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Guest Editorial, part of a Special Feature on Designing Transformative spaces for sustainability in social-ecological systems

Designing transformative spaces for sustainability in social-ecological systems

Laura M. Pereira[1,2], *Timothy Karpouzoglou*[3,4], *Niki Frantzeskaki*[5] *and Per Olsson*[6]

ABSTRACT. Transformations toward sustainability have recently gained traction, triggered in part by a growing recognition of the dramatic socio-cultural, political, economic, and technological changes required to move societies toward more desirable futures in the Anthropocene. However, there is a dearth of literature that emphasizes the crucial aspects of sustainability transformations in the diverse contexts of the Global South. Contributors to this Special Feature aim to address this gap by weaving together a series of case studies that together form an important navigational tool on the "how to" as well as the "what" and the "where to" of sustainability transformations across diverse challenges, sectors, and geographies. They propose the term "transformative space" as a "safe-enough" collaborative process whereby actors invested in sustainability transformations can experiment with new mental models, ideas, and practices that can help shift social-ecological systems onto more desirable pathways. The authors also highlight the challenges posed to researchers as they become "transformative space-makers," navigating the power dynamics inherent in these processes. Because researchers and practitioners alike are challenged to provide answers to complex and often ambiguous or incomplete questions around sustainability, the ideas, reflections and learning gathered in this Special Feature provide some guidance on new ways of engaging with the world.

Key Words: *Global South; sustainability; transdisciplinary; transformation; transition*

INTRODUCTION

Transformations toward sustainability have gained a prominent position in global policy, academic and civil society arenas in recent years and their governance has become even more relevant since the inception of the Sustainable Development Goals (SDGs) in 2015. Interest in transformation is in part triggered by growing recognition of the dramatic socio-cultural, political, economic, and technological changes required to move societies toward more desirable futures in the age of the Anthropocene where humans are the most dominant force shaping the Earth system (Pereira et al. 2015, Bennett et al. 2016, Preiser et al. 2017). As stated by Milkoreit (2016), unprecedented problems, like climate change and other anthropogenic challenges, require unprecedented solutions. The purpose of transformation in this context entails a move toward understanding what drives individual and collective processes of change and to identify what types of leadership and other social capacities are required for change to occur (Hackmann and St. Clair 2012). Transformation is therefore viewed as a concept supporting the articulation of diverse aspirations for change in human society for more sustainable and equitable global futures (Leach et al. 2010, Moser 2016, Patterson et al. 2017).

Within the social-ecological systems (SES) research community, the idea of system transformation has been debated for more than a decade (Olsson et al. 2014). A distinction is often made between adaptation and transformation understood as different responses to uncertainty and change in social-ecological systems (Folke et al. 2010). Adaptation is about adjusting responses to changing external drivers and internal processes and thereby allows for development along the current trajectory. Transformation is required when there is a need to create a fundamentally new system because ecological, economic, or social structures make the existing system untenable, i.e., to embark on a new trajectory (Walker et al. 2004, Folke et al. 2010, Westley et al. 2011, Frantzeskaki et al. 2012).

From an SES perspective, a characteristic feature of transformation is that change across different system states is not predetermined, rather a new SES state emerges through interaction across scales and among actors (Folke et al. 2010). Therefore, the literature on SES transformations talks about navigating transformations rather than steering or controlling them. They are multiphase and multilevel processes where crises can provide windows of opportunity for novelty and innovation, and where combining sources of knowledge becomes essential (Olsson et al. 2006, Westley et al. 2011, Merrie and Olsson 2014). Social-ecological transformations require systemic shifts in mental models and paradigms as well as changes in institutions, management routines, and resource flows (Westley 2013). It is also critical to appreciate the role of human agency and the shifting or expanding roles of the diverse types of actors mobilizing these transformations (Westley et al. 2013).

Sustainability transition studies have contributed knowledge on experimentation (Frantzeskaki et al. 2014, Luederitz et al. 2017) and facilitated processes on governance experimentation in particular using the transition management approach (Loorbach et al. 2017, Frantzeskaki et al. 2018). The use of action research (Drimie et al. 2018, Marshall et al. 2018, Charli-Joseph et al. 2018), participatory methodologies, e.g., workshop facilitation that combines whole system change processes and design thinking (Drimie et al. 2018, Galafassi et al. 2018), and social engagement tools such as foresight (Hebinck et al. 2018, Pereira et al. 2018)

[1]Centre for Complex Systems in Transition, Stellenbosch University, [2]Centre for Food Policy, City University of London, [3]Public Administration and Policy Group, Wageningen University & Research, The Netherlands, [4]Division of History of Science, Technology and Environment, KTH Royal Institute of Technology, Sweden, [5]DRIFT, Faculty of Social and Behavioral Sciences, Erasmus University Rotterdam, The Netherlands, [6]Stockholm Resilience Centre, Stockholm University, Sweden

have become part of research experiments in colearning and cocreating transformative agendas with actors that have shared or conflicting interests in long-term transformation. The applications of these approaches reveal the need for experimentation and deep engagement with actors, using meaningful dialogues that can connect long-term perspectives with short-term complexity and persistent problems with promising sustainability solutions.

Transformative spaces: scope and empirical grounds of the Special Feature

In this Special Feature, we define transformative spaces as "safe-enough" collaborative environments where actors invested in transformation can experiment with new mental models, ideas, and practices that can help shift social-ecological systems onto alternative pathways. Transformative spaces allow and enable dialogue, reflection, and reflexive learning, while reframing issues in ways that allow solutions to be cocreated and corealized. As such, transformative spaces are solution-oriented; they deliberately seek a variety of perspectives aside from those usually dominant and operate as stepping stones for SES transformation in specific contexts. Researchers have a crucial role to play by initiating the formation of transformative spaces, as part of helping prepare the SES for emergence. By setting-up the necessary foundations for collaborative production of socially relevant knowledge about SES transformations, research-enabled transformative spaces act as platforms from which systemically transformative interventions could emerge. However, the activities that researchers are required to undertake in transformative spaces require a rethinking of their roles first as activators and later as facilitators of these spaces.

The concept of transformative spaces places attention on the role of transformation researchers (and transformation research more broadly) as not simply knowledge providers, but instead as change agents and central actors in establishing modes of facilitation, participation, and dialogue for the purpose of transformative change (Wittmayer and Schäpke 2014, Fazey et al. 2018). This Special Feature further explores the important role of researchers as transformative space-makers (Marshall et al. 2018). The Special Feature comprises nine papers that explore core features of transformative spaces in diverse social-ecological contexts in the Global South. In particular, these papers provide key insights along the main attributes of transformative space creation: dealing with persistence, catalyzing transformative learning, nurturing and scaling innovations in ways that help people and nature thrive together.

The Global South is undergoing rapid social-ecological change that is still relatively unexplored (Pereira et al. 2015). Coupled with development pressures to alleviate high levels of inequality and poverty, high uncertainties, and constrained access to resources, sustainability transformation in contexts of the Global South remain particularly challenging and yet of critical importance. However, the diverse social-cultural and environmental contexts as well as a dearth of locked-in built infrastructure makes these regions ripe with transformative potential. New constellations of actors and social networks are influencing change and guiding processes of transformation in ways that are often beyond the reach of the state, for example through new kinds of locally driven initiatives that are managed directly by citizens (Karpouzoglou et al. 2017), sometimes accelerated with the help of new technologies. The unique insights emerging from these geographies have global relevance for sustainability transformations, especially regarding social-ecological interactions and feedbacks. By investigating these spaces and understanding their geographies, we aim to open up the space for new, context relevant approaches recognizing the important work being undertaken in these diverse locations.

TRANSFORMATIVE SPACES: WHAT IS THE BIGGER PICTURE?

This Special Feature is the result of a series of workshops, conference sessions, and informal meetings during which the notion of a transformative space was grappled with and key learnings were shared. For example, what differentiates transformative spaces from other participatory processes, how is the need for transformation identified, and how do you measure potentially transformative impacts over time? As well as having a complex challenge to address, there are other elements that are also necessary for a space to realize transformative potential. How to navigate power dynamics—between participants themselves; the researchers and participants; the participants and the broader system—was another important theme that emerged during these discussions and the contributors continue to tackle this challenge. Drawing on the work by Westley et al. (2017) and Olsson (2017), the need to engage with at least some of the following core systemic characteristics in the convening of the transformative space was necessary.

1. There is a dominant system and status quo that is unsustainable and needs to be changed. This means that there is a need for systemic transformation that promotes innovative ways of tackling complex, linked social and ecological problems at their roots, rather than small adjustments.
2. There are actors with the agency to act to achieve sustainability and social justice. This includes strategies to change current practices, rules, and regulations, and paradigms that influence people's values and how they make sense of the world.
3. There is a capacity to connect and combine different actors, ideas, and innovations (bricolage) in order to achieve transformative change. This means that no single actor nor defined group can address and solve the problem alone; new alliances are required to radically transform the existing system.
4. There are either new opportunities that have opened up, or a realization that there is a need to prepare in order to take advantage of new opportunities when they arise. This kind of alertness requires not only system understanding and access to networks that will signal when systems are ripe for change, but also a readiness to act and mobilize actors and resources for seizing the opportunity when it arises.
5. There is a seemingly intractable "horns of the dilemma" problem where diverse perspectives see the problem and potential solutions in different ways. Exploring the creative tension between these perspectives as an innovation space can enable the emergence of new ideas with transformative potential.

Although each case study does not mention all five characteristics, they were important for framing the case studies and for critically grappling with the idea of a transformative space as having the potential to enable systemic change.

INTRODUCTION TO FEATURED ARTICLES: WHERE, HOW, AND WITH WHOM?

The first case study paper is by Dyer (2018) and focuses on transformative spaces in a village in the Western Province of Solomon Islands. The study highlights the importance of understanding the rhythm of gender meetings to capture some of the ways in which gender dynamics shape transformative spaces. Dyer also deals with how development actors can help accelerate transformative space creation by becoming more reflexive of how different ways of setting up these meetings can create different outcomes, particularly for women's empowerment and dealing with sensitive power structures and culture barriers.

Two of the papers employed a transformation lab or T-lab as an approach for creating a safe space to achieve their objectives. The Xochimilco paper by Charli-Joseph et al. (2018) saw a T-lab as an experimental intervention that could enable participants to reconnect with their social-ecological system (in this case a wetland in Mexico City) and through this reflexivity to generate collective agency for implementing change. The group thought of transformative spaces from the stakeholders' perspective and emphasized the importance of collective agency and creating sustained alliances as a key outcome of the T-lab process. As well as focusing on the group definition of the social-ecological challenge in their case study, this group was also concerned with what would be a good baseline from which to measure change.

The second T-lab paper is by van Zwanenberg et al. (2018) and looked at the seed system in Argentina. Here the authors emphasized the outcome of the T-lab, which was a social innovation of a protected commons for seeds. This is described as a bridging innovation because it reconciles opposing viewpoints on the future of the Argentinian food system, i.e., the horns of the dilemma. Furthermore, although the innovation may not be disruptive in itself, it is a Trojan Horse intervention because it has the potential to support the redirection of the seed system onto a more sustainable trajectory.

There is another group of papers that employed foresight or futures tools to create a transformative space with stakeholders. In the Transmango case by Hebinck et al. (2018), the differences between instituting foresight processes in the Global North and Global South are highlighted. For example, scenario planning is normalized in the Netherlands, whilst in Tanzania it was a very new and welcoming idea for participants. Some interesting findings on the role of context in designing process emerge from this paper. For example, the democratic principles of the country in which the process is being run can shape and affect the creation of the safe space and so approaches need to be adapted. Reflections on the case studies elicited questions such as how much, as a researcher, one should participate in the actual process.

In the paper by Pereira et al. (2018), a novel scenario approach was developed to meet the objectives of the Seeds of Good Anthropocenes project: to create positive visions of how it is possible to live in an environmentally sustainable and socially equitable way in southern Africa. The Manoa mash-up method was designed to create radical stories of positive futures in the region that focused on increasing the difference of these stories from the present. Reflections from the participants showed that this process was successful in creating a safe space for creativity and imagination. Difficulties with convening a diverse group of participants, artists, academics, activists, and entrepreneurs, for four days and how to overcome some of these challenges are reflected on. This paper further shows that advancing and contextualizing existing methods to stimulate transformative thinking can generate useful lessons for participants that can be applied to catalyze innovative action outside the workshop event.

The next paper by Galafassi et al. (2018) does not explicitly refer to foresight processes, but used scenarios as a tool for cocreating narratives in social-ecological systems. This case aligns with the paper by Pereira et al. (2018) in its use of stories as a useful device for opening up new ways of seeing. Reflecting on a variety of tools, this paper reflects on a project in coastal Kenya and Mozambique that aims to create solution pathways toward sustainable development through participatory processes and community learning. The paper shows the power of new narratives as means to shift mental models and ideas, and to attract actors into mobilizing resources and agency toward transformative actions. It highlights the difficulties of challenging dominant narratives and the creative potential that exists in reflecting on their underpinning assumptions. In the analysis, stories and lived experiences emerged as key means shaping the construction of shared concepts and ideas and showed that transformative spaces can facilitate a change in mindsets and perceptions that can further impact radical changes in practices and institutions.

Three of the papers reference longer-term transdisciplinary projects that are able to reflect more holistically on the process of creating and facilitating transformative spaces. The case from India by Marshall et al. (2018) focuses on the problem of pro-poor adaptive governance. The paper looks at an ongoing process that aims to generate transformative potential through the redistribution of agency to previously marginalized groups. The authors use the term transformative space-making as the process whereby researchers are now engaging with communities in cocreation processes to open up alternative pathways toward sustainability. The authors reflect on the lessons learned from long-term engagement in two sites in India, including the need to build long-term alliances with civil society groups as well as the need to prepare for emergence in the process.

The case of the Southern Africa Food Lab, Drimie et al. (2018) emphasize the role of an organization that was set up to use dialogue to foster collective design and experimentation for shifting the food system in southern Africa. The study draws on the Theory U approach, by bringing groups from different backgrounds into conversation. Recent thinking has shown that there is a need to focus more on the "right of the U," or on nurturing innovations. The case also reflects on the role of power dynamics, especially given the diversity of actors, and cultures in South Africa, where the organization is based.

The final case study is by Moore et al. (2018) and it focused on a Global Fellows program. The program attempted to bring academic theory and tools together with live case studies to help practitioners strengthen their ability to navigate emergent

dynamics, that is, the previously unknown, and to build reflexivity about complex challenges. The study findings emphasize the importance of engaging with diversity, understanding the system, recognizing opportunity, dialogue, and experimentation. The paper highlights that the fellowship itself provided a safe space for fellows to experiment, to experience otherness, to feel uncomfortable, but supported, by new colleagues or fellows, and thus test different mindsets and skills. This paper draws on longer-term measurement of the outcomes after three years of the global program.

CONCLUSIONS

The development of this Special Feature has been a transformative process in and of itself as various researchers from a cross-section of disciplines and geographies have come together to share and learn about the cutting-edge research that they are doing. By bridging the more theoretical sphere of social-ecological transformations with deep reflection arising from transdisciplinary thinking and reflecting on the new role of researchers as actors in these coproduced spaces, this Special Feature weaves together a series of stand-alone case studies that together form an important navigational tool on the "how to" as well as the "what" and the "where to" of sustainability transformations. Furthermore, the findings also emphasize that transformative spaces are ongoing processes, rather than events. Transformative change occurs over time and is not easy to attribute causality to specific interventions, but it is clear from the findings in this issue that developing further tools for measuring impact as change occurs is critical. As researchers and practitioners alike are challenged to provide answers to complex and often ambiguous or incomplete questions around sustainability, the ideas, reflections, and learnings gathered in this Special Feature provide some guidance on new ways of engaging with the world.

Responses to this article can be read online at:
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