is changing due to a historic collision between work ethos and play ethos; and 2) that co-creation understood as a general approach to work and life is a way of anticipating these emerging conditions as co-creation combines the two ethos. The former constitutes the knowledge of the future, and the latter forms the basis of acting in the present for anticipating the future (Poli 2010). More specifically, the paper uses diagnosis of the times to develop the two diagnostic hypotheses (Hammershøj 2019): First, the paper attempts to diagnose a historic displacement of work ethos, which has dominated over play ethos since the shift from gather-hunter society to agricultural society (Gray 2009). Thus, the paper attempts to identify signs of change in attitudes towards work that seems to subvert or question productivity, efficiency, goal-directedness, and status, which characterize work ethos (Weber 1920). The recent phenomena of 'Quiet Quitting' and 'The Great Resignation' and the shift in work motivation from salary to meaningful, purposeful and community generating work is diagnosed among other signs (Klotz 2023).

Second, the diagnostic concept of co-creation is developed as a general approach to work and life capable of coping with the consequences of the collision, such as the

dissolution of the boundaries of work and life and the state of stress due to disorientation, but also of making use of the possibility of combing work ethos and play ethos. Building on research into play and collective forms of art, co-creation is developed as an approach aiming at being creative and innovative together characterized by radical openness and playful ping-pong-interaction (Rill et al 2018; Hammerhøj 2023).

[12.40]

Spatial metaphors and the moral nature of the future
Richard Sandford, Robin L. Zebrowski

Time, for a wide range of cultures, is conceived in terms of space. The language used to describe the world shapes how we think of it (Lakoff and Johnson 1980, 1999; Boroditsky 2000; Thibodeau and Boroditsky 2011; Gentner, Imai & Boroditsky 2002) and the language used, in the Anglosphere and beyond (e.g. Moore, 2014), to represent the future is spatial. We see this in the modernist notion of 'linear time', of futures imagined as stretching out 'in front' of us, in the 'sedimented time' of Koselleck (2018), in signed languages that gesture to the front and back of one's body to convey future and past (Taub 2001), in current explorations of 'long' and 'deep' time, and in the cones and roadmaps of futures studies and foresight, with their imagined volumes and networks in which different possible futures are arranged. The future, for most of us, is spatial by default.

Spatial futures, whether linear notions of 'progress', 'future generations', or 'deep time', are often imagined to have a special moral character. But we suggest that, regardless of the ethical aims of groups propounding them, spatial futures are often colonising in their intent, framing the future as a space into which the interests of the present can be projected. In this paper we describe some alternative, non-spatial, futures, which we characterise as 'immanent futures', from work in dispositional, speculative and utopian futures (e.g. Osberg, 2018; Wilkie et al, 2017; Levitas, 2013; Poli, 2011). We suggest that these offer alternative ethical stances to colonising spatial futures, and, given the deep cognitive foundation of spatial metaphors for time, argue that it falls on futures educators and those concerned with 'futures literacy' to develop capacities to think with immanent futures, in order to cultivate moral stances that tend less towards the colonisation of the future.

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SESSION 18: SUSTAINING THE FUTURE – PART 2

* Government targets as outcomes of anticipation towards sustainable futures: The role of boundary objects as navigation tools in social systems
* How uncertainty can help envisioning sustainable futures to address climate change
* The role of biotechnology in pathways towards a sustainable, nature-compatible and circular bioeconomy
* Scenarios for the Lower Rio Negro, Brazilian Amazonia, 2040
* Envision sustainable futures through stories
* Resilience reimagined

[11.00-11.20]

**Government targets as outcomes of anticipation towards sustainable futures:
The role of boundary objects as navigation tools in social systems**
Jarnae Leslie

The unprecedented conditions of climate change present a myriad of uncertain futures that governments internationally are attempting to navigate. Government targets towards sustainable development have become the outcomes of these anticipated futures (e.g., the UN SDGs). Communicating these targets to drive social change towards desired sustainable futures requires concepts and language that are both specific and tangible, easy to understand by the public, and applicable in various complex systems across industries. The creation and delivery of government targets need the ability to cross boundaries between different communities, and in doing so, often form Boundary Objects.

A Boundary Object is a conceptual or physical item that supports communication and collaboration between people with simultaneous differing and shared understanding of that item. For example, the term 'sustainability' acts as a boundary object between communities, supporting discussions whilst changing form across each user. Applying the lens of Boundary Objects in the setting of government sustainability targets can support richer understanding of social systems to support the emergence of anticipated futures.

This paper features a case study of a city waste management target set by a Sydney local government area: 'Zero Waste by 2030'. Analysis through a desktop review, semi-structured interviews and focus groups identified 'Zero Waste' acting as a Boundary Object between three domains of change: *reporting*, *materiality*, and *sentiment*. Social science and environmental reporting traditions were applied together in a transdisciplinary approach with a participatory action research method to present a holistic perspective on the case study. Findings offer reflections on the strength of communication that Boundary Objects can deliver broadly across a system towards a shared vision of the future while critiquing the extent to which they can drive organisational system change.

[11.20-11.40]

How uncertainty can help envisioning sustainable futures to address climate change

Lorenzo Miani, Francesco De Zuani Cassina & Olivia Levrin

In times of societal changes, and environmental and political crises, thinking about the future is difficult yet important. Research about students' futures perspectives highlights difficulties in creating alternative future scenarios or understanding the complex connections between science and policy, and in seeing themselves as agents to achieve societal changes (Threadgoald, 2012; Cook, 2016; Levrini et al., 2020).

This work is part of the FEDORA project, which introduced themes, methods and approaches of Futures Studies into Science Education (Laherto et al., 2023). The project produced a Future Manifesto for Science Education, expressing the need to explore aspects such as time structures, perceptions of change and pluralisms to envision futures (Bol et al., 2023).

This contribution presents a course for 34 12th-13th grade students where uncertainty - as conceptualised in physics and science education research - is used to make students learn about climate change and develop sustainability competences through the tools of Futures Studies (Kampourakis & McCain, 2019; Bianchi et al., 2022).

For the course, we created a game designed to make students adopt a systematic perspective, considering different variables at the same time and negotiating decisions with different stakeholders. Uncertainties have been used in the game as proxies for reality in scenario-building processes through the use of *wildcards*.

Throughout the course, we collected data using questionnaires, recordings, and individual semi-structured interviews, analysed through thematic analysis.

Results show that students were able to perceive climate phenomena' complexity and grasped the importance of uncertainty as a thinking tool rather than a limitation. The course helped students imagine and represent future scenarios and understand the issues related to science and policy decision-making. Also, the course led students to perceive "how the world works": we called this effect *reality shock*, to which students reacted in different ways, spanning from curiosity to an increased sense of hopelessness.

[11.20-11.40]

The role of biotechnology in pathways towards a sustainable, nature-compatible and circular bioeconomy
Niklas Gudowsky Blatakes

A future-proof bioeconomy will be an important building block for the sustainable transformation of our society. Biotechnology plays a major role in current efforts of increasing bioeconomies' circularity and sustainability, for instance in green chemistry and new materials, novel food production or recycling. Various actors attribute major expectations to (future) biotechnology's capacity in contributing to environmental protection and nature conservation by solving current sustainability problems.

This talk focusses on the analysis of two online surveys and an expert-stakeholder workshop aimed at to shedding light on the ambivalent role of (future) biotechnology in the transition to a sustainable, nature-friendly and circular bioeconomy in Europe. The first survey examined which biotechnological applications or areas of application are already contributing to this goal today and which are expected to in the next 10 years, and identified specific factors that could influence future biotechnological applications. After qualitative analysis and aggregation of the data, results served as a starting point for group discussions held at a workshop facilitating exchange between stakeholders from academia, industry and politics. Participants formulated goals for the near future and developed recommendations to support the implementation of these goals. Recommendations were then substantiated with a wider community in a second online survey.

While these results anticipate some viable pathways for societal change towards a sustainable, nature-compatible and circular bioeconomy, they also unveil conflicting objectives and trade offs as well as ingrained notions of techno-solutionism.

Scenarios for the Lower Rio Negro, Brazilian Amazonia, 2040
Marianna Birmoser Ferreira-Aulu, Gabriela Zuquim & Toni Ahlqvist

The work we intend to share, which can be part of a panel session depicting a case study, or a 7/7 presentation, is the presentation of scenarios co-created by leaders of 12 conservation units from the Council of Leaders of the Mosaic of Conservation Units of the Lower Rio Negro (Amazonas, Brazil). We also contextualize the scenarios in its current socio-political-environmental context, and discuss what role these scenarios will now take place in the Council of Leaders of the Mosaic. The scenarios presented are part of Ferreira-Aulu´s doctoral research entitled "Amazonia 2040: Images of the Future for Empowering Sustainability", which is planned to be completed by the end of 2026. The workshop approach used for the scenario co-creation is a novel approach to participatory action futures research called spatial-explicit scenario workshop currently being developed with this study. The aim of this workshop approach is to enable participants to negotiate desirable futures of specific locations. Spatial-explicit scenario workshop combines elements from Futures Literacy Laboratory - FLL (Riel Miller), a re designed framework based in the Causal Layered Analysis - CLA (Sohail Inayatullah), and practices of Participatory Geographical Information System – PGIS (Robert Chambers). We believe this workshop approach has great potential to expand and develop further once it is experimented in other contexts beyond this study. The approach was piloted in May 2023 at the University of Turku, and was applied in July 2023 in Amazonas, Brazil. Here we present the first scenarios produced using spatial-explicit scenario workshops in the context of the Lower Rio Negro. Fieldwork was organized in cooperation with the Federal University of Amazonas (UFAM) and with the NGO Fundação Vitória Amazônica (FVA).

Envision sustainable futures through stories
Margaretha Häggström & Camilla Brudin

Introduction

The future is uncertain, and we face various interconnected challenges, including economic crises, pandemics, environmental problems, and climate change. Young people often experience a sense of powerlessness when contemplating the future (Özdem et al., 2014). Therefore, it is crucial to provide them with education, equipping them with tools to navigate future uncertainties and articulate their fears (Ojala, 2015). Developing a sense of agency is essential for students (Taub et al., 2020). Recent research underscores the importance of imagining diverse future scenarios, including alternative and positive ones.

Past studies reveal that students struggle to envision alternative futures. Consequently, there is a need to develop a pedagogical method specifically designed to help students cultivate the ability to envision multiple future possibilities. This method should be applicable in various individual subjects and integrated teaching approaches.

This presentation outlines a project aimed at creating an educational model by combining two creative approaches that draw on narrative and visionary thinking: 1. creative writing of future stories about the good life and 2. storyline work. The proposed method seeks to enhance students' capacity to imagine diverse future possibilities, mitigating the sense of powerlessness and fostering hope. Storytelling is employed as a method to animate occurrences and a tool for comprehending our world. Stories foster imagination, a quality gaining heightened attention as humanity grapples with significant challenges like migration and climate change, as asserted by von Wright (2021). The ability to imagine is crucial to the development of futures literacy (Miller, 2015).

Aim and Research Questions

The presentation is based on a pilot study conducted in upper secondary school in January 2024, where a combination of utopian storytelling and storyline was tested. The aim of this pilot study was to develop the pedagogical methodology. The primary research question was: How effective is the combination of the proven creative methods of utopian writing and storyline in increasing future literacy among students? The strengths, challenges, and limitations of teaching were examined.

Theoretical Framework:

The workshop is grounded in theories of envisionment (Langer, 2011), futures literacy (Miller & Sandford, 2018), and utopian methods (Levitas, 2013). Langer describes five stances through which a reader relates to the content of a story, aiding students in being part of a narrative and distancing themselves when necessary. Levitas emphasizes the role of the ability to imagine alternative perspectives within the context of crisis and recognizing transformative opportunities to act. Futures Literacy also highlights the importance of imagination.

Results:

The findings reveal that students easily engaged with the storyline envisionment, breathing life into their characters, and propelling the narrative forward. While students enjoyed the lesson, it is important to note that preparation is crucial, and teachers need to be observant and responsive to students' actions. Additionally, the method may be considered time-consuming.

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Resilience reimagined

Chiara Camponeschi

Even though the early years of the pandemic brought renewed vigour to calls for societal transformation, the lens of crisis continues to be invoked to reinforce a reactive stance to change. Heavily influenced by neoliberal values, institutional action plans such as those for climate resilience and pandemic recovery are acting as "structures of selective attention" (Forester, 1980: 276) that tame and restrain collective imagination for more equitable and meaningful outcomes. This selective attention perpetuates several forms of harm: from the 'slow violence' (O'Lear, 2016; Nixon, 2013) that validates certain needs over those of others, to manifestations of 'ethical loneliness' (Stauffer, 2018), a form of stealth violence that arises when the needs and aspirations of communities are being excluded from formal consideration. These outdated framings not only weaken the democratic process, but reinforce the belief that we have no other viable options, thus amplifying feelings of distress, mistrust, and hopelessness in the population (Camponeschi, 2022b). Crises, however, can be richly generative moments of rupture that reveal contradictions, stimulate solidarity, and inspire new visions. They are moments of "moral punctuation" that can be leveraged to fight back against the "anesthetizing effects (Ahman, 2018:144)" of official inattention in two key ways: by "apprehending threats imaginatively (151)" and making them an "arena of creative action open to even the most historically disenfranchised groups (161)." So how can we reclaim the narratives that shape our collective lives to co-create more responsive solutions to polycrisis? How might we facilitate a shift from a culture that normalizes crisis to one that values care? Drawing from planetary health, community psychology and (climate) mental health, trauma and disability studies, feminist and decolonial perspectives on care and more, Resilience Reimagined leverage the untapped creative potential of crisis to: 1) introduce the concept of 'integrative resilience' (Camponeschi, 2022c) as a means of opening up spaces that enable meaningful alternatives to the (narrative) status quo; 2) document emerging solutions from frontline communities; and 3) center a versatile suite of creative tools—from speculative futures to story-based strategy—to support the design of infrastructures of care, those systems and programs that most support a thriving, healthy, and equitable society at all times—not just during a crisis. This contribution is synergistic with all of Anticipation 2024's themes, and will bridge research and practice by focusing on novel conceptual frameworks as well as tangible movement-building tools to shift us away from a culture of austerity and disconnection to one of care and relationship

SESSION 19: DESIGNING THE FUTURE PART 2

* Pedagogy: Queer / Futures / Architecture
* Towards more than human city futures
* The potential of interbeing in exploring the future of "human-built_environment-nature" relationships
* Building humility into resilient design.
* Experiments and exposure: Critical design in a workshop context
* How we tell stories matters: World Expos as Futures Lab

[11.00-11.20]

Pedagogy: Queer / Futures / Architecture
Gem Barton

"*There is a powerful speculative element in the move from deconstructing existing binaries to visualising how the world might be changed by those binaries' subversion or destruction*" (Lothian, 2018).

Architecture, one of oldest and most conservative of disciplinary traditions, is frequently resistant to creative critique, activism, and subversion of its hegemonies – the very opposite of queer theory and thinking. From the outside, Architecture and Queerness are very unlikely bedfellows, binary opposites even. If architecture is to be just, if architecture is to be for humanity, then architecture needs Queer-ing. Likewise, there is also no better professional home for the application of a speculative futures philosophy than Architecture. An industry which operates at a sloth-like pace, and places much of its value, reputation, success and legacy on the 'built' form, over and above ideas, questions and liberation of norms. Too often the 'labour of change' and the responsibility to educate others falls to the marginalised – those whose queer identity often brings with it a subversive desire, born from repression, to deform and reform mainstream standards. But queerness in identity and action are not exclusive; one can be queer and not do queer, equally one can be non-queer and still embody queer practices – as such, queer pedagogy is not only for queer identifying pedagogues. As Susanne Luhman writes, "Progressive pedagogies are already queer theories. What queer theory does to gender and sexuality discourse; progressive pedagogy is doing to mainstream education. Both critically examine processes of normalisation and reproduction of power relationships, and complicate understandings of presumed binary categories"2 (Luhman, 1998). It is this kind of 'progressive pedagogy' or design pedagogy innovation that the author has spent their 18-year career in Higher Education developing,

culminating in a speculative spatial design studio where queer theory is spatialised and embedded into the pedagogy through design projects set within speculative futures facilitated via complex speculative methodologies such as world-building. Through the sharing of curricula and student works, this paper advocates for a critical re-framing of spatial design pedagogy to consider 'queer futurity' a fundamental principle for Higher Education innovation. Including an overview of the importance of, as well as principles and opportunities for embedding queer theory and futures literacy into spatial design programmes.

[11.20-11:40]

Towards more than human city futures
Ida Nilstad Pettersen, Ferne Edwards & Lucia Alexandra Popartan

Trees and green walls populate visions for urban futures, and frameworks for integrating urban nature are increasingly embraced and promoted in Europe and elsewhere. While promising benefits, such frameworks often still also remain examples of dominant ideas about nature at the service of humans. The risk is that the challenges of current systems are reproduced while more fundamental change is needed to tackle current climate and ecological crises. Alternatives to human-centred thinking can for example be found in relational perspectives. Indigenous understandings and more-than-human theories demonstrate what de-centring humans can entail, for example also inspiring creative explorations of how theoretical work combined with sensory or design and arts-based approaches can contribute to rethinking and transforming relationships between humans and other-than-humans, to in turn form the basis for discussion about the possibilities and politics of urban greening. This paper builds on the recent publication of "Urban Natures: Living the More-than-Human City" edited by Edwards et al. (2023), an interdisciplinary endeavour across anthropology, political ecology, design and other fields. In this book, contributors from around the world explore how urban natures can be made visible, possibilities for human-nature (re)connection, and how urban natures are politicised. Following its launch, a series of international events has been organised to further explore these issues, through visual and performative engagement and efforts to formulate a more than-human cities manifesto. This paper briefly presents this collaborative work and asks what potential such efforts carry for stimulating discussion and challenging currently dominant imaginaries.

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The potential of interbeing in exploring the future of "human-built_environment-nature" relationships
Olivia Bina

Amidst multiple (meta, poly, perma) crises and calls for transformative change, the demand to reassess human-nature relationships has increased. We are witnessing slow demise of centuries of assumptions, belief systems and worldviews that have dominated our understanding of reality in terms of "humans and nature". Few arenas illustrate this struggle as powerfully as that of "built environment-nature". The quest for "renaturing" cities, and the demand for new, positive, visions of urban futures that might usher a new "human-built_environment-nature" relationships (HBEN-R) - are examples of perspectives flourishing through the fractures of dominant modes of city making. The aim is to build on the insights arising from this rapidly expanding corpus (e.g. IPBES) by inquiring into the potential of the notion of interbeing, beyond nature-based solution(ism), or ideas of rewilding or renaturing. An interbeing perspective views existence *as* relational, that we are not separate from the natural world, but are an integral part of it, and that we have a responsibility to care for all animate and inanimate forms. The proposition is that such interpretative lens can contribute to seed more radically positive stories of urban futures, inviting an integrative worldview that might undo the basic ontology of separatedness dominating HBEN-R. Methodologically, I build on the device of a 'thought experiment' and grounded theory. I invite 200 members from the communities of architects, landscape architects, designers and urban planners (globally) to respond to a worldwide digital competition facilitated by the Non-A team: "What if plants were your client?". Participants envision transformed HBEN-R to allow for the experience of interbeing with the "nation of plants", exploring ways of enabling the relational quality that offers infinite reciprocal benefits and much needed healing. The approach is designed to offer space for creative exploration, and weaving together of new, hopeful, caring, emancipatory stories. Grounded theory allow the data thus collected to guide insights on the potential role and limits of the notion of interbeing as driver of more positive city-making.

[12.00-12.20]

Building humility into resilient design
Emilio Castillo Bastidas and Grayce Slobodian

Summary and Method: This session is themed on storytelling, imagination, and the right to anticipate through building capacity for empathetic design processes. Participants are guided through approaches to anticipate future states in an iterative and reflective activity. Methodologies of building resilience by recognizing human factors in change-making are explored to highlight the potential benefits of designing through humility in futures work. This session expands upon discourses of creating resilient futures by responding to relational human factors as spaces for opportunities rather than challenges.

Abstract: This workshop attempts to shift perspectives on how anticipatory work may create greater opportunities for systemic change by incorporating reflexive and adaptive design methods. Using co-design and critical reflection, we aim to create capacity for bold experimentation through imagination. Beginning the session by highlighting the limitations of 'status-quo' approaches to creating resilient futures, we prompt participants to expand and explore their perceptions of humility in futures work. By delving into areas of resistance to change and there-is-no-alternative (TINA) thinking, we use relational connections to inform new opportunities for the creation of stronger and more resilient organizations and systems. This form of anticipation aims to tackle possible wicked and complex futures by accepting uncertainties and creating more inclusive capacities for futures work

[12.20-12.40]

Experiments and exposure: Critical design in a workshop context
James Lowley

This contribution shares the potential of critical design works when deployed as a central feature within experimental workshops intended to challenge stakeholder conceptions. Relating to food consumption practices, the works were produced on a master course in product design that explicitly questions the dominant notion of design as a problem-solving activity, encouraging students instead to develop artefacts as a possibility-seeking, provocational medium. This approach aims to provide contrast to taken-for-granted modes of designing, and forms a space for collaborative imagining, exploration, and interpretation; both for the designer, and for audiences.

Once materialised, the works were displayed in the middle-section of a three-hour workshop beginning and ending with semi-structured discussions, and attended by stakeholders representing various political, commercial, and consumer perspectives as part of 'IMAGINE: Contested Futures of Sustainability'; a project funded by the

Research Council of Norway. The design exhibition was contextualised in a brief introduction, and provided a 20 minute reflective intermission for all participants, which was observed and visually recorded.

Initial outcomes suggest that for designers, food offers myriad relatable, material, everyday situations with which to engage and influence change. For workshop participants, perhaps especially those working in policy and business roles, the works afford aesthetic unfamiliarity by deviating from norms and assumptions. In this way, both as process and product, critical design artefacts bring anticipated futures into question, and serve as a means to support alternative perceptions, values and strategies regarding the matter of food. While primarily discursive in its intentions, critical design may have richer, more readily-observable affects when engaging the body as well as the mind; if it leverages the performative aspects of food-based interactions as well as their cognitive qualities. The workshop is a precursor to, and will feature in, a later exhibition that will further explore these multi-sensory possibilities.

[12.40-13.00]

How we tell stories matters: World Expos as Futures Lab
Toby Shulruff, Arizona State University & Levi Wyman, New York University

World Expos are places where we tell stories about the future. Over the years since the 1851 The Great Exhibition of the Works of Industry of all Nations in London, who tells those stories as well as the stories themselves have shifted. The upcoming 2025 Expo in Osaka, Japan is promised to be a "space where 8 billion people from around the world will not only view exhibits but will co-create our future society." To shape futures in which we all flourish, we need visions crafted by a broad range of voices and account for the creativity, ingenuity, and place-based knowledge of communities around the planet. The World Expo space may be a robust forum for discussing futures and hosting dialogue between a plurality of participants, all with unique visions. Weargue that by implementing the concept of Futures Labs as plural, interactive, relational, cross-temporal, and immersive spaces, World Expos and individual pavilions can be spaces for crafting, experiencing, and deliberating the futures we need (Shulruff & Wyman, 2023). Based on our experience at Expo2020 in Dubai and ongoing research interviews with Expo pavilion designers and directors, we will discuss how aspects of World Expos already meet the criteria of a Futures Lab and how future Expos might enhance the capacity for inclusive participation and storytelling. How we tell stories matters nearly

as much as the stories themselves, and the success of efforts to "co-create our future society" depend on both.

* Becoming archipelago of the foresight and Futures landscape
* Who are the 'future generations'? Searching for the demos from an epistemic perspective.
* Journey to the future
* Travelling companions. Travelling companions: material culture and time travel

[15.30-15.50]

Becoming archipelago of the foresight and Futures landscape
Roumiana Gotseva & Stefanie Ollenburg:

This co-authored piece is a reflective collaborative inquiry on the questions 'What is the landscape of futures and foresight becoming?'; 'How can we deconstruct what is taken for granted to re-imagine our roles as practitioners and theorizers in a minor key (Deleuze & Guattari, 2004; Manning, 2016)?' and 'How does change affect our work considering the vastness we encounter as we dive deeper, stirring up sediments to reveal emerging futures?'

In sharing our stories as futurists, strategists, facilitators, designers, and artists we unravel a common thread in our histories: surrounded by cold walls of separation, both literally and metaphorically, within modernity's dichotomous architectures – nature/culture, mind/body, self/other, east/west, etc. – we feel emboldened to shape-shift and challenge these 'island' belongings as reductionist, assimilative, and oppressive.

Our 'either/or' narratives transformed with time, instigating intense curiosity for futures-as-worldings in-between. With the growing trans-disciplinarity (Nicolescu, 2014) of our field, we relish the proliferation of diverse ways of knowing and anticipatory capacities nurtured in niches globally. Imagining futures as an archipelago, our role becomes the embodied fluidity connecting disparate threads – ideas, affects, people, species, planetary temporalities, and projects – to spawn something new, exciting, even ecstatic (ex-stasis) in the fluvial flux, and then continue moving to keep ourselves from falling into habitual thinking and dogma.

Édouard Glissant's archetype of the Archipelago (Wiedorn, 2018) is an apt metaphor for the emerging paradigm of 'both/and' in life and futures. Working with the fluidity of temporal enfoldings, we veer off the islands' solid grounds of established disciplinary positions to enter paradoxical aquatic milieus. As diver and swimmer, we conceive

generative futures emerging from the turbulences of Earth's rising oceans, echoing artist Sin Wai Kin's question, "How do we envision a future that isn't a way forward, but a way down?" (in Quicho, 2022). We reflect on some instances in our work that open the tentative deep, beyond the worn temporality of linearity-as-progress.

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[15.50-16.10]

Travelling companions.
Travelling companions: material culture and time travel
Ro Spankie

In her book 'Evocative Objects, Things We Think With', Professor Sherry Turkle, a psychologist at MIT, suggests that objects act as emotional and intellectual companions that anchor memory, sustain relationships, and provoke new ideas. 'We find it familiar to consider objects as useful or aesthetic, as necessities or vain indulgences. We are on less familiar ground when we consider objects as companions to our emotional lives or as provocations to thought.'[1] Turkle refers to Claude Levi-Strauss, who described bricolage as a way of combining and re-combining a closed set of materials to come up with new ideas. Material things are goods-to-think-with. They represent many things to us.

This paper will tell the story of a set of eighteenth-century letters written at the start of the industrial revolution, that have travelled through eight generations of one family to the present. These letters have become my travelling companions, my evocative objects, decentring my understanding of the past, revealing how quickly things get forgotten as the prevailing narrative reconstructs the past to fit the present. History is a bricolage.

The letters are a reminder in this era of short-term thinking, that ideas of the future are a shifting baseline. Anticipation also works with bricolage. This paper proposes to frame

a description of the letters through Roman Krznaric's concept of 'the good ancestor'[2], revisiting their narrative through a framework of deep time humility, legacy mindset, and intergenerational justice, imagining who might read them in 250 years and where would they be sitting?

Who are the 'future generations'?
Searching for the demos from an epistemic perspective
Toni Ahlqvist, Mikkel Stein Knudsen & Amos Taylor

In recent years, the notion of rights of future generations have gained traction not only in academic texts, but also in real-world judicial applications. This has led to institutional novelties (such as various institutions for future generations), new legal acts such as Wales' Future Generations Act, and new interpretations of the existing legal order, e.g. an updated view on the Finnish constitution.

This is one of the foremost, and most welcome, global trends in terms of promoting a more future-oriented policy- and lawmaking. However, the boundaries of the demos of 'future generations' are very challenging to define. Epistemic considerations necessary for a functioning concept of rights for future generations include the clarification of the temporal and spatial reach as well as possible inclusion or exclusion of non-human beings.

Our paper argues that when future generations are invoked, including in futures literature, the implied constituency varies greatly, yet the implications of the term are rarely discussed. Even if, as we suggest, the implied constituency has to be understood contextually, both the academic futures field and real-life future-oriented changemakers would benefit from a greater understanding of the epistemic boundaries and their inherent tensions. In short, we conclude that any use of the term 'future generations' might imply more or less open versions, or continuums, of the dimensions: 1. Time, 2. Space, 3. Species, 4. Emergence.

During the session, we will provide our findings based on a survey of futures research experts and a reading of exiting academic literature on the topic. We hope to spark debate as well as encourage increased precision in the application of the term 'future generations'.

[16.30- 16.50]
Post-Colonial Narratives on Futures and Technologies in the Amazon Rainforest
Roanne Van Voorst

What can we learn from indigenous thinking, back into the past and forward into the future? How do we anticipate desired futures, or prepare for undesired futures to come? This paper presents a research project that was undertaken in 2023/2024 by futures-anthropologists in the Brazilian Amazon rainforest. Aware of its own positioning within a Western, or Global Northern, academic context, this project explores how engagement with non- westernized contexts of digital use opens the potential to shake and expand existing horizons of how digital transformation and integration can and should look like.

Narratives surrounding technology and futures often center around the perspectives of the Global North. Even in Southern countries, the ways in which people imagine, interact with, and consume digital technology and data are often heavily influenced by the visual and contextual representations that have long been shaped by North American and European narratives and imaginaries. This research, focusing on understanding perceptions about the future of technology, attempted to shift the focus to innovation in tangible, real-world contexts, forging new narratives and an imaginarium that contemplates digital development through the lens of people situated in the Amazon Rainforest. The paper presented seeks to complement the prevailing narratives that limit the Amazon rainforest to its ecological significance and romanticize its inhabitants, and their past, through stereotypical notions of indigenous life with a perspective that attempts to capture the complexity of the Amazon assemblage.

As a first step in this direction, the researchers of this project co-designed with indigenous communities visual and verbal workshops to define desired and undesired futures of technology. This work aims to broaden our understanding of the impact of current and future technology in diverse cultural and ecological contexts, challenging conventional narratives and paving the way for a more inclusive and nuanced discourse on the role of technology – now and in the future - in the Global South.

SESSION 26: DESIGNING THE FUTURE – PART 3

* Building the right to anticipate
* Putting the pluriverse design paradigm into practice by anticipatory moral imagination
* "Orchestrating" collective imagination: generating situate narratives.
* Typological framework for design futures practice cases: sources, typologies and representative examples

[15.30-15.50]

Building the right to anticipate at the British Heart Foundation
Leila Varley

Theme: _Storytelling, imagination and the right to anticipate_

Which new narratives do we need to open up the anticipatory spirit and action required to reverse the inertia of business as usual, the prevalence of there-is-no-alternative (TINA) thinking, and the parsimony of institutions reluctant to change? How do we bridge the many worlds that stories can conjure with the everyday life of real constraints on the worlds in which we live, work and play?

This paper introduces a case study of building organisation-wide anticipatory capability, enabling the right-to-anticipate for all staff to improve future-readiness and combat business-as-usual.

The British Heart Foundation (BHF) is one of the UK's biggest and best-known charities, with over 60 years funding life-saving research. It is well-known for its research successes, information and support for cardiovascular patients, and its charity retail operation – the largest in the UK. Despite this strength of brand, supporters, impact and financial reserves; like many organisations it was significantly disrupted by the Coronavirus pandemic. Ways of working, retail operations, fundraising events, support for patients and even medical research funding all had to be adapted fast.

The disruption of the pandemic – coupled with new leadership – created a desire to be better prepared for the future. Given the stage in the organisational strategic cycle, a traditional strategic foresight approach such as scenario planning was inappropriate as organisational strategy setting was several years away. The BHF was also not culturally ready. The dominant culture evolved over 6 decades, is built around science, rationality

and certainty. This puts it at odds with today's VUCA context, making cultural change a critical yet sensitive issue.

The resultant decision is to take a different focus, centring on cultural change. This combines a top-down and bottom-up approach ensuring all staff have the agency and right-to anticipate. This will not only expose the entire organisation to anticipation, but also surface voices not always listened to.

This multi-pronged approach focuses on capability building, leadership development and strategy integration. A key resource that created the enabling environment is a recent successful leadership development programme "Leading Our Future" focusing on leadership under uncertainty. Whilst in the early stages of delivery, this paper will share background, approach and early-stage findings and results.

[15.50-16.10]

Putting the pluriverse design paradigm into practice by anticipatory moral imagination
Eveline van Zeeland & Anneke Sools

In this presentation, we first present the results of a literature review on the upcoming pluriverse design paradigm and argue for its relevance for anticipatory research and practices. Consequently, we present an example of an approach for putting the paradigm in practice. The pluriverse design paradigm is the result of an expanding group of scientists challenging the notion of universal knowledge. They claim that our existence is within a realm consisting of numerous interconnected worlds and that these different worlds entail a different set of beliefs, values and knowledge systems. In line with this paradigm, these distinct worlds lack a unifying principle, leading to the constant coexistence of multiple narratives. While the pluriverse design paradigm gains traction in design and environmental issues, it is currently not explicitly connected to future studies. However, it opens a potential roadmap for dealing with some of the moral complexities inherent in anticipating normative futures. To concretize that roadmap, a transition has to be made from the conceptual to the practical. To facilitate this transition, a systematic literature review was conducted among 104 academic papers on the pluriverse design paradigm. This review resulted in seven design principles for a practical code of conduct. But how to relate these principles to the practice of future studies? We found that within the pluriverse design principles, visual and narrative techniques play a pivotal role. Therefore, we present an example of a visual-narrative approach aimed at stimulating Anticipatory Moral Imagination (AMI), i.e. the capacity to

interpret emerging and future moral issues and imagine possibilities in response to these issues. This approach stimulates a dialogical and empathic engagement with different value-laden perspectives, using visual prompts and questions that invite narration. Creating such a dialogical space is not only desirable but also a bitter necessity in the light of today's polarized world.

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[16.10-16.30]

"Orchestrating" collective imagination: generating situated narratives
Corelia Baibarac-Duignan & Julieta Matos Castaño

Abstract The multiple and interrelated global challenges of climate change, biodiversity loss, and increasing social inequalities make it urgent to accelerate urban transformations. Despite this urgency, inspiring action on the ground remains difficult. Arguably, this is due to a lack of community-driven, compelling, and viable visions that engage with what transformations might entail and their implications in everyday life. Moreover, existing doom-and-gloom scenarios of ecological collapse, techno-optimistic

or green utopias, often come across as abstract and prescriptive, failing to instil the motivation needed for transformative action. To address this shortcoming, there is a need for approaches that actively involve communities in their contexts, while fostering collective imagination, facilitating generative dialogue, and sparking ideas. Moreover, the coexistence of multiple life experiences and perspectives on urban challenges points to approaches that can help identify frictions with transformative potential - the 'touch points' that can generate futures otherwise. Harvesting issues as they materialise on the ground, and inspiring curiosity and collective imagination about urban transformations, could cultivate enthusiasm for actively contributing to alternative futures, with intention. This paper provides a conceptual framework for 'orchestrating' sense-making around experienced presents and potential futures. The framework engages with critical touch points in the process of fostering collective imagination, facilitating the transition from abstract challenges to situated, present-day issues and experiences ('harvesting frictions'). It encourages a shift from individual perspectives to collective meanings and guides the move from externally imposed visions to narratives rooted in specific contexts that can inspire action ('planting seeds for actionable futures'). Through situated experimentation, our goal is to create conditions for collective imagination and expression to 'plant seeds' of actionable initiatives in the present towards desired futures.

[16.30-16.50]

Typological framework for design futures practice cases: sources, typologies and representative examples
Tiantian Li
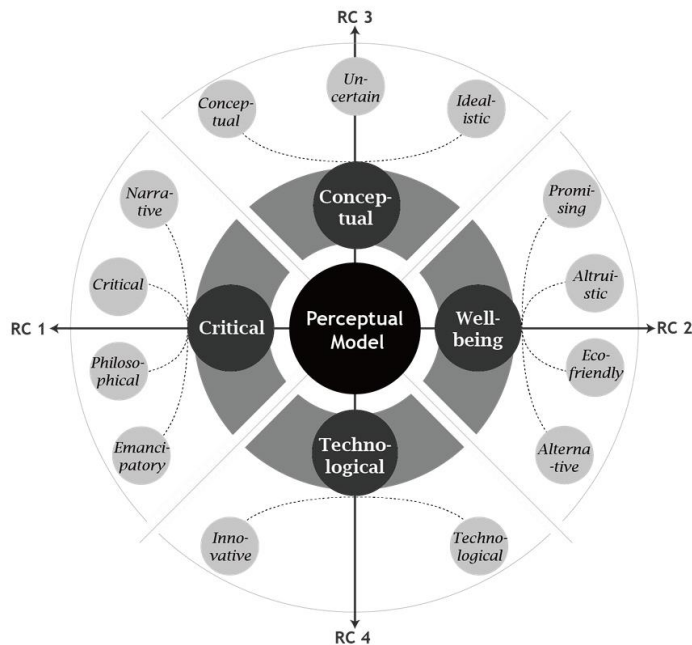
Various media and forms of cases or works have promoted the development and dissemination of "Design Futures", making empirical research focusing on practical cases not only valuable but also urgently needed. While heuristic case libraries enhance creativity and efficiency in traditional design, a resource library for Design Futures has not been established. To fill this gap, our preliminary work includes clarifying the perception of cases by different practitioners through semantic representation to establish a perceptual model. Employing desktop research and expert selection methods, involving leading design studios, independent design companies, technology firms, and research institutions in China, a semantic perceptual space for Design Futures practice cases is constructed, consisting of 25 semantic words. Through the application of semantic differential method, principal component analysis, and factor analysis, the semantic categories within the semantic perception space are refined into four main components. To intuitively represent the disparities and connections between Design Futures practice cases and their types through semantic perception space and semantic dimensions, we have developed a semantic perceptual map of Design Futures practice cases. Combining multivariate statistical techniques and relevant visualization methods, we focus on exploring the differences and connections between semantic words, semantic dimensions, cases, and types. This map is employed in conjunction with relevant visualization methods, enabling a detailed examination of the distinctions and relationships between semantic words, semantic dimensions, case examples, and their corresponding types. Based on these findings, we have developed a perceptual model for semantic representation of design futures practice cases. In the perceptual model, "critical", "well-being", ""conceptual" and "technological" constitute the four major

perceptual dimensions of design futures practice cases, with 13 adjectives forming the scale for the perception evaluation of cases. We further explored the potential of the model in developing a case library. In summary, our research findings provide a framework for representing, retrieving, and evaluating practice cases and support the development of a Design Futures Repository

Design Futures (DF.) originates from the combination of the fields of design and futures studies, and has become the meeting point of many tributaries (e.g., transition design, discursive design, design fiction, etc.) through the use of a wide range of practical and creative approaches from the fields of design and art. However, the complex diversity of subgenres of DF. practice has created significant (even disastrous) inconveniences for research, reflected in the status quo of confusing and proliferating terminology and overlapping concepts. This confusion and inconsistency continues to grow due to the burgeoning and rapid development of the field. Therefore, there is a need to systematically sort out the genres of DF. Practice Cases to establish a typology to promote the development of the discipline. This paper firstly traces back the roots of the two philosophical perspectives and deeply discusses the relationship between design and the future; then, we start from the sources and deeply investigate the three sources of DF. practice cases (critical design, futures studies and design studies); lastly, this paper proposes a genealogy chart of DF. practice cases, which consists of the sources, the typologies and the representative cases. We extracted five representative types for DF. practice cases. Among them, Speculative design and Design Fiction are representative types of critical design; Visionary design, as a redefined category, highlights important features and trends for the futures studies combined with design (experiential and participatory, etc.); Transition design and technological innovation are representative types from design studies. The former represents the long-term project capabilities of design to transform the current situation into an ideal state at a macro level, and the latter describes the practice forms that are reshaped by technology futures and moving towards interdisciplinary (art, science, design, and engineering) at a specific level. The study provides a holistic and systematic knowledge framework, which helps to integrate the multiple genres and overlapping concepts of design future practice cases, and lays the foundation for the development of the discipline.

SESSION 27: LEADING THE FUTURE – PART 1

∗ Making leadership futures
∗ Revising leadership
∗ Care and responsible research and innovation
∗ Imagining public tradeoffs: scenario interventions as exercises in dilemmatic reframing

[15.30-15.50]

Making leadership futures
Jo Townshend

In considering new ways of rethinking education leadership in the 21st century, solely theorising managerial conventions in the marketised knowledge economy (Ball, 2016; 2017) may be limiting progress. In seeking to actualise alternative equitable futures, a practice research approach using visual arts methods with Deleuze provides the turning point from the inertia of business as usual to methodological innovation. The Deleuzian-informed assemblage materialises the space-non-space to situate intersectional education matters (people, places, policies) and produce heterogeneous possibilities. These methodological designs intend to disrupt linguistic, human-centric and hegemonic norms of the pasts and present; furthermore, making methodologies with hyperfeminine fabrics provides a feminist new materialist lens to interrogate gendered codes of management and research matters (lexical matter, paper, Microsoft Word). In addressing today's complexity, the assemblage pools education matters and relational subjects to perform a dialogic performance with participants in a catalytic mode of continuous de- and re-centering. This material methodology as a pillow book, soft drape or digital fabric print is a visio-tacit provocation for anticipation and critical self-reflexivity. Interaction with the material object produces disturbances that may helpfully assist leaders to background managerialism, dominant language and policy enactments and instead, foreground their embodied knowledge of education matters. Handling education matters as soft encounters playfully liberates research from its standardised formats and in doing so, these tools for possibilities offer resistance and make space to anticipate alternative opportunities in an act of what can be understood as, the re-materialisation of leadership. When thinking futures is already in the act, making with visual arts methods and hyperfeminine materials present new and generative possibilities - the tools for future leaders' futures.

[15.50-16.10]

Revising leadership:
Anticipatory Leadership as a Response to Complexity

Guillermina Benavides

Kotter (2001) distinguishes between managers and leaders, highlighting that managers deal with complexity, while leaders are primarily responsible for navigating change. In an era marked by an accelerated pace of change and the emergence of TUNA conditions (turbulence, uncertainty, novelty, and ambiguity) (Ramírez & Wilkinson, 2016), the field of futures studies becomes crucial. This discipline contributes significantly to the understanding of change, which is critical given the dynamic nature of contemporary organisational landscapes. In addition, global challenges call for new perspectives and tools in order to initiate transformative change. Futures literacy, as defined by Miller (2018), involves the conscious utilization of the future, specifically anticipation for emergence. This approach enables individuals to perceive and understand emerging aspects of the present, creating opportunities for change and transformation. The need for leaders who can drive innovative and transformative change is essential as humanity faces global challenges. Effective leadership in today context requires a distinct set of qualities, such as the capacity to anticipate the future, perceive the system holistically, introduce innovative ideas, establish a vision, and maintain an action-oriented approach (Gabel & Walker, 2006; Savage & Sales, 2008). While there is a vast literature on leadership (Hogan & Kaiser, 2005; South West & Bolden, 2004), the connection between leadership and anticipation theory has been limited. This paper aims to conceptualize anticipatory leadership by combining leadership theory with futures studies and strategic foresight. Our approach comprises three stages: (i) identifying relevant leadership constructs in the literature, (ii) characterizing main traits and competencies profiles of these constructs by integrating bibliographic and expert-based approaches, and (iii) defining gaps between these leadership constructs and current contextual conditions. Our findings are expected to reveal a missing component in transformative leadership: future sensing. Therefore, anticipatory leadership could fill the gaps in the current literature that integrates leadership and futures studies.

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[16.10-16.30]

Care and responsible research and innovation
Chris Groves

Responsible research and innovation (RRI) represents a post-normal response to socio-technical uncertainty. It employs anticipatory methods that depend on the inclusion of diverse perspectives to assess the social desirability of emerging technologies, hopefully in order to render the institutions involved in innovation more responsive to social needs and concerns. It has often therefore been associated with a particular (yet perhaps difficult to define) normative perspective, articulated as 'care for the future' (Stilgoe et al., 2013), which signifies both sensitization to the outcome- and value-related uncertainties which circulate around innovation, and an ethical commitment to the inclusion of marginalised voices. However, this ethicized interpretation arguably does not do justice to the political significance of care (Tronto, 1993), which rests on the recognition that interdependence is central both to politics and ethics (Groenhout, 2004). This is particularly important, given critiques of an alleged lack of attention to politics and power within RRI theory and practice and the ways in which institutional reflexivity around innovation may be constrained by power and interest (Oudheusden, 2014).

I argue here for some ways in which the largely underdeveloped links between a politics of care and RRI (Grinbaum & Groves, 2013) might be taken further, focusing on arguments taken from work on the politics of care and interdependence (Engster, 2011; Held, 2006; Sevenhuijsen, 1998). These, I suggest, offer ways of thinking about how future-oriented responsibility is distributed across systems of innovation, and also about how RRI's key goals of institutional reflexivity and responsiveness might be conceptualised in terms of the development of institutional virtues (Fricker, 2010). Rather than standing in for a kind of ethical aspiration, care should instead be considered a way of reframing RRI's stance towards the politics of knowledge.

[16.30-16.50]

Imagining public tradeoffs:
scenario interventions as exercises in dilemmatic reframing

Ann Mische, Wesley Hedden and Pedro Pontes

Actors seeking to intervene in the world's intersecting crises often frame possible futures in terms of tradeoffs between competing public goods. For example, they worry that an increase in economic growth may lead to decreases in social equality or environmental sustainability (or vice versa). This paper asks what difference it makes to perceive futures as dilemmas or tradeoffs, rather than as linear predictions with varying degrees of probability. We consider how dilemmatic thinking works in "public interest" scenario projects, which convene diverse stakeholders in collective deliberations over issues ranging from the future of democracy or transitions from armed conflict to urbanization, energy use, mass migration, food security and adaptation to climate change. Scenario projects attempt to provoke imaginative reframings of problem situations by "refracting" the future into sets of stories about multiple plausible pathways. We draw on a database of 240+ public interest scenario projects worldwide since the 1990s to examine how these narratives depict interactions between eight kinds of public goods: economic growth, democracy, governance, participation, equality/inclusion, technology, environment, and peace/security. We map how the story-sets depict systemic interactions between public goods, including virtuous cycles, vicious cycles, and trade-offs. We show how substantive dilemmas between competing goods are often masked, diverted, or amplified by action scope dilemmas, i.e, tradeoffs between long- and short-term vision, inadequate vs. decisive action, or radicalization vs. compromise. We note how the resulting story-sets contain, privilege, or mediate between diverging viewpoints, as well as how certain stories are omitted or deemed outside the realm of plausibility. We consider how the articulation of dilemmas varies across "genres" of scenario projects, and across and within world regions. Finally, we consider how dilemmatic framings express tensions and ambivalences among differently positioned actors in the global arena in relation to the futures of capitalism and democracy

SESSION 28: FUTURES LITERACY – PART 1

∗ Disturbing Futures: Towards a theory of Futures Literacy
∗ Future skills development for Futures Literacy
∗ Elements of Futures Literacy – Towards the operationalization of FL as a competency
∗ Future-making capabilities and anticipatory action in contexts of divergent social imaginaries: transdisciplinary alumni perspectives

[15.30-15.50]

Disturbing Futures: Towards a theory of Futures Literacy
Ilkka Tuomi

Futures Literacy adopts a view where the capability to explicitly use time and futures forms a foundation for human agency and freedom. In mainstream foresight and futures studies, future is often understood in cognitive and epistemic terms. In contrast, Futures Literacy is based on a more action-oriented view that starts asking how we use the future and how it influences our present action. Futures Literacy, therefore, is not oriented towards "guessing the future" or imagining possible futures. Instead, it is focused on understanding and expanding anticipatory capabilities that shape present action and thinking. This approach leads to fundamental questions about how we perceive meaningful realities as objects of potential action. Human action is always oriented towards anticipated futures, but these futures are created using cultural and historical resources and human imagination. In contrast to forms of foresight that focus on the avoidance of risks under uncertainty and return on investment on planned effort, Futures Literacy aims for the expansion of agency. Whereas planning for the future is based on predicted outcomes, Futures Literacy remains agnostic about consequences. Futures Literacy, therefore, does not rely on a utilitarian justification; it is based on a view that the development of human agency is an end in itself. Futures Literacy introduces anticipation as a foundation for human capabilities, linking theory of action and learning with the capability-based approach on development. In the spirit of the capability-based approach, Futures Literacy has been claimed to be a capability that expands human freedom. According to UNESCO, this is a capability that can be learned. What the capability consists of, and how it can be learned, however, have not been explored in any great depth in the current literature. In this paper, we interpret Futures Literacy in an activity theoretic context and show that the objective in Futures Literacy development processes can be individual and collective 'germ cells' or 'kernel concepts' that can be concretized in practical action. Based on this, we present a simple

competence model for Futures Literacy that clarifies what we learn when we learn to become Futures Literate

Future skills development for Futures Literacy
Tamás Gáspár

Futures literacy and futures consciousness are emerging and determining streams of the futures field. Much research has been executed on the concepts of futures literacy and futures consciousness as well as much contribution is available on measuring these concepts. Less experience we have on the development of futures skills. The present research reports on the lessons of a four-month long experiment on improving futures skills of university students. The results compare different levels and organisation of improvement with incoming and outgoing measures: direct futures skills development in an international group for four months, indirect futures skill development of a Hungarian group for four months, an intensive course on futures literacy for one day as well as a control group without futures exercises. The results provide some further experience how futures literacy and consciousness reflect on futures skills and awareness exercises.

Elements of Futures Literacy – Towards the operationalization of FL as a competency
Antje Bierwisch, Julia Vögele, Juliana Pattermann, Oliver Som & Maria Pammer:
(team of UNESCO chair on futures capability)

Authors's Biography: This submission is made by the team of the UNESCO Chair in Futures Capability in Innovation & Entrepreneurship at MCI The Entrepreneurial School in Innsbruck, Austria, consisting of Dr. Antje Bierwisch (Chairholder), Julia Vögele MA, Juliana Pattermann MA MSc, Dr. Oliver Som, and Dr. Maria Pammer. The team is composed of researchers in the fields of Futures Literacy and Futures Thinking, Innovation Management, Entrepreneurship, Strategic Management as well as Business Education and Business Psychology. The corresponding author, Julia Vögele, aims to deepen her academic profile in futures studies, sustainability, and entrepreneurship through a PhD, driven by the wish to proactively participate in creating a positive and just future.

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Abstract: Ideas about the future have a profound impact on its course. Conscious and mostly unconscious anticipation influences our daily actions (Poli, 2017; Rosen, 2012): how we live, work, innovate, invest, or vote. The aggregation of individual to social anticipation influences how we imagine and shape the future of our global society (Fuller, 2019a). Therefore, it is urgent to become more reflective and proficient in how to 'use the future' wisely, including how we respond to the surprises it constantly holds. This proficiency can be related to "Futures Literacy" (FL) (Miller, 2007; Miller, 2018; Miller, Poli, & Rossel, 2013).

FL empowers individuals to be imaginative, open, proactive, and responsible towards different futures. FL is promoted (e.g. by UNESCO, 2023a) for its role in addressing complex challenges such as climate change and social injustice. Despite its recognition, FL remains loosely defined and lacks theoretical and empirical grounding, as highlighted by our recent bibliometric analyses and systematic literature review (Bierwisch, Pattermann, Som, & Voegele, 2023). Building upon our findings, we now aim to respond to UNESCO's call for further research towards the operationalization and measurement of FL (UNESCO, 2023b).

Our research seeks to elucidate key elements of FL by building upon existing frameworks like the 'futures consciousness scale' (Ahvenharju, Lalot, Minkkinen, & Quiamzade, 2021; Ahvenharju, Minkkinen, & Lalot, 2018; Lalot, Ahvenharju, Minkkinen, & Wensing, 2019) and the conceptualized FL model by Boer et al. (2018), but also concepts from other disciplines e.g. decision-making and entrepreneurship (Fuller, 2019b), to reflect the holistic understanding of FL. These concepts might include proactiveness, opportunity recognition, time perspective, openness, self-efficacy, empathy, inclusivity, and systemic thinking. Based on expert interviews, we aim to select items for exploratory factor analysis to lay the ground for the development of a comprehensive FL scale. This research and the further refinement and validation of the FL scale will provide the empirical framework to enrich the study of anticipation and contribute to the promotion of FL as a crucial anticipatory capacity.

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Future-making capabilities and anticipatory action in contexts of divergent social imaginaries:
transdisciplinary alumni perspectives

Susanne Pratt, Chris Riedy, Jacqueline Melvold, Giedre Kligyte and James Macken

Universities play a pivotal role in equipping individuals with the anticipatory capabilities they need to navigate and respond to our evolving polycrisis. This paper draws on preliminary findings from a study with alumni of an Australian university to critically examine the practical impact of transdisciplinary university education. Specifically, we evaluate its capacity to support anticipatory action and catalyse the transformations needed to generate flourishing global futures.

The research explores the perceptions of transdisciplinary alumni regarding the value of future-making capabilities acquired during their undergraduate and postgraduate education. The study, conducted among undergraduate alumni with 1-6 years of professional experience and post-graduate alumni with varied professional experience, employed a mixed-methods approach involving surveys and focus groups.

The research reveals a disparity between graduates' aspirations, aligned with broader societal goals, and organisational priorities and imaginaries, often centred on profit and efficiency. We argue that these disparities can hinder the application of futuremaking capabilities in real-world settings. Acknowledging the divergent social imaginaries graduates encounter and work with every day, our findings underscore the importance of relational capabilities, particularly the integration of diverse and contextualised perspectives in addressing complex societal and environmental issues.

Our findings illuminate the practical impact of transdisciplinary education and inform the development and impact of future-making capabilities through university programs. At its core, this paper aims to foster critical reflection and action towards creating better futures by drawing attention to clashes and tensions between graduate and institutional imaginaries. We aim to extend scholarship on the relational ways in which anticipatory capabilities and action can flourish or falter when these imaginaries clash.

SESSION 33: ANTICIPATORY VISIONS - PART 5

∗ From anticipation to corroboration
∗ Towards a transformation assessment
∗ The Futures circle
∗ From anticipation to action: Crafting your future with lasting impact and agency

[9.00-9.20]

From anticipation to corroboration
Michael Shamiyeh

I would like to address the session theme of "Ideas of the future informing action in the present" in my submission. Several authors have pointed out that people anticipate the future in their everyday lives (at least to a limited extent) and act accordingly (Miller, 2018; Miller, Poli, & Rossel, 2013). However, we also know from cognitive and organizational research that anticipating the new is resource-intensive in every respect and that people therefore prefer to stick to their habits (Byrne, 2007, 2016; Kahneman, 2011; Van der Heijden, 2011; Wack, 1985). In my contribution, I would like to use two specific institutional examples to show that it takes more than just the ability to have ideas about the future when it comes to adopting or driving forward new values, interests or strategic steps.

In an internal letter to Xerox management dated August 28, 1983, Bob Taylor, head of Xerox Parc, a development division that had anticipated today's personal computer with its ideas about the future of the office, explained that "the transfer of an entirely new and different framework for thinking about, designing and using information systems [...] is immensely more difficult than the transfer of technology" (memo in private collection). As is well known, Xerox never brought the new technology to market. After detailed research, this fact is surprising, simply because Bob Taylor's team had demonstrated all their ideas in detail with the help of a Hollywood film studio. Fully functional prototypes were on show and the supposed (office) future was vividly demonstrated. Similar fates can also be found in other organizations, such as Kodak in the course of the presentation of the first digital camera in 1975!

In my short presentation, I would first like to present the two examples in order to argue in a further step that it takes more than just an idea, let alone appealing prototypes, to

bring about a change in the mental models of all those involved. If one wants to go beyond "dreaming" and bring possible alternative futures into the world, I think one has to reflect on the constitutive properties of communicating ideas in order to move from mere communication (with supposed others) to collaboration and cooperation (with a community of practice). Otherwise, ideas will remain in a hermetic discourse about visions.

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[9.20-9.40]

Towards a Transformation Assessment for anticipating and (co)shaping sociotechnical transformations

Janine Gondolf, Andreas Lösch, Christian Büscher, Ulrich Ufer Institute for Technology Assessment and Systems Analysis (ITAS) at Karlsruhe Institute of Technology

Transformation programs are launched to address global challenges and enable more sustainable futures. However, each transformation requires a reorganization of basic socio technical systems that can affect all social subsystems. These changes have far-reaching consequences and affect actors who may not be directly involved in the transformation effort. Crisis-driven transformation programs, such as those focused on energy or digital transitions, can cause significant disruptions in social coexistence because they are often initiated without consideration of the necessary structural changes. The linkages and interdependencies within transformation activities have

received limited attention, despite their importance. The ability to anticipate them is critical to the future success and effectiveness of transformation. Technology assessment (TA), as a future-oriented, anticipatory research and advisory practice, is involved in transformation projects at all levels (Grunwald 2019). Like other anticipatory approaches (e.g. in STS, Konrad et al. 2016), the expertise of TA lies in its interdisciplinary and integrated range of theories, methods, and processes for critically anticipating, examining, evaluating, communicating, and helping to shape emerging transformations. Thus, TA critically examines the opportunities and potential effects of change in the social subsystems involved, the visionary promises that guide the process, and the connectivity and operability of transformation projects. We will outline a conceptual framework for a new anticipatory approach of TA – the "transformation assessment". It is intended to provide orientation for transformation projects and to make their possibilities and consequences visible, assessable and subject to reflection. It integrates the analysis of transformations from a systems-theoretical perspective (Büscher 2018), an immersive anthropological and cultural studies perspective (Ufer/Hausstein 2021), with the vision assessment methodology of TA (Lösch et al. 2023; Schneider et al. 2023). In this sense, "transformation assessment" could assist both – the anticipation and the co-shaping of requirements and future impacts of transformation projects. (293 words)

Keywords: anticipation of transformation, social change, technology assessment, responding to crises, decision-making processes

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The Futures circle
Wenzel Mehnert

Emerging technologies come with the promise of disrupting the world as we know it while at the same time lacking the proof of their actual impact. Except for a few prototypes in R&D departments or research institutes, they exist primarily in the shared expectations and their potential applications. These expectations are called Technofutures. They communicate the technology towards a diverse group of stakeholders, attribute a certain meaning to the technology and create expectations long before it can be said that these expectations will actually hold.

While Technofutures deal with potential future scenarios, they are created at a time, when there is limited or no existing knowledge regarding the likely trajectory of the respective technology, the potential products that may emerge from its development, or the possible repercussions of utilizing such products. This being said, Technofutures often follow a purely hypothetical and thus also speculative manner while at the same time shape the way we think and discuss emerging technologies.

Facing the situation that Technofutures, despite (or because of) their fictional character have an actual impact on the development of the technology, scholars from Science and Technology Studies STS and TA have turned towards Technofutures as objects of interests. They developed approaches to better understand the content, the spreading and the impact of techno-visionary communication. The shared characteristic of these approaches is that they view Technofutures not as predictions of what may or may not happen, but as reflections of the current state of affairs and compositions of existing knowledge, values, and attitudes.

This presentation offers an insight into the different perspectives on Technofutures and offers a framework for a structured assessment. Building up on Ricoeur's narrative hermeneutics, the framework will take into consideration different forms of figurations that become relevant when understanding how meaning is attributed through Technofutures. With this presentation, I aim to contribute to the methodological reflection on Technofutures (particular Hermeneutic TA) and offer a structured guidance through an otherwise often rather erratic research approach.

From anticipation to action:
Crafting your future with lasting impact and agency
Elissa Farrow

Futurists and foresight practitioners relish the challenge and invigorating aspects of collaboratively envisioning scenarios to shape positive futures. The essence of 'anticipation' involves not just dreaming, but also exploring and cultivating possibilities by seamlessly merging predictive, critical, systemic, and participatory processes. Yet, as workshops conclude, individuals must transition to actively implementing tangible actions.

This presentation delves into the realm of 'Delivery' or the actual realization of the desired future. Traditional methods for implementing organizational strategies have been characteristically top-down, controlled, and adhering to linear and sequential processes. This often resulted in a diminished sense of agency among adaptors, leading to change fatigue, resistance, or resignation. Such responses stemmed from limited end-user involvement, triggering inherent neurological and psychological reactions associated with fear, whether real or perceived.

In the contemporary landscape, numerous disruptions are impacting organizations, particularly technological evolutions challenging the centrality of humans in the work construct. The presenter leverages the case study of adaptation to artificial intelligence (AI) futures in organisational contexts, to exemplify these disruptions.

In contrast to previous technological shifts, the impact of AI is anticipated to be both broader and deeper. To preserve human agency in the adaptation process, the presentation advocates for a more experimental, iterative, embedded, and universally applied action learning approach. The presenter asserts that futurists working in organizational contexts need to actively engage in the adaptation journey, not only to facilitate the creation of actionable futures but also to see them into activation.

* Master in Social Foresight now in its 10th edition: training a generation of Italian professionals
* Place as undercarriage in youth art and activism for positive youth cultures
* Embracing a broader understanding of ageing
* Speculative pedagogies and assessment

[9.00-9.20]

Master in Social Foresight now in its 10th edition: training a generation of Italian professionals
Rocco Scolozzi, Sara Formaggio & Roberto Poli

The Master in Social Foresight, now (2024) in its tenth edition, represents a unique training programme in Italy dedicated to futures studies. The Master's programme aims to train professionals capable of anticipating future trends and developing strategies to address the challenges and opportunities emerging from an ever-changing context.

The Master's programme offers an interdisciplinary training course that combines theory and practice. Lectures are complemented with exercises, workshops and project work. The teaching staff is composed of experts from different fields, including foresight, systems thinking, sociology, economics, technology and politics.

In the ten editions of the Master's course, more than 150 professionals have been trained and now work in different professional fields, including: Consulting, Research and Development, Spatial Planning, Social Innovation, Communication.

The Master in Foresight has helped create a new generation of Italian professionals able to use foresight to face the challenges of the future. The Master has also fostered the creation of a network of alumni who collaborate with each other and with the different realities of the academic and professional world.

Through a series of interviews and questionnaires, a number of points were analysed: how the Master program contributed to foresight skills and knowledge, whether the Master improved job opportunities, whether it led to an increase in personal earnings, whether learnings from the Master helped to disseminate foresight approaches in organisations, whether it made them more competitive, whether the practice of foresight methods and foresight approaches helped to improve social welfare or to promote

sustainable development. Relevant stakeholders were also contacted in order to gather external views, public bodies, companies and non-profit organisations on the impact of the Master's programme on society at large.

The overview of the decade-long experience provides some insights on how to continue to disseminate futures literacy and foresight skills in Italy and other contexts.

[9.20-9.40]

Place as undercarriage in youth art and activism for positive youth cultures
Rachel Wilder

Drawing on an action research project young people aged 12-16 years in and outside of schools in semi-rural towns in southern England, this paper considers the significance of place in how young people voice their concerns about peer-on-peer harm, and how they envisage change to achieve their desires for safety and equalities in youth cultures through art. The research data and analyses suggest that place can be seen as the undercarriage – the chassis, the vital take-off framework, the vulnerable underbelly – that mediates young people's collective processes of art, activism and anticipation.

In schools, the dominant response to child-on-child harm is support and training for teachers (UK Department for Education 2022), but this has produced mixed results (Lloyd and Bradbury 2022), in part because of competing demands on teachers' time. Another reason is that peer-on-peer harm, including gender-based violence, is inextricable from disciplined performances of values and beliefs that are woven through social fabric and institutions (Capaldi et al. 2019), including young people's own peer cultures. This project recognised young people as change makers and sought to give young people opportunities to identify and disrupt unhelpful patterns and rules that they experience as harmful for themselves and their peers, in unfamiliar groupings of peers both in their schools and in a community setting. The research methods used in schools included co-producing secondary data analysis about peer-on-peer harm in their school with young people, supporting young people to identify key issues of concern in their school and to design and deliver arts-based interventions to promote safety and positive youth cultures in their schools. The research methods used in the community settings included co-produced data generation about youth cultures and peer-on-peer harm, and the development of messages and protest art in response to the issues identified.

[9.40-10.00]

Embracing a broader understanding of ageing

Maria Rita Canina & Longyue Huang

The worldwide population is rapidly ageing, emerging as a prominent theme across various facets of society in the twenty-first century. This societal shift has significant implications for the future of design in the world. The current ageing studies predominantly follow the social and bio-medical model, which limits how design understands ageing and leads to age-related stereotypes produced by design practices. The emerging posthumanism in ageing studies turns us to a new epistemology, which proposes an all-world ageing perspective (Andrews & Duff, 2019). This perspective acknowledges ageing as a universal, relational social-material phenomenon enacted by interactions between humans and non-humans, transcending the confines of human ageing (Cozza, 2021; Andrews & Duff, 2019). However, the current research, especially design, lacks consensus on defining ageing from this posthuman perspective. Against this backdrop, this paper aims to articulate the posthumanism perspective of ageing, reshaping discourses and representations by embracing a broader understanding of ageing to guide anticipatory actions towards future social transformation. Through an extensive literature review on posthumanism in current ageing studies, the paper will discuss what it means and implies to research ageing and design from a posthuman perspective and what defines ageing from a posthuman perspective. Furthermore, it questions human-centred design approaches to ageing, contemplating how to approach, study, and translate ageing into design practice within a posthumanism framework. This research is crucial for dismantling prevailing age-related stereotypes and fostering a more inclusive and forward-looking approach to design for ageing in the future. Keywords: Posthumanism, Ageing, Gerontology, Design Paradigm, Design for ageing

[10.00-10.20]

Speculative pedagogies and assessment

Jen Ross

University students' creative and critical engagements with courses and modules can produce new futures for themselves and for others. However, course and assessment design as it is commonly practiced in higher education settings relies heavily on presupposing the learning that will occur. Speculative work with students exposes the fundamental emergence of learning, and brings their anticipatory energy into relationship with institutional possibilities and constraints around assessment.

Speculative design challenges a focus on problems and solutions in favour of emergent relationality, and this can inform course design that moves beyond an instrumental interpretation of the curriculum. However, when it comes to assessment, such instrumentality is at least somewhat 'baked in' – so what happens then? Discussions of speculative or inventive pedagogies often neglect to tackle assessment. This can reflect discomfort with the power relations involved in assessment, and institutional contexts that demand accountability towards what will be learned, demonstrated and evaluated.

This paper explores these matters through a case study of an assessment design that engaged speculatively with the future of education, asking students to tell "stories from the future". The assessment was for a masters-level module in an interdisciplinary institute at a research-intensive UK university, and the module served students from several masters programmes, tackling futures for education, storytelling, and creative industries. The module addressed futures for informal and lifelong learning, exploring how to take responsibility for the future and counter the tendency to treat it as a site of colonisation. Students used speculative methods and heritage thinking to generate a story (the assignment). The assignments they produced generated many surprises, including how students interpreted the concept of the future. This paper will explore the tensions between structure, relationality and emergence that arose, and how the right to anticipate comes into contact with anticipatory regimes of assessment in higher education.

SESSION 35: CLIMATE FUTURES – PART 1

* Anticipating alternative pathways for just green transition
* Energy transition and potential socioecological harms to be anticipated
* (Un)fulfilled promises of the past and (im)possibility of Sweden's Green Industrial Revolution

[9.00-9.20]

Anticipating alternative pathways for just green transition
Aleksi Neuvonen, Teemu Koskimäki, Elina Kilpi-Jakonen, Antti-Jussi Kouvo

The European Green Deal, together with initiatives like the Green New Deal in the US, have catalyzed the development of new cultural imaginaries aimed at reshaping citizens' perceptions of the future. At the same time, they contrast with an emerging transformative narrative that looks 1 beyond growth. The main distinction is between imaginaries based on efficiency and green growth 2 vs. imaginaries based on sufficiency and post-growth. This current context of competing forward-looking cultural imaginaries offers a novel perspective for studying anticipatory attitudes. There is a plentitude of scenario studies depicting alternative pathways on how just green transition could happen, representing competing ideas and beliefs regarding the logic of transition. These imaginaries also shape the ways people anticipate future 3 developments in their behaviour. This paper explores potential ways of identifying such anticipatory attitudes and their changes based on empirical survey data. We study population level survey data from such sources as the European Social Survey and the International Social Survey Program with an intention of 4 discovering proxy indicators for anticipations on sufficiency solutions. The results will be compared to existing expert and citizen survey studies on the environment-growth nexus. Our research aims to create an empirically grounded understanding of these competing imaginaries and provide a basis for analysing anticipations regarding sufficiency futures

[9.20-9.40]

Energy transition and potential socioecological harms to be anticipated
Anna C. Fornero Aguiar, Nina Pougy Monteiro & Fabio R. Scarano

In the context of a climate emergency, where the imperative for action towards energy transition has become unequivocal, there is widespread hope for a global shift from fossil fuel-based to renewable energy-based economies. However, this carbon-neutral

future, materialized through solar panels, wind farms, and electric cars, will demand a substantial increase in metal production. The production and construction of necessary infrastructure and the development of technology for renewable energies entail a considerable spatial- and carbon footprint and pose additional socioecological risks, including an elevated threat to biodiversity. Recent evidence indicates an overlap between mining areas targeting materials for renewable energy production and critical conservation zones, threatening biodiversity and indigenous communities. Additionally, indirect mining impacts can surpass direct impacts, and deforestation beyond mining lease boundaries presents significant and underestimated risks to tropical forests and their local populations. A growing body of reports and forecasts suggests that an unprepared extractive industry may face challenges in meeting the rapidly increasing demand for metals essential to renewable energy production, potentially surpassing current reserves within a few decades. In this paper we review these trends, discuss the potential harm of current premises of energy transition, highlighting the potential harm if sustainable mining practices are not fastly developed in anticipation of to these shifts from fossil fuel to renewables.

[9.40-10.00]

(Un)fulfilled promises of the past and (im)possibility of Sweden's Green Industrial Revolution
Bregje van Veelen, Backius S., Mujezinovic D., Melin Å and Eadson W

Within anticipation studies and associated fields it is well recognized that past, present and future are closely intertwined. But what does it mean for the past to shape the present and future? Although the social sciences have experienced a revived interest in questions of time and temporalities, historical perspectives have been surprisingly underemphasized in this "temporal turn".

Bringing together insights from the sociological field of deindustrialization studies (Strangleman and Rhodes, 2014), history didactics (Backius, 2022) and cultural geography, we seek to contribute to the emerging field of possibility studies (e.g. Escobar, 2023) by analysing how the possible is mediated not only by techno-scientific promise in the here and now, but also through everyday engagement with previous rounds of technologies, industrial change and their (un)fulfilled promise.

We do so through qualitative fieldwork in four Swedish steel towns, focusing on how workers and residents in industrial communities construct and deconstruct the promise of Sweden's so-called Green Industrial Revolution 'on the ground'. As our starting point

we pay particular attention to time, and how time has been mediated, and continuous to be so, between people, places and industry in the past 50 years. We subsequently dig deeper into the various ways in which history, and constructions of it, shapes everyday expectations and negotiations of promise of future change in the specific context of Green Transitions.

[10.00-10.30]

Envisioning nature futures for Europe: Inspiring transformative change at the biodiversity nexus

Anita Lazurko[1], HyeJin Kim[1], Mara de Pater[2], Paula Harrison[1]
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[2]Dutch Research Institute for Transitions

Abstract: Transformative change is required to secure a liveable future for people and nature. Envisioning desirable futures can play an important role in transformations by building shared motivation and commitment for change. The Nature Futures Framework (NFF) is a heuristic tool to facilitate the creation of plural visions of nature positive futures. Meanwhile, there is growing recognition that nexus approaches are required to leverage the underpinning and multifunctional role of biodiversity in social-ecological systems (i.e., the biodiversity nexus). We aimed to bring these two streams of biodiversity governance together (i.e., transformative and nexus governance) by co-creating plural visions of nature futures for Europe with explicit consideration of transformative change and the biodiversity nexus. In doing so, we aimed to reflect upon methodological insights for future applications of the NFF. Nature positive visions for Europe were co-developed during a two-day workshop with 26 stakeholders representing diverse sectors and regions in Europe as part of the Biodiversity Nexus: Transformative Change for Sustainability (BIONEXT) project. The workshop focused on developing three visions underpinned by different value perspectives from the NFF. Subsequent analyses and a stakeholder webinar evaluated the nature of transformation required to achieve more synergistic interactions within the biodiversity nexus. These visions will be used to inspire the development of plural pathways to nature positive futures in May of 2024. Our findings highlight the plurality of desirable futures via three distinct visions and the importance of socio-cultural, economic, and governance drivers in transforming the system to achieve nature positive futures.

SESSION 41: CLIMATE FUTURES- PART 2

* Using data to make the future
* University climate futures.
* Empowering stakeholders in climate change adaptation. Directions from action-based scenarios
* Anticipation, justice and responsibility in the Dutch energy transition
* 'What words mobilise those who need help to want help?' Make banners with us.
* Zero-carbon imaginaries: Fictional resistance to dominant narratives

[11.00-11.20]

Using data to make the future
Stella Pachidi

Existing literature on representational work highlights that actors construct data representations while anticipating how their audiences may respond. In this paper, we argue the need to go beyond anticipation of the audiences and further examine temporality. In particular, we suggest that temporal structures and future making are significant in understanding how data representations become consequential for an organization in an increasingly data-driven world. Drawing on an in-depth case study of a sales department in a telecommunications organization, we analyze how actors use data to make the future and how the construction of data representations becomes routinized in the organization. We find that temporal structuring of the sales work around the flow of the deal, annual targets and weekly monitoring is crucial for how salespeople use data to shape the sales forecast. Drawing on these temporal structures, salespeople as well as their audiences anticipate each other, and this affects how actors use the data to imagine and make the future in sustaining their collective performance. Our study thereby contributes an understanding of temporal structuring and anticipation in representational work and advances a future making perspective on data representations.

[11.20-11.40]

University climate futures
Domenica Landin, Ramia Mazé, Niki Wallace and Dilys Williams

Many organizations struggle to bridge the gap between their public climate commitment and the necessary sustained action across multiple levels, silos and ways of working. In our climate transition case – a UK art and design university – this struggle includes sector-specific factors affecting change at 'regime' level, within enmeshed 'cultural practices', and in terms of 'futurity'. We present our participatory action research project conducted within our university about the university. Specifically, we critically discuss three methods (with associated graphical tools), designed for purposes of anticipating multiple different futures and for fore- and back-casting in relation to a desired future. The methods/tools are testing ways of integrating approaches from different disciplines ('multi-level perspective' from transition studies, 'design futures' techniques of visualization, and participatory methods from futures studies). We reflect upon how these have been designed and iterated through the project, as well as outcomes, in order to illuminate how we have taken special consideration of sector- and organizational factors.

[11.40-12.00]

Empowering stakeholders in climate change adaptation.
Directions from action-based scenarios
Fabrice Roubelat & Anne Marchais Roubelat

Together with stakeholders' engagement in scenario processes (Cairns, Ahmed, Mullett and Wright, 2013, Andersen, Hansen and Selin, 2021), the issues of empowerment of stakeholders, of leadership and of stakeholders' capacities to act (Marchais-Roubelat and Roubelat, 2016) question the incorporation of stakeholders' actions by anticipation methods. The purpose of this paper is to investigate empowerment processes in climate change adaptation from an action-research that was part of 2022 annual report on climate change to the French Prime Minister and Parliament (Marchais-Roubelat and Roubelat, 2022).

In a first section, we examine who is at work in change processes and discuss directions for introducing stakeholders' empowerment in scenario design, which include the exploration of stakeholders' capacities and incapacities to act. In section 2, we introduce the research design of the action research process, which addressed the engagement of business stakeholders in climate change adaptation through four focus groups (crises, value chains, networks, temporalities). The research was based on three phases: exploration of stakeholders' acts and of background transformations, rule-based scenario design from an action-based and a transformational perspective, capability assessment to engage stakeholders in climate change adaptation. Section 3

highlights empowerment processes as they emerge from the designed action-based scenarios, which comprise novel capacities to act empowering disempowered or supporting role stakeholders, be they private or public organizations, NGOs, unions, consumers, entrepreneurs or SMEs. Results stress the interest for a local community-based organization of stakeholders' empowerment, including individuals.

Directions for further research first invite to investigate the transformations of empowerment processes over time in connection with the responsibility and irresponsibility of future stakeholders' acts. Together with works on the inclusion of personas in scenario design, further research also encourages the exploration of the critical role of personal empowerment experiences in the diffusion of adaptation practices.

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[12.00-12.20]

Anticipation, justice and responsibility in the Dutch energy transition
Gijs Jansen, Simone Haarbosch and Sietske Veenman

In the Dutch energy transition, the national government distinguished 30 regions that are obliged to form a collaboration between different actors from government, waterboards and the grid operator, and formulate and monitor strategies for the implementation of the energy transition. This paper explores the concept of anticipation in relationship to justice in the context of governing the Dutch energy transition using the newly developed framework (Mayo et al., forthcoming) framework that distinguishes

two interrelated processes of anticipation: using futures and making futures. Using futures refers to the role of future imaginaries and expectations in informing and justifying present actions, while making futures refers to the impact of present actions on creating and shaping alternative futures. Large and complex societal transitions, like the energy transition, include multiple narratives by different actors in which futures are used and made. Centralizing energy justice in this, where a distinction is made between procedural, recognition and distributive justice, as well as between three different political-philosophical perspectives on distribution (egalitarian, utilitarian and a Rawlsian-perspective).

This paper analyzes 1) the policy documents 2) the policy practice and 3) the perception of the broader public regarding the RES, and how the notions of (anticipated) responsibilities shift within these three aspects and how these influence perceptions of (energy) justice. Furthermore, the paper explains these shifts with the policy arrangement approach. In order to do so, a mixed-method is applied: a survey is done for the broader public, a document analysis is done for the policy documents, and interviews are held for the policy practice. The dataset is a collection of several smaller projects between May 2023 and January 2024 (in light of the NWO-funded JustPREPARE project) by the three authors.

The preliminary results show the interrelation between anticipation and justice for the governance of the Dutch energy transition. The results show several shifts in perspectives, for example: a shift from a dominant egalitarian perspective concerning the recognition justice in the policy documents, to a utilitarian perspective in the policy practice, while the broader perspective favors a Rawlsian approach. With help of the policy arrangement approach, insight is provided in how and why these shifts occur and under what conditions.

[12.20-12.40]

Energy transitions. Situating confidence within the challenges
Sietske Veenman & Seth Oliver

The energy transition is a systemic change that is currently in full swing. Based on efficient emission reductions, governments initiate policies with far-reaching consequences. In terms of well-being, these policies have negative socio-economic consequences for many, increasing inequality, resulting in energy poverty. Structural inequalities mean citizens are not included in the decision-making processes. This increases the pressure on (informal) support networks. These networks need to

overcome existing, and newly created problems and to be given an appropriate role in the development of new appropriate energy solutions. Through artistic interventions and relational activism we look at ways through this.

Exploring the complex relationships between the language used by governments and their intentions and the way marginalised unintentionally participate in constructing their own subjugated identities. Dominant narratives of the perceived most ethical consumer choices, perpetuate anxieties for those who feel they have no choice due to their existing financial difficulties, so cannot comply. We ask people who are still heavily reliant on 'old' so called outmoded energy systems how they feel their lives can assimilate with the more recent anticipated expectations on their consumer choices. Gathering the responses to our questions we make banners with their words... as motivators for constructive change.

Holding the publics gaze on the challenges we face through kind and empathetic exchanges between people in creative workshops, the creativity connects us to social, moral and ecological responsibilities that transcend self interest whilst allowing for time to collaborate on potential solutions.

[12.40-13.00]

Zero-carbon imaginaries:
Fictional resistance to dominant narratives
Chris Riedy

After decades of debate, there is consensus that humanity must reduce global greenhouse gas emissions to zero and beyond. This will require a deliberate transformation of key social-ecological systems, particularly energy, transport, and agricultural systems. To realise such a transformation, we must first be able to collectively imagine it. We need to co-create social imaginaries – collective meaning systems for understanding the present and envisioning the future – that can guide the necessary transformation to a zero-carbon future. These zero-carbon imaginaries are a contested cultural space, where multiple meanings and narratives about the future circulate, coincide, and conflict.

This contribution first surveys dominant institutional imaginaries of zero-carbon futures across geographic scales. Starting with international documents such as the Intergovernmental Panel on Climate Change reports and the International Energy Agency's Net Zero Carbon Plan, it gradually narrows the scale of analysis, first to

Australia, then to the Australian state of New South Wales, and then to the City of Sydney. The analysis reveals that global institutional imaginaries largely decentre human agency in favour of abstract policy and technological solutions; they fail to present an inspiring vision of the destination – a future zero-carbon world. The general sense is that the fossil fuel energy system can be unplugged and replaced with a renewable energy system while dominant economic narratives remain intact.

Fictional imaginaries resist this view, imagining futures in which the response to climate change is accompanied by meaningful change in social and economic systems. Although climate fiction is dominated by dystopian imaginaries, hopeful imaginaries are emerging in genres such as solarpunk, hopepunk and ecopunk. While less realistic than institutional imaginaries, fictional imaginaries offer a source of hope and inspiration for finding pathways towards alternative zero carbon futures.

* Foresight and interconnected transformations
* Trend forecasting
* A new technology foresight tool in strategic decision making
* Future-making responsibly: An examination of ethics in foresight methods
* Insights from applying strategic foresight

[11.00-11.20]

Foresight and interconnected transformations
Henning Riecke & Sebastian Bollien

Many developed countries, including Germany, face parallel paradigmatic transformations that might move into political competition with each other. That is dangerous for any transformative agenda - and unnecessary. Foresight methods might be instrumental to sooth such conflicts.

Higher sustainability, climate protection, security in an aggressive geopolitical environment, economic resilience, protecting of democratic mechanisms, and embarking on several technological revolutions at the same time seems a challenging mix: For many governments, balancing these expensive, disruptive undertakings is a difficult task of compromising. Quarrels within societies about the cost sharing, the priorities, or the long-term effects of transformations can endanger them in the same time. Tasks like the fight for sustainability might be derailed in a security crisis or in times of a dire budget situation.

Interconnected transformations and their mutual impact will make the future even foggier. The complexity of the international environment and the speed of unintended effects to hit home are increasing due to the parallel nature of the causally entangled transformations. This is where strategic foresight comes into play as a political method for jointly addressing controversial issues. While the results of foresight must be politically relevant, discussions about scenarios and visions are freer and not politically charged. Foresight discussions allow the fair participation of all political actors and invite them to take a normative path towards a jointly desired future. In this respect, it makes sense to look at transformations through the lens of foresight.

Yet, how should practitioners use foresight and which of its functions should they particularly underline, to resolve the competition between transformations?

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It makes sense to analyze the functions of foresight for this important political discourse. First, foresight can create an understanding that a fuzzy situation of interconnected transformations is the new normal; that finding a way to cope with parallel transformations is the rationale of every integrated policy. The causal interactions between transformations can, secondly, be illustrated in the visions of the future that the foresight methods open, as can ideas about necessary adaptation. Thirdly, the foresight projects can lead to shared narratives about the future that make the coexistence of successful transformations conceivable and can facilitate communication. These methods, lastly, might produce suggestions from the qualitative area of foresight for quantitative processing in the form of trend analyses and forecasts that are geared towards the mechanisms of transformation.

[11.20-11.40]

Trend forecasting
Meryem Laghmari

In our contemporary world, one complex and uncertain phenomenon stands out prominently: fashion. Its versatility and unpredictability make it a significant force shaping societal trends. But its rapid evolution, driven by the fast fashion industry's constant quest for novelty, makes it increasingly challenging to forecast its future trajectory. To mitigate this uncertainty, brands must proactively anticipate upcoming trends. To do so, they often rely on foresight services provided by trend forecasting agencies, particularly prominent in fashion capitals like Paris. This ethnographic study, conducted at a French trend forecasting agency in Paris from 2018 to 2022, aims to explain how future trends are anticipated by immersing the anthropologist in the role of a trend forecaster. This company employs foresight analysts and stylists that work together to transmit socio-cultural trends two to five years ahead through "trend books" and consulting services. Subsequently, these insights are conveyed to client companies from diverse sectors including fashion, beauty, and design to help them know emerging trends likely to meet the needs and desires of consumers. The purpose of this paper is to demonstrate that effective navigation of uncertainty in the future requires experts to embrace and engage with the very uncertainty they seek to mitigate. By establishing specialized temporal and spatial frameworks conducive to the emergence of intuitions, trend forecasters are empowered to articulate their visionary perspectives. Using experimental methodologies grounded in imaginative techniques, trend forecasters synthesize their personal intuitions through a post-rationalization process, which allows them to identify social and cultural signs that will represent emerging trend scenarios.

This ethnographic study underscores the pivotal role of uncertainty in shaping anticipatory practices. It enables professionals to explore its potential and guide their clients toward more certain futures.

A new technology foresight tool in strategic decision making
Ekin Karabult & Gül Beyza KocamiŞ

For a company operating in the dynamic aerospace sector, navigating the complexity of envisioning future aerospace platforms and facilitating strategic decision making is not only challenging but also critical. This comprehensive study serves as a proactive compass in mapping the technologies of the future and provides strategic information for the company's technology development to strengthen its position in the ever-evolving future of aerospace technologies and endeavors. In our research, we developed a Technology Foresight Canvas based on the methods of futures thinking and technology foresight tools especially Futures Wheel developed by Glenn and Deftech Concept Ideation. This canvas served as a catalyst for an interactive workshop aimed at recognizing and cultivating aerospace platforms that can mitigate potential threats and secure a leading place in the industry in the upcoming years. The fundamental question guiding this research is how an aerospace company can design and develop an aerospace platform taking into account trends and megatrends anticipated for the year 2050, taking a long-term perspective. Technology Foresight Canvas was applied with the participation of 58 people from different departments of a company, from production to strategic planning. With the help of this canvas, it was possible to develop forward-looking ideas that build a bridge between the present and the future of aerospace platforms. Following the workshop, we conducted a feedback survey to assess the impact on participants and gain insights to improve our forthcoming sessions. This paper provides a detailed overview of the design of Technology Foresight Canvas, the methodology used during the workshop and the key findings related to technology trends and megatrends. It also presents the results of the feedback received following the workshop. Our study contributes to clarifying how foresight activities influence current decision-making and provides a strategic roadmap for companies in the ever-evolving aerospace industry.

Future-making responsibly: An examination of ethics in foresight methods
Alexandra Csábi

The field of foresight, characterized by its pursuit to anticipate and shape forthcoming events grounded in contemporary knowledge, inherently involves ethical considerations. The primary goal is to understand or create future trajectories to guide present-day actions and ultimately address the question, "How should we act today?". While discussions in foresight literature extensively explore methodological choices with ethical implications, such as the contrast between expert-based and participatory approaches, or the distinction between exploratory and normative orientations and others, limited attention has been given to the presence of ethics within the methodologies themselves.

This session presents an initial analysis on whether widely adopted foresight methodologies explicitly include the analysis of values and norms in the creation of foresight content and if yes, how it is carried out. Furthermore, it explores whether there is an acknowledgment of the dynamic nature of these moral foundations over time. The outcome of the analysis suggests a prevalent disregard for the ethical dimensions within classical foresight methods.

The presentation argues that understanding the ethical implications of any subject studied in a foresight practice is essential for responsible future-oriented decision-making. By investigating how these methods incorporate or overlook ethical considerations, the analysis aims to prompt a re-evaluation of current practices in the field of foresight. It emphasizes the necessity for a more deliberate integration of ethical analyses in foresight methodologies, asserting that neglecting such considerations undermines the inherent ethical responsibility in shaping the future.

[12.20-12.40]

Insights from applying strategic foresight
Ignat Kulkov

In an era defined by rapid changes and uncertainty, the capacity for strategic foresight has become a cornerstone for organizational resilience and adaptability. This study leverages an existing maturity model for strategic foresight, focusing on the application on of six defined capabilities that are crucial for navigating future uncertain es: strategic awareness, early warning, scenario-based strategizing, investing in the future, developing new businesses, and leveraging the ecosystem. Through qualitative research, including structured interviews with a broad spectrum of firms worldwide, we delve into how organizations apply these foresight capabilities to enhance strategic

planning and decision-making processes. The research employs a qualitative methodology to explore the practical application of the foresight maturity model across diverse industries, facilitating a deeper understanding of the processes organizations use to cultivate and integrate foresight into their operations. This approach enables an in-depth examination of the adoption and impact of foresight practices on organizational strategy and performance, offering insights into the ways firms can proactively shape their futures in alignment with evolving market demands and opportunities. Findings from this study underscore the dynamic nature of strategic foresight, highlighting it as a process of continuous learning, adaptation, and strategic innovation. Organizations that adeptly apply foresight capabilities are better positioned to anticipate market shifts, identify emerging opportunities, and mitigate potential risks, thereby securing a competitive advantage. Successful application of foresight practices fosters a culture of innovation, encourages collaborative efforts across functions, and promotes engagement with external ecosystems to broaden perspectives and access critical resources. Contributing to the field of an cipa on studies, this research provides empirical evidence on the effective application of strategic foresight within organizations. It demonstrates the significance of foresight in enabling firms not only to navigate the complexities of the present but also to actively participate in shaping just and equitable futures. This study highlights the pivotal role of strategic foresight in driving sustainable, responsible business practices, emphasizing its importance in building resilient organizations capable of thriving amid uncertain es.

[12.40-13.00]

Exploring futuring approaches in exhibition design for temporary event

Rossella Locatelli

Abstract Among the multiple interpretations and future-oriented perspectives of the exhibition design discipline, the study focuses on its definition as the act of situating the temporary and on systems innovations to assess and reduce its environmental impact. The analysis explores the main system transitions, whether and how future-oriented strategies and tactics - related to futuring theories as re-directive practices - can modify or integrate structured approaches and methods linked to Life Cycle Design or System Design for Sustainability to enhance sustainability in exhibition design for temporary events. In the actual context, events are increasingly part of a multichannel communication system, integrating the concept of visual culture. The exhibition design project manifests within this system at different scales and speeds. Two investigative paradigms are presented: mega-events, such as the Olympics, known for their extraordinary status and periodicity, and fashion shows, examined as the pinnacle of experience intensity in ephemeral installations with extremely fast timelines. The study first proposes a systemic vision of exhibition design for temporary events, emphasizing a broader future-oriented approach that considers not only individual items but also the overall products, services, and the decision-makers system. Then, a study methodology is presented to investigate system transformations and transitions within the mentioned paradigms, focusing on how exhibit design fits into the overlay of mega-events and staging for fashion. From particular to general, the main objective is to verify whether and how methodologies developed in futuring approaches can be applied in temporary exhibit systems and contribute to developing guidelines and criteria for decision-makers to promote sustainable solutions for temporary exhibition equipment systems.

Keywords: exhibition design, design futuring, design for sustainability, mega-events, fashion show.

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SESSION 43: TECHNO-FUTURES

- Futures in practice, how the Department for Transport used Futures to inform the AI strategy.
- Promising the future of nuclear fusion: Performativity of a materialised vision
- Problematising interventive uses of Futures in STI:
- AI narrative imaginary: Moving from dystopian to solarpunk narratives
- Preparing emergency law for future crises and disasters
- Encouraging alternative futures for the satellite industry

[11.00-11.20]

Futures in practice, how the Department for Transport used Futures to inform the AI strategy
Samuel Warner, Samuele De Guido and Jessica Bode

Artificial intelligence (AI) has the potential to deliver a safer, more effective, and environmentally friendly transport system. However, the complexity of the UK transport system makes effective AI adoption a challenging task. Envisioning the future of AI in the transport sector helps mitigate potential risks and deliver on its promise.

Prior to the release of ChatGPT, the Department for Transport (DfT) identified a need to consider how AI could support the transport system. In ongoing collaboration with Mott MacDonald, a Foresight approach to this challenge was developed and an AI roadmap developed then four focused roundtable sessions were convened over three months in mid-2023. Each roundtable gathered diverse experts from government, industry, and academia. The sessions were framed around open questions to understand the benefits and challenges and to identify clear actions for AI integration in the transport sector.

The sessions tackled wide-ranging impacts of AI on the transport system, from efficiency to accessibility, public-private partnerships, sustainability and safety. During these sessions a vision for responsible AI integration in a resilient transport system emerged with clear actions needed to deliver this vision. In the final roundtable, these actions were scrutinised with senior stakeholders and the Minister for the Future of Transport. Each action was then refined by project teams within DfT that would bear responsibility for that action. This ensured each action was proportionate and best reflected the desired outcome from roundtables.

Collectively this was written up to make the Transport Artificial Intelligence Strategy. The careful foresight approach ensured the actions, outlined in the Strategy, will deliver a positive future for an AI-integrated transport system.

At Anticipation 2024 we will present the Transport AI Strategy highlighting how the DfT Futures and Emerging Technologies team have used participatory futures to inform governmental strategy and leadership in the present.

[11.20-11.40]

Promising the future of nuclear fusion: Performativity of a materialised vision
Masafumi Nishi

Nuclear fusion has (re)gained huge attention in recent years due to the urgent necessity to tackle climate change and the energy crisis. While its potential as "ultimate energy" with virtually limitless resources and low-carbon emissions attracts both private and public investment in research and development of the technology, the realisation of a commercial fusion reactor in the upcoming decades remains uncertain in terms of technical feasibility. By focusing on ITER, the largest international nuclear fusion experimental reactor project, this paper explores the formulation of promissory narratives for the future-oriented technological development. It employs perspectives and concepts in science and technology studies (STS) and assesses how sociotechnical imaginaries (Jasanoff & Kim, 2009) are embedded in technology development and how promissory discourse enacts as justification against uncertainties. The empirical study with expert interviews, critical document analysis, and online and onsite ethnographies shows that visions are constructed and materialised through experts' proactive practices in the form of a roadmap that plays performatively and reflectively (Michael, 2000) as reference points. Concretely, the long-term vision of nuclear fusion is translated into analogies, graphics, and achievable milestones, as well as corresponds to other future visions (e.g., the future of Europe or limitless growth), enabling the space for the stakeholders to mobilise, explore, and push the limit for the technological challenge (McCray, 2012). In addition, the study unveils how languages, representations, and materiality collectively and complementarily support the legitimacy of future technologies. This paper contributes to the research on the critical assessment of techno-futuristic visions and reflects on their impact on future-making practices for sustainability and energy transition.

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[11.40-12.00]

Problematising interventive uses of Futures in STI
Sergio Urueña

Anticipation is increasingly seen as a valuable dimension for promoting responsible science, technology, and innovation (STI) practices. Normative frameworks such as Anticipatory Governance, Anticipatory Ethics, Responsible (Research and) Innovation, and Technology Assessment recognize engagements with futures as valuable means to promote critique and/or reflection of STI. However, the degrees of reflection and critique that anticipation can or should enable have remained under-researched within their associated academic circles. By problematising the critical-reflective affordances that anticipation offers for problematizing STIs in the present, this paper aims to advance the theoretical development of anticipation as a dimension for promoting more responsible STIs. I will suggest that the potential critical-reflective radicality of anticipation is modulated by the critical-reflective spaces of problematisation and/or scrutiny afforded by the normative frameworks in which anticipation is interpreted and for which it is enacted. Against this background, I will provide some tentative variables for assessing these critical-reflective affordances and specifies the roles that different modes of anticipation might play in opening up distinct, interconnected aspects of STI to problematisation and/or scrutiny. In doing so, the paper offers insights into the roles that different modes of engagement with futures play in affording and enabling different degrees of anticipatory reflection and/or, more radically, critique.

[12.00-12.20]

Exploring AI narrative imaginary: Moving from dystopian to solarpunk narratives
Anca Serbanescu & Kees Schuller

This paper explores how narrative audiovisual representations of the domain of Artificial Intelligence (AI) exert profound influence on the collective societal imaginary, thereby shaping perceptions and comprehension of AI (Hudson et al., 2021; Nader et al., 2022). The primary focus of this contribution is to present a nuanced analysis of dystopian narratives portrayed in movies and TV series, emphasizing the critical aspects that foster the prevailing perception of AI as a potential threat to humanity (Bostrom, 2014; Tegmark, 2017).

The paper seeks to underscore the impact of these dystopian depictions on narrowing the spectrum of narrative perspectives and constraining the evolving vision of futuristic technologies. This constriction is encapsulated by the concept of *"narrative fundamentalism"* (Koenitz, 2023, p.26) as a limited and dominant narrative perspective. The overarching aim is to demonstrate how this prevalent approach not only dominates the discourse but also marginalizes alternative viewpoints, thereby impinging on the collective imagination.

This paper advocates for a paradigm shift towards an inclusive narrative realm that embraces diverse forms, structures, and kaleidoscopic perspectives. Within this diverse landscape, we introduce the solarpunk genre (Finn, 2014; Reina-Rozo, 2021) as a noteworthy narrative ecosystem characterized by utopian visions. In these envisioned futures, AI harmoniously coexists with humanity and other living entities (Chambers, 2021; Nacino, 2021; Mok, 2021), challenging the prevailing dystopian narrative and offering a refreshing perspective that fosters a more optimistic and multifaceted understanding of the symbiotic relationship between AI and society.

[12.20-12.40]

Legal Preparedness for unforeseen crises
Jorrit Westerhof

The COVID-19 pandemic has made painfully clear that numerous states are legislatively unprepared for crises, especially when the crisis is unforeseen in nature or effect. In the Netherlands and Belgium, for instance, no legislation existed to provide a legal basis for the COVID-19 measures that were deemed necessary. In the Netherlands, authorities were only allowed to take measures aimed at infected individuals, such as quarantine measures. However, due to the rapid spread of COVID-19, the World Health Organisation and most states deemed it necessary to implement measures that also affect the healthy part of society, such as visitor restrictions for homes.

Due to the lack of appropriate legislation, Dutch and Belgian authorities had to resort to legally shaky solutions that were heavily contested among legal scholars and interest groups due to concerns about human rights protection and lack of democratic and administrative checks and balances. This made the measures not only susceptible to successful contestation in court, but may also have affected the societal acceptance of and compliance to the measures.

The unsuitability of existing emergency law for offering protection against unforeseen crises is generally caused by underinclusiveness: legislation is too strictly formulated and aimed at a defined set of crises and measures, due to which the law does not include the possibility to implement measures during unforeseen crises or implement measures of which the necessity was unforeseen. This design of emergency law conflicts with the uncertain nature of (the effects of) crises due societal change, unprecedented natural phenomena and new technologies. Moreover, states have a legal obligation to offer protection to the life and health of individuals, also during unforeseen crises. The paradoxical situation of being obligated to prepare for unforeseeable situations is referred to as the uncertainty paradox.

In my paper, I discuss possibilities to address underinclusiveness and uncertainty in emergency law in order to anticipate for future crises. Thereby, I discuss relevant legislative theory and examples from different emergency law systems.

[12.40-13.00]

Encouraging alternative futures for the satellite industry via the UN Summit of the Future
Jessica Bland

Intergovernmental efforts to govern space technologies have taken on a new urgency. The 'new space economy' includes companies like Elon Musk's Starlink swarm of communication satellites, providing what have usually been public sector services. The implicit futures in today's satellite technology increasingly reflect only the CEO's interests. 2024 offers a moment in global governance when these implicit futures can be challenged, intervening with alternatives that are more in line with global goals.

On 26 January, the co-facilitators of the UN Summit of the Future, Germany and Namibia published the zero draft of the Pact of the Future to be finalised at the Summit on 22-23 September. One of the dialogues at the Summit will be on outer space, and the draft signals that part of that agenda will cover: "an urgent need to increase

international cooperation to harness the potential of space as a major driver of the Sustainable Development Goals." (UN 2024).

A call for written responses to the draft from civil society, non-governmental organisations, the private sector and academia is an opportunity to provide "narrative evidence" (Dillon and Craig 2022) to support this part of the agenda: stories of futures– and alternative presents– for space technology that better serve people and planet. This paper will start with this submission and reflect on further activities by the author in summer 2024 to encourage UN decision-makers to pick up these narratives as alternatives to business as usual, which will update and expand the author's decade-old project to create six future narratives for nanosatellites for humanitarian purposes (Nesta 2014).

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∗ Exploring anticipatory responsibility and responsible anticipation.
∗ Fictioning the futures of corporations
∗ Defining the sustainable enterprise of the future
∗ Perception and application of strategic foresight within the banking sector in Morocco: exploration of banks labeled CSR by the General Confederation of Moroccan Enterprises
∗ Deconstructing anticipated futures in journalism
∗ Anticipation at the BBC

[11.00-11.20]

Exploring anticipatory responsibility and responsible anticipation
Ted Fuller

Inquiring future-making as a responsibility to act as well as investigating the responsibility of anticipation practices and futures studies, the curated session "Probing principles for responsible futures" is an outcome of the Responsible futures global network set up from 2021 by the Unesco chairs on Responsible Foresight for Sustainable Development (University of Lincoln, UK) and on Foresight and strategic international intelligence (University of Poitiers, France).

The purpose of the session is to enable participants to identify and critique relevant principles for responsible futures in connection, to consider ways in which their anticipatory activities follow such principles, and to explore ways in which such principles can have impact on anticipatory methods and processes. As a call to action (Fuller and Roubelat, 2021), the issue of the session is to understand how everyday anticipation, as well as anticipation practices and futures thinking, are acts of responsibility, have an ethical character and might be guided by principles for responsible futures.

From this perspective, we suggest that the issues of responsibility may be considered through three linked and entwined research directions for futures studies and anticipation practices:

- the making of the future from decision and action processes,
- the assessment of the sustainability of stakeholders' actions over time in giving importance to the responsibility for the future consequences of decisions,

- the engagement of the anticipation and futures studies community for shaping responsible, or anticipating irresponsible, futures.

These three dimensions are to be discussed from the perspectives offered by the principles raised by the Responsible futures global network proposals as guiding action rules. Probing the concepts of "responsible futures" (Arnaldi, Eidinow, Siebers, Wangel, 2020) and of responsible foresight (Tonn, 2018, Van der Duin, 2019), the session will explore the principles at work in the perspectives offered by the various anticipation practices of future-making and futures studies.

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[11.20-11.40]

Fictioning the futures of corporations
Daniel Kaplan

While there is an abundant production on the futures of *work*, there is almost nothing on *corporations*. Indeed, some researchers have called corporations a "blind spot" of social sciences in general. This is however problematic, in view of the central role that corporations play – for better or worse – in almost all aspect of current life: from the way in which needs are addressed, to the creation and circulation of value(s), to how production happens and with what consequences, etc. It is hard to envision how environmental and social crises can be addressed if corporations do not change.
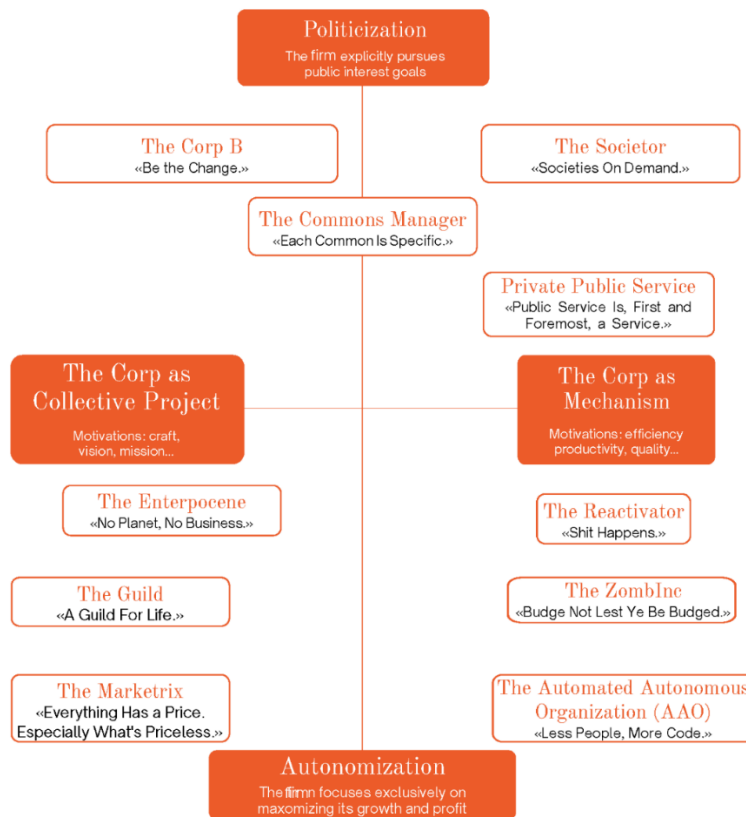
"The Emerging Enterprise" set out to fill this gap. It brought together 140 participants from 42 French organizations to imagine 12 fictional corporations of 2050, with the help of speculative writers. Out of these stories, we abstracted 10 "archetypes" of future

corporations, which were then discussed with the participants. Within certain organizations, "landing workshops" connected the archetypes with their strategic challenges.

The use of fiction in this project was essential to (i) allow participants to move away from their "problem-solution" ways of thinking, (ii) facilitate interactions within diverse groups, and (iii) invite participants to think of themselves as actors of the future.

There is a lot of literature on the links between fiction and anticipation. However, in this case, fiction was used in a specific way: collective (the writers were there to sustain the participants' imagination, not their own), exploratory (the participants were not instructed to include specific ideas, but to develop complex stories from just a few worldbuilding assumptions, letting ideas and issues emerge as they went), non-normative (the fictional corporations and archetypes did not need to be desirable), open to interpretation (the fictions do not come with a manual).

Apart from sharing the Archetypes, the talk will focus on how fiction was used, with what benefits and limitations; and how this type of foresight connects with other uses of the future within organizations.

The diagram shows a two-axis matrix with "Politicization — The firm explicitly pursues public interest goals" at the top and "Autonomization — The firm focuses exclusively on maximizing its growth and profit" at the bottom; "The Corp as Collective Project (Motivations: craft, vision, mission...)" on the left and "The Corp as Mechanism (Motivations: efficiency, productivity, quality...)" on the right. Positioned around the matrix: The Corp B «Be the Change.»; The Societor «Societies On Demand.»; The Commons Manager «Each Common Is Specific.»; Private Public Service «Public Service Is, First and Foremost, a Service.»; The Enterpocene «No Planet, No Business.»; The Reactivator «Shit Happens.»; The Guild «A Guild For Life.»; The ZombInc «Budge Not Lest Ye Be Budged.»; The Marketrix «Everything Has a Price. Especially What's Priceless.»; The Automated Autonomous Organization (AAO) «Less People, More Code.»

[11.40-12.00]

Defining the sustainable enterprise of the future
Philip Glynn & Christine Roussat

This communication is based on our participant observation of "L'Entreprise Qui Vient (EQV)" or "The enterprise of the future." EQV is an initiative of the non-profit Plurality University Network (plurality-university.org) whose mission is "to explore the possibility of alternative futures by mobilizing the resources of the imagination."

After convening its first annual series of workshops in 2021, EQV is now in its third year. The authors participated in the 2022 workshop round gathering managers of major European companies or organizations. The goal was to "imagine the companies of the future, to describe the paths that lead to that future and to bring back from this journey challenges, courses of action and goals that can be debated today."

The workshop format combined classic scenario forecasting methodology with an approach based on imagination and creativity with a group of well-known science fiction

authors acting as facilitators. Over the course of the 2022 workshop series, the authors led the participants through three steps: 1) the identification of the issues (primarily rooted in Anthropocene challenges) that will shape the future of business. 2) the creation of a fictional company that addresses these issues (made manifest in fictional artifacts such as marketing materials, internal company memos, e-mails between executives, etc.). 3) a debriefing and reflection among the authors and participants.

Upon conclusion of the workshop, the authors took the raw material produces by the groups and polished it into a series of fictional texts. We would use these as a heuristic resource to examine how the fictional enterprises address the SDG challenges. Coming from a management perspective, we would identify the paradoxical tensions made salient as part of the exercise that we believe are inherent in the ongoing ecological transition. We will then apply Smith and Lewis' (2011) typology of paradoxical tensions (learning, belonging, organizing and performing) to explore potential integrative management responses (Hahn et al, 2015) to the Anthropocene challenges that are deeply intertwined with the SDGs.

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[12.00-12.20]

Deconstructing anticipated futures in journalism
Mattis Vaaland

"The future is already here – it's just not evenly distributed." The quote attributed to the science fiction writer William Gibson has long seemed to be an apt description of the variety of co-existent futures in late (Western) modernity. However, facing various new conditions, such as the climate crisis, new futures have emerged with "new ways of transitioning from past to future and new modes of configuring the relationship between past and future" (Simon & Tamm, 2021, p. 4). One important arena for storytelling and anticipation has been the news media. To a considerable extent, news stories have been oriented towards the future, functioning as a "mediated prospective memory"

reminding us "of what still needs to be done […] based on past intentions, commitments, promises, and traumas" (Tenenbom-Weinblatt & Neiger, 2020, p. 427). As such, media have played a vital role in forming the array of available futures in the public consciousness.

This paper will analyze dominant journalistic discourses about anticipated climate future(s) in the Norwegian press. It poses the following RQ: How are dominant discourses about the future constructed in journalistic narratives? The articles gathered through a systematic search in the media database Atekst, supplied with input from my professional network. The first stage in the analysis will be making a "register" of the different anticipated futures in the text, inspired by the "historical futures" project (Simon & Tamm, 2021). Ranging from technological determinism, disconnected/connected futures, the utopia/dystopia dichotomy to closed/open futures. Secondly, I will apply narrative theory and hermeneutics to gain insight into how the anticipated futures are constructed, such as, "prior narration" (Hornmoen et al., 2023, pp. 6-7) and their relation to other ways of seeing the future.

The findings will be used to discuss journalistic storytelling and anticipation, mainly reflecting on *how* the narratives amplify some anticipated futures at the expense of others. The paper finally sketches a way for journalists to write critically about anticipation. It discusses how journalistic storytelling can positively contribute to creating stories that avoid the traps of "there-is-no-alternative (TINA) thinking".

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[12.20-12.40]

Perception and application of strategic foresight within the banking sector in Morocco:
exploration of banks labeled CSR by the General Confederation of Moroccan Enterprises

Jalila Bouanani el Idrissi, Salwa Ladraa and Sylvaine Mercuri Chapuis

The financial globalization aims for the decompartmentalization, the deregulation and the disintermediation of the world economy and the Moroccan banking sector, since the 1990s, has undergone several transformations. It provides the country with a modern and efficient banking system to contribute to the achievement of sustainable economic and financial growth. Considered as one of the driving forces behind the development of the country's economy and its prosperity, the Moroccan banking sector has been really impacted by the global health crisis of Covid-19. A deep recession characterized the year 2020 and the indicators of the banking system have very declined during this period. While it has shown resilience to face the global health crisis, the Moroccan banking sector experienced a slight recovery during the first quarter of 2022. Taking into account the inflationary situation in the world economy and future vulnerabilities, as well as sector growth forecasts, Moroccan banks are part of a forward-looking logic with the aim of continuing their post-health crisis, as well as to rethink their future development strategies. They produce necessary anticipations for a sustainable future. But, practices diverge and they have to be addressed. In this context, we study the following problem: **how do Moroccan banking establishments perceive and apply strategic foresight in their development strategy?** We pursue three main objectives in this article: the presentation and applications of foresight in the Moroccan context; the involvement of Moroccan leaders in the establishment of a forward-looking vision; and the exploration of the strategic foresight practices of Moroccan banking establishments. Our qualitative study, we carried out on six Moroccan conventional banks, brings interesting results. They highlight the managerial practices that contribute to anticipation within organizations in the Moroccan banking sector. They also focus on the development of capacities to act in this sector.

[12.40-13.00]

Anticipation at the BBC
Henry Cooke

For the last 18 months or so, BBC Research & Development have been building a futures and foresight unit, building on and consolidating longer-standing research interests of a few members of staff. This new unit engages in active horizon scanning to identify emerging technologies, platforms and technosocial issues which will impact R&D and the wider BBC in the medium to long term. We also take on consultation work to help teams around the BBC understand and identify emerging technologies and issues relevant to their areas of operation. We publish reports and other material

internally inside the BBC, and we also have an 'open-first' approach where our research is published in the open by default. We identify trends through original research, expert interviews, and working practises designed to get teams thinking about possible futures using their group intelligence, and capturing that intelligence. We build experimental software and tools to support these processes, and we've recently been experimenting with large language models (LLMs) to assist in parts of our process. We aim to help teams and decisionmakers understand and anticipate possible changes in technologies and our audiences, both inside and outside the BBC. We hope to promote holistic, nuanced views of the future. I'll be presenting a paper in three parts: first, some of the key findings from our reporting and trends we're tracking. Second, some detail on our methods (including experimental work with LLMs and Obsidian). Third, some reflections on the practicalities and realities of building our futures and foresight practice inside a large organisation with its own long-standing cultural practises.

SESSION 52 HYDROGEN FUTURES

* Unfolding versus upholding: Incumbent sociotechnical imaginaries in hydrogen policymaking in Chile, Germany and the United Kingdom.
* Histories repeating or newly emerging futures? Green hydrogen visions and emerging projects in Europe and Africa.
* Sustainable fuel of the future? A multi-criteria mapping of potential hydrogen futures

[15.30-15.50]

Unfolding versus Upholding: Incumbent Sociotechnical Imaginaries in Hydrogen Policymaking in Chile, Germany, and The United Kingdom.

Filip Rozborski[a,b],Paula de Pablos Sanz[a]

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The vision of hydrogen economy emerged as a promising solution for achieving a net-zero transformation across various sectors. Having been shaped by diverse dynamics over time, it currently stabilizes in multiple countries as an influential and socially performative vision. However, while the transition towards a hydrogen-based energy system accelerates, various prevailing sociotechnical imaginaries that are deeply ingrained and widely shared visions of what is considered achievable and desirable in the future of a national state influence the shape of the vision.

This study explores the intricate ways in which incumbent sociotechnical imaginaries have shaped hydrogen policymaking in the United Kingdom, Chile, and Germany. We conduct a discourse analysis of various policymaking documents (2006-2023) supported by qualitative interviews in order to elucidate the country-specific hydrogen visions present in the structures of policies and how sociotechnical imaginaries have influenced them. We also explore secondary literature to describe identified sociotechnical imaginaries' historical and contemporary context.

Our research reveals that the development of hydrogen visions in all countries appears to prioritize economic benefits over strictly following climate targets. However, variations exist in how the hydrogen vision is framed. In this context, Chile envisions hydrogen as a means to unlock economic potential and modernize the nation, with its vision strongly influenced by the historically established imaginary of Chile as an exporter of natural resources and a 'mining nation', aligning with extractivist principles in green hydrogen

production. On the other hand, the countries from the global north envision hydrogen as a way of maintaining their economic advantages, but this perspective is not homogeneous. In Germany, hydrogen visions are primarily shaped by the socio-technical imaginary of Germany as industrial hub and leading technology exporter. Meanwhile, established fossil-fuel and energy sovereignty imaginaries strongly influence the UK's hydrogen visions.

Against this background, we discuss the governance modes that not only engage with expectations regarding emerging technologies but also track less established and taken-for-granted future accounts shaping future visions of emerging and alternate transition pathways.

[15.50-16.10]

Histories repeating or newly emerging futures? Green hydrogen visions and emerging projects in Europe and Africa

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With increasing political pressure for mitigating climate change, industry in the Global North is looking into new ways to reduce greenhouse gas emissions, such as 'green hydrogen'. Since green hydrogen production is an energy intensive process, the chemical industry based in Europe is looking at countries where renewable energy is expected to be cheaply available, in particular Africa due to its seemingly abundant availability of solar energy, and the potential to stimulate local economies and 'development'.

In this paper we investigate and compare expectations, visions and emerging green hydrogen projects in Europe and Africa, with a focus on the Netherlands and Germany in the North, and Namibia and Kenya in the South. We consider them as socio-technical futures in the making – reflecting their in-between status of being discursive visions and expectations, and at the same time materializing and getting concretized in the form of agreements, roadmaps, contracts, studies, financial arrangements and grants, land assigned, technologies being built, infrastructures planned etc.

Methodologically, we build on a series of semi-structured interviews with different stakeholders, a review of key policy documents and media analysis. We study and compare visions, green hydrogen projects and related debates with a focus on new relationships between Global North and South actors emerging, how these are discussed locally and how the past is percolating in the envisioned futures for green

hydrogen. We are interested how green hydrogen hopes, visions and concerns differ across countries and projects and how this relates to diverging material or political conditions, to different histories and former relationships. While currently a lot of the discussion around green hydrogen relates to more or less shiny visions and high-level ambitions on mitigating CO2 emissions, debated largely in research, policy and industry circles, controversies around concrete local projects revolve around distribution of benefits and financial risks, governance and transparency, fair use of resources, environmental impacts or the relation between serving local needs or export.

[16.10-16.30]

Sustainable fuel of the future? A multi-criteria mapping of potential hydrogen futures

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Against the background of the decarbonization goals set in the Paris Agreement, expectations about hydrogen have risen to unprecedented levels. Numerous countries have published national hydrogen strategies and more than 1000 hydrogen projects with a total volume of USD 320 billion are currently planned all over the world. However, despite this increasing momentum, important questions of how, where, and for which specific purpose hydrogen should be produced remain open. Depending on how these questions are answered, future trajectories can differ significantly. Taking a closer look at both previously published national hydrogen strategies and currently planned hydrogen projects indicates that countries indeed differ in terms of which hydrogen pathways they envision. This raises the question of which of these envisioned pathways can be expected to be favourable from a sustainability perspective. In this study, we aim to contribute to answering this question by carrying out a multi-criteria mapping of five different pathways: (i) global renewables integration, (ii) oil of the future, (iii) green hydrogen communities, (iv) industrial hubs, and (v) grid-based electrolysis. Sustainability appraisals are far from unproblematic, because sustainable development is inherently characterized by multidimensionalities, uncertainties and complex science-

policy interfaces. MCM mapping allows for considering these aspects; it represents a deliberative and participatory sustainability appraisal method, which aims to accept complexity and "open up" different perspectives, arguments, and assumptions rather than "closing down" and arriving at single best solutions. By analyzing and comparing mapping sessions by experts and stakeholders from different countries, our study reveals region-specific perceptions of the sustainability performance of the formulated hydrogen futures and provides a comprehensive basis for policy and decision makers who aim at promoting a hydrogen transition. Particular attention will be paid to the perspectives of the Global South, considering not only how these perspectives differ from the Northern perspectives but also how they diverge from each other.

SESSION 53: AFFECTIVE PREFIGURATION

* Affective prefiguration – a creaturely overview
* Loss, hope, and collective imagined future - artist led initiatives and their role in moving communities toward collective imagined futures, through a journey of intangible loss and rediscovering hope in post industrial towns and cities
* Betwixt and between - an exploration of the potential role of Turner's framework of liminal and liminoid experience in designing affective prefigurative scenarios and seeds
* Affective ocean literacy: resonances and dissonances in more-than-human oceanic relations

[15.30-15.50]

Affective Prefiguration – a Creaturely Overview

Ann Light, Malmö University/University of Sussex

There is anticipatory value in encounters set up to explore how we might be otherwise. The point of designing for alternative affective states is to give a motivational taste of the human potential to change; studying such contexts allows to understand better what is possible. Opportunities for people to come together and experience the power of feeling differently resemble Vygotsky's *zone of proximal development* (1978): attending to matters that can only be grasped with supportive scaffolding. Creative work by artists in the *CreaTures* project brought people into new relations to learn experientially about transformation, particularly regarding adoption of more-than-human relationalities. The need for new terms to speak of such experiments gave rise to the idea of *affective prefiguration*.

Much prefigurative thinking to date has concerned itself with progressive organizational structures, such as new economies, different legal systems and regenerative care facilities. Davina Cooper (2014) analyses these as 'everyday utopias', created to be what we wish for society more broadly. But beyond different organisations, we might also wish that different relations prevail between people, and between people and other lives. Much has been made of the need for changed relations: to celebrate the more-than-human; move away from dominion models; acknowledge interdependence; and allow care to be felt and shown. So far, many of these ideas have stayed in the philosophical realm, where theory talks of entanglement, but practice stays limited (though see Akama et al 2020; Hupkes and Hedman 2021, etc). How might we anticipate relations with a qualitatively different texture? *Affective prefiguration* requires

method 'making opportunity for relations that we do not normally know or experience' (Light 2023). This introduction will briefly share examples of how we can *experience* that other relations are possible.

Loss, Hope, and Collective Imagined Futures:
Artist-led initiatives and their role in moving communities toward collective imagined futures, through a journey of intangible loss and rediscovering hope in post-industrial towns and cities

Tamar Millen, Doctoral Researcher, University of Sussex

"Hope is not the conviction that something will turn out well, but the certainty that something is worth doing no matter how it turns out." — Václav Havel

Dystopian futures are often presented as the path on which society is currently travelling. If this is the future what hope is there, and what kind of hope is needed to imagine another possible (Johnstone, n.d.; Mosley et al., 2020)? To establish an alternative to this future projection, social justice is paramount. In post-industrial towns and cities where their past economic activity and current social framework have contributed to global inequity, exploitation of local populations, colonialism, and direct climate injustices, artists and designers have a role to create and develop conditions that grow imagined better futures, creating a sense of possibility in uncertainty.

My interest is in how arts-led initiatives can move people and communities from a sense of loss and uncertainty to a sense of hope and, in turn, to collective imagined futures that can provide a meaningful alternative to a dystopian approach. I am particularly interested in the feelings and emotions encountered during this transformational journey. Using the Ambiguous Loss (Boss, 2007) framework as a lens to help understand the process of transformation, I am working to explore the transferability of the theory from grief studies to wider conceptual losses within the context of social and climate justice.

Ambiguous Loss is an approach to unresolved loss which emerged from family psychology. It concerns losses that have no final resolution, and therefore can be missing closure, such as in the case with some dementia patients (Boss, 2016).

Betwixt and Between:
An exploration of the potential role of Turner's framework of liminal and liminoid experience in designing affective prefigurative scenarios and seeds

Ben Robinson, Doctoral Researcher, University of Sussex

Whilst the scope and scale of change required to collectively navigate the consequences of climate collapse and the disintegration of earth's ecological balance may vary in significance depending on whether you subscribe to a future predicated on de-growth (sorry post-growth) or de-colonisation, sufficiency or sustainability; the ontological shift in relation to both each other and the other that the concept of affective prefiguration (Light 2023) affords is likely to be of universal and significant interest.

Building on Light (2023) and Cooper (2014), alongside utopian science fiction, as two possible ends of a prefigurative spectrum of lived experience that *"while possible to forget, is impossible to un-experience" (Light 2023)*; I am interested in temporary or short term immersive experiences, which may sit in the middle of this spectrum; and how in operating under the guise of cultural or artistic attractions, such experiences expedite the collective suspension of disbelief required for everyday audiences to safely engage with new imaginaries.

Turner (1974) suggests that whilst the **liminal** experiences offered by traditional rites of passage may no longer be prevalent in modern societies, **liminoid** experiences still abound in the form of performative spectacles such as theatre, concerts and other artistic experiences; immersive experiences would seem to fit into this category. Turner argued that whilst liminal and liminoid share many similarities, modern day **liminoid experiences lack the shared process of aggregation** associated with traditional liminal experiences where broader cohorts within a community have been through (the post-liminal or Gennep's third phase of liminality (van Gennep & Kertzer 2019)); impacting on their potential to trigger lasting ontological change.

Bringing the lens of liminality to bear on the process of affective prefiguration, I am interested in exploring the affective impact of collectively processing and reintegrating prefigurative experiences.

Affective Ocean Literacy:
Resonances and dissonances in more-than-human oceanic relations

Anna Schröder, Doctoral Student, Malmö University, School of Arts and Communication

In the world as a collection of matters and their relations, the axis between human earthlings and the remaining living world seems broken, distanced, and muted (Artmann, 2023; Rosa, 2019; and many more). Theorists addressing Rosa's concept of resonance see the Western fixation on a better, faster world, with more of everything, as the cause of human alienation (Entfremdung) from the environment: non-affective and non-responsive – a relation of falling silent (Verstummung). Rosa's conceptual state of resonance is a "momentary illumination of a connection to a source of strong evaluations in a predominantly silent and often repulsive world" emerging from affection, response, and transformation (Rosa, 2019, 317). Here, I see parallels to Light's participative intimacy concerning collective sensing of how things could be different (Light, 2023). Rosa constitutes resonance in opposition to alienation, of relationless-ness, but not as the opposite of dissonance. Dissonant relations, more particularly affective dissonances, arise from the difference between the felt experience of the world and established cultural relations e. g., with the natural environment (Hemmings, 2023). Moreover, these dissonances carry a "desire for transformation out of the experience of discomfort" (Hemmings, 2023, 158), and attending to them might allow further exploration of relational ethics (and potentially even ethics of resonance) (Hoover, 2022).

My ongoing research explores how resonance and affective dissonance can become affective guides in participatory design practice to reconfigure lost connectedness to the oceanic environment. How can design pick up "silent" relations to the more-than-human? How does design participation allow us to acknowledge and activate the affective atmosphere of the context at hand (Verlie, 2019)? With that, more-than-human resonance and affective dissonances could serve as designerly starting points to explore how oceanic relationality could be in the future, as a practical doing of affective prefiguration (Hemmings, 2023; Light, 2023).