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Fostering agility to diversify science, music, and society

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*Tensions often emerge when research and practice come together. These tensions can either hinder progress or be constructively engaged to enable transformation of thought and action. Drawing on the experiences of 32 co-production initiatives from around the world that aimed to transform social-environmental issues, **Josephine Chambers, Carina Wyborn, Nicole Klenk, Chris Cvitanovic**, and their many co-authors, outline critical processes for turning tensions into new relations that foster sustainability transformations. They reflect on what it means to navigate differences in agile ways at the intersection of science, music and society. This includes a musical abstract co-created with musician **Noor Noor** that features the lead author's voice.*

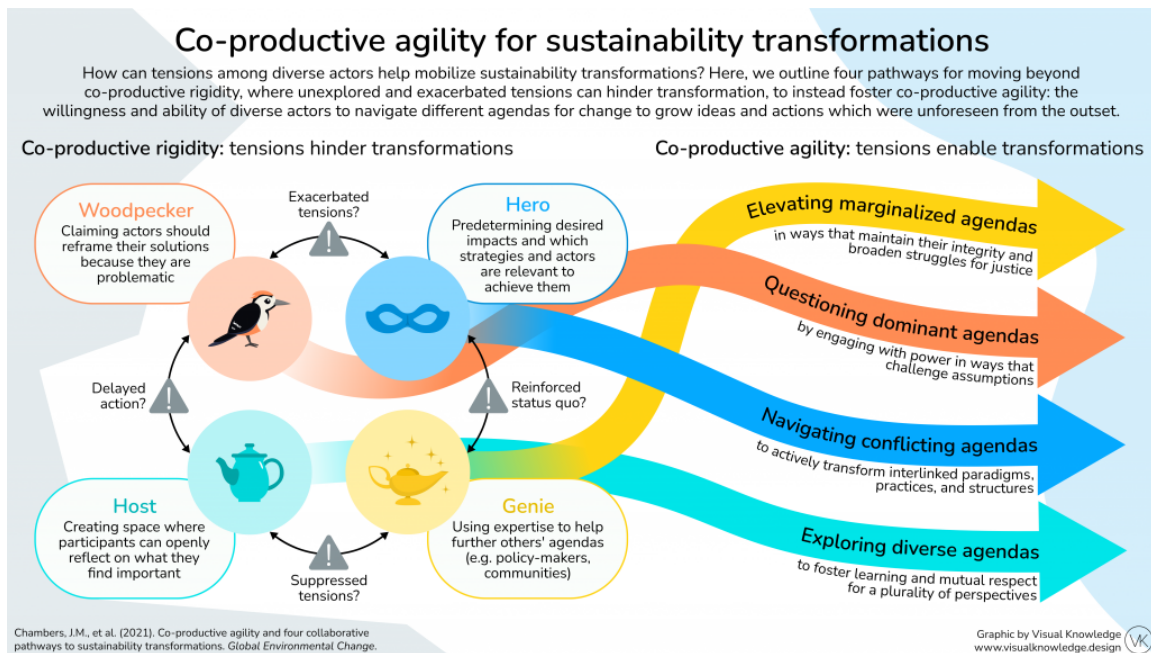
There has been a growing homogenization of popular music in the last 50 years – both in **lyrics** and **musicality**. Yet, we surprisingly seem to **enjoy this simplification** as it helps songs catch more quickly in our minds.

Corporations like Spotify make use of this fact through **sophisticated algorithms** that endlessly monitor and reinforce our musical tastes (e.g. **Discover Weekly** and **Spotify Wrapped**). We have therefore become trapped in a musical loop that erodes our agency and desire to navigate diversity in the musical world. Given the role music plays in shaping our emotions and revealing what matters to us, this arguably affects our ability to engage with the full range of emotional experiences that give shape to our lives.

In a similar vein, we often think and act in ways that strengthen and polarize our internal narratives. Just like the repetitive loops that dominate today's pop music, we are often caught up in our own “loops” of knowing and acting in ways that entrench our views. These loops provide coherence and meaning. They confirm the “rightness” of our thinking, but they also fundamentally constrain our collective imagination and action.

Co-production, as a collaborative way of knowing that seeks to transform issues that matter to us, promises to disrupt these loops and diversify perspectives. In our new study “**Co-productive agility and four collaborative pathways to sustainability transformations**”, we examine the potential role of co-production to transform science and society. Does it narrow the scope of our imagination by collapsing or exacerbating difference? Or can it challenge our self-understanding and response-ability to more plural forms of expression that orient our collective purpose?

To explore this, we collaboratively studied 32 initiatives from around the world that brought together diverse scientific and societal actors to address complex social-environmental challenges like climate change, biodiversity loss, wildfires, and unsustainable supply chains. We looked at whether and how initiatives managed to transform people's narratives, practices, and even broader policies and institutions towards sustainability.



Beyond the hero, genie, woodpecker, and host

In our analysis, we identified four archetypal roles in collaborative processes – the hero, genie, woodpecker, and host. We found that the initiatives in our study that struggled most to transform situations tended to either exacerbate or suppress tensions among these common roles.

The *hero* is the solution maker – (s)he knows what the problem is, and solves it. Heroes can play a vital role in addressing simple and/or urgent societal problems, such as a firefighter or corona vaccine developer. However, when this model is applied to complex issues, the hero's solution can turn into the cause of different kinds of problems. For example, amidst biodiversity loss, simplistic assumptions are often made about the cause of the problem, such as economic poverty or lack of knowledge. This has led to an emphasis on “fixing” the behaviours of poor farmers instead of addressing broader patterns of wealth accumulation linked to large scale exploitation. This has also led to a focus on strategies that exclude and undermine local values and agency. Scientists may also take up this hero role when they assume that the problem is simply a particular knowledge gap that needs to be filled to solve societal problems.

Three additional archetypes often interact with the hero in ways that reinforce their dominant narratives – either by exacerbating or suppressing tensions. For example, the *genie* unquestioningly supports the hero's agenda – by producing data or taking action. This role is enabling, but the outcome is contingent on the merit of the hero's agenda, and often these agendas are directed by those who hold more money and power.

The *woodpecker* is the person who calls out the hero – pointing out the many issues their solution overlooks and potentially worsens. Examples of this person might be the critical social scientist or climate activist. While this role can spark change, it can also exacerbate tensions that result in further polarization, stalemates and delayed action.



Interactions between science and society often compel us to step into these four archetypal roles without questioning their usefulness in certain contexts.



Finally, the *host* seeks to create safer spaces where everyone's voices can be heard. While people typically see this role in a positive light (e.g. **Art of Hosting**), there are also risks. For example, the effort to give space to all views can stifle critical evaluation of power relations and differences.

Interactions between science and society often compel us to step into these four archetypal roles without questioning their usefulness in certain contexts. This can serve to reinforce our existing ways of seeing and addressing problems. A **musical abstract** co-created by musician and

conservationist Noor Noor and our lead author (and singer) is meant to viscerally illustrate how these archetypes can interact in ways that hinder transformation. The hero's loop ("problem–solve it") is strengthened by the genie (electric bass). The host (percussion) contributes rhythm but does not substantially alter the loop. The woodpecker (electronic distortions of the hero's voice) tries to disrupt the loop, but struggles to create a dialogue.

Co-productive agility for sustainability transf...



Towards co-productive agility for transformation

What then, is the alternative? In our musical abstract we offer one possible pathway towards plurality, by making the instrumental lines more responsive to each other as the song progresses, triggered by the disruption of the genie switching from supporting the hero to the woodpecker mid-song (@1:38). During the song, the music transforms from monophony to polyphony, from predictable to unpredictable, and from comfortable to uncomfortable. In our paper, we represent this dynamic through the concept of "co-productive agility" – referring to "the willingness and ability of diverse actors to navigate different agendas for change to grow ideas and actions which were unforeseen from the outset".



Critical to all processes is explicit, constructive, and recurring engagement with tensions across power relations as a source for transformation.



In our analysis, we identified processes that created conditions for better interactions among people with very different interests and goals. The examples we share show in practice how to cultivate spaces where people genuinely listen to and (re)shape each other in agile ways – even across large differences in power – to spark collective action and transformation.

We do not provide universal advice, but show how agility can be fostered in different ways, for different purposes. For example, different design considerations are required to question dominant agendas as compared to elevating marginalised agendas. Similarly, exploring diverse agendas outside decision-making contexts can enhance learning, while directly navigating conflicting agendas within those contexts can transform power relations and institutions. *Critical to all processes is explicit, constructive, and recurring engagement with tensions across power relations as a source for transformation.*

So, what does *your* recurring “problem-solution” loop sound like? And how can we intertwine our individual narratives, passions, and actions to neither suppress nor idealise each other’s agendas, but better navigate our pushes and pulls? How can we, collectively, design processes that open up as opposed to close down opportunities to explore these tensions to build shared purpose? And how can our institutions and systems better support this? These are questions we have tried to address in our **practical roleplay**

guide, which can be used to spark dialogue on how to foster co-productive agility in any setting.

Returning to music, if we diversify our music tastes, could this play some small role in diversifying other aspects of our lives? You can begin with this **alternative humorous algorithm**, which seeks to disrupt our sense of satisfaction with our musical choices in Spotify. Unusual music (and ideas and identities) may be difficult to appreciate at first, but we hope our work enables people to navigate these differences in agile ways to learn and grow collectively.

*Note: This article gives the views of the author, and not the position of the LSE Impact Blog, nor of the London School of Economics. Please review our **comments policy** if you have any concerns on posting a comment below.*

*Image Credit: **Jurien Huggins**, via Unsplash.*

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About the author



Josephine Chambers

Dr Josephine (Josie) Chambers is a transdisciplinary social scientist interested in how research can play a transformative role for nature and society. Josie specializes in designing processes that support diverse actors to critically and constructively engage with their differences to spark transformation. In her new role as Assistant Professor in the Urban Futures Studio at Utrecht University (the Netherlands) she will design processes that enable diverse societal actors to imagine and enact futures that serve our shared humanity.

Find Josie on Twitter @jo_chamb.



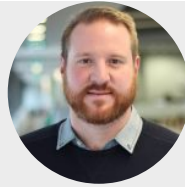
Carina Wyborn

Dr Carina Wyborn is fellow at the Institute for Water Futures and the Fenner School of Environment and Society at the Australian National University. She is an interdisciplinary social scientist, who works on the science policy interface in complex sustainability challenges. Her research focuses on anticipatory governance and the capacities to make decisions in the context of uncertain and contested socio-environmental change. Find Carina on Twitter @rini_rants.



Nicole Klenk

Dr Nicole Klenk is an Associate Professor of Environmental Studies at the University of Toronto, Canada. Her research focuses on the politics of knowledge production at the science-policy interface and within transdisciplinary research. Her current interest is on how storytelling as a way of knowing enables researchers to dwell in and become responsive to the tensions, emotions and the meshwork of lines of becoming encountered in co-production processes. She is particularly keen to explore ways of telling and writing stories of co-production that are sensitive to the needs, sufferings and aspirations of people whose personal and professional interests are distinct from her own, people with whom she may share no bond other than a common humanity.

**Chris Cvitanovic**

Dr Chris Cvitanovic is a transdisciplinary marine scientist working to improve the relationship between science, policy and practice to enable evidence-informed decision-making for sustainable ocean futures. In doing so Chris draws on almost ten years of experience working at the interface of science and policy for the Australian Government Department of Environment, and then as a Knowledge Broker in CSIROs Climate Adaptation Flagship.

**Noor Noor**

Noor Noor is an Associate Programme Officer at UNEP-WCMC, based in the United Kingdom. He works at the intersection of environmental policy, knowledge-production and equity. Noor has a keen interest in music and performance as mediums for collaboration and co-production. Find Noor on Twitter @Nxoor.

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