



CREATURES



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CREATURES DELIVERABLE

D4.2 Prioritized indicators and baseline v2

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Abstract

In Deliverable 4.1, a framework for leverage points for connecting creative practices to transformations to more sustainable futures was created, supporting a baseline of indicators. This deliverable 4.2 reports on extensive empirical work with creative practitioners to connect how these practitioners understand the impacts their work makes to this theoretical framing of sustainability transformations. Creative practitioners are often bound to framings of evaluation developed by those in power – funders, policy makers and others. They end up having to translate and flatten their work considerably to fit in these external evaluations. Similarly, policy makers, funders and other evaluators often lack the insight or tools to understand in which ways creative practices might be valued, especially in the context of sustainability transformations, and as a result, they are having to rely on limited framings. Creative practitioners themselves often have sophisticated ideas about how their work might change the world – but they may lack the tools and resources to evaluate these assumptions and make these impacts transparent and legible to others, or to help monitor why change does not happen as expected. And finally, researchers investigating links between creative practices and action toward more sustainable futures also need help to understand what change pathways and processes need to be investigated.

This deliverable aims to make an important step toward answering these practical and research needs. It does this by focusing on different ‘dimensions’ of creative practice. In our analysis, a dimension is an entire way of looking at a creative practice – such as looking at

the ways in which a creative practice challenges existing societal structures; or the economics of the practice. Each of these dimensions is more than a goal – it means seeing the practice through a different set of eyes entirely, which make different features of the practice stand out, and bring up entirely different questions for evaluation in terms of this dimension. We introduce a participatory research method to investigate these ‘*Dimensions of Value*’ (DoV) at the level of creative practices in the CreaTures project, known as Experimental Productions (ExPs). This *Dimensions of Value* method is tested with three pilot Experimental Productions – Hellon’s Sustainable Futures Game, Superflux’s Invocation of Hope, and Furtherfield’s The Treaty of Finsbury Park. A number of dimensions of value are identified with practitioners for each of the project, followed by more detailed investigations – about what the practitioners want to know and communicate about each dimension for themselves and for others, and how the dimension relates to sustainability transformations. We also discuss how the dimensions of value match and mismatch with the ExP’s evaluation environment in terms of powerful governing actors, and what can be done to speak to and to challenge existing systems of evaluation. Finally, we discuss operationalizing each dimension in terms of research and report on how this operationalization has been used so far to gather and analyse data. We provide empirical research results from audience interviews at the Superflux Invocation of Hope installation as an example of the translation from dimensions of value to research results.

After this investigation at the level of individual ExPs, we go on to create a synthesis of nine overall evaluation dimensions, drawn from across the three pilot ExPs and shorter analysis across a set of other CreaTures ExPs. This synthesis of evaluation dimensions is meant to offer a common language to open up communication channels between creative practitioners, governing actors, researchers and others about the different ways in which creative practices can be understood and evaluated in terms of their contributions to sustainability transformations. The nine dimensions are (figure 1): 1. Experiencing & Exploring; 2. Co-creating & Designing; 3. Disrupting & Subverting; 4. Including & caring; 5. Reflecting & Learning; 6. Shaping & inspiring; 7. Evolving & Empowering; 8. Organizing & Relating; and 9. Storytelling and myth making.

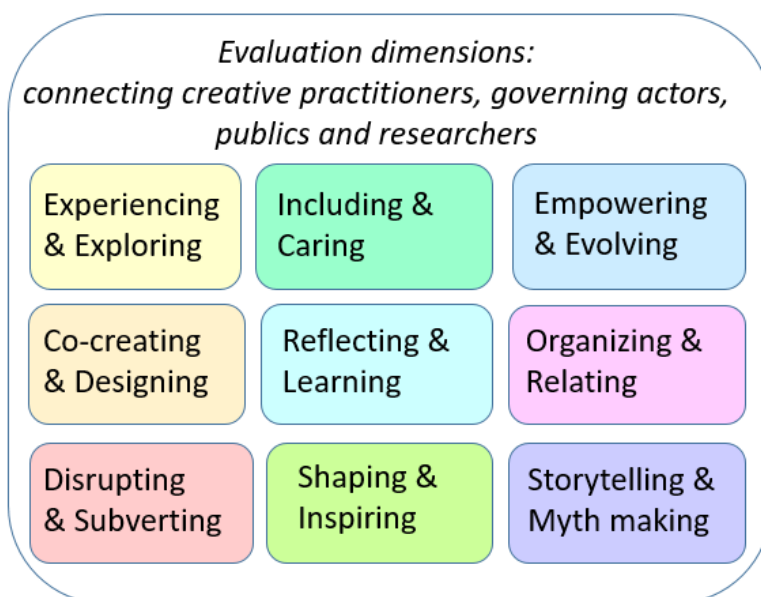


Figure 1. nine evaluation dimensions emerging across different ExPs.

We then go on to map each of these dimensions against the transformation leverage points and indicators framework developed in D4.1. This is done to begin to understand – how do each of these dimensions relate to various ways in which systems can be transformed? These nine dimensions will also represent an important element in one of the key outcomes of the CreaTures project, namely the CreaTures Open Creative Practice Framework. We next analyse each of these different overarching dimensions in terms of how they can be measured, and what the challenges are for each in terms of measurement. We then discuss possible measurement methods for each of the different dimensions. Finally, we present an updated version of the leverage points and indicators framework that has incorporated all synthesized insights from the research presented in this deliverable. We conclude by discussing the practical and research implications of the presented work.

D4.2 Prioritised indicators and baseline v2

Contents

CreaTures project structure	7
1. INTRODUCTION	9
2. THEORY	11
2.1 Beyond current evaluation strategies for creative practices in a transformation context	11
2.2 Expanding evaluation vocabularies: dimensions of value	12
2.3 Connecting dimensions of value to indicators and leverage points	14
3. METHODS	15
3.1 Case study: Experimental Productions in the CreaTures project	15
3.2 The <i>Dimensions of Value</i> method	20
3.3 Cross-ExP synthesis step 1: Mapping Dimensions of Value to Indicators/Leverage Points	23
3.4 Cross-ExP synthesis step 2: Categorizing Dimensions of Value according to measurability	24
4. RESULTS	26
4.1 Results per ExP	26
4.1.1 Invocation of Hope: an example of fieldwork results based on the DoV process	37
4.2 Cross-ExP Synthesis 1: Clustering Dimensions of Value	39
4.3 Cross-ExP synthesis step 2: Categorizing Dimensions of Value according to measurability	50
4.4 Integrating all dimensions of value into leverage points frame	59
4.5 Methods for measuring and tracking dimensions	61
5. Discussion and conclusions	62
6. References	66
Appendix 1. Links to visual representations of pilot interviews	69
Appendix 2. DoV questions for all dimensions of value in each of the pilot ExP interview processes	70
X2.1 Hellon – Sustainability Futures Game	70
X2.1 Furtherfield – The Treaty of Finsbury Park	75
X2.3 Superflux – Invocation of Hope	81

CreaTures project structure

Creative Practices for Transformational Futures (CreaTures) is a three-year EU funded project that investigates the role that transformational creative projects play in helping people to imagine and to build environmentally and socially sustainable futures. Artists, curators, designers and citizen-led collectives are already reacting to problems such as climate change and mass species loss by mobilizing from their own platforms using distinctive forms of expertise. They are catalyzing change by gathering groups of people (“publics”) around issues that matter to them in a variety of domains and using a range of aesthetic, affect-driven, playful and participatory interventions that have multi-layered impacts across a range of scales. Creative practitioners move the public towards social and ecological sustainability by supporting change in lifestyles, co-creating new ways of being, and prototyping new systems. In doing so, they develop new forms of environmental citizenship, and also social cohesion—to help communities withstand the environmental changes that are already underway and take change into their own hands for purposes of adaptation, mitigation and better resource use. This interlinking of social and environmental transformation, inseparable from attending to issues of culture, underpins our research.

The CreaTures project brings together an interdisciplinary team of eleven organizations including both academics and creative practitioners (acting together as co-researchers). At the centre of the project is the Laboratory, a series of creative projects organised by innovative design organizations Superflux (UK) and Hellon (Finland); along with long-established arts and cultural producers Furtherfield (UK), Kersnikova (Slovenia) and Zemos98 (Spain). Each of these diverse partners has agreed to open up their creative processes for collaborative investigation with researchers. We call these works Experimental Productions (ExPs). The Laboratory format enables each particular ExP to be studied in detail as it unfolds over the duration of the three-year CreaTures project. Design researchers from the Aalto University School of Arts, Design and Architecture in Finland lead the Laboratory research and co-ordinate the CreaTures project.

The Programme of Evaluation is running alongside the Laboratory, stewarded by researchers from Utrecht University’s Copernicus Institute of Sustainable Development in the Netherlands. This programme involves working with the creative partners to co-design new methods to evaluate their contributions to sustainable transformations and to develop an understanding of their creative practices themselves. This strand of work also explores links between creative practice and policy making, with additional expertise provided by the Open Knowledge Foundation Finland and UK-based sustainability organization Sniffer.

This program of research is connected and amplified to other key stakeholders by RMIT’s Care-full Design Lab (working with RMIT Europe based in Barcelona, Spain), through the duration of a programme of Engagement and Dissemination activities. Finally, the Observatory (coordinated by the University of Sussex) plays a dual role: firstly in coordinating the documenting of the Laboratory projects and contributing to their analysis, and secondly developing a repository of transformational cases.

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1. INTRODUCTION

Deep transformations of human systems are critically needed to navigate the unprecedented challenges of the 21st century and ensure a better future for all life. Natural and human systems can no longer be understood as separate – and social-ecological systems should be understood as completely entangled (Folke et al., 2010). Rerouting social-ecological systems requires more than tweaks in human behavior (Leventon et al., 2021). ‘Sustainability transformations’ refer to fundamental changes in the rules, roles and underlying paradigms that support existing systems (Feola, 2015).

Academics, artists, activists and others have argued that, in order to build more sustainable ways of life, we must examine and amend our cultures, value systems, worldviews, imaginaries and deeply rooted myths and metaphors to change how we live as a part of planetary ecosystems (O'Brien and Sygna, 2013). They have suggested that creative practices– phenomena involving many different kinds of craft skills such as writing, art, theatre, designing, storytelling, and participatory community development (in art, design, culture and social change) have a critical role to play in these processes of exploration and transformation. Creative practices can offer visceral challenges to existing systems, help imagine and experience new ways of engaging with the world, empower marginalized and radically transformative perspectives and movements, and more (Galafassi et al., 2018; Moore and Milkoreit, 2020). Creative practices can, in other words, play a pivotal role in bringing life on earth towards more positive, sustainable futures. This potential connects strongly with a change in the worlds of sustainability and transformation research and practice, where there is a desire to focus more explicitly on deeper values that frame what futures are emerging (West et al., 2020) – and this is happening from local levels all the way to the most important global environmental and ecological assessments (Pereira et al., 2020). This means that the potential of creative practices for sustainability transformations is of great interest outside the fields of arts practice and research (Pereira et al., 2021). Especially notable is the recognition of the need to break out of dominant colonial, hyper-capitalist, patriarchal, racist and otherwise exclusionary, destructive societal values (Escobar, 2020).

However, Creative Practices are always operating within structures of power - more specifically, they are dependent on funding and support by powerful actors in existing societal settings and regimes, as well as publics and networks of peers (Belfiore, 2021). These powerful actors are a part of ‘regimes of value’ - the broader societal institutions, networks and ideologies that reproduce ideas about what is valued in society (see also Deliverables 2.3 and 4.6) (Baumann, 2007; Dewinter et al., 2020).

Because of this, what we call ‘governing actors’ - those who hold the funding or legislate societal spaces for creative practices have strong incentives to adhere to dominant ideas of what makes creative practice valuable. Because of this, evaluations embedded in dominant regimes of value help determine the support and funding of creative practices. They also steer the artistic and creative directions that creative practices pursue – since, for instance, their work will need to respond to whatever evaluation is being set up by the funding. This means that how creative practices are evaluated matters a great deal in terms of what

possibilities exist for creative practitioners to contribute to sustainability transformations (Avelino, 2021; Weiss, 1993).

As a result of needing to justify their support to existing systems, governing actors often use rather instrumental perspectives on the value of creative practices – seeking easily quantifiable and low-context evidence of societal impact. This is partly, by their own accounts, because of a lack of familiarity with, resources for, and access to processes able to meaningfully engage with the more situated and multidimensional aspects of creative practice (Belfiore, 2002; Durrer et al., 2019). As we will see in this document, creative practitioners are often very well aware of the evaluation requirements for the funding or support of their work, and they often have little choice but to follow these evaluation framings. But simplistic and linear evaluations of societal interventions and processes in a complex world often struggle to capture important aspects about how transformative change really happens. Moreover, creative practices are themselves complex phenomena (Caust, 2003).

A core goal of the CreaTures project is to offer guidance to creative practitioners, governing actors and researchers as to how creative practices can be investigated and evaluated in terms of their contributions to sustainability transformations. This document works from the understanding that if the evaluation of creative practices can be improved in terms of its ability to understand the contribution of creative practices to many types of change, this would benefit all involved, since it would promote fruitful channels of communication and understanding between practitioners and other societal actors, in particular governing actors. More research is still needed about how creative practices contribute to transformative change (Deliverable 2.3). Many researchers, artists and other societal groups across art and sustainability worlds argue that a different approach to valuing creative practices is needed that is closer to the richness of creative practice (Galafassi et al., 2018). Our ongoing research with creative practitioners on the one hand (Deliverable 4.1) and governing actors on the other (Deliverable 4.6) shows that there is a strong desire for shared vocabularies and framings. Creative practitioners are seeking ways in which they can better capture and represent the value of their work, and understand and express how it contributes to sustainability transformations. Governing actors are looking for better, more concrete and more multidimensional understandings of the relationships between creative practice and outcomes and impacts in terms of more sustainable futures.

In section 2, we will offer the theoretical background behind the *Dimensions of Value* approach, which will then be introduced in terms of methodology in section 3. Section 4 will offer the results drawn from the application of the approach, first at the level of ExPs (4.1) and then in terms of a synthesis across different ExPs (4.2 to 4.5). We end this Deliverable with a discussion about the value of the analysis and future directions for work with creative practitioners, governing actors, and researchers.

2. THEORY

We start with an overview of literature about current evaluation practices in the context of transformative change, complex systems, and creative practices. We go on to provide the theoretical support for a proposed expansion of evaluations for creative practice and transformations.

2.1 Beyond current evaluation strategies for creative practices in a transformation context

The evaluation of creative practice touches on literatures that are often not yet connected. Principal literatures to draw on are 1) evaluation and theory of change in complex systems and transformation contexts (Barbrook-Johnson et al., 2020; Cox and Barbrook-Johnson, 2020; Davies, 2004); and 2) the evaluation of arts and creative practice. This second category includes literature around arts policy more generally, which often comes down to concerns around evaluation (Rajan and Chand O'Neal, 2018; Symons, 2018; van der Hoeven et al., 2021). Across these fields, there is a broad recognition that many currently used evaluation approaches, at least those that try to evaluate social impact, fail to capture and make transparent the value of creative practices, because of mainly being able to recognize more standardized and context-less, instrumental types of value, such as short term cost-benefit investment logics (Belfiore, 2021; Walton et al., 2021).

Evaluation of creative practices has to engage with two sources of complexity. Firstly, transformational change toward more sustainable futures is widely understood to be a highly complex process. Complex systems-based evaluation approaches call for the need to take such complex contexts into account in evaluation processes (Barbrook-Johnson et al., 2020; Davies, 2004; Walton et al., 2021). Furthermore, there is the political question of whether (and which) governing actors understand and prioritize action to support sustainability transformations in the first place – beyond marginal and symbolic efforts.

Secondly, creative practices themselves are complex and not easily evaluated in terms of their societal impacts (Belfiore, 2002; van der Hoeven et al., 2021). Arts evaluation literature critical of current systems points to the urgent need for more participatory, inclusive and multi-dimensional approaches (Dewinter et al., 2020; Durrer et al., 2019). In particular, in both practice and academic literature, there has been a shift to more bottom-up, co-designed, narrative-based evaluation approaches, supported by rich evidence provided through diverse methods. There is a need to expand vocabularies of evaluation to be able to speak (and listen) to the impacts of creative practice in new ways that allows for a better understanding of the pathways through which creative practice connects with and is situated in sustainability transformations (Leventon et al., 2021; van der Hoeven et al., 2021; West et al., 2020). This expansion of vocabularies is important for creative practitioners to be able to speak about their work, but also for governing actors to build their own understanding and language around the evaluation of creative practice to respond to their own institutional

contexts, peers and program leaders. In this expansion of evaluation vocabularies, there should be an explicit recognition of the power dynamics that are inherent in evaluation (see Deliverable 4.6). This recognition should, in turn, be embedded in the development of broader understandings of the role of power in sustainability transformations (Avelino, 2021; Feola et al., 2021; van Oers et al., 2021).

2.2 Expanding evaluation vocabularies: dimensions of value

The broadest definition of *creative practice* that is used within the CreaTures project includes 'all professional and non-professional work which uses personal and/or collective craft skills and ingenuity to make something new, renew, or interpret some aspect of the world: from writing, art and theatre to designing, to participatory community development to storytelling (CreaTures bid, taking from Light et al. (2018), who also include 'citizen science and experimentation'). Theorists of creative practice propose that, in fact, everyone is creative (e.g. Richards et al. (2007) on 'everyday creativity) and creativity is as alive in scientific pursuits as those deemed artistic or formally 'creative' (Latour et al., 1986). In CreaTures, however, our focus is primarily on professional communities and their practices.

Our goal with the *Dimensions of Value* method has been to develop an approach to make the many ways in which creative practices offer value in terms of sustainability transformations more legible - to themselves, to their peers, to governing actors, and to researchers. These dimensions of value form the basis for operationalization into indicators of change as framed by transformation research. In this document, part of our work is to use them to update and expand our indicators first presented in Deliverable 4.1 - see section 4.4. It should be noted that in this deliverable, the sustainability transformations research framing is therefore dominant – and we understand that this framing does not necessarily fit with everyone's most intuitive understandings of the world. Much of the work in this deliverable focuses on making creative practice legible to transformation framings, but reverse translations are important and will also be discussed here and built upon in subsequent CreaTures work – in particular between 'systems' framings and framings that engage with complexity more through narrative richness.

So, given this disciplinary framing, why 'dimensions of value'? The focus on 'dimensions' emerges out of and is coherent with complex systems and transformations research. In this field, there has been a strong focus on approaches that allow for the mapping of diverse aspects of complex sustainability practices. However, the focus is commonly on the scales (geographical, ecological, jurisdictional, temporal, etc.) of complex systems such as social-ecological systems (Cash et al., 2006). But researchers and practitioners in the complex systems community often default to structuring reality according to a relatively narrow set of scales. For instance, they use an ecological scale (composed of levels that include individual, community, ecosystem and more); a temporal scale (minutes, days, seasons, etc.); a jurisdictional scale (municipality, county, country etc.) (Kok and Veldkamp, 2011). However, Vervoort et al. (2012) argue there is a need to recognize that such scale analyses in fact only explore a limited set of 'dimensions' - time, physical space, ecosystems - that are simply assumed to be the best and only way to characterize the realities of complex systems. The possibility that other dimensions of such systems might in fact offer other insights is often missing. They argue that reflexivity about what basic dimensions are

engaged with opens up new possibilities for understanding the full richness of complex systems - and especially the social aspects of such systems. The word [dimension](#), after all, is defined as 'a part or a feature or a way of considering something'.

Engaging with different dimensions of systems – trust instead of space; family networks instead of jurisdictional borders - means that entirely new ways of understanding them may open up. This is far from just a matter of understanding what is going on in complex systems. The dimensions that are used to characterize complex systems make up the framing of shared realities. There are ontological politics at play here – meaning, the politics of who gets to determine what is considered real and valuable and what gets ignored, and becomes or remains invisible (Escobar, 2020). And what is 'real' helps frame what is possible as well – what futures can be imagined based on what is understood to be the present. This means that processes that allow those who are not in power to begin to structure realities on their own terms open up shared understandings of the real and the possible (ibid.). Because of this, we believe the 'dimensions' framing has potential for real transformative reframings of existing ways of thinking and being. How do colonial, hypercapitalist and patriarchal systems acknowledge and dismiss entire dimensions of shared realities?

So far, it appears that creative practitioners are mostly forced to adopt the dimensions framed by dominant regimes of value in order to get their work supported. On the other hand, those embedded in those dominant regimes but who are nonetheless interested in helping transformative change happen are also bound by the same limited dimensional framings. When art and creative practice are approached from the side of social impact, such limited dimensions might be, for instance, 'economic benefit' or 'individually sustainable behavior' and 'diversity' captured by simple metrics, and often combined with short time horizons (Belfiore, 2021; Dewinter et al., 2020).

Approaches that start with an investigation of the basic dimensions that creative practitioners might use to describe their work and how it may impact the world can therefore open up both the real and the possible for all involved. It should be said that the fundamental, basic nature of dimensions offers benefits and drawbacks for thinking about evaluation. For instance, if we look at the dimension of 'trust' while examining a creative practice, this means that we are seeing everything about that practice as whether it is or is not related to trust. But it does not say anything yet about what we want to measure specifically about trust. Just like if we would consider a more commonly used dimension like 'time', we might consider how trust relates to everything we observe, in many different ways, through different methods, at different levels, and so on. By engaging with 'trust' as a dimension rather than as a goal, we keep open the richness and the many possibilities for investigation that this dimension offers. But it also means that many secondary questions about what we are going to study still need to be answered.

2.3 Connecting dimensions of value to indicators and leverage points

In CreaTures Deliverable 4.1, we investigated leverage points for sustainability transformations and the roles of creative practice. We argued that understanding what creative practices do in the world presents a set of complex challenges in terms of what should be investigated. We provided an analysis of the indicators and thresholds as described in the transformations literature and how creative practices might contribute in terms of those. We structured and bounded our literature analysis by focusing on a dominant concept in transformations theory - leverage points, or places to intervene in a system, as developed by Donella Meadows (1999). This leverage points framing has since been developed further by many authors in the sustainability and transformations field – see for instance the special issue led by Leventon et al. (2021).

The core idea of the leverage points approach is that places to intervene in systems can be identified - from more superficial but relatively straightforward (stocks and flows, knowledge) to deeper inventions that have more of an impact but might be more difficult to achieve (goals of the system, paradigm shifts). We combined this approach with a multi-level framing (Cash, 2006; O'Brien and Sygna, 2013) to emphasize that, given the magnitude of current challenges, creative processes necessarily appear at many different levels of systems and in many different sustainability-related domains. We also described cross-level interactions. The main product of our analysis was a set of indicators and thresholds for creative practice and sustainability transformations mapped onto the leverage points and different levels within social-ecological systems. We used the term “indicator” in a critical, reflexive manner, arguing that the term comes from positivistic traditions of research and evaluation that assume an objective reality out there that is not mediated by different worldviews and ways of being. As researchers embedded in social science and the humanities, we see that this positivist research position is highly problematic when it comes to the deep problems of sustainability and the need to transform society (Funtowicz and Ravetz, 1993; Gibbons et al., 1994). This is the case generally - but it is especially true when it comes to researching creative practices and their relationships to societal change.

This is where the *Dimensions of Value* approach will offer the other half of the puzzle. This approach will start with how creative practitioners frame their practices – and these practices can then be combined with our existing leverage points and indicators to understand how transformation science might understand the creative practitioners’ perspectives, and vice versa. For each dimension, we can ask – what levels are important for this dimension? What leverage points might it connect to? But also - how does this dimension challenge or escape the framing of levels and leverage points?

3. METHODS

3.1 Case study: Experimental Productions in the CreaTures project

The CreaTures project brings together an interdisciplinary team of eleven organizations including both academics and creative practitioners, acting together as co-researchers. At the centre of the project is the Laboratory, a series of creative projects organized by innovative design organizations Superflux (UK) and Hellon (Finland); along with long-established arts and cultural producers Furtherfield (UK), Kersnikova (Slovenia) and Zemos98 (Spain). Each of these diverse partners has agreed to open up their creative processes for collaborative investigation with researchers. We call these works Experimental Productions (ExPs).

To create a shared language and frame around the evaluation of creative practices in the form of an evaluation synthesis, we applied the *Dimensions of Value* (DoV) approach with three ExPs first, as a pilot. Based on this pilot, we developed the DoV approach into a simpler format, which was then tested with the other ongoing ExPs in the project.

We started the pilot process with the following ExPs:

The CreaTures project brings together an interdisciplinary team of eleven organizations including both academics and creative practitioners, acting together as co-researchers. At the centre of the project is the Laboratory, including a series of creative projects organized by diverse creative partners. These are: design organizations Superflux (UK) and Hellon (Finland); along with long-established arts and cultural producers Furtherfield (UK), Kersnikova (Slovenia) and Zemos98 (Spain). Aalto University, the University of Sussex, and RMIT also have their own ExPs. Each of these diverse partners has agreed to open up their creative processes for collaborative investigation with researchers.

To create a shared language and frame around the evaluation of creative practices in the form of an evaluation synthesis, we applied the *Dimensions of Value* approach with three ExPs first as a pilot. The Sustainability Futures Game, the Treaty of Finsbury Park, and Invocation of Hope functioned as these pilot cases to apply our *Dimensions of Value* method to. Based on the lessons about method and content emerging from these pilots, the other active Experimental Productions (which can be found [here](#)) were investigated using a simpler version of the *Dimensions of Value* method as will be described below - to come to a shared set of evaluation dimensions across the CreaTures project (sections 4.2 and on).

Hellon - Sustainability Futures Game

CreaTures partner Hellon, a Helsinki-based design studio, has created the Sustainability Futures game (figure 3) as a way to stimulate imagination and creativity for the imagining of desirable alternative futures. The game can be and has been played in physical and online

versions and is designed for people with leadership and sustainability-related roles within organizations. It facilitates players to co-create a desirable future state for 2030, where selected UN SDG goals have been achieved. The game is a strategic conversation starter for near-future strategy discussions. Even though it includes educational elements, its main purpose is inspirational and pushing the boundaries of “as-is thinking” with creative methodologies. The Sustainability Futures Game has been designed as a continuation of the [Nordic Urban Mobility 2050 Futures Game](#) game, which was created by Hellon for the Nordic Innovation Nordic Smart Mobility and Connectivity programme in 2019. During 2020 and 2021, the Hellon Sustainability Futures Game was played by a wide range of players in online and offline workshops. CreaTures and Hellon monitored player responses to the game both through participant observation and player questionnaires and interviews. The DoV method was conducted with Hellon during this process and informed research questions for the later rounds of the workshops. The interviews were conducted with Kirsikka Vaajakallio - Lead Service Designer, Employee Experience Director, Partner at Hellon; and Zeynep Falay von Flittner, Principal, Sustainable Design and Partner at Hellon.

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Figure 3: The Hellon Sustainability Futures Game

Furtherfield - Treaty of Finsbury Park

Furtherfield is a CreaTures partner in London, and one of the longest running nonprofit international hubs for critical explorations in art and technology. *The Treaty of Finsbury Park 2025* (hereafter, Treaty, figure 4) is a Live Action Role Play functioning as a critique of colonialism as expressed through human domination of all living creatures and systems. Responding to the COVID pandemic, Treaty is being created to play in digital and physical urban green spaces of Finsbury Park in London. Finsbury Park is fraught with environmental issues, pollution, traffic, and governance and financial struggles. *Treaty* is a future event in which a multi-species delegation of park residents (including grass, stag beetles and geese) negotiates an unprecedented mutual agreement on behalf of all organisms in the face of an unprecedented threat to their habitat. At its core is a central provocation: humans live in highly curated isolation, alienated from a planet teeming with life, by the imperialist systems of domination created to control it and this needs to change. As a project, Treaty is a combination of on-line and live role-playing sessions, focused on multi-species embodiment and enacting this new agreement between species about the future of the park. The interviews with Furtherfield were conducted with Ruth Catlow, Co-Founder and Co-Artistic Director of Furtherfield and with Charlotte Frost, leader of strategic development and manager at Furtherfield.

Furtherfield is one of the longest running international hubs for critical explorations in art and technology. The Treaty of Finsbury Park 2025 (figure 4) is a game in 3 acts, a critique of colonialism (as expressed through human domination of all living creatures and systems). Responding to the COVID pandemic, Treaty is being created to be played in digital and physical urban green spaces of Finsbury Park in London. Finsbury Park is fraught with environmental issues, pollution, traffic, and governance and financial struggles. The setting of the Treaty project is as follows: The Treaty of Finsbury Park 2025 is a future event in which a multi-species delegation negotiates an unprecedented mutual agreement on behalf of all organisms in the face of an unprecedented threat. At its core is a central provocation: humans live in highly curated isolation, alienated from a planet teeming with life, by the imperialist systems of domination that we have created to control it. Rather than nurturing kinship with the vibrant ecologies of creatures in our own world, the project engages with the desire to cure this loneliness by seeking companionship from our machines or look far beyond our own realms for signs of life. As a project, Treaty is a combination of on-line and live role playing sessions focused on multi-species embodiment - with a focus on enacting this new agreement between species about the future of the park. The DoV interviews with Furtherfield were conducted with Ruth Catlow, Co-Founder and Co-Artistic Director of Furtherfield and with Charlotte Frost, leader of strategic development and manager at Furtherfield.



Figure 4. The Treaty of Finsbury Park by Furtherfield

Superflux - Invocation for Hope

CreaTures partner Superflux is a leading London-based futures-oriented design studio that combines two distinct strands of work - focused futures engagement and more explorative art installations. The immersive installation *Invocation for Hope* (figure 5) was designed for the Vienna Biennale for Change, and was on display at the Museum of Applied Arts (MAK) from 28 May to 3 October 2021. The installation responds to the biennale's theme of 'Planet Love: Climate Care in the Digital Age' by generating new visions of a shared planet. In *Invocation for Hope*, audiences are invited to travel through a grid of burnt and blackened pines, salvaged from a recent wildfire, toward a resurgent living forest ecosystem at its center. At the heart of the installation is a pool, that, when visitors look into it, does not reflect their own face, but that of another species. The pool is surrounded by a cluster of nearly thirty different living trees, including oak, hornbeam, apple, silver birch, and mounds of biodiversity where mosses, grasses, lichens and shrubs grow symbiotically together over the course of the installation. These living ecologies are nourished by regular watering, grow lamps, and natural light from the large skylight on the museum ceiling. The installation is accompanied by a soundscape created by musician Cosmo Sheldrake. Sounds of bird and animal orchestras fill the forest. The installation has been developed to help visitors experience and examine the complex interconnected relationships of the natural world and raise the possibility of a more-than-human future. The interviews were held with Dr. Anab Jain and Jon Ardern, co-founders and co-directors of Superflux. In 4.1.1 we present the results of empirical work conducted at the installation with visitors on the basis of the interview process as well.

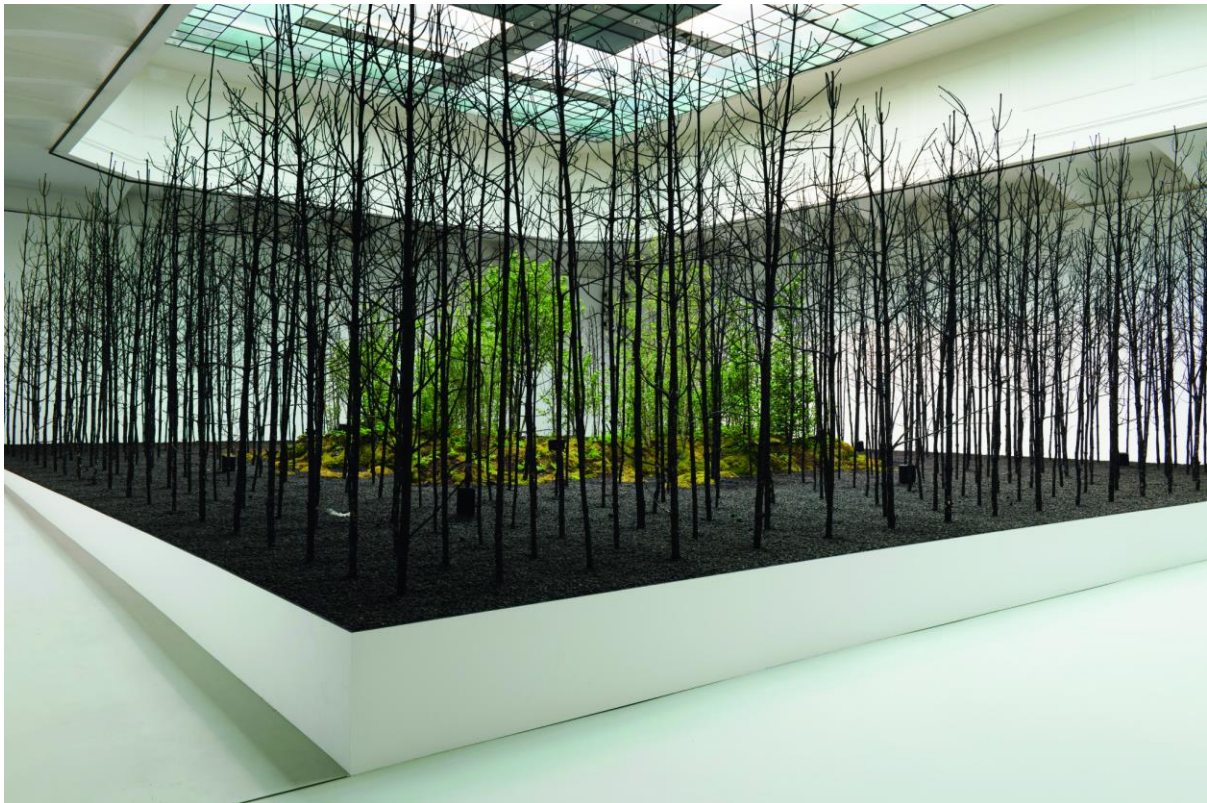


Figure 5: Invocation for Hope by Superflux (image credit: Stephan Lux).

3.2 The *Dimensions of Value* method

We adapted the method used by Vervoort et al. (2021) to develop an interview method, *Dimensions of Value*, that helps interviewers and practitioners identify the fundamental dimensions that can be used to describe the value of their work. While the original method identified relevant dimensions and then focused on an analysis of scale interactions, this is less relevant for our purposes. Instead, our method helps identify dimensions and then moves on to discuss how these dimensions might be evaluated. The *Dimensions of Value* interview method was developed through a series of workshops with creative practitioners within the CreaTures project, as will be described below.

We characterize a “dimension of value” as a way in which a creative practice, and what it does in the world, can be seen and communicated about. We note that this way of framing communication about creative practices might suggest that these different dimensions are inherent in the project - as a kind of object ‘out there’ or dimensions waiting to be discovered. This would be theoretically at odds with our understanding of how knowledge is made, and it is not how we understand dimensions. Rather, a dimension of value is always understood to be something between the investigator and what is being investigated. It became apparent that sometimes it is useful to use an alternate concept, “lenses” to emphasize the subjectivity of the perspective. This allowed for multiple ways of speaking about the things that are most important to understand about the creative practice, with “dimensions” emphasizing more the characteristics of the practice and “lenses” emphasizing more our perspectives on it.

Therefore, instead of dimensions, lenses are sometimes mentioned in the interview questions. We explained the process using both the language of dimensions and lenses. For instance, using lenses, the explanation might go as follows: ‘With *Dimensions of Value*, we mean the lenses that a creative practitioner looks through to help them understand their project. To find them, we ask the question: what set of glasses do we put on to know what we are seeing?’

The method was trialed with the three pilot cases - leading to iterations in the specifics of the method, which will be described below. The initial two interviews took 4 hours to complete; the third interview took 2 hours; and subsequent sessions with the non-pilot ExPs took 1 hour to complete, on average.

Interviews were conducted on the on-line blackboard environment *Miro*, (<https://miro.com>) where pre-structured interview formats were created and followed with participants. The reason we used a visually supported interview method is because we wanted to base this process in the language of the creative practitioners; and the Miro board allowed them to take notes to write down their own ideas directly while we discussed them, and also check the way in which the interviewers wrote down anything that was said.

The interview process followed a series of steps:

- 1) Making a timeline of the project that contains both a history and a desired future for the project.
- 2) Using the question ‘what is important about this’ to review all key aspects of the time line.

- 3) Eliciting dimensions of value from the answers to this question
- 4) Asking a number of key questions about each dimension of value - including what practitioners wish to understand about each dimension for themselves, how they would like to communicate about each dimension, and how the dimension relates to transformation.
- 5) Investigating how the identified dimensions relate to evaluation requirements by funders and governing actors - what are the matches and mismatches?
- 6) Discussing monitoring and measurement approaches that could be used to provide evidence for change in each dimension.

For a look at how this research was structured visually, the Miro boards that were used to collect the data can be found online – see Appendix 1.

Step 1: storyline

In this first part of the method, a storyline is developed on the Miro board that captures important moments in the development of the Experimental Production, and any developments in the practice of the interviewees that were considered important for the genesis of the Experimental Production. Importantly, the time line also extends into the near –and long-term future. This is building on the process developed by Vervoort et al. (2012) which found that the fundamental dimensions that practitioners use to characterize their realities often become especially clear when talking about desired future change.

This element of the method went through multiple iterations: with the first two pilot interviews (Hellon and Furtherfield), significant time was spent on developing the storylines from the past to the future, capturing as much richness as possible in the narrative. This process was then simplified to focus on four key points of change - the past, the present, the near-term future, and the long-term future, with less time spent on the interviews. We will discuss the benefits and drawbacks of each approach (and how it affects the results along the next steps) in section 5.

Step 2: What is important? What is the value?

When this storyline has been developed, we ask interviewees ‘what is most important about this?’; and the alternative phrasing: ‘what is the value of this?’ for each element of the storyline. For instance, in the Furtherfield process, a moment in time in the storyline focused on finding practical ways to create the experience of being together with other species. The question that was asked was: ‘what is the value/the importance of creating such experiences’? And the answer was ‘people feel the connection of their own thriving to that of other species’.

Step 3: Eliciting dimensions of value

Next, we review all the answers to what is important, and for each of them, we ask, how would you characterize the dimension in which this important change happens? As described above, we also use the alternative framing of ‘lenses’ to emphasize the sense of different ways of looking at a creative practice, in case this language was more intuitive to the interviewees. The process of translating these notes on importance;value to dimensions

was very much a process of dialogue and iteration, and, at least in the longer, more complex storylines in the first two processes (Furtherfield and Hellon), it was not a one to one translation from notes of importance to dimensions. Instead, a process of sufficiency/exhaustiveness was used to draw all relevant dimensions from the notes about importance/value. For instance, ‘people feel the connection of their own thriving to that of other species’ was characterized as the dimension ‘Embodiment, feeling like a way of knowing, empathy.’ However, other notes were also felt to be operating in this dimension. On the other hand, the ‘other species’ part of this note of importance contributed to the dimension ‘playing with inter-subjectivity’. The way this process was made robust in the longer versions of the interviews was through iteration – going over the notes and going over the dimensions until the interviewees were satisfied that everything that was considered important somewhere was captured by a dimension.

In the shorter version of the process with Superflux, there were fewer notes on importance because the time line was more succinct, and translation to dimensions was more straightforward. However, in this version, for the sake of leaving time for the next steps, rather than going for full exhaustiveness (all possible dimensions captured) the process stopped after capturing a few main dimensions that were considered diverse enough to capture the main elements of the ExP. Again, there are benefits and drawbacks to this change which we will discuss in Section 5. In the more elaborate first two processes with Hellon and Furtherfield, 10 and 20 dimensions were identified, respectively; in the shorter Superflux interview, we focused on detailing 3 main dimensions.

Step 4: Questions about each dimension

Once the dimensions were identified, we helped the interviewees select several dimensions that they saw as most important to investigate deeply. Then, we asked them to answer a number of questions about each dimension. See table 1 for the questions and some additional information about the logic behind each question.

Table 1. Questions about lenses within the Dimensions of Value interview method.

Question	Explanation
1. What do you want to learn for your own practice about each lens?	In other words: what would you like to learn about your own work? Also, what do we want to keep track of for each lens we are interested in?
2. Who do you or are you looking to engage with, and how do they relate to the lenses?	This question stimulates practitioners to think purely about their own project from the perspective of a specific lens in terms of communication to society at large, to certain groups, etc. and then ask themselves, what are the kinds of people that I want to engage with regarding the effects of this lens on the project?
3. How do you want others to see this dimension?	This question involves thinking about when you are communicating about your project,

	what would you like others to understand about the project regarding its capacity relating to this lens? Moreover, what do you want others you engage with to understand about what is possible in terms of this lens? How do you want them to perceive it?
4. How do you think this dimension relates to transformation?	The final question is meant to make creative practitioners think about how they see the influence that they have on others in indirect, unpredictable ways that may not even be recognizable that they came from them, relating to sustainability transformation.

Step 5: Matches and mismatches with the evaluation environment

The fifth phase of the DoV interview method consists of identifying matches and mismatches with the evaluation environment. In this phase, we ask, what evaluation framings are you subjected to by your evaluation environment, governing actors, funders, and so on? How do these evaluation framings match and not match with the dimensions of value you have just identified? What can be done with these matches and mismatches in terms of communication and evaluation, and the alignment and conflicts of worldviews between you as creative practitioners and those in your evaluation/policy environment?

Step 6: from dimensions of value to measurement

The final phase concentrates on moving from values to measurement and analysis. In this phase, we ask the following questions: 1) which of the dimensions do you need the most reflection on about measuring them? 2) what do you want to learn about them? 3) what should be investigated – what is the unit of analysis? And over what time line? 4) what methods should be used to collect information? 5) what methods should be used to analyse the information?

3.3 Cross-ExP synthesis step 1: Mapping Dimensions of Value to Indicators/Leverage Points

The *Dimensions of Value* method has two functions in the CreaTures project. First, it is meant to allow creative practitioners to reflect on their own creative practices in terms of what they want to measure, and to start investigating what this measurement should look like. However, a second, and perhaps more central function is producing results that can be used of synthesis across creative practices - or Experimental Productions, as they are framed in CreaTures. This ability to allow for synthesis is an important step toward developing a shared set of evaluation dimensions to be used by different actors to evaluate and communicate about creative practices and to develop a shared understanding of how these different dimensions relate to sustainability transformations – in terms of leverage points in the system, and the levels at which each of these dimensions can be investigated.

A first review of leverage points for transformation, translated into different indicators and thresholds, was created by CreaTures in Deliverable 4.1. This framing of leverage points, indicators and thresholds offers a framing within which to discuss the contributions made by creative practices. This framing was used to map out how the different dimensions investigated across the CreaTures ExPs relate to different aspects of sustainability transformations, and how these might be evaluated. However, we also discuss how the different dimensions challenge this leverage points and levels framing by transformation science.

Clustering dimensions

To do this, all the described dimensions of value from the different interviews (pilots and shorter interviews) were combined and then clustered. This clustering was done using the principle of ‘coherent heterogeneity’ (embracing as much diversity as we can without fragmenting or becoming incoherent) (Blignaut, 2020). The results section in 4.2 will offer more details about how this was done in practice.

Combining dimensions with the leverage points framework

Next, each of these composite dimensions was mapped against the leverage points and indicators for transformation framing - to help make more concrete across which levels of change and at with ‘depths’ of the system each dimension operates. This means asking for each of the 62 dimensions that are part of a particular cluster where it fits on the leverage points and levels frame – and to consider how it impacts other leverage points and levels as well.

We also considered in what ways each dimension might challenge or be beyond this framework, given that it is very much based in a particular transformation science perspective.

3.4 Cross-ExP synthesis step 2: Categorizing Dimensions of Value according to measurability

The next step was to analyse these six composite dimensions in terms of measurability. Which aspects of each dimension can be measured, and how should this measurement be understood? Rawluk et al. (2019) point out that evaluative properties like dimensions of value can be situated on axes of concreteness and context-dependence to orient them in relation to each other. We use this framework to inspire our own framework for mapping the DoVs that were defined during the interviews by mapping them on two axes of context-dependency and types of knowledge (figure 6). We have adapted the terminology used by Rawluk et al. (2019) into two axes. One axis runs from more undefined, tacit and implicit aspects of creative practices to more defined and concrete aspects. The second axis runs from more context-dependent to more context-independent aspects of creative practices.

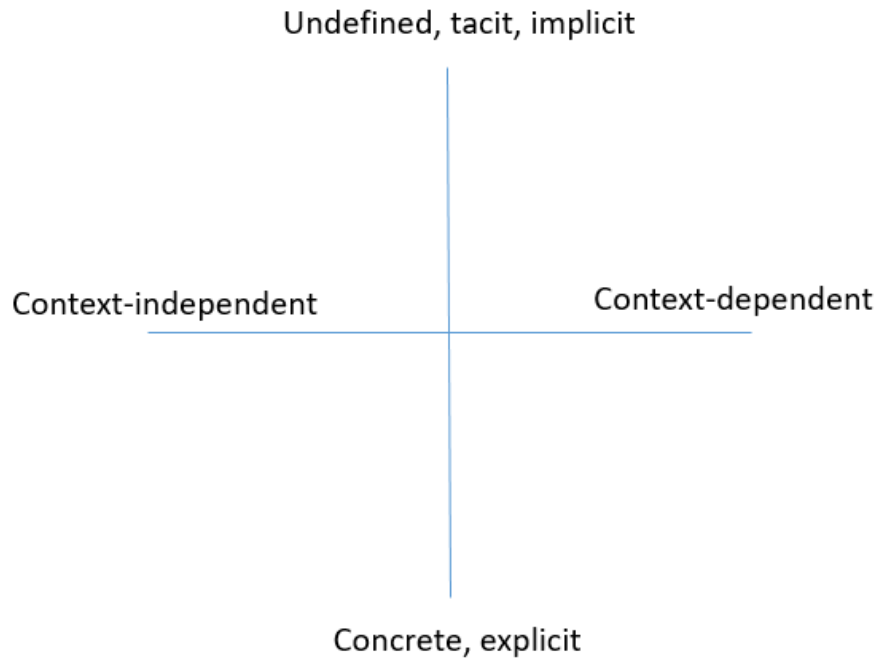


Figure 6. Framework for mapping dimensions of value

The framework categorizes four ways in which dimensions of value can be understood in terms of measurability:

1. Simple to measure (low context-dependence and defined, concrete)
2. Approaching immeasurability (low context-dependence and undefined, tacit, implicit)
3. Hard to uncover (high context-dependence and undefined, tacit, implicit)
4. Contextually complex to measure (high context-dependence and defined, concrete)

Simple to measure ways of representing a dimension might be generalizable and easy to understand. However, they may not be able say something meaningful without being combined with more contextual research. Examples of such context-independent, concrete elements might be ‘CO2 emissions’ or ‘numbers of visitors’. Dimensions that *approach immeasurability* are not context-specific enough to investigate in a more situated manner, nor concrete enough to measure in the way of the ‘simple to measure’ category. However, they often serve as inspiration to investigate outside accepted boundaries. “Creativity”, at least if not contextualized, could be an example of such a dimension. *Hard to uncover* dimensions involve contextually-bounded tacit knowledge and inner worlds (of individuals, groups, or entire systems). “Emotionality” could be an example of such a dimension. *Contextually complex to measure* dimensions are defined and concrete but dependent on many contextual factors, and are highly situated. They can be observed with various methods (from ethnography to discourse analysis). “Local changes in modes of governance’ is an example of such an element.

Different aspects of a dimension are connected to each other. For instance, *tacit knowledge* and *inner worlds* shape *complex material interactions* and *explicit knowledge*, and vice versa. We have mapped clusters of dimensions with overarching themes on the framework to discover what aspects of the clusters can be measured and if so, with what kinds of

methods. Our intention is that these relations – of tacit and hidden knowledge to more measurable kinds – are made more legible and that, by doing so, we not only draw attention to the challenges of representing the multiple and rich goals of creative practice but start to draw attention to how they can be evaluated more compositely. This is particularly important for next steps in the CreaTures project – because creative practitioners are typically good at speaking about the tacit and hidden knowledge aspects of their practices, but the tools and resources to investigate these more challenging aspects of creative practice to understand what actually happens are often missing.

4. RESULTS

In this section, we will first offer the results of the DoV processes with the three pilot cases - Hellon, Furtherfield and Superflux. We will then go on to synthesize the dimensions of value across all ExPs into clusters of dimensions, and map these onto an updated version of the indicators and leverage points framework (as presented in Deliverable 4.1). Third, we will analyse each of the six resulting clusters of dimensions in terms of how different aspects of each cluster can be measured and evaluated.

4.1 Results per ExP

We will provide the results of our pilot analyses using the DoV approach in a case-by-case basis, but in a comparable, step-by-step manner to help understand differences and similarities in each process. These results act as examples of what emerges from a DoV interview process. We also include an example (4.1.1) of how these DoVs were turned into empirical research and present a summary of the results, focusing on the Superflux Invocation of Hope installation at the Vienna Biennale.

Step 1: storyline

Hellon - Sustainable Futures Game: The Hellon storyline is an elaborate story that focuses on the history of development of the Sustainability Futures game as it emerged from the Nordic Urban Mobility Game as an evolution. The history and present parts of the story focus mostly on learning that has happened across different iterations of the game format. As the storyline moves into a desirable future, Hellon's ambitions to engage with systemic interventions across multiple organizations and businesses become clear. There is also a focus on embedding the game in organizational contexts and moving beyond the game as a separate tool or intervention.

Furtherfield - The Treaty of Finsbury Park: the storyline in this interview went back to before the beginning of Furtherfield, discussing its roots in what could be described as the utopian possibilities of online culture and interactions. The Treaty project, itself, in the present and near term future, was discussed in great detail as well. The most in-depth response was provided to questions about the long-term future. Furtherfield has significant ambitions in terms of the scaling of its practices across the world - looking to connect local and global action and explorations.

Superflux - Invocation of Hope: In this third interview, a reduced version of the timeline was used as a method. Rather than building a full timeline, the timeline was split up into four brief parts: past, present, near future and long-term future - but without all the connecting narrative. This was done to allow for more time on the definition of dimensions of value. The Superflux narrative focused strongly on storytelling and myth making; and on the influence of the Superflux work on other creators and projects.

Step 2: what is important?

Hellon - Sustainability Futures Game: While asking the question 'what is important about this' for various steps and elements in the timeline, a number of elements emerged that form the basis of dimensions of value. These are still in a more detailed, discursive form, such as 'Iteration is important to discover the potentials: who the game can be for, the engagement, the political aspects'.

Furtherfield - The Treaty of Finsbury Park: the storyline for the Treaty project was highly elaborate - and as a result, the discussion of 'what is important' became very in-depth as well, as reflected in the number of dimensions extracted from the analysis below.

Superflux - Invocation of Hope: Because of the more limited detail and greater focus in the storyline, the question 'what is important' yielded a smaller set of key answers which were directly translatable to dimensions of value.

Step 3: dimensions of value

The next step in each process was to ask for each of the answers to 'what is important' how these answers could be characterised by a single concept that captures a dimension of the project. Different answers to the 'what is important' question on the time line could be understood to refer to the same dimension. The dimensions for each ExP DoV process were as follows. We have kept the phrasing used in the interviews, and sometimes this means that the way a dimension is phrased sounds like it has elements of a goal or a vision – but we have chosen to keep these phrasings because it keeps some of the contextualization of the dimension and how the creative practitioners talk about it in play for the next steps.

Hellon - Sustainability Futures Game:

- Space for creativity, unchaining, freedom, playfulness
- Empowerment, role in reshaping the future
- Inclusivity, accessibility & diversity at different levels
- Systemic, holistic thinking & moving between scales
- Exploration without conflict
- Structuring complexity and interconnectedness without over-simplifying
- From abstract to concrete and back
- Good experiences, feelings, and sense of use of time
- Education & learning
- Emergent and unexpected value

Furtherfield - The Treaty of Finsbury Park:

- More than human governance and ability to shape environment, more than human action
- Translocal coordination/cooperation
- Care not as a zero sum game, co-thriving, politics of care
- Emergent, collectively created, p2p diverse human and more than human knowledge systems
- Play
- Aesthetics, expression, communication
- Make believe
- Playing with intersubjectivity, social construction, worldmaking/worlding
- Embodiment, feeling as a way of knowing, empathy
- Limits and impossibility, partiality/incompleteness
- The sense of possibility, empowerment
- Transgression and moral hazard
- More-than-human action and experience
- More-than-human life and technology
- Urgent response
- Iteration, co-design, interdisciplinary collaboration and learning
- Inclusivity and accessibility
- Economics of the project

Superflux - Invocation of Hope:

Since the approach for this interview was streamlined to focus on a briefer time line and on fully developing only a few core dimensions of value, the list is considerably shorter:

- Creating new myths, narratives, sense making
- Ecological perspective/consciousness
- Relationship with other practitioners: Allowing people to find their own roles

Step 4: Questions about each dimension

In the next steps, the interviewees determined which dimensions of value they thought were most important to research. A number of questions were answered for each of these dimensions. For the sake of brevity, we will present one example each here from each DoV process and offer a summary of the rest in narrative form. Appendix 2 offers descriptions of all the dimensions of value for the three pilot cases for further reference.

Hellon - Sustainability Futures Game:

The interview questions yielded many concrete lines of investigation for Hellon on the Sustainability Futures Game. Here, we present the first dimension - space for creativity, unchaining, freedom, playfulness - as an example in table 2. The question about 'what do you want to learn' was translated into specific questions that can be asked to players of the game, related to different dimensions from creativity to systems thinking to experiences of conflict in play. Regarding other actors and how they should be communicated with, the

focus was on making the utility of the game clear across their different dimensions - particularly in terms of different elements of systems thinking and reflexivity. In terms of transformation, this connected creative thinking and empowerment to other dimensions as being key in contributing to transformative change.

Table 2. Key questions for Hellon dimension of value 1.

<i>Hellon - Sustainability Futures Game</i>	<i>Dimension of value 1: Space for creativity, unchaining, freedom, playfulness</i>
What do you want to learn for your own practice about this dimension?	<ul style="list-style-type: none"> - Could people feel in a different way than usual? - What value do the participants see in creativity? - How do people feel during the game session? - Was it fun? why?
Who are you or are you looking to engage with, and how do they relate to this dimension?	<ul style="list-style-type: none"> - Trap for people who are in a systemic or engineering, critical mode - need creativity to open up: There is a trap of being too critical, playing a game can open this up and stimulate creativity. - The biggest value for people who are normally on the opposite side of creativity - systems thinkers, engineers, business people - Those involved in organizational change - Test the game with students and designers
How would you like others to see this dimension?	<ul style="list-style-type: none"> - Opportunity to be creative - Structure and storytelling
How do you think this dimension relates to transformation?	<ul style="list-style-type: none"> - Creativity leads to engagement leads to changed minds/perspectives - You cannot change toward something you cannot picture. People want to change, but they don't know what.

Furtherfield - The Treaty of Finsbury Park:

Given the large numbers of dimensions and the exceptional complexity that emerged from the Furtherfield DoV process, we chose to focus in on some of the dimensions that were considered to be of primary importance for understanding and communicating about the project to make the outcomes manageable. These dimensions were the following:

- More than human governance and ability to shape environment, more than human action
- Translocal coordination cooperation
- Care as a non-zero-sum game, co-thriving and the politics of care
- Playing with intersubjectivity, social construction, worldmaking/worlding
- Transgression and moral hazard
- Economics of the project

Table 3 shows a summary of the answers to the questions asked for the first dimension. Part of the reasoning for developing these dimensions in more detail was that they are each very different from one another - making it possible to cover profoundly different aspects of the project by combining them. Furtherfield's own interest in the various dimensions of the Treaty project run from very concrete questions about player experiences to more theoretical questions about how to frame their work through lenses like critical animal studies. Beyond that, there were questions that seemed impossible to be evaluated at all. There was also a strong focus on scaling up and spreading Furtherfield approaches to networks of peers and other contexts. Across the different dimensions, an interest in engaging with institutional structures and systems of governance came up clearly.

Table 3 shows a summary of the answers to the questions asked for the first dimension. Part of the reasoning for developing these dimensions in more detail was that they are each very different from one another - making it possible to cover profoundly different aspects of the project by combining them. Furtherfield's own interest in the various dimensions of the Treaty project that can be evaluated run from very concrete questions about player experiences to more theoretical questions about how to frame their work through theories like critical animal studies. There was also a strong focus on scaling and spreading Furtherfield approaches to networks of peers and other contexts. This multi-scale, theory-informed perspective that characterizes thinking in Furtherfield about the Treaty project also means that many different groups at different levels should be engaged with in terms of external communication about each of the different dimensions. Across the different dimensions, an interest in engaging with institutional structures and systems of governance came up clearly.

Table 3. Key questions for Furtherfield process dimension of value 1.

<i>Furtherfield - Treaty of Finsbury Park</i>	<i>Dimension of value 1: More than human governance and ability to shape environment, more than human action</i>
What do you want to learn for your own practice about this dimension?	<ul style="list-style-type: none"> - Different ways of being an arts organization in a more than human space - How to connect and engage publics in questions on governance
Who are you or are you looking to engage with, and how do they relate to this dimension?	<ul style="list-style-type: none"> - Local communities - Biosystems experts who bring in expert knowledge; IPBES, policy higher level both in terms of research and policy making
How would you like others to see this dimension?	<ul style="list-style-type: none"> - People to be astonished by the conversations that they gather that people are having - especially by the politics of those conversations - Understand natural regulatory systems that may have an impact on how people feel about getting involved in governance - seeing governance as a part of ecology - feeling better about this - Infrastructure of urban green space as something that they can change

<p>How do you think this dimension relates to transformation?</p>	<ul style="list-style-type: none"> - It's that the people we work with feel more connected, more informed, and more able to act together because of the project - This project changes how policy makers see the role of bottom-up engagement to bring information to the top parts of the system, to inform policy
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Superflux - Invocation of Hope:

As described previously, the Superflux interview was scaled back based on the more elaborate interviews conducted with Hellon and Furtherfield - to come to a more focused approach engaging with fewer dimensions. Detailed questions about each dimension revealed that the dimensions 'Creating new myths, narratives, sense making' (the example in table 4) and 'ecological perspective/consciousness' were understood to be strongly connected, so separate answers for 'ecological perspective/consciousness' were only given when they seemed necessary. The other dimension that was investigated was 'Relationship with other practitioners: Allowing people to find their own roles'. What emerged from this series of questions was a clear understanding that each dimension means engaging with an entirely different type of research. The dimension focusing on myths, narratives and sense making can be investigated at the individual level - but can also be engaged with at a more systemic level. The ecological consciousness dimension can be investigated in terms of visitor experience and resonance with *Invocation of Hope*. Finally, the dimension focusing on relationships with other practitioners requires analysis focused on networks and influence. Each of these ways of engaging with the three different dimensions entail links with different types of actors in terms of communication - from publics to peers - and their transformation pathways are distinct as well.

As described previously, the Superflux interview was scaled back based on the more elaborate interviews conducted with Hellon and Furtherfield - to come to a more focused approach engaging with fewer key dimensions. Engaging with the detailed questions about each dimension meant that the dimensions 'Creating new myths, narratives, sense making' (the example in table 4) and 'ecological perspective/consciousness' were understood to be strongly connected, which meant that separate answers for 'ecological perspective/consciousness' were only answered when separate answers seemed necessary. The other dimension that was investigated was 'Relationship with other practitioners: Allowing people to find their own roles'. What emerged from the series of questions was a clear understanding that each dimension means engaging with an entirely different type of research, as we will see below.

Table 4. Key questions for Superflux process dimension of value 1.

<p><i>Superflux - Invocation of Hope</i></p>	<p><i>Dimension of value 1: Creating new myths, narratives, sense making'</i></p>
<p>What do you want to learn for your own practice about this dimension?</p>	<p>How to do it:</p> <ul style="list-style-type: none"> - How do we craft these stories in tangible, visceral forms?

	<ul style="list-style-type: none"> - What does it mean to give a seat to the table to pests and vermin? Breaking down categories in stories? - Inviting in a more-than-human perspective - Moving from speculative realism towards the mytho-poetic <p>What it does:</p> <ul style="list-style-type: none"> - What emotions does it elicit? What about it is disturbing/angry making, etc? - How do people carry these stories forward? - How do we know something has been seeded? - Deep provocations - you won't necessarily see it
Who are you or are you looking to engage with, and how do they relate to the dimension?	<ul style="list-style-type: none"> - Wide range of publics - people who visit the biennales - families, architects, artists, tourists, locals - Other artists, other practitioners- there have been a lot of other forest works. How are we contributing to this conversation with other players - how do we position ourselves?
How would you like others to see this dimension?	<ul style="list-style-type: none"> - This exhibition allows people to observe and notice 'other things'. - What does it mean to think of a fox as a shapeshifter - as a being at the table - a trickster who is important to our relationships with other species? - Unexpected reactions - and how to track them? - Example of unexpected impact: from apocalypse to resurgence as an attraction in a resort
How do you think this dimension relates to transformation?	<ul style="list-style-type: none"> - Confusion, fear of speaking out, camps, tribalism - what are the things that are going to hold us together? - Adam Curtis - we have avoided grand narratives recently. Shel Drake - the need for new myths - we are lost - Move beyond you're right I'm wrong - new stories beyond centered around humans - a new politics - Myths, narratives and stories have the power of spreading - they become a way for us to connect and get together

Step 5: Matches and mismatches with the evaluation environment

In this section of the DoV process, the focus is more squarely on how dimensions of value that are considered important internally do and do not match with external evaluation environments. As we will see, the evaluation environments and regimes that each ExP is contextualized in are very different, posing different challenges and creating different opportunities for the creative practitioners.

Hellon - Sustainability Futures Game:

The focus on matches and mismatches with the evaluation environment for the Sustainability Futures Games was mostly on what potential client organizations need from the game. For Hellon, a commercial organization, clients are the primary evaluation environment – and this often means specific individuals in businesses and government organizations who have the personal power to engage or disengage with Hellon. Hellon mentioned that the main way in which they are being evaluated is simply if they are given another commission or project.

This has consequences for the way that the Sustainability Futures Game is being evaluated by Hellon itself. The game has been designed to be an open exploration of sustainable futures - and had at the time of the DoV process been played mostly in multi-stakeholder contexts bringing many perspectives together. However, there was a clear need, both from the side of the participants in the game sessions, and to make the game more viable for Hellon, for an integration of the game as a tool for organizational change. This meant that the DoV process suggested changes to the game to make it more useful in single-organization contexts. It also suggested prioritizing how specific teams in organizations could be guided to develop the capacities to run the game internally. This conversation about the need for the game to be more focused on single organizations also meant that the game could be considered as a ‘first step’ that could be followed by other futures methods that would allow for more concrete actions to come out of the process.

Furtherfield - The Treaty of Finsbury Park:

In the case of Furtherfield, there is a contrast with Hellon because of a greater reliance on more structured funding from sources like the Arts Council. This means that Furtherfield has to communicate and frame their work against pre-set requirements. This is a challenge for Furtherfield because their own thinking about their creative practice is so multidimensional and influenced by so many different ways of cutting-edge thinking. The very significant depth and dimensionality to the perspectives offered by Furtherfield in the DoV process was considered against the evaluation environment of the project created by the Arts Council. A number of measures used by the Arts Council - Investment Principles - were mapped out, and the internal Furtherfield dimensions were connected to these principles. Investment principles contrasted strongly with the highly multidimensional and sophisticated framings by Furtherfield using their own dimension, because they were designed to be very general. For instance, Investment Principles included 1: Ambition and quality - how to set and measure and prove ambition and progress; and 2: Dynamism. Sustainability, growth and dynamism as an organization - how you develop your business model, skills, data.

However, the analysis conducted by the interviewees and researchers in this step of the process showed that Furtherfield could demonstrate the value of their work using their internal dimensions through a translation process - and that most dimensions could be translated to these principles as such. However, this was not the case for all internal dimensions. When asked which of these dimensions Furtherfield typically has the hardest time explaining evaluation environments, the response was that Furtherfield’s work is about ‘visioning for collective empowerment’. The discussion focused on how to explicitly express this mismatch to funders in a way that would be productive, and to focus evidence-gathering on this dimension.

Superflux - Invocation of Hope:

Invocation of Hope was primarily discussed in terms of its specific evaluation environment, which is very much one of the art world (such as the Vienna Biennale) – where the artistic quality of the work is considered most important. This was discussed in depth because it contrasts in valuable ways to the more foresight-oriented world that Superflux also moves in.

The investigation of how Superflux, in general, and Invocation of Hope, in particular, map to the evaluation environment revealed that Superflux's engagement with contexts that are explicitly 'art first', such as the Vienna Biennale, offers specific benefits. It allows for freedom of what can be imagined, which works to Superflux' benefit by contrasting with the studio's more focused foresight work, their major commercial activity. The exhibitions and installations inspire other creators and are a calling card for Superflux's role in the ecosystem of imagined futures. 'Art first' spaces, such as biennales and museums, allow for artistic autonomy - and the work 'ending up in a museum' is explicitly seen as a good thing in that way, because of the possibilities for resonance and exposure with a wide range of societal actors. The ways in which such 'art first' spaces evaluate and value the work fit well with this function - there is a focus on expressivity, on work that asks fundamental questions. There is a strong role for curators in this process. This means that Superflux has to communicate about installations like Invocation of Hope in this 'art-first' manner and by connecting with individual curators.

The three dimensions of value that were brought up in the interview process only indirectly relate to the requirements of the art world context of Invocation of Hope, where artistic merit and societal resonance are important more generally, but not defined according to these dimensions. But Superflux indicated that this art-first evaluation environment offers great benefits in terms of what can be created.

From the perspective of Superflux' clients for foresight work, the artistic work conducted by Superflux inspires confidence in the studio because they are seen as being able to take risks and engage with uncertainty.

Step 6: Measurement for evaluation

The final step in the DoV process was a discussion between the researchers and the interviewees about what approaches could be used to measure the different dimensions that were identified. The results are presented below. These were very much a first collective brainstorm in the interview process, rather than a fully developed research approach – a step that comes after the interview process depending on the timing of the ExP. We noted that in this step of the process, the interview shifted more to a dialogue among the interviewees and the researchers, because both parties had different experiences and references when it came to designing measurement approaches.

Hellon - Sustainability Futures Game:

The interviewees and the interviewers discussed how to organize different dimensions for the Sustainability Futures Game by clustering them in terms of whether they could be

measured together – at the same time. A large number of dimensions could be measured around and during game play; while other dimensions were more about tracking integration into organizational processes. A number of reflections about how to measure the impact of the game eventually turned into reflections by Hellon for the re-design of the game itself to fit better into organizational contexts – and this was a valuable insight into the potential of the method for re-design which will be discussed in Section 5. See table 5 for a summary of the translation from evaluation to measurement. The dimensions of value mapped out in the Hellon interview process were used in subsequent game play rounds to inform questionnaires and as coding sheets to help take observation notes during play sessions.

Table 5. From dimensions to measurement: notes from discussion with the interviewees in the Hellon DoV process.

<i>Hellon - Sustainability Futures Game: Which dimensions can be evaluated together?</i>	What is the evaluation goal (internal learning, communication, co-learning, etc.)?	What time frame, what level of analysis (individuals, organizations etc.)?	What are the methods for data collection?	What are the methods for data analysis and synthesis?
Good experience, use of time, good feeling; gives space for creativity, unchaining, freedom, playfulness; Exploration without conflict; The emergent value of the game approach? Keeping an eye on the unexpected	Exploration, the unexpected and creativity (see above questions)	During game play, individual experience	Reflection, interviews, questionnaires, observation	Affinity diagramming
Structuring complexity without oversimplifying, (interconnectedness); systemic, holistic thinking, moving between scales; convert abstract into concrete (and move back to abstract)	Knowledge sharing about complex systems, scales etc. - individual to societal perspectives	Individual; but also seeing the organization's position and opportunities in a new way - find connections to the current way of work. So it goes beyond the game session. Adopting the game as an organizational tool.	Individual: interviews etc. Organizational: one session doesn't make a difference. Interview people about whether it has the potential to be an organizational tool. Or evidence of this.	Depends on the relationship with the client - more contextual sense - action research.
Education /learning; Inclusivity, accessibility, diversity across different levels; empowerment to have a role in shaping the future	Empowering to have a role in reshaping the future - at individual and organizational levels. Democratizing this contribution to future-related decisions.	Measure feelings of empowerment during/after the game - but impacts beyond the game - new roles, new tasks, new collaborations. Understand the leadership perception of the value of this democratization - perhaps helps leadership see the benefits of democratization	Measuring feelings - immediately. Longer-term interviews after game play	Strong focus on re-integration of interview and game play insights into re-design of the game.

The investigation of how different dimensions should be measured for the Sustainability Futures Game was organized by clustering different dimensions in terms of whether these could be measured together. A large number of dimensions were seen as being able to be measured around and during game play; while other dimensions were more about tracking integration of the game into organizational processes among Hellon's clients. A significant number of reflections about how to measure the impact of the game eventually turned into reflections for the re-design of the game itself to fit better into organizational contexts. See table 5 for a summary of the translation from evaluation to measurement. The dimensions of value mapped out in the Hellon interview process were used in subsequent game play rounds to inform questionnaires and as coding sheets to help take observation notes during play sessions.

Furtherfield - The Treaty of Finsbury Park:

The interviewees and researchers together clustered the large number of identified dimensions, based on what was to be evaluated – the process and organizational aspects; and the player experience. With Furtherfield, a follow up planning process was organized to develop concrete steps for measurement because the activities around the Treaty project were about to start - the main insights from this planning process are integrated in table 6. From the original Step 6 and this planning process, a division of different levels and groups to engage was identified - from individual to communal to network levels and from local communities to topic experts. Pre, during, and post-process evaluations were mapped out, including for the shorter, middle, and long term. One key aspect that was discussed was to integrate evaluation and reflection into the core of the game, making it engaging to reflect on.

Table 6. From dimensions to measurement: notes from discussion with the interviewees in the Furtherfield DoV process.

<i>Furtherfield - the Treaty of Finsbury Park:</i> Which dimensions can be evaluated together?	What is the evaluation goal (internal learning, communication, co-learning, etc.)?	What time frame, what level of analysis (individuals, organizations etc.)?	What are the methods for data collection?	What are the methods for data analysis and synthesis?
Translocal coordination/cooperation; Care not as a zero sum game, co-thriving, politics of care; Economics of the project; Make believe - fake it till we make it; Iteration, co-design, interdisciplinary collaboration and learning from that	Internal learning, co-learning and communication	Different levels: individuals; community; peer networks. Different groups: locals; network experts. Do other places want to play Treaty in any form - do it where they are? Forking. DIWO: do it with others - how to measure this? Always playing catchup, slippage - is it more successful when people forgot it comes from Furtherfield? Time frame: annual evaluation and then after five years.	Noting down what we know, list it, double check and search. Discourse analysis. Methods for measuring indirect influence. Design reflection into the process. In game prompts and exercises	Methods for synthesizing - why people were inspired, what was the value for them? What was good, what they wanted? What is the reach?
Playing with intersubjectivity, social construction, worldmaking/worlding; More-than-human action and experience; Transgression and moral hazard, fear, uncertainty and danger; Aesthetics, expression, communication; More than human governance and ability to shape environment, more than human action; The sense of possibility, empowerment	Turning all these dimensions into questions for measurement	Different levels: individuals; community; peer networks. Different groups: locals; network experts. Time frame: Short (around the engagement, FF does this) -medium (next year, annual survey) -long term time frames (four years). Help to think about - how to ask medium and long-term questions?	Short-term/during: participant observation. General: interviews and questionnaires. Invite reflection in a way that feels good. Design reflection into the process. In game prompts and exercises	Discourse analysis on what people have said. Interviewing people later about their involvement with the community. Measure engagement with the actual treaty in 2025.

Superflux - Invocation of Hope:

Turning from dimensions of value to measurement in the Superflux DoV process meant a dialogue between the interviewees and the researchers about how to capture two levels of change - individual experiences for the visitors of the exhibition; and the influence of these Superflux exhibitions on larger societal conversations and the activities of Superflux peers and others inspired by the studio. The dimension focusing on myths, narratives and sense making can be investigated at the individual level - but can also be engaged with at a more

systemic level. Measurement recommendations turned toward narrative and discourse analysis approaches. Finally, the dimension focusing on relationships with other practitioners requires an entirely different type of analysis focused on networks and influence. Each of these ways of engaging with the three different dimensions entail links with different types of actors in terms of communication, from publics to peers - and their transformation pathways are very distinct as well. See table 7 for the summary of the translation questions.

Table 7. From dimensions to measurement: notes from discussion with the interviewees in the Superflux DoV process.

<i>Superflux - Invocation for Hope:</i> Which dimensions are evaluated?	What is the evaluation goal (internal learning, communication, co-learning)	What time frame, what level of analysis (individuals, organizations etc.)?	What are the methods for data collection?	What are the methods for data analysis and synthesis?
Creating new myths, narratives, sense making; Ecological perspective/consciousness	Internal learning, communication, co-learning	Many levels: individuals; themes of biennales and exhibitions; discourse;	Collecting visitor accounts; examining themes of biennales, museums and other spaces; tracking key terms in discourses;	Discourse and other textual analysis, network analysis, process analysis,
Relationship with other practitioners: Allowing people to find their own roles	Internal learning, communication, co-learning	Project genealogies; contextualized narratives; client projects as an impact pathway	Quantitative work can be deceptive in this regard. Mapping out conversations and invitations for collaboration. Genealogy of the previous project (Mitigation of Shock). Tracking influence on things that peers would normally not do. Researching the boundaries between co-practitioners and clients.	Event history analysis; process analysis; discourse analysis

4.1.1 Invocation of Hope: an example of fieldwork results based on the DoV process

So far, the focus has been on the interviews and capturing the perspectives of practitioners on how they see the role of their work in the world. However, a crucial task of the CreaTures project is to investigate and help evaluate what these effects might look like – whether it is among audiences, peers, or broader systems. Below, we will give an example of how the DoV process inspired empirical research on site at the Biennale. It should be noted that this on-site research among visitors to Invocation of Hope represents only one of several levels at which the investigation of the ExP was discussed. Other avenues for investigation included looking into broader discourses and effects on peers, which are not covered here but which will be conducted as part of CreaTures as well.

One of our researchers went to the Museum of Applied Arts (MAK) to do visitor observation and semi-structured interviews about the Invocation for Hope installation. The interview questions were discussed with the partner and based on the answers they gave within the DoV interview.

To derive suitable interview questions, first we focused on Superflux’s answers to the specific questions they were interested in for their three dimensions.

For their first dimension of value, *Creating new myths, narratives, sense making*, Superflux wanted to know about unexpected reactions from visitors, leading to the opening question:

- What is your first reaction to this installation?

Also, Superflux wanted to learn about how people carry stories forward and what emotions their installation elicited. This led to the following two questions:

- How do you feel after journeying through this installation?
- How would you explain to others what this installation is about? (This became the final question)

For the second dimension of value, *Relationship with other practitioners: Allowing people to find their own roles*, Superflux wanted to learn more about how the installation inspired visitors to go a little deeper into the core of issues and also mitigated their shock response. They were especially interested in the effects on hopefulness when people entered the forest clearing. This inspired a fourth question:

- How did it feel when you went into the clearing?

For the third Dov, *Ecological perspective/consciousness*, Superflux was interested in knowing how their installation could play its part within making deeper change. This led to the question:

- How do you feel seeing real trees inside a museum?

The questions were used as guidelines for the interviews, and sometimes additional questions were asked. Some of the interviews were done after visitors walked through the installation, and some while walking through the installation with them. During the 5 days, 20 interviews were done. A report about the fieldwork was written and discussed with Superflux afterward. Also, an elaborate Miro was created showing the results of the interviews: https://miro.com/app/board/o9J_lwLElfY=?invite_link_id=469946610466.

The reactions to Invocation of Hope as captured by these interview questions were very diverse. Many impressions involved being worried or sad, not being sure whether the trees were real (almost all of them touched the trees to find out), and something that you usually do not see in a museum.

These reactions were not very unexpected by Superflux when we reported this back to them. There were more unexpected reactions to the question about how visitors felt after journeying through the installation. For instance, the installation made some of the visitors more worried instead of hopeful. Also, there were some critical comments. For instance, about the aesthetics of the clearing, or the technical aspects of the installation in general.

There were also many positive reactions to the installation, for example, several visitors argued that the installation had a much larger effect than pieces of information or art that you can only look at, because walking through the installation simulated multiple senses. They were impressed by the details of the installation, many of them loved the sounds and smells, and sometimes it reminded them about forests they know. The clearing was generally

perceived as peaceful, as more hopeful, and as a special place where everything is really alive. Two other visitors said:

“Well, it was moving. The thing is, when you go to the pond, then you see your reflection, and it’s like, okay you can do something about it. Not anybody else, it’s just you.”

“If I would have to allocate the hope part within the installation, then it would be exactly here, in front of the mirror.”

These sentences are in line with what Superflux expected, although the multispecies aspect of looking into the mirror and seeing the reflection of an animal did not always have an effect, also because of technical issues.

Related to the last question, almost all of the visitors said they would recommend that their friends go see the installation. Several explanations of what the installation was about involved that you “should dive in deeply to find the hope and feel with all senses.” One visitor explained that they would tell others:

“It’s a very immersive installation. Also that it forces you to walk on a path. It’s about two extremes of nature on our planet. The contrast between the artificial lake and the trees and between the impact of human behavior with real living plants.”

Overall, the reactions of visitors varied from sad and worried to calm and happy, all depending on how they viewed the installation and what kinds of messages they took from it. Sometimes, the installation stimulated their imagination, connecting it to metaphors and memories. Sometimes, it did not. Also, often visitors said that the interview itself functioned as a reflective exercise. The experience of visitors seemed to be quite personal, however, it could be guided by the description of the installation and the details that Superflux included in it.

As can be seen, questions for this interview process were kept quite general to avoid pre-framing interviewees – but they were informed by the DoVs; and the DoVs can also be used to analyse these results in terms of whether what happens is desired or expected.

4.2 Cross-ExP Synthesis 1: Clustering Dimensions of Value

The second core function of the DoV approach has been to elicit and synthesize different dimensions of value across the different ExPs. After the three in-depth pilot analyses were conducted, a workshop with all CreaTures members, including ExP project leaders, was organized, in which a simple, parallel version of the DoV process was conducted to identify dimensions of value across other active ExPs. The ExPs included in this process, next to the Superflux, Furtherfield and Hellon ExPs, were:

- Commonspoly (Zemos98) – represented by Felipe Gil – co-lead international projects at Zemos98
- MyCoBiont (Kersnikova) – represented by Simon Gmajner, senior producer at Kersnikova

- Hologram (Cassie Thornton and Lita Wallis ft. Furtherfield) - represented by CreaTures researcher project steward.
- Baltic Sea Lab (Julia Lohmann & Department of Seaweed) - represented by CreaTures researchers
- Open Forest (Open Forest Collective) – represented by project leaders (and cMarketa Dolejsova and Andrea Botero).

Although not all ExPs were directly represented by their creators in this session, the CreaTures researchers were drawing on in-depth processes of observation and collaboration with these ExPs – offering an example of how the DoV can be used as an analytical tool to investigate more complex observations. The dimensions of value identified in this process, combined with those identified in the pilot cases, resulted in 62 dimensions of value in total.

The approach was to produce a number of clusters of dimensions that would still be manageable and practical, while still covering a diversity of dimensions. Furthermore, we decided to further increase the dimensionality of the set by pairing up two terms in each cluster that we considered to be most closely related to each other. This pairing has multiple benefits – it means that in fact, more dimensions are captured, while still maintaining more coherence and accessibility through the set of pairs. It also means that each of the final dimensions has two closely related ways to speak about it.

The process of clustering these dimensions was a process of iteration. A first draft of 6 (paired) clusters was made by CreaTures researchers, and then used to frame these 6 dimensions against the leverage points framework. Then, based on this experience, we went over all 62 dimensions again to see if there were any that were not sufficiently represented. With a view of creating a clustering that we could start to test with creative practitioners, governing actors and researchers to see if they found them useful and recognized their work in them, we decided to increase the number to 9 dimensions made up of pairs (see figure 7), choosing to err on the side comprehensiveness. Several iterations around the pairings were conducted with CreaTures researchers, including in a session for the development of the Open Creative Practice Framework, for which these 9 dimensions will be an input, to make sure they would be useful for this next step.

An important note that this clustering and the subsequent analysis is very much meant to be a starting point for shared investigations between creative practitioners, governing actors and researchers – and they are meant to be changed in this process of engagement; and will be communicated as such.

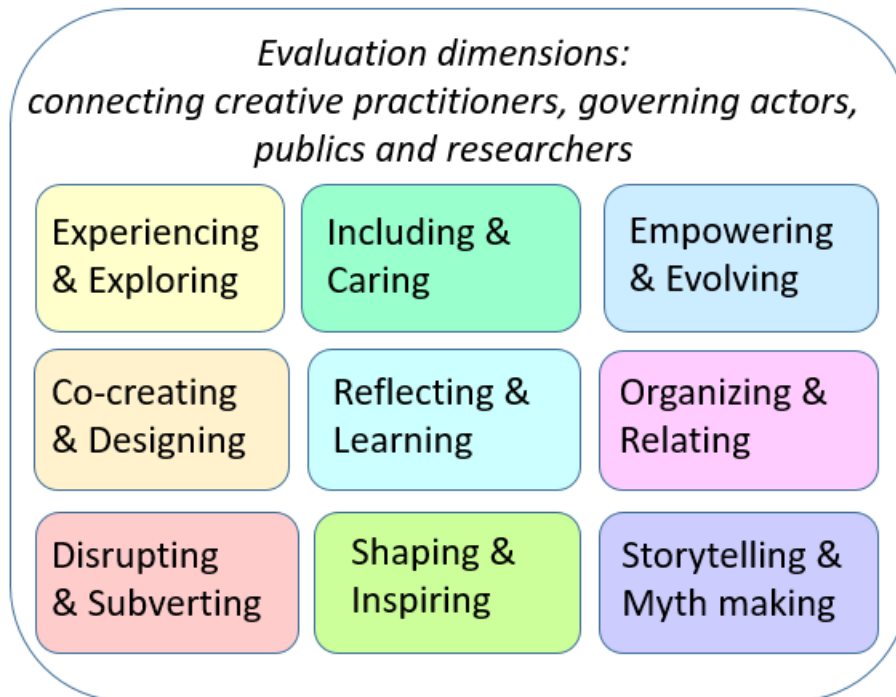


Figure 7. Evaluation dimensions to connect creative practitioners, governing actors, public and researchers

Together, these 9 dimensions are designed to offer a common language and framing between creative practitioners, governing actors, researchers and publics for considering the benefits of creative practices for sustainability transformations. In this document, these 9 dimensions are called ‘evaluation dimensions’ because they are meant to be a basis for considering how each can be evaluated (as also seen in subsequent steps in this document). However, different framings can be considered if the focus is less on evaluation and more on action and inspiration/activation - for instance, ‘liberation horizons’ has been proposed as an alternative framing to use the dimensions more for inspiring action. These 9 dimensions will be used intensively in interactions with governing actors and creative practitioners as part of the development of the Open Creative Practice Framework.

Connecting the 9 clusters of dimensions to transformation leverage points and indicators

Next, each of the 9 clusters of dimensions of value were analysed against an updated version of the transformation leverage points and indicators framework developed originally in Deliverable 4.1. As described in section 2, this framework is built upon combining the notion of transformation leverage points (Meadows, 1999) and different levels of action (Cash et al., 2006)- and has been populated through a literature review of indicators for transformation in the context of leverage points and transformation pathways. In this section, we map all the different elements of each of the 9 dimension clusters onto this framework. This is done to start to investigate how each dimension can be understood in terms of a framing produced from transformation science. This means asking – at what levels, from individual through community, organizational and systemic, does this dimension impact transformations? Which leverage points does it engage with? And how do these different levels and leverage points interact with each other in terms of this dimension? What can be

measured at different levels and leverage points? And finally, how does the dimension challenge this leverage points/levels framing? It should be noted that these dimensions are intimately connected to each other - and that there are overlaps between the different dimensions in terms of elements. It has to be clarified that this is a synthesis of authorial intentions by the CreaTures researchers to start the translation process of the research results from the ExPs to a transformation framing.

The figures below show this mapping, with different parts of the results of the synthesis for each dimension being placed in different parts of the framework. Arrows indicate influence to other levels; and coloured areas indicate influence across leverage points.

1. Experiencing and exploring

The first over the 9 overall dimensions is *Experiencing & Exploring*. This is a key dimension across many ExPs. Though experience is often framed as individual, from the DoV processes it is clear that much thinking about experiencing is framed as communal, organizational or systemic as well. Exploring here refers to pushing beyond existing framings and worldviews. As can be seen in figure 8, much around experiencing and exploring focuses on the deepest leverage points - around mindsets, paradigms, worldviews and values. However, there are also important aspects to experiencing and exploring that have to do with more concretely creating the spaces and infrastructures for experiential exploration. The way this dimension challenges the leverage points/levels framework is by its interest in engaging with entire worlds of experience, and these are not fore-fronted in this framework.

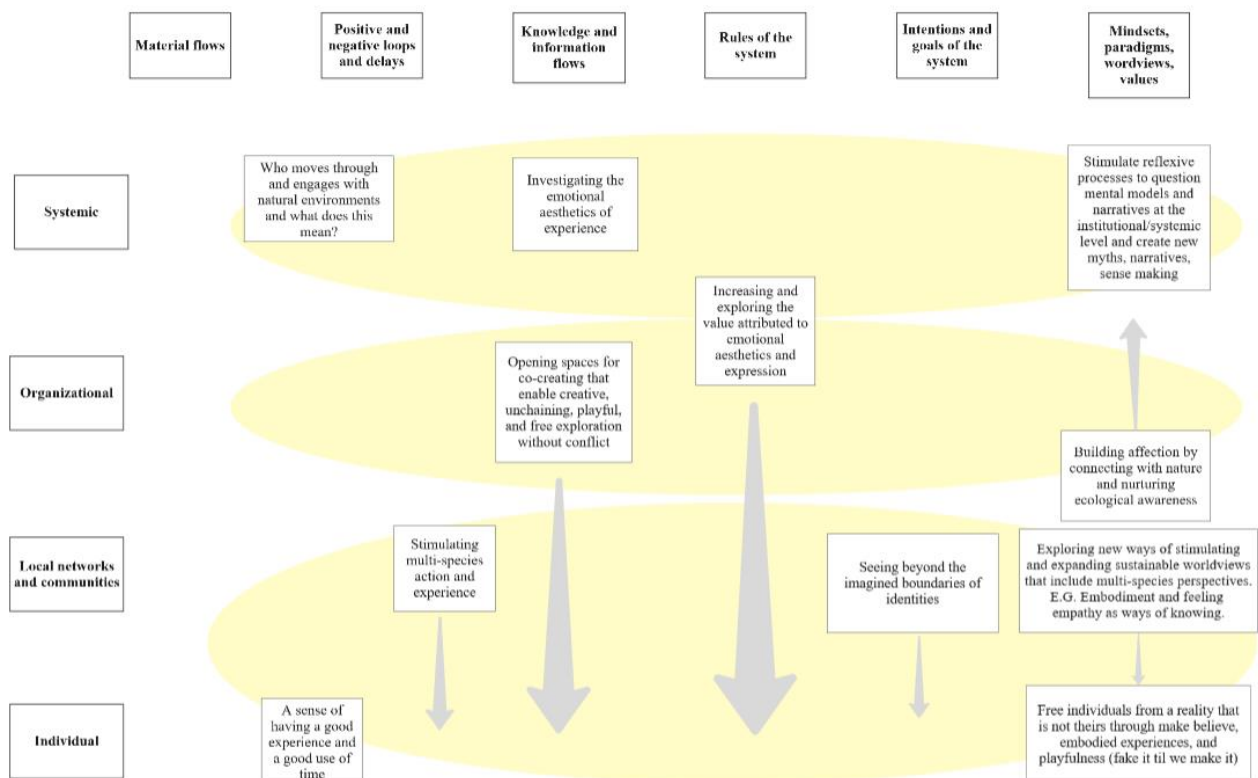


Figure 8. Experiencing & exploring

2. Co-creating & Designing

The second overall dimension is *Co-creating & Designing* (figure 9). This dimension is characterized by many elements working at organizational or systems levels; although there are also important community-level and individual-level components. Co-creating and designing also works across all leverage points - from more concrete system elements to the deeper levels of goals and paradigms. Much of this dimension concerns the design of the contexts and conditions for creative change. Where *Co-Creating & Designing* challenges the leverage points/levels framework is that part of the work involves imagining entirely new structures and framings for understanding sustainability transformations which seek to change existing framings such as this.

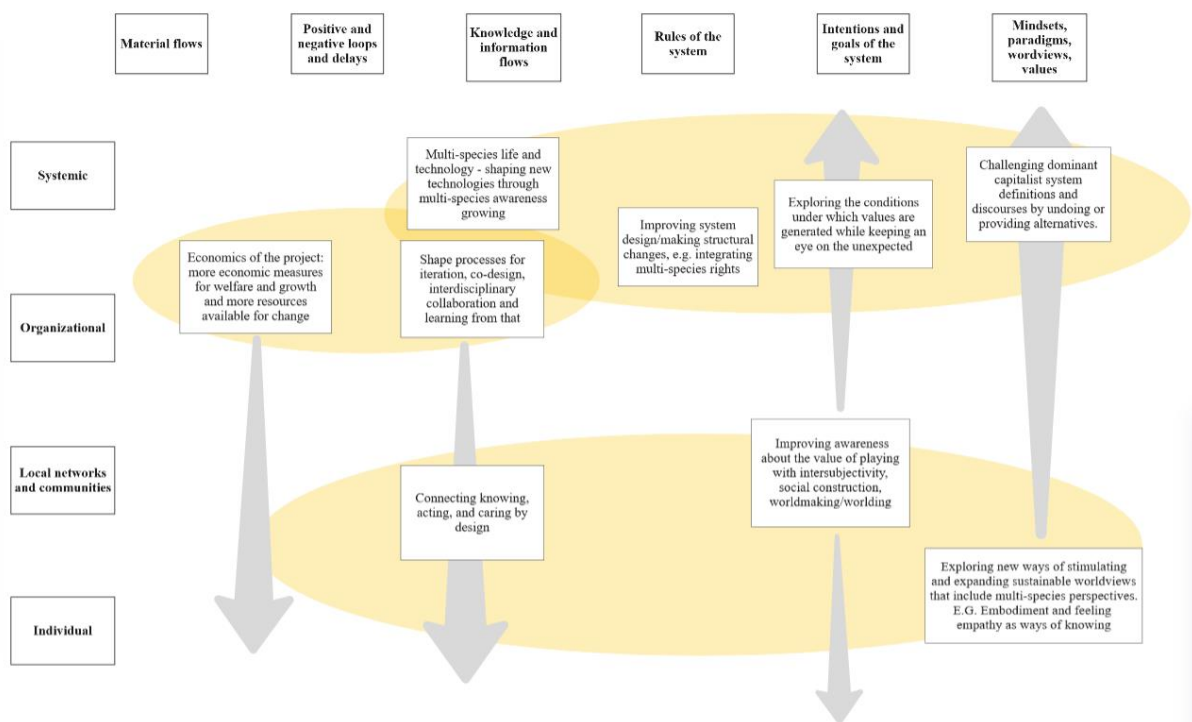


Figure 9. Co-creating & Designing

3. Disrupting & Subverting

Disrupting & Subverting was not universally or explicitly present across all ExPs, but where it was present, it was considered supremely important. *Disrupting & Subverting* can be understood as crucial functions for creative practices in terms of their ability to contribute to challenging current systems and thereby create new spaces for exploring sustainability transformations. Notably, the elements of this overall dimension work mostly on the deeper leverage points - but they also work across all of the different levels, from individual to systemic. Where there is a strong focus on systemic change, this raises important questions on how this type of systemic work on disruption and subversion can be disentangled further.

Disrupting & Subverting as a dimension inherently strains against pre-structured framings such as this leverage points/levels model.

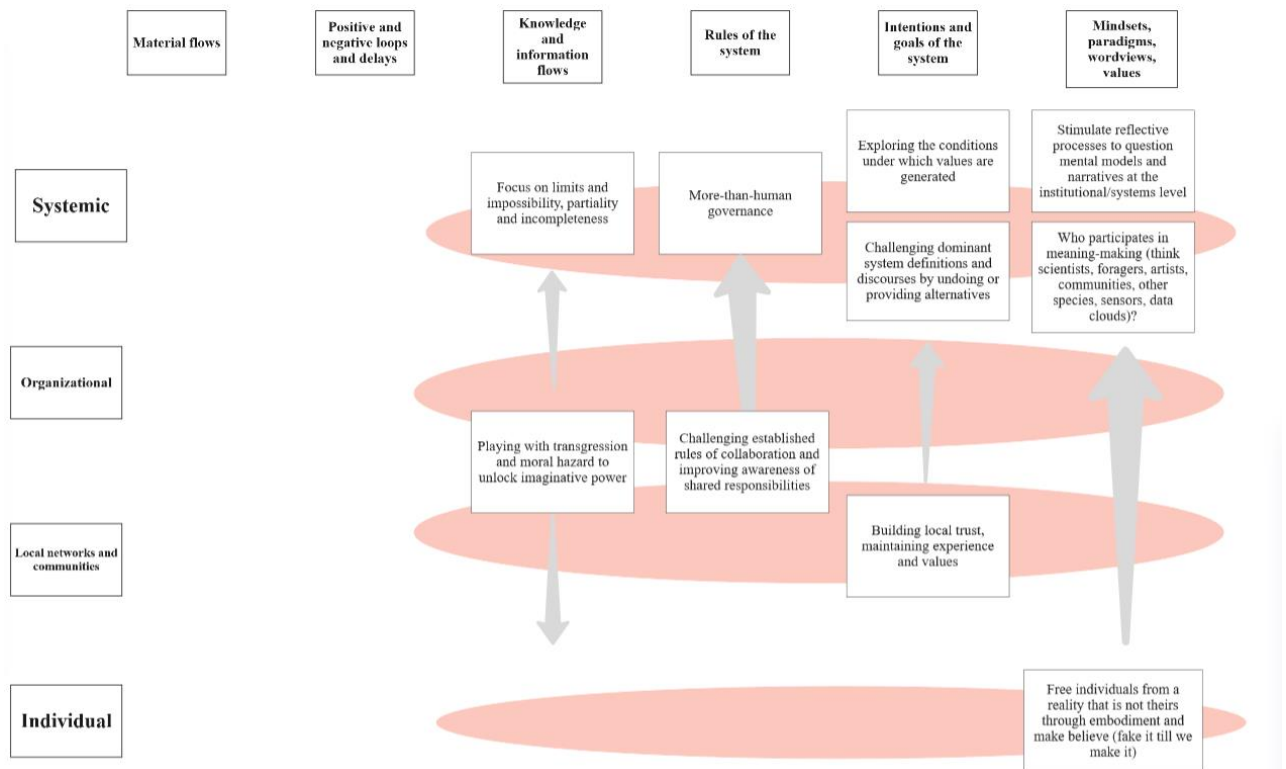


Figure 10. Disrupting & subverting

4. Including & Caring

The fourth overall dimension, *Including & Caring* (figure 11), was also associated with very high importance in the DoV process. Many of the CreaTures ExPs have a strong focus on multi-species perspectives and the more-than-human, which is explicitly taken into account when considering inclusion and care. Care and inclusion are seen as being worked on at all levels, from higher-level aspects like post-capitalist, non-transactional health care to very personal accounts about gender. Several of the elements here also focus on creating spaces for inclusion and care. The way Including & Caring challenges the leverage points/levels framework is that the framework is very cerebral, and could be said to background emotionality and the sense of care to some extent (though this was not the original intention in the work by Meadows).

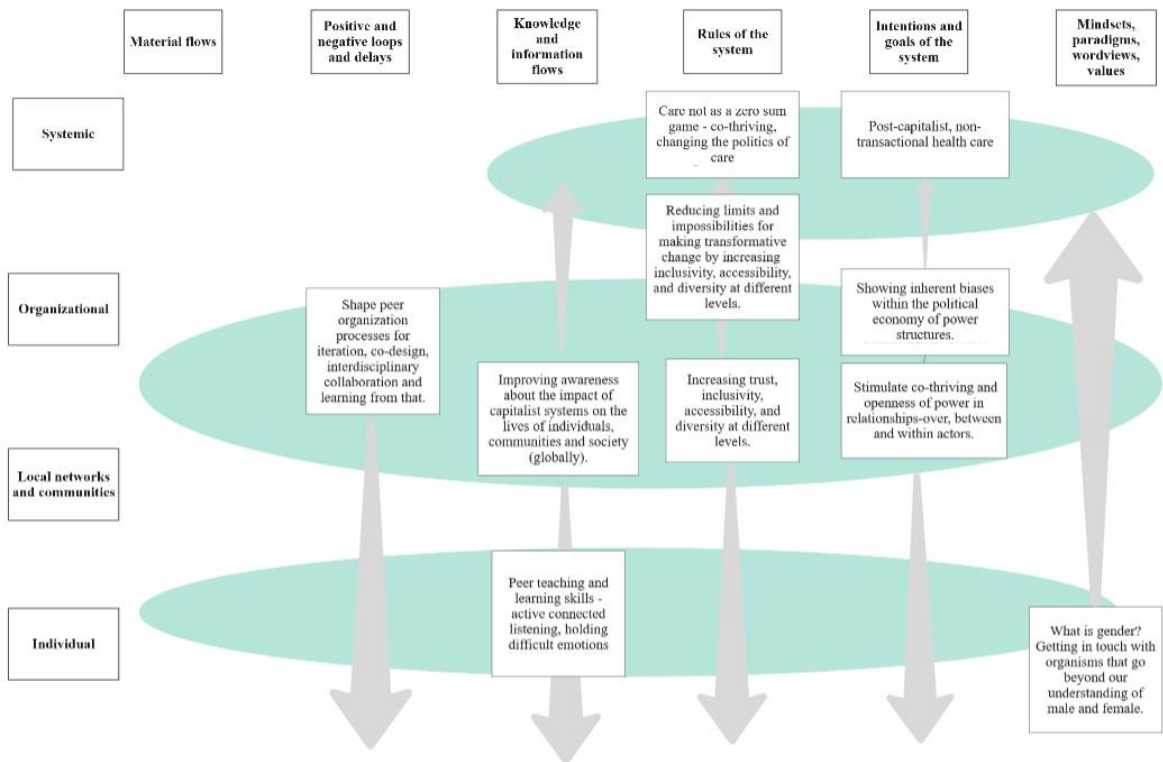


Figure 11. Including & caring

5. Reflecting & Learning

Reflecting and Learning (figure 12), as an overall dimension connects to many of the other dimensions - focusing on the knowledge and reflection elements of many types of systems change, including from coordination and cooperation to deeper leverage points around the assumptions that underpin worldviews and paradigms. Notably, elements of this overall dimension focus in on making knowledge more plural. Again, the multi-species aspects of reflecting and learning come into play in this dimension as well. There are also elements here related to systems thinking and complexity/simplicity across different system levels. One way that *Reflecting & Learning* challenges the leverage points/levels framework is that it does not offer a good way to represent change over time, crucial to this dimension.

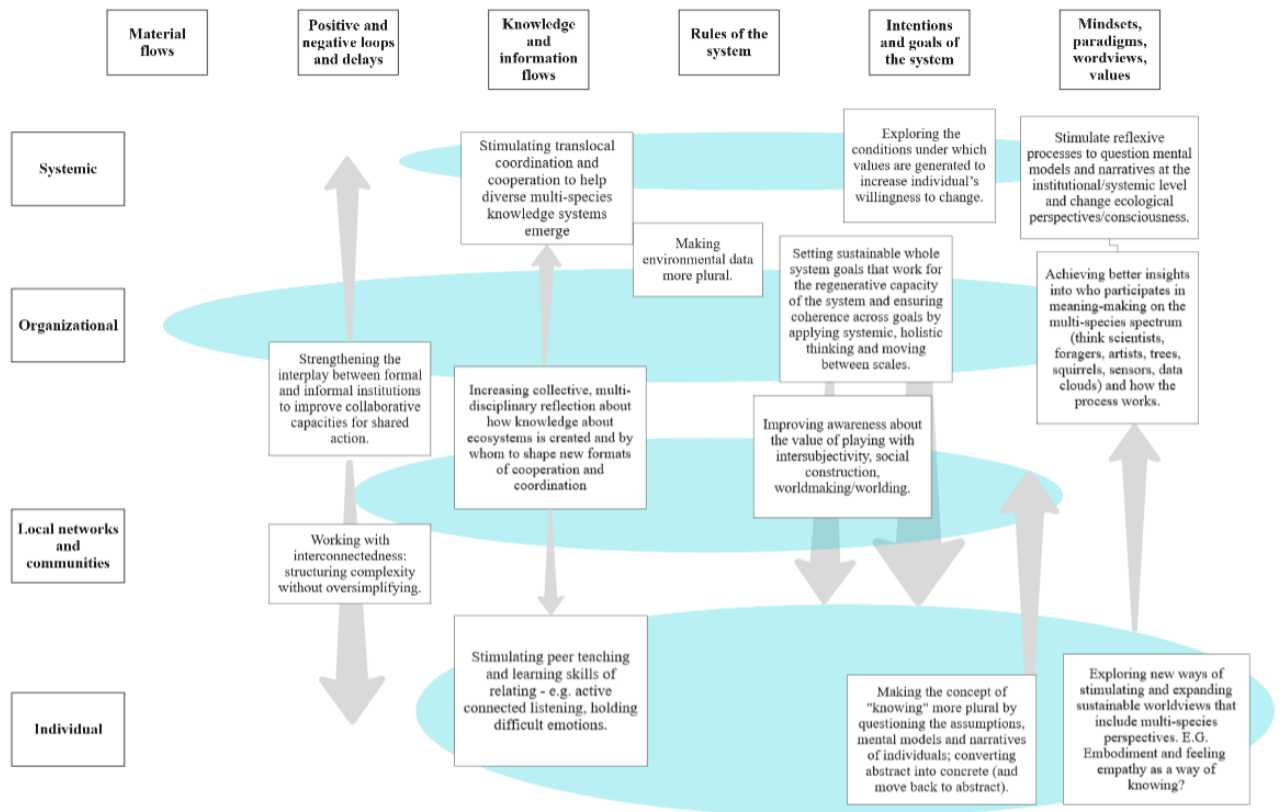


Figure 12. Reflecting & Learning

6. Shaping & Inspiring

Shaping & Inspiring, illustrated by figure 13, shows that the work of creative practitioners in shaping and inspiring systems change is intimately connected to other dimensions. Here, more than anywhere else, there is a strong focus on creating the infrastructures and conditions for systems change. Inspiring has to do with all the unpredictable pathways along which the replication, adapting, spreading, and embedding of creative practices and their impacts happens. Inspiring seems to be the most suitable descriptor for this, based on the ExP interviews – since so many are interested in inspiring peers and tracking how these inspirations result in new work.

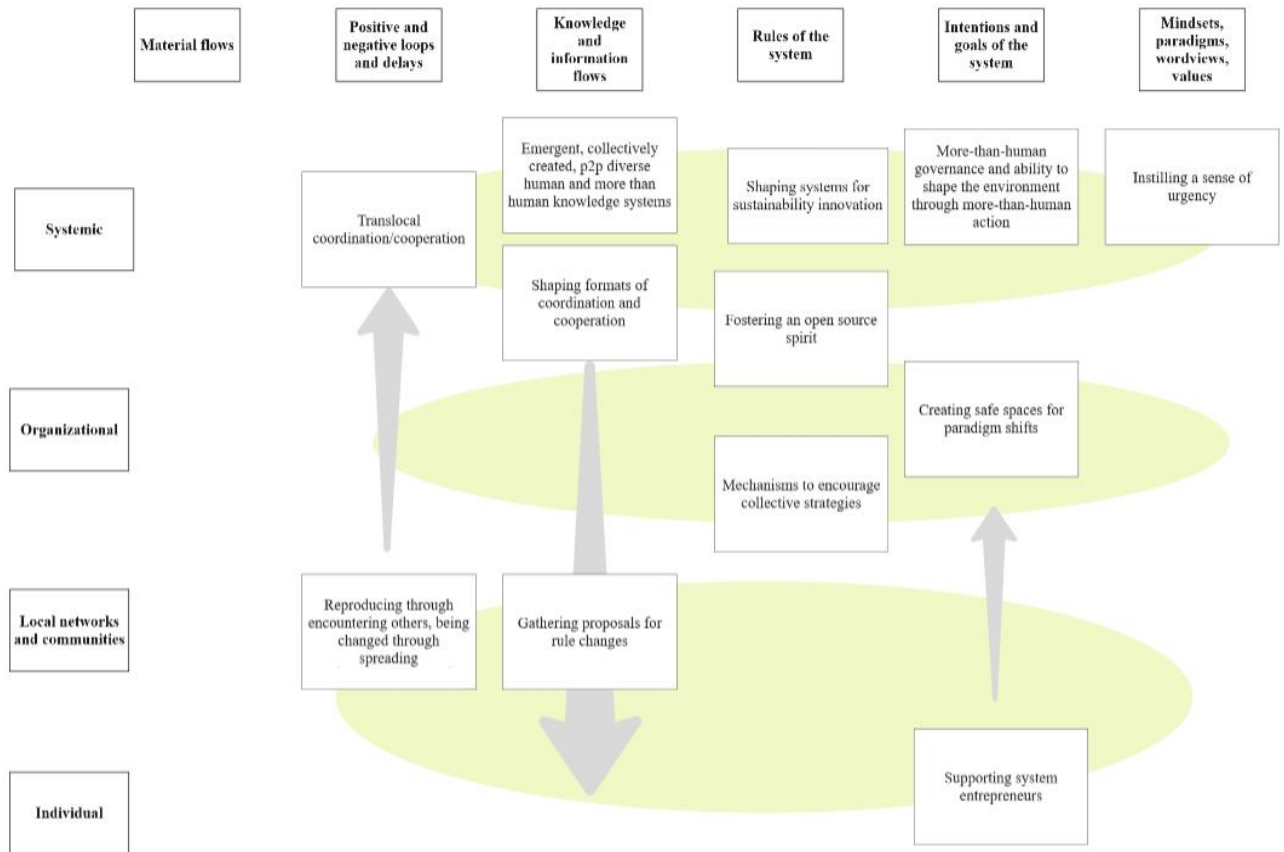


Figure 13. Shaping & inspiring

7. Evolving & Empowering

Evolving & Empowering (figure 14), with evolving being shorthand for capacity development as well, was considered supremely important across many ExPs. Much of the work of capacity building, evolving and empowering happens between community and individual levels but is understood to affect higher levels in profound ways. Elements around empowering are considered key to the motivation of ExPs and relate to other dimensions - for instance, capacities of listening and creating safe spaces for paradigm shifts are closely connected to *Including & Caring*; educating storytellers connects to *Storytelling & Myth Making*. Evolving in the form of capacity development also occupies the more concrete end of the leverage points spectrum, focusing on developing capacities of actionable change at the level of communities.

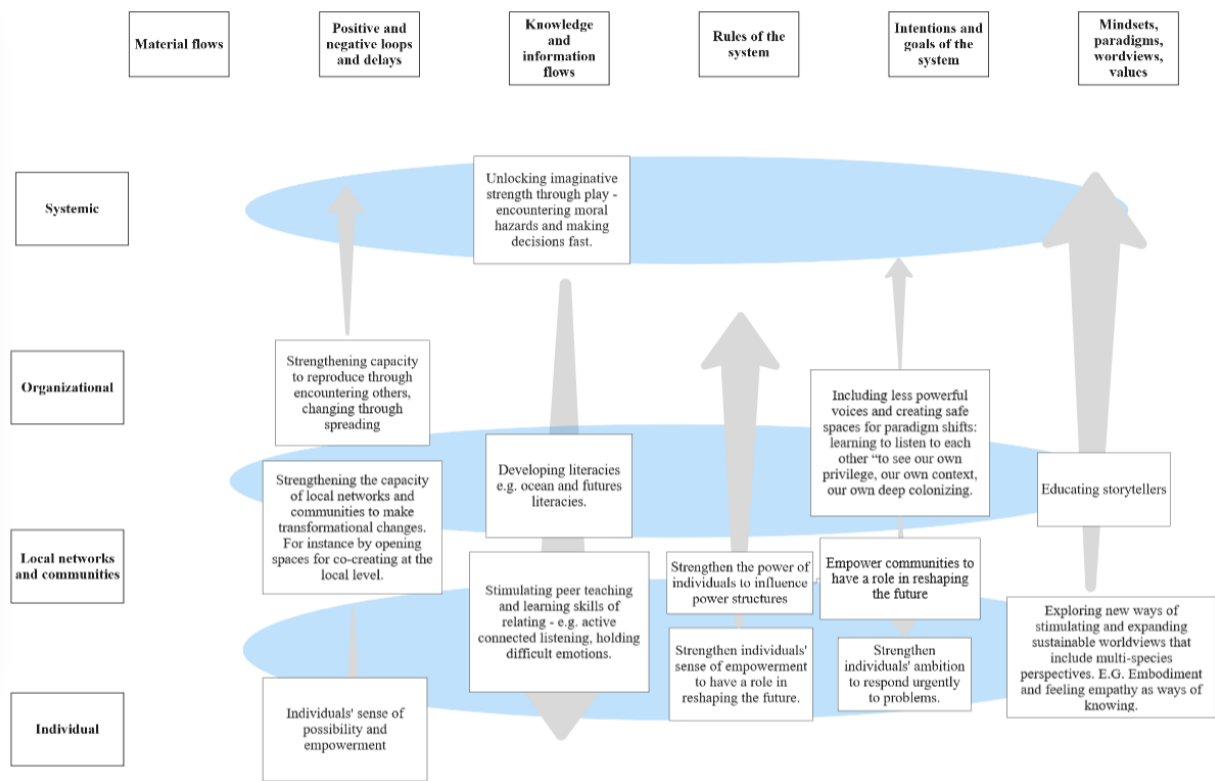


Figure 14. Evolving and Empowering

8. Organizing & Relating

For many creative practitioners, *Organizing & Relating* (figure 15) has been an important dimension of value - and often one that seems to be less obviously associated with creative practice by others. Organizing also connects strongly to prefigurative action - the notion that new forms of organization explored in the more interactive creative practices can serve as an example for larger-scale systems change. Again, multi-species relationships are core to this dimension. This also connects to the idea of discovering new ways and framings for relating. Furthermore, how organizing happens vis a vis dominant organizations, for instance on the periphery of existing organizations, has also been a focus for thinking about change.

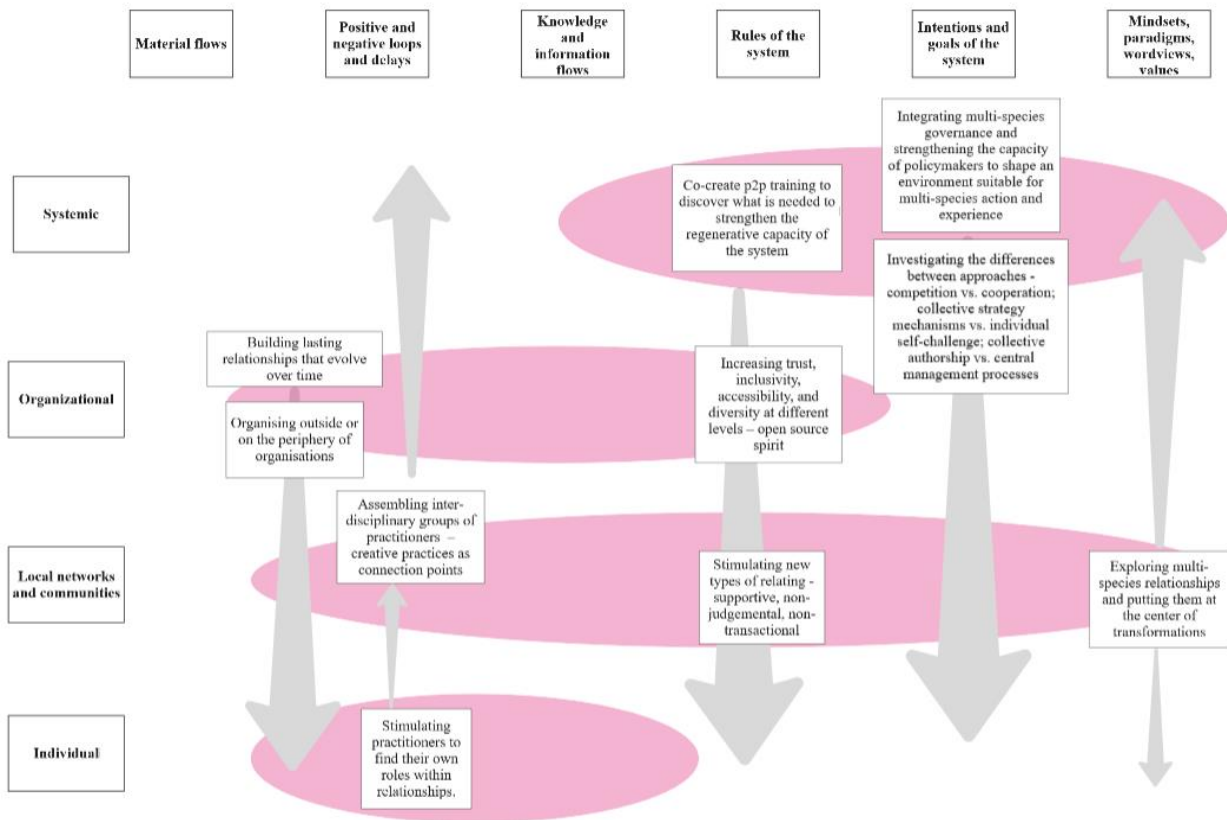


Figure 15. Organizing & Relating

9. *Storytelling & Myth making*

Finally, *Storytelling & Myth making* (figure 16) was considered an important dimension through which to understand the contribution of many creative practices. This dimension can be understood to operate particularly on the deeper leverage points, but it does operate across all levels of systems, from the individual to the systemic and institutional. It could be said that *Storytelling & Myth making* is one of the more level-independent dimensions of creative practice work, considering how stories and myths travel across different system levels in unexpected ways. Important questions came up across the DoV processes around who participates in meaning making, myth making and storytelling.

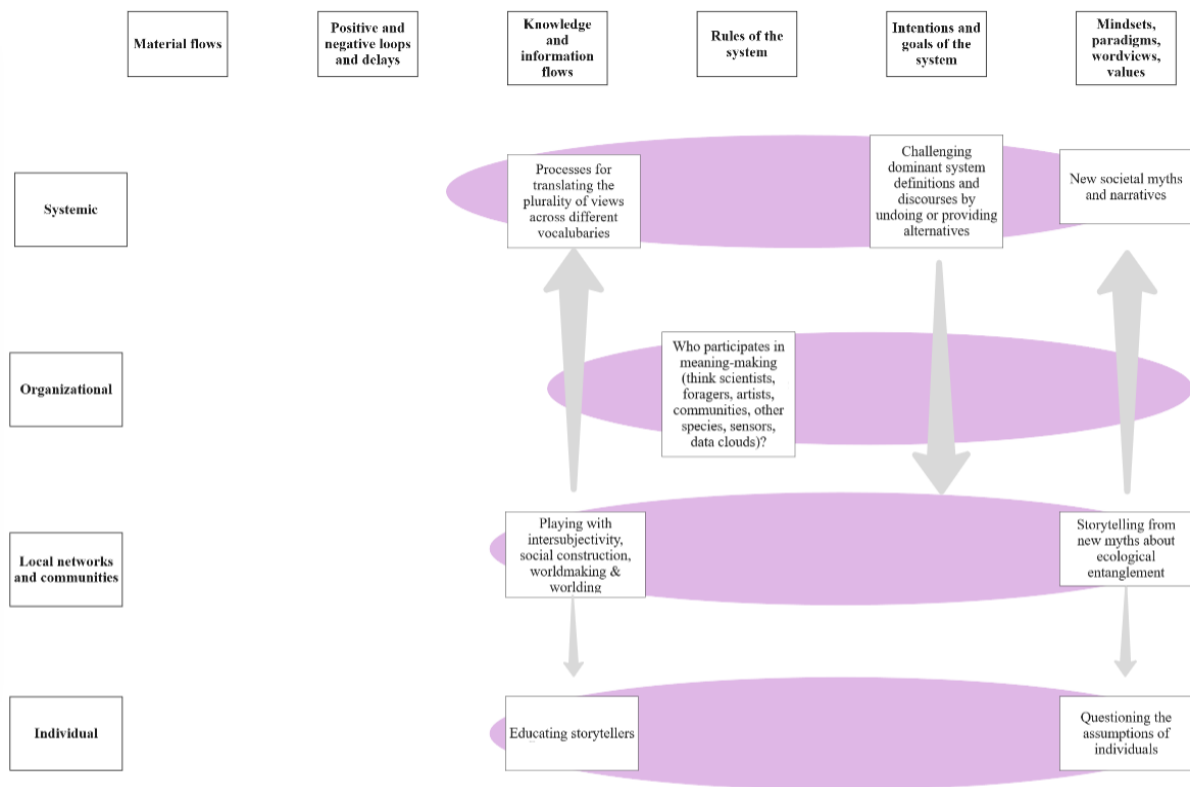


Figure 16. Storytelling & Myth making

4.3 Cross-ExP synthesis step 2: Categorizing Dimensions of Value according to measurability

Each of the 9 different overall evaluation dimensions were also mapped against the different categories of measurability outlined in the methods section. Striking differences emerged across the different dimensions in terms of what categories of measurability they occupy - with each dimension having elements that fall across different categories.

1. *Experiencing & exploring*

Experiencing & Exploring (figure 17) is focused for a significant part on individual experience, and many of the ExPs are highly interested in the most tacit, implicit aspects of experience, and exploring the boundaries of what can be expressed, for which art practices are uniquely equipped. However, there are also many aspects of experiencing and exploring that fall within more concretely observable realms of social dynamics and organization, and which are therefore easier to manage and assess.

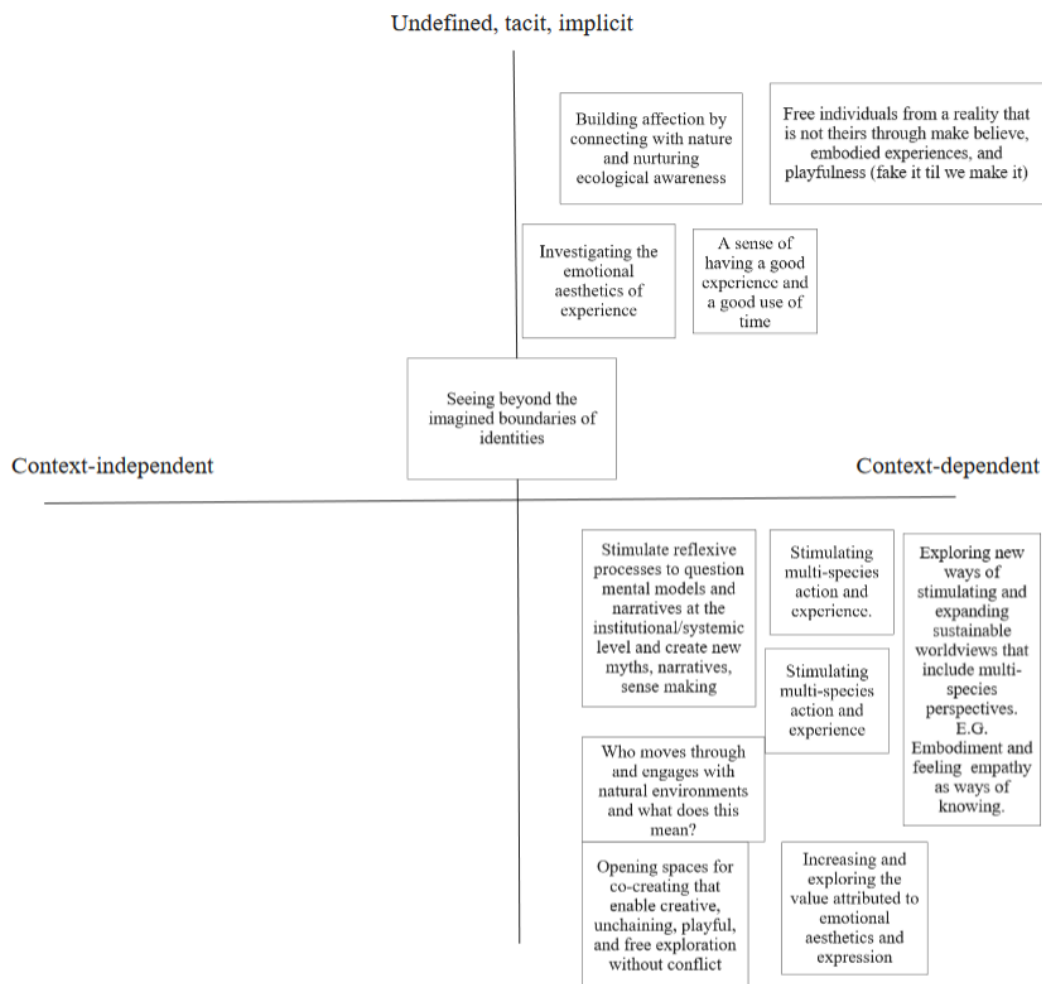


Figure 17. Measuring experiencing & exploring

2. Co-creating and Designing

Most of *Co-creating & Designing* (figure 18) occupies the space of the context-dependent but concrete. Design processes can be studied and designs can be investigated, even if they require strong contextual understanding. This dimension involves many aspects of reality, including dominant framings and discourses - which likewise fall into this category of concretely observable, but contextually complex.

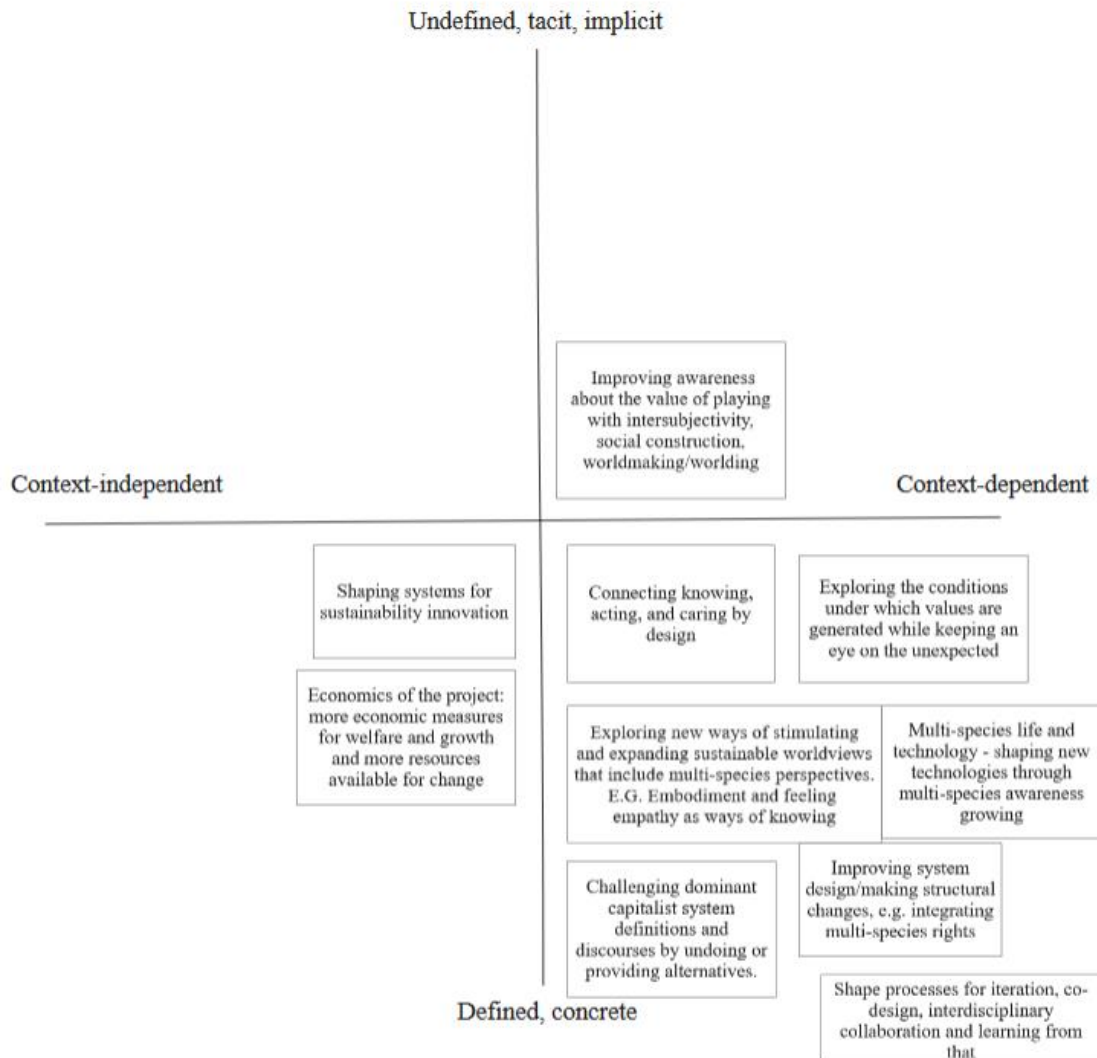


Figure 18. Measuring co-creating & designing

3. *Disrupting and Subverting*

In terms of measurability, *Disrupting & Subverting* (figure 19) follows the dominant trend across these dimensions - many aspects of disrupting and subverting are fairly concrete, but highly contextually dependent. There are, however, also highly implicit, personal, harder-to-access elements to engaging with these power dynamics and the subversion of dominant structures.

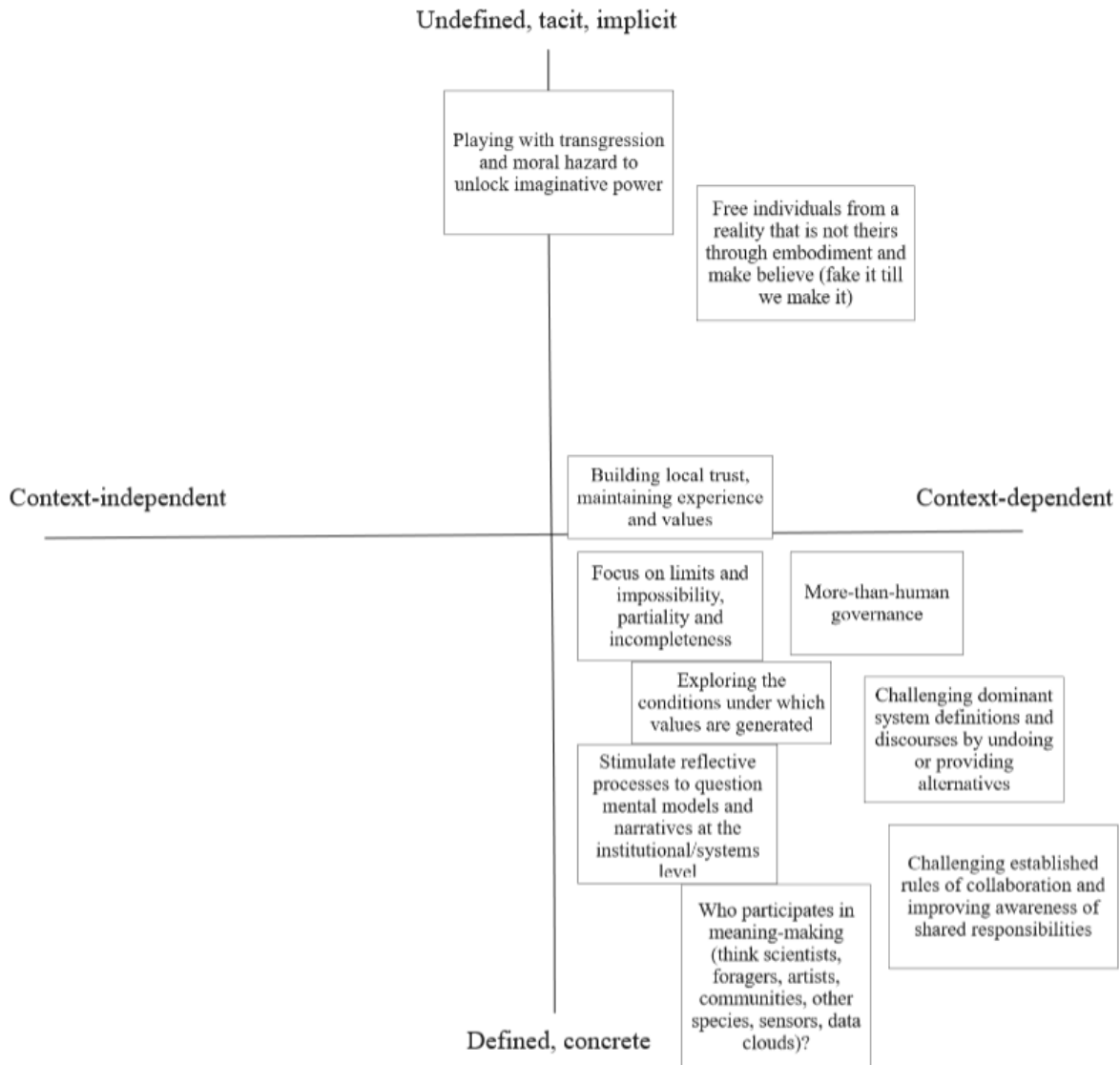


Figure 19. Measuring disrupting & subverting

4. Including & Caring

Including & Caring (figure 20) is a dimension that has many different aspects, some of which are comparatively easy to track - measures of diversity and inclusivity are concrete and context-independent to some degree. However, truly effective work, when it comes to including and caring, must include a strong focus on both the concrete, but highly contextualized, elements of processes of inclusion and care and on personal experiences and tacit skills.

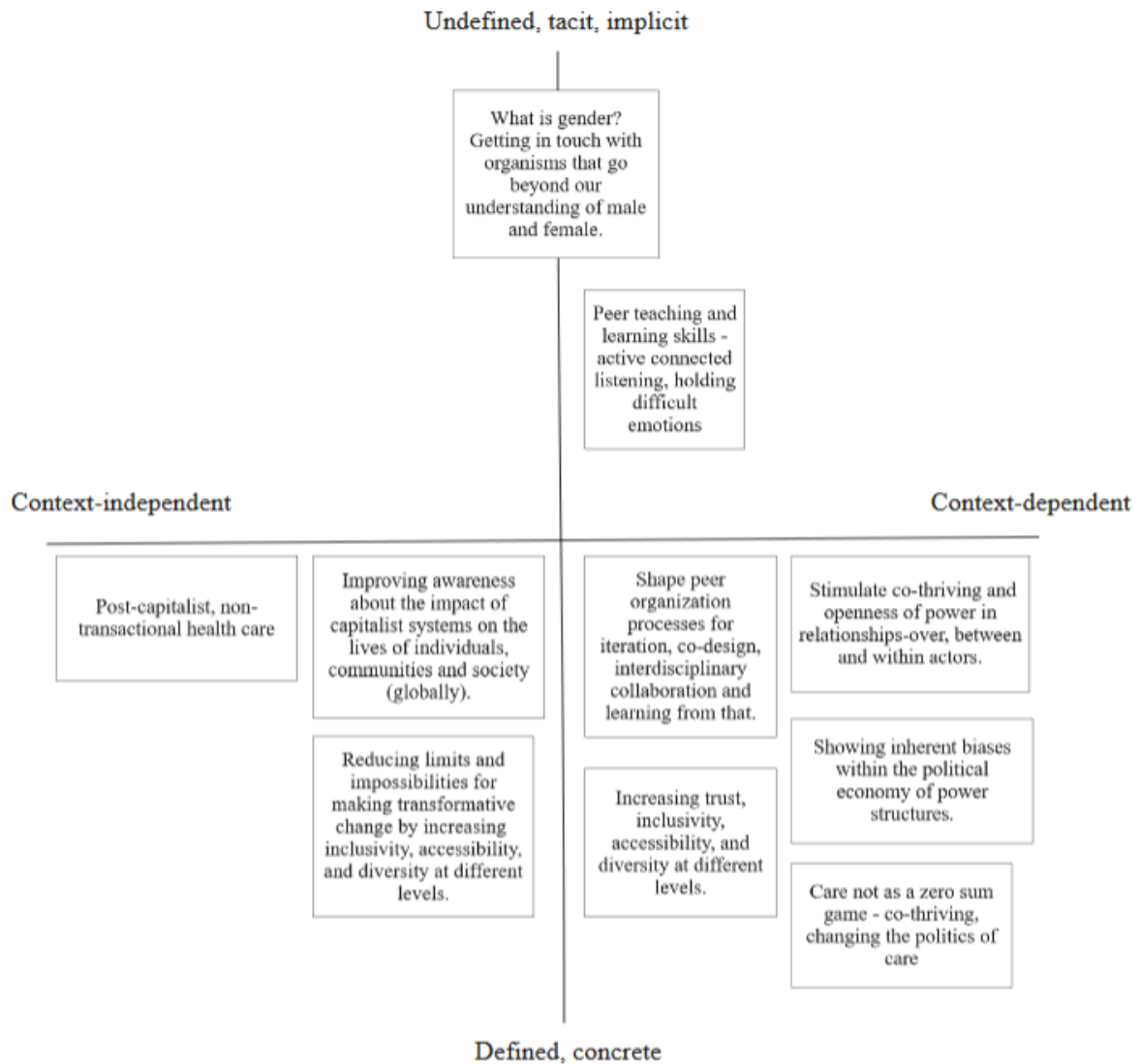


Figure 20. Measuring including & caring

5. Reflecting & Learning

Reflecting & Learning (figure 21) stands out because a significant part of its elements can be considered both concrete and relatively context-independent - having to do with the development of knowledge structures, data access, and various ways to structure knowledge. Principles and processes for reflection and learning can be standardized to some extent as long as they are flexible enough to be applied to specific cases. However, many aspects of reflecting and learning are indeed highly contextualized; and some aspects very much occupy the space of implicit and tacit knowledge (even veering into the limits of what can currently be known), actively pushing those boundaries.

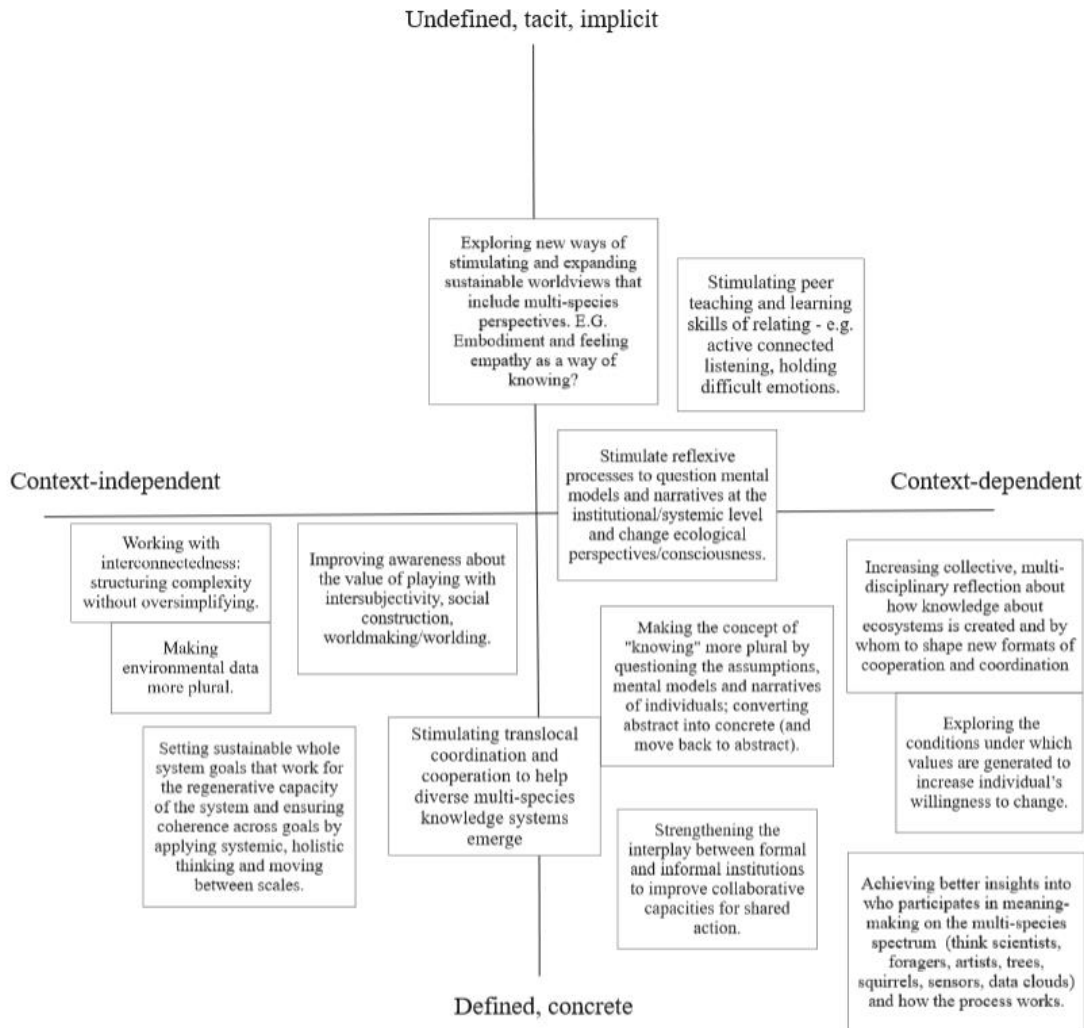


Figure 21. Measuring reflecting & learning

6. *Shaping & Inspiring*

When we examine *Shaping & Inspiring* (figure 22), inspiring is unique because it can be understood as being part of attempts to make very contextualized lessons more broadly applicable. What is it about the specific ExPs that can be an inspiration for others? Of course, many of these inspirations go from specific contexts to other specific contexts, but some principles or ideas must still be transplantable enough to travel in this manner. The shaping elements of this dimension can either fall in concrete and low-context or concrete but more high-context, when highly embedded shaping of systems is concerned. However, some more tacit elements such as ‘open source spirit’ or ‘sense of urgency’ have been categorized here as well.

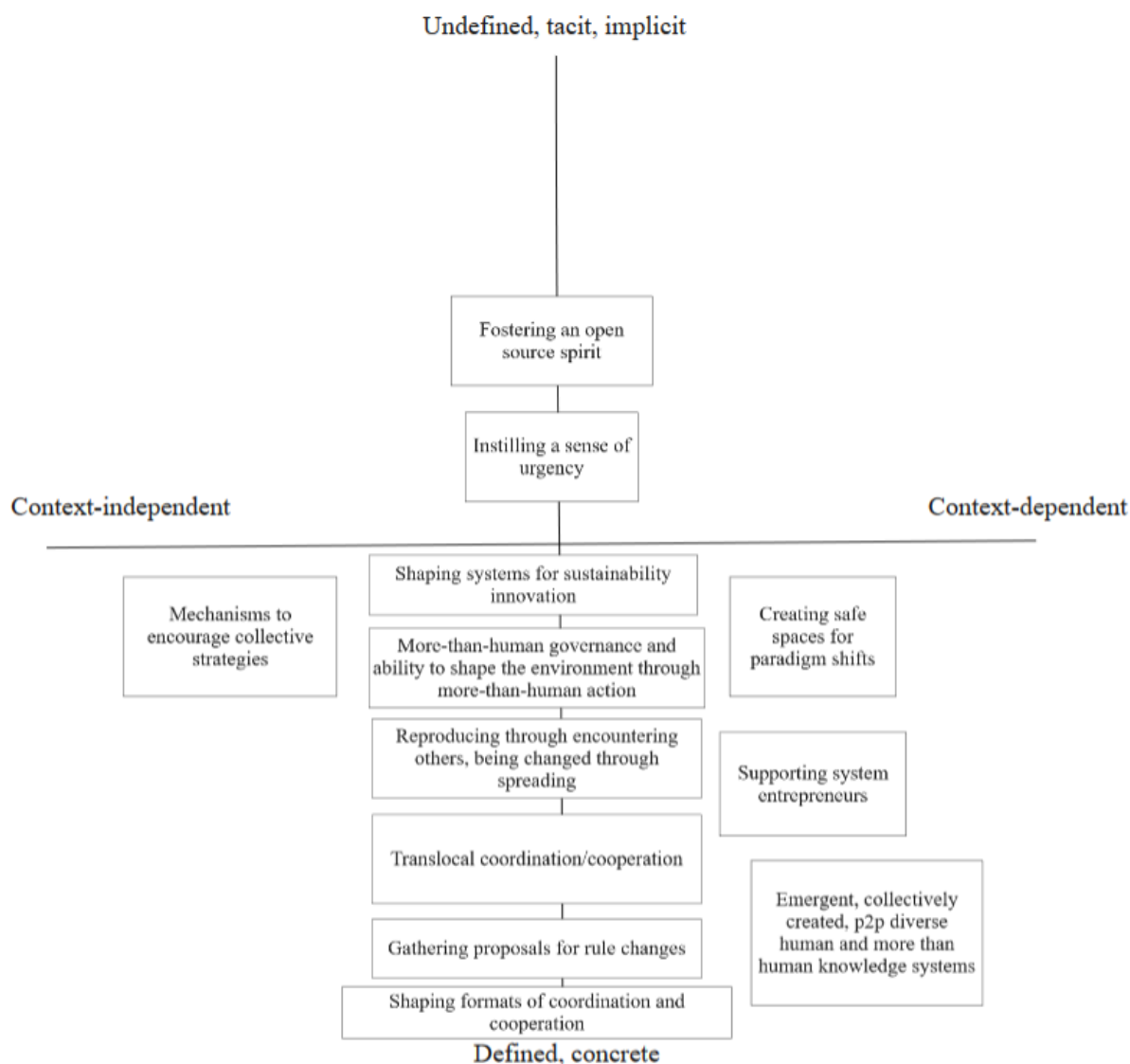


Figure 22. Measuring shaping & inspiring

7. Growing & Learning

Growing & Learning (figure 23) is diverse in terms of measurability: many aspects are highly contextual, but fall in the realm of interactions and concrete processes, but many aspects of growing and learning are also more tacit, more internal and hidden. There are also some elements that have potential to be less contextual - such as measures of futures literacy and investigating the effectiveness of approaches to educate storytellers.

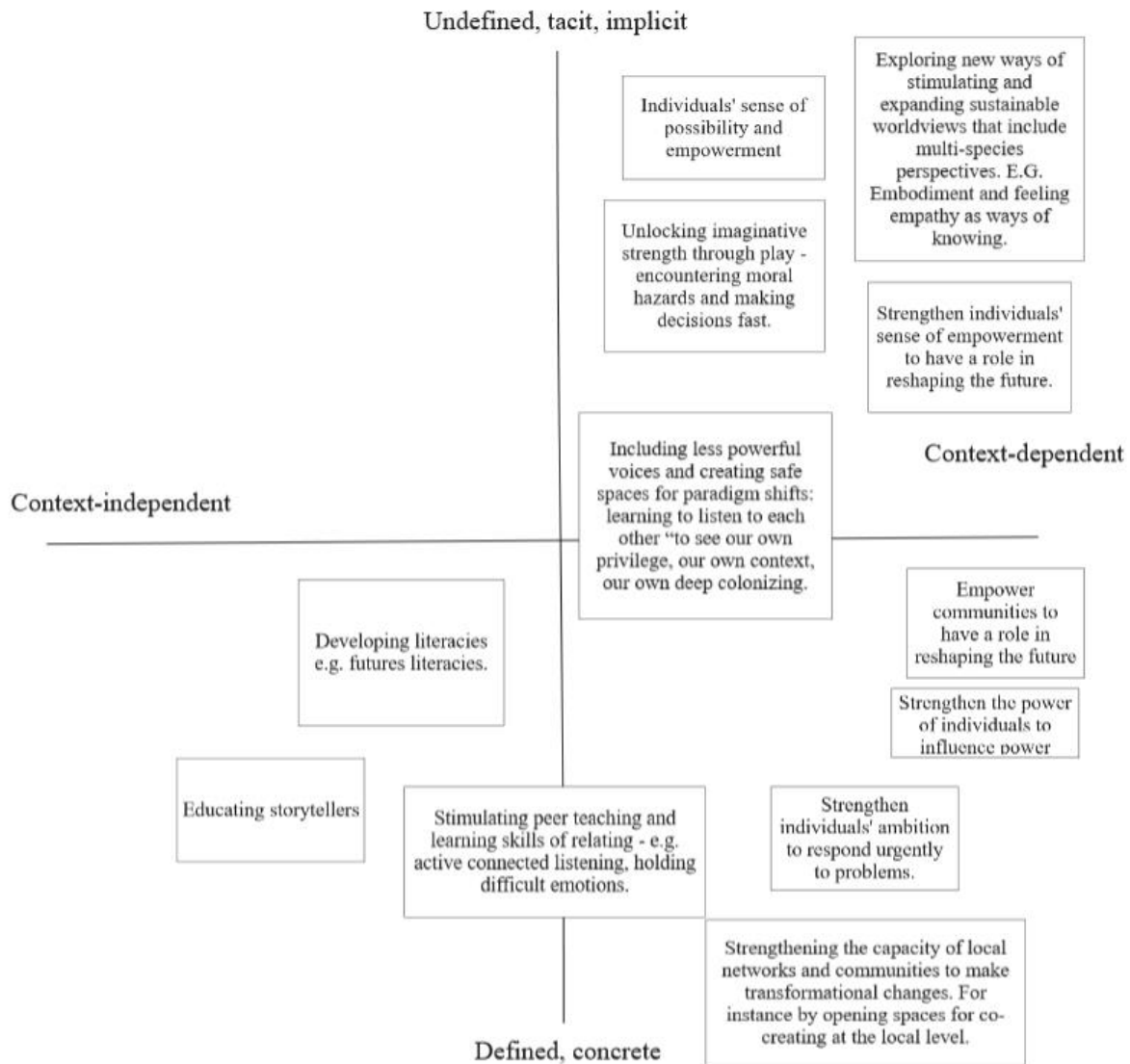


Figure 23. Measuring evolving & empowering

8. Organizing & Relating

In terms of *Organizing & Relating* (figure 24), organizing aspects of creative practices are highly contextual and fairly concretely trackable for the most part. The who, what, when of organization through creative practice can be mapped. The relating aspects of creative practices are mostly very intertwined with organizing, but there are also more implicit and tacit elements to relating, which can be harder to uncover. Some aspects of this dimension are also more easily abstracted - in terms of organizational structures and different organizational dynamics that hold true across contexts.

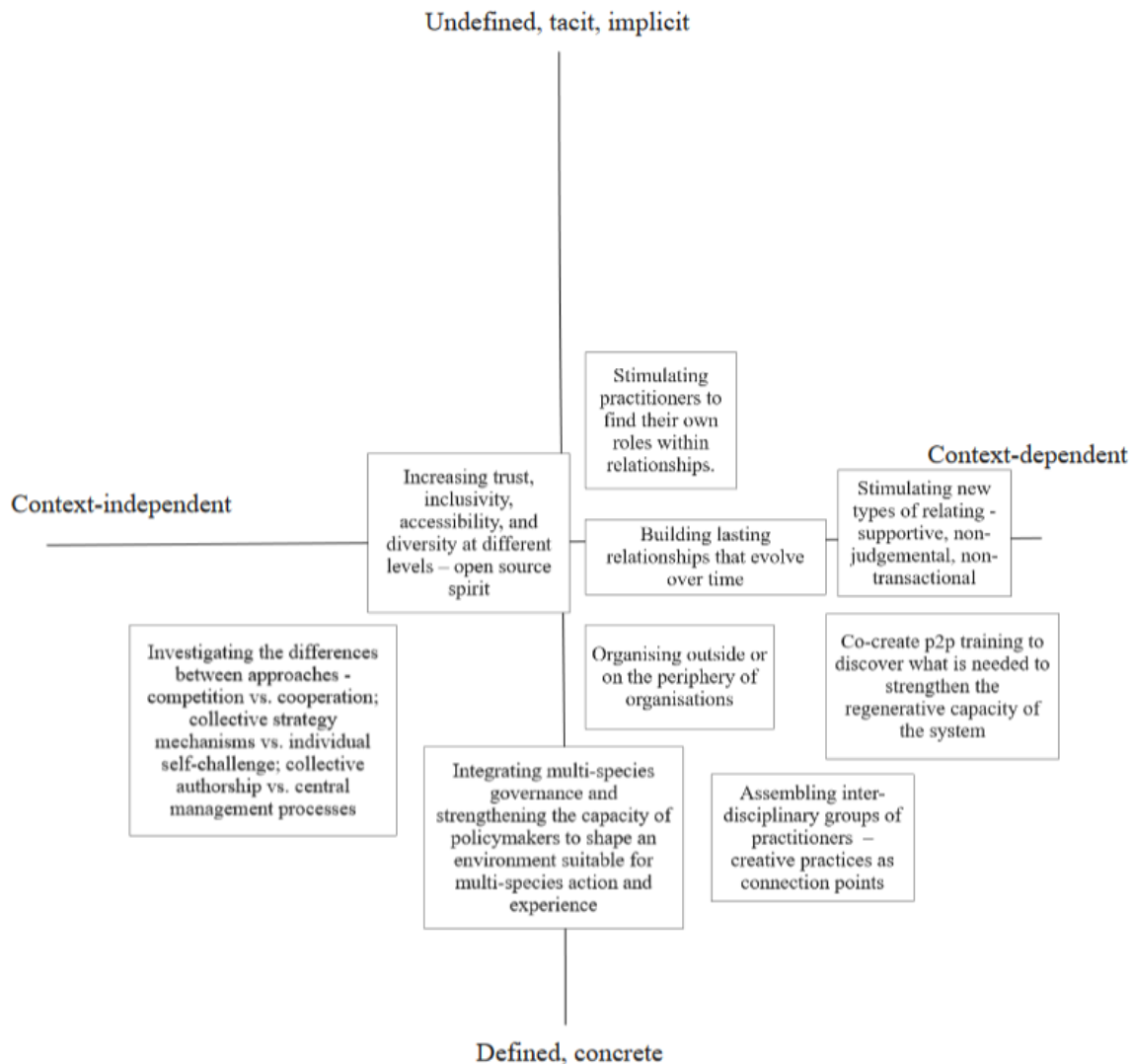


Figure 24. Measuring organizing & relating

9. Storytelling & Myth making

Storytelling & Myth making (figure 25) crosses all aspects of measurability. Important parts of storytelling and myth making are trackable social processes, if highly contextual. Aspects of this process can even be followed in a more context-independent manner to some extent - or can be considered to have cross-contextual potential - as narratives spread and can be used to frame different contexts. But there are aspects to storytelling and myth making and their effects that are hard to uncover, implicit resonances to story and myth.

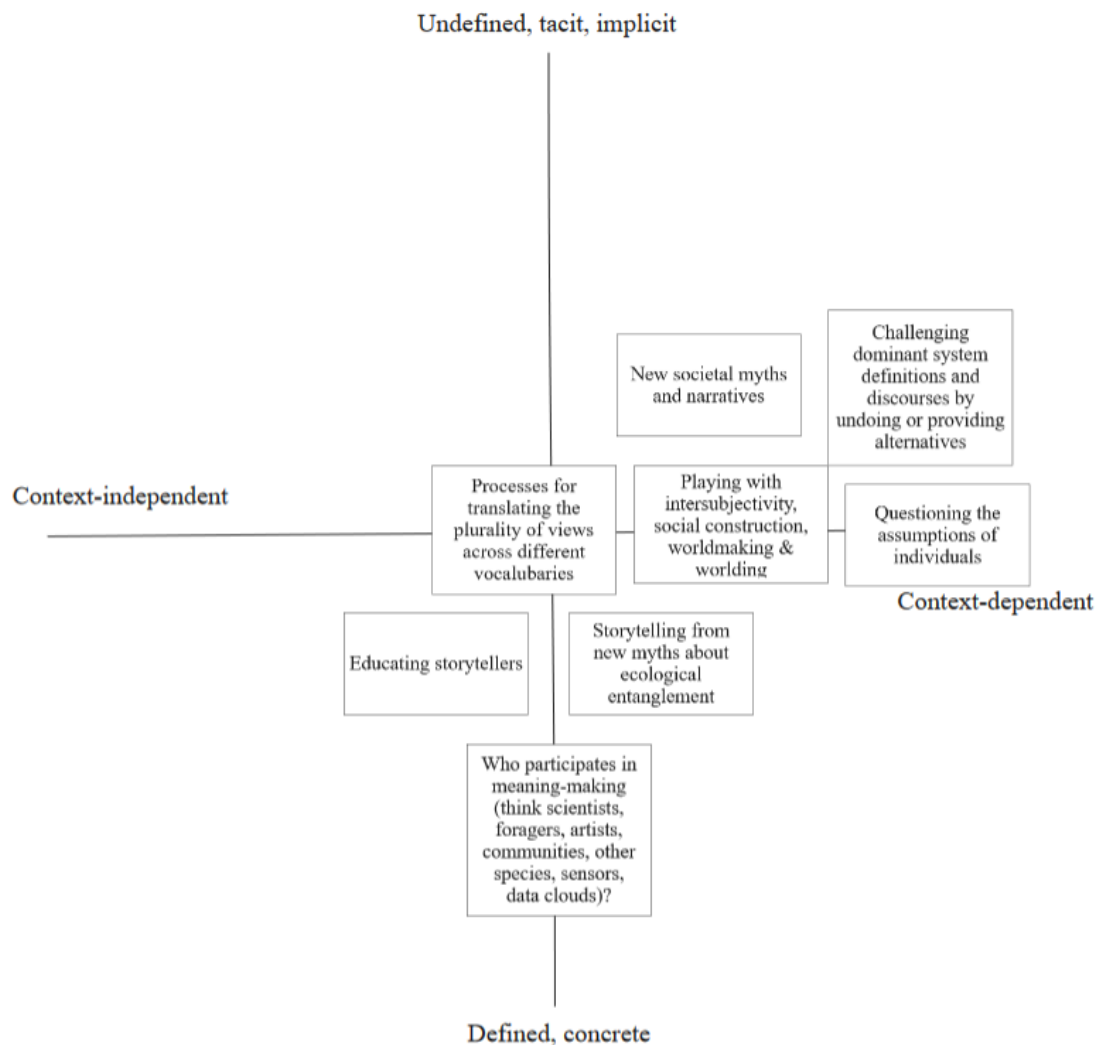


Figure 25. Measuring storytelling & Myth making

Across all of the different dimensions, it is clear that most of them can be considered to be highly context dependent in terms of their measurability. Many dimensions fall in the context-dependent but concrete and defined in important ways, and this means existing methods can help bring the value of creative practices to light. However, many also have aspects that fall in the context-dependent but tacit and implicit categories. Here, CreaTures is building on the analysis presented in this document to offer tools for sense-making and evaluation around these more implicit aspects of creative practice, as discussed in Section 5.

4.4 Integrating all dimensions of value into leverage points frame

As part of the feedback loop between theory and practice, the next step has been to integrate and update the leverage points and indicators framework originally developed in Deliverable 4.1. Table 8 shows the result of this integration - enriching the language used in the transformation literature around leverage points and indicators for change with language from the dimensions of value processes. The result is a framework for leverage points and indicators that can be used by creative practitioners, governing actors, researchers and

others to identify which of these processes they contribute to. It also begins to identify how these mechanisms might be tracked – to be further elaborated on in the next section.

Table 8. Indicators for Creative Practice and Sustainability transformations







	Most interventions are designed around these leverage points		Deeper leverage points have higher transformative impact, but are harder to design for.			
	Material flows	Feedback and delays	Knowledge and information flows and systems	Rules of the system	Intentions and goals of the system	Mindsets, paradigms, worldviews, values
Institutional/ systemic	Power in strengthening financial and resourcing flows	Formal institutions support local dynamics	Unlocking imaginative strength through play	Co-create people-to-people training to discover what is needed	Integrate multi-species governance	Stimulate reflexive processes to question mental models and narratives
	More economic measures	Processes for co-design	Multi-species knowledge systems	Increasing inclusivity and diversity	Exploring the conditions under which values are created	Undoing or providing alternatives
Organizational	Energy and motivation for change	Building lasting relationships	Opening spaces for co-creating	Emotional aesthetics and expression	Political economy of power structures	Political economy of power structures
	Resources available for change	Improve capacities for shared action	Collective, multi-disciplinary reflection	Challenging established rules	Openness of power in relationships	Meaning-making on the multi-species spectrum
Local networks and communities	Social practices	Creative practices as connection points	Developing literacies e.g. ocean or futures literacies	Stimulating new types of relating	Building local trust, maintaining experience and values	Inclusion less powerful voices
	Resources available for change	Working with interconnectedness	Stimulating peer teaching and learning skills of relating	From symbolic to real participation		Building affection by connecting with nature
Individual	More individual resources	Adaptive capacity to cope with structural change	Building skills influence system structure	Power to influence system structure	Strengthen ambition to respond urgently	Questioning assumptions
		Stimulating practitioners to find their own roles within relationships	System entrepreneurs	Strengthen sense of empowerment	Free individuals from a reality that isn't theirs	Exploring ways to expand worldviews




4.5 Methods for measuring and tracking dimensions

Finally, our analysis of the different dimensions and their different aspects of measurability suggests different methodological approaches as well. Table 9 provides examples of different approaches that could be considered for each of the different dimensions, and the different tracking and measurement challenges that different elements of each dimension propose. For aspects that are both low context as well as implicit and tacit, the aim is to translate parts of them to other categories.

One of the major outputs for the evaluation component of the CreaTures project will be to produce a widely accessible collection of methods associated with each of the nine different dimensions. This assembly will be useful for practitioners, researchers and governing actors who are interested in engaging with and tracking these dimensions of creative practices.

Table 9. examples of methods for measuring and tracking dimensions

	Low context & concrete	High context and concrete	High context and implicit, tacit	Low context and implicit, tacit
Experiencing & exploring	Tracking visitor and player numbers	Questionnaires, interviews, ethnography to track the social dynamics of experiencing and exploring	In depth interviews & participatory action research help self-map experiences and insights	
Including & caring	Quantitative measures of diversity and inclusivity	Questionnaires, interviews, ethnographies of processes of care and inclusion	Focus groups and ethnography on experiences of inclusion and care	
Growing & learning	Tracking number of workshops/classes	Participatory action research to map learning and capacity development	Video-stimulated interviewing	
Co-creating & designing	Number of new designs; quantitative measures of impact and reach	Appreciative inquiry, village mapping	Appreciative enquiry	
Reflecting & knowing	Quantitative measures for the availability, spread and use of knowledge resources	Critical systems theory-based approaches	Reflective journals	
Organizing & relating	Tracking number of organization members; analysis of financial resources available	Power-influence mapping; analysis of agency and structure; network analysis	Oral history, Theory U, interaction ritual chains	

Empowering & subverting	Tracking numbers at protests; voting behavior; membership numbers of political movements and organizations	Frame analysis - micro-sociological approach to understand how frames are created and subverted	Critical ethnography to map experiences of empowerment and subversion	
Shaping & scaling	Quantitative measures of the reproduction or practices	Critical systems theory-based research	Scale repertoire, dimensions of value approach	
Storytelling & myth making	Quantitative analysis on the spread of concepts or the mentioning of organizations	Discourse analysis; textual analysis, analysing imaginaries	Causal layered analysis, archetypal approaches	

The first column covers what would be considered the low hanging fruit that play important roles in more simplistic evaluations. These types of methods are important, but as we have seen from the measurability analysis, they should be complemented by methods in columns 2 and 3 that are better able to tackle where much of the value seems to be – embedded in specific contexts. The tacit, high context category represents a frontier for methodological development in particular.

5. Discussion and conclusions

We started this deliverable with the notion that evaluation processes can be understood as channels of communication and sense-making between various societal actors – because they frame what governing actors ask of creative practitioners, and the ways in which creative practitioners respond to these requirements. Many more simplistic evaluation processes run into major issues when it comes to 1) creative practices and understanding their impacts and 2) sustainability transformations, which add another major source of complexity to any evaluation purpose (Belfiore, 2021; Davies, 2004; Light et al., 2018). Creative practitioners often have very sophisticated and multidimensional ways of thinking about their work, but they have to adhere to existing evaluation regimes. Governing actors would like to understand creative practice more deeply, but they miss the tools and are limited by their contexts.

We have argued, based on the literature and work presented here, that evaluations need to be broadened and dimensionalized to allow for more ways for governing actors to make sense of and ask for creative practices; and for more ways for creative practitioners to investigate and express the value of their work (van der Hoeven et al., 2021; West et al., 2020). As mentioned throughout the document, this deliverable builds on the previous review of CreaTures, Deliverable 4.1, where transformation leverage points were used to frame indicators and associated thresholds for change. The current document offers the other piece of the puzzle - a dimensionalized understanding of how creative practitioners understand their work to be of value.

In this Discussion section, we first discuss the *Dimensions of Value* approach and its limitations. We then go on to discuss insights from our analysis for three key groups: creative practitioners, governing actors, and researchers. We end our discussion by returning to the notion of a common vocabulary for communication between these groups.

Reflecting on the Dimensions of Value method

The *Dimensions of Value* method was iterated several times using the pilot cases described in this deliverable. The method ended up with many features, described here in terms of their benefits and limitations. Speaking generally, the open-endedness and in-depth nature of the first iterations of the DoV method were its strength and its weakness. The many dimensions investigated for the Furtherfield project *The Treaty of Finsbury Park* and Hellon's Sustainability Futures Games, for instance, offered a clear perspective into the many ways in which creative practices can be understood to be valuable in terms of sustainability transformations. On the other hand, operationalizing so many dimensions into concrete measurement proved hard, which is why we chose for a version that focused on a smaller set of key dimensions for the Superflux process. This reflected two competing ambitions for the DoV project: to learn about the range of types of ambition at play in creative practice for transformative futures so that we could work more systematically to improve governing actors' understanding of creative practice (Goal 1); and to equip creative practitioners with means to elicit their own measurable criteria to aid in legitimizing and (thereby) funding their work (Goal 2). Clearly, a deep and thorough approach supported the first goal, whereas something lighter weight was needed for the second. However, spending time on the elicitation of dimensions has benefits in allowing interviewees to reflect on dimensions of value that they had not considered before, and that may be of use to their practice. The subsequent questions on reflection for internal learning and communication with others seem also to have been helpful and inspired elaborate responses. It should also be noted that the view on temporarily (e.g. past-present-future) as used in this method, and what transformation might mean, would vary fundamentally if we also consider the "non-Western" ways of being. While the method has much potential in terms of opening up other ways of engaging and being because of its focus on the basic dimensions that structure people's realities, there are some fundamental assumptions around this structuring – such as time aspects, that can be unpacked further (Escobar, 2020).

The conversations about matches and mismatches with evaluation environments were a small part of the process, but these aspects will need further investigation since a major part of fund-raising for arts practice involves aligning project goals with existing evaluation regimes. We intend to tackle this in on-going engagements with 'soft space' methodology (see deliverable D4.6) where governing actors and creative practitioners are brought together. The tensions and connections between creative practitioners and their funding and evaluation environments are, of course, at the heart of the investigation around transformative evaluation.

Finally, we note that investigations into how to measure and operationalize the dimensions and questions emerging from the process require much follow-up to turn insights into empirical data gathering. This raises questions about the role of creative practitioners and

researchers when it comes to evaluation and research - a question which we will discuss more in the next sections.

Insights for creative practitioners

The dimensionalization of how creative practices connect to transformation is potentially of great value to creative practitioners. It can help practitioners reflect on how to frame the value of their work in different ways. Proceeding from this, questions can then be asked about exactly what should be investigated - at what level, on what time scale, and using what questions and framing. Questions around how internal understandings (explicit or implicit and elicited through the process) clash and match with external evaluation contexts are helpful to overcome long-running communication issues with those contexts. However, the 'opening Pandora's box' effect of the DoV method in its original form means that there might be too much to explore. Therefore, the focus on fewer dimensions of value to investigate more deeply in the more streamlined version of the process was added, with some potential drawbacks mentioned above. All in all, though, there are questions of practical operationalization, there is evidence that the method can benefit creative practitioners as a standalone investigation. The ideal conditions would include continued support by researchers, working alongside creative practitioners, to go in depth on (more time consuming, more exacting) matters to evaluate so that creative practitioners can use them to inform iterative design decisions.

However, the value for creative practitioners, and other actor groups, really starts to emerge in aggregate. The synthesis of different sets of dimensions can start to generate a common language for articulating connections between creative practices and systems transformations. A common language would allow creative practitioners to communicate their work to peers and with funders with greater ease. Instead of starting from scratch (and depending only on the reflection of internal knowledge around a creative practice), creative practitioners can understand themselves against the context of other creative practices and their impact. One goal for the nine evaluation dimensions mapped out across the CreaTures ExPs is therefore to form a communication framework for self-reflection and the designing of evaluation. Which of these dimensions are engaged with for any specific creative practice? The synthesis also allows for the creation of readily accessible approaches to study each dimension. The synthesis shows that there is in fact much that is researchable and trackable about creative practices - but that much of this work has to be highly context dependent. This insight, in itself, can be a tool for communication about funding and evaluation to gain more support for appropriate evaluation and reflection processes.

Finally, one common insight that has emerged over the synthesis across different ExPs relates to the fact that each ExP follows very different paths and loops of influence – related to audiences and participants, employees and the immediate organizational aspects of the project itself, the arts world and networks and peers, and the media and influencers. Each of these different pathways requires entirely different ways of conducting evaluative research, and this is a main way in which creative practitioners can be supported by CreaTures and other researchers.

Insights for governing actors

The research method and its synthesis also has value to offer for governing actors. At the level of individual practices, the DoV method allows for more legibility for creative work. However, the synthesis appears to be of special benefit as a first step to potentially helping governing actors develop a broader understanding of how creative practices contribute to societal impact, in general, and eco-social transformations, in particular.

Existing literature shows that evaluation and policy around art and creative practitioners has a danger of defaulting to low-context, concrete indicators of impact (Durrer et al., 2019; van der Hoeven et al., 2021). Our research shows just how much of what is considered of value to transformations by creative practitioners themselves instead requires highly situated, embedded evaluation and research. Using the research in this document, governing actors may still choose to select some of their evaluation requirements based on such low-context, concrete indicators and evaluation methods that are often easier to administer and assess. However, they would be better able to evaluate the merits of using more high-context approaches and measures. They would be in a better position to include aspects of creative practices that are hardest to uncover, but that relate to deep shifts in paradigms, identities, and more.

Furthermore, mechanisms for contextualization and de-contextualization for measures of change might be of specific interest to governing actors.

- How can a successful creative practice be understood in terms of which of its elements may spread and be adopted elsewhere?
- How could this be done without destroying the power of the work or process?

These questions are clearly of interest to many creative practitioners as well as having relevance for governing actors. An important next step based on the analysis here is to investigate - together with governing actors - which dimensions of value are most important to governing actors, and how they relate to the dimensions synthesized from the work of creative practitioners. This research is now on-going in CreaTures. The nine dimensions and their backgrounds presented in this document will play a key role in this investigation with governing actors.

Finally, the category of ‘media and influencers’ can be considered as part of the evaluation regimes that creative practitioners operate in – and the media and societal influencers should be engaged with as part of efforts to create common understandings and languages around creative practice for transformation.

Insights for researchers

Finally, the research presented in this deliverable opens up another communication channel - a research agenda between different disciplines interested in or adjacent to creative

practices and transformation. Research that connects creative practice to transformation is rapidly growing in different fields. The transformations research community in particular has been highly interested in the potential of creative practice (Galafassi et al., 2018). However, the transformation field brings its own biases, which our practice-based analysis here can help counter and broaden. For instance, theoretical work has been produced on how imaginations and social imaginaries are connected to transformation, leading to a special issue focused entirely on this connection (Moore and Milkoreit, 2020). However, as our synthesis of evaluation dimensions has demonstrated, imagination is only connected to some, not all, ways in which creative practitioners themselves characterize the value of their work. For instance, *Storytelling and Myth making* and *Co-creating and Designing* is clearly linked to imagining in major ways, while connecting to other dimensions happens in more specific ways. These other dimensions are, in turn, easily connected to other research fields and communities studying transformative change - such as those connected to researching strategies around power shifts in transformation (Brisbois, 2020), where creative practices are less well represented. The same goes for dimensions like *Including and Caring* and *Organizing and Relating* - these have connections to transformations research (Brisbois, 2020; Wohling, 2009), but not so directly to creative practice work.

Toward a shared language for evaluation in a changing world: concluding thoughts

We opened this deliverable with the acknowledgment that there is a strong need and interest among those working on eco-social transformations in research and in practice to engage with creative practices. The understanding that creative practices and the arts more generally have an important role to play in engaging with the deeper shifts required – worldviews, myths, discourses, paradigms is growing rapidly. Our analysis has shown that creative practices aim to engage with many dimensions and levels of sustainability transformations. We have aimed to help creative practitioners surface a shared language through which to understand these links and pathways. The challenging and exciting work is experimenting with this shared language in the spaces between practitioners, governing actors and researchers. As elaborated in Deliverable 5.2, the CreaTures project has been engaging intensely with the other actor groups – governing actors and researchers across different fields – to similarly surface key elements of this common language.

We will be bringing these different pieces of research together in the CreaTures Open Creative Practice Framework through interactive engagement with all involved, and seeking to support the widespread embedding of this new, transformative, highly dimensionalized way of engaging with the change potential of creative practices.

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Appendix 1. Links to visual representations of pilot interviews

The links to the Miro Boards that have been used to capture the visual representations of the DoV process can be found here:

[Hellon – Sustainability Futures Game](#)

[Furtherfield – The Treaty of Finsbury Park](#)

[Superflux – Invocation of Hope](#)

Appendix 2. DoV questions for all dimensions of value in each of the pilot ExP interview processes

X2.1 Hellon – Sustainability Futures Game

<i>Hellon - Sustainability Futures Game</i>	<i>Dimension of value 1: Space for creativity, unchaining, freedom, playfulness</i>
What do you want to learn for your own practice about this dimension?	<ul style="list-style-type: none"> - Could people feel in a different way than usual? - What value do the participants see in creativity? - How do people feel during the game session? - Was it fun? why?
Who are you or are you looking to engage with, and how do they relate to this dimension?	<ul style="list-style-type: none"> - Trap for people who are in a systemic or engineering, critical mode - need creativity to open up: There is a trap of being too critical, playing a game can open this up and stimulate creativity. - The biggest value for people who are normally on the opposite side of creativity - systems thinkers, engineers, business people - Those involved in organizational change - Test the game with students and designers
How would you like others to see this dimension?	<ul style="list-style-type: none"> - Opportunity to be creative - Structure and storytelling
How do you think this dimension relates to transformation?	<ul style="list-style-type: none"> - Creativity leads to engagement leads to changed minds/perspectives - You cannot change toward something you cannot picture. People want to change, but they don't know what.

<i>Hellon Sustainability Futures Game: Dimension of value 2</i>	<i>Empower to have a role in reshaping the future</i>
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Do players feel more empowered? Do they get new ideas about what they can do to affect positively? Did they make a connection on their agency in larger transition and shaping future= - Does it matter that people have a feeling of empowerment? Is it something that they are lacking or not? - Empowerment in the context of systemic and wicked problems.
Who are you or are you	<ul style="list-style-type: none"> - Experts who don't feel they have an impact on larger

looking to engage with, and how do they relate to the values?	change
How would you like others to see these values?	<ul style="list-style-type: none"> - Communicate that the game can empower by understanding possibilities in the face of the impossible - maybe not too explicit - This is a tool to empower others to take action, think about implementation - scalable and repeatable.
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Empowerment within wicked problem contexts = pathways to transformation - Increasing awareness of influence and agency

<i>Hellon Sustainability Futures Game: dimension of value 3</i>	Inclusive, accessible, diversity, different levels
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Did you learn new perspectives for the topic, what? - Does everyone understand the game (right now they understand but can't communicate further) - How equal the participation was? How easy was it to participate in the common story? - Different types of groups result in different visions - Can you see yourself in the story / how you were able to relate to the game topic? - More diversity in the player groups
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - people from one organization, different levels and roles - decision-makers in the organization - or one group with diverse participants
How would you like others to see these values?	<ul style="list-style-type: none"> - Make users realise the non-inclusive practices they normally use - Realise how non-inclusive the SDGs etc are in terms of making them understandable to all - This is not training - people don't need to know all of these - but to trigger discussion, understanding and empathy
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Inclusivity is very critical to transformation - not leaving anyone behind

<i>Hellon Sustainability Futures Game: dimension of value 4</i>	Systemic, Holistic thinking, moving between scales
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Were you able to think more systematically? - How difficult it was to move between scales (personal insights - future society -your organization)

	<ul style="list-style-type: none"> - What is the challenge of moving between scales? Concrete reasons - What did you learn from being forced to move between different scales and make connections? <p>Note: this is the most difficult aspect of a limited time period - only the most evident links and connections across scales are revealed.</p>
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - People who work only with one system - take them out to the societal level - different people coming together - What is the link between systems understanding and empowerment? Is it positive or negative?
How would you like others to see these values?	<ul style="list-style-type: none"> - The game reveals the interconnectedness of different topics - You don't need to be systems thinking expert, you can still see the connections and have discussions - This is about inclusivity: changing the world is not only the job of a sustainable science
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Systems thinking is supercritical to transformation. Interconnectedness - a lot of ideas are done without thinking about other systems - The balance between making things too simplistic because of political agendas and capturing the complexity - Raising awareness that everything affects each other (all systems are connected)

<i>Hellon Sustainability Futures Game: dimension of value 5</i>	Exploration without conflict
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Was it easy to discuss the topics with others? Did you feel like you co-create new ideas? - What are the values and challenges of thinking without argumentation and criticizing? - Did you feel that you could address different perspectives and wishes without emotional fear (it's about topics, not people)
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - So far mostly one organization - potential for public and political engagement - like Helsinki representatives in different parts of the organization - agendas not on the table too much but can still be negotiated) - Non-experts (who are afraid to raise voice), you can say things that you're not usually able to raise
How would you like others to see these values?	<ul style="list-style-type: none"> - Game is against the dominant structure of critical, argumentative thinking - there lies a new opportunity

	<ul style="list-style-type: none"> - Game is more free from power relations
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Connected to creative thinking - it helps to see as yet unimagined alternatives - When you are too afraid of what people are going to say - some interesting directions and potential might get lost. Moving beyond conflict enhances people's capacity to engage with transformation - Reframing conflict makes the process more inclusive

<i>Hellon Sustainability Futures Game: dimension of value 6</i>	Structuring complexity without over simplifying, (interconnectedness)
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Did you feel this approach helped to simplify complex topics? - Did the game oversimplify issues?
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - People like local businesses who think complex systems are outside their business scope
How would you like others to see these values?	<ul style="list-style-type: none"> - Those who do not consider complexity can use the game to think about how their actions may contribute to shifts - Combination of complex and reductionist approaches.
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Helping people to understand and see the bigger picture - but making it understandable and not too overwhelming, but realistic.

<i>Hellon Sustainability Futures Game: dimension of value 7</i>	Convert abstract into concrete (and move back to abstract)
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Did the game help to concretize some abstract notions? - Make the invisible visible - Did the game provide a common language for players while playing the game?
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - Help people focus on mindset shifts and cultural shifts (often the result of gameplay) - behaviour and human nature-related issues - Give diverse people a common language
How would you like others to see these values?	<ul style="list-style-type: none"> - The game is a boundary object between abstract and concrete perspectives - The gameplay sticks in your mind better than classic forms of communication
How do you think creativity	<ul style="list-style-type: none"> - The link between abstract and concrete is critical -

relates to transformation for this game?	<p>because the invisible barriers against transformation have to be made more understandable</p> <ul style="list-style-type: none"> - Abstract-concrete also helps thinking about different scales
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<i>Hellon Sustainability Futures Game: dimension of value 8</i>	Good experience, use of time, good feeling
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Was this an engaging experience for you? - Does it personalize the experience? - Was it a good use of your time? Would you recommend this approach to others? Why? - What are the memories the experience creates in terms of the feeling? - What are the immediate takeaways?
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - The sceptics - who might be positively surprised by this kind of experience - The ones who find their home - those who are comfortable with this way of working but normally don't get the chance
How would you like others to see these values?	<ul style="list-style-type: none"> - We can use this kind of play for a serious topic - to engage but not make it feel too serious (see also creativity/play) in the magic circle - This is what I've been looking for vs I didn't expect anything but it was surprisingly good
How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Enthusiasm and good feeling will create momentum and willingness to continue

<i>Hellon Sustainability Futures Game: dimension of value 9</i>	Education /learning
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Do you feel you learned something new? - Educate people about the SDGs - Learning from each other and about each other's desires and wishes - Was it inspirational why?
Who are you or are you looking to engage with, and how do they relate to the values?	<ul style="list-style-type: none"> - Everyone mentioned before
How would you like others to see these values?	<ul style="list-style-type: none"> - It's not technical learning - inspirational - boundary spanning - learning about what exists, learning through collaboration - Learn lenses for how to think about the future? Together with creating knowledge

How do you think creativity relates to transformation for this game?	<ul style="list-style-type: none"> - Going beyond technical learning toward interpersonal learning - the success of transformation depends on interconnected learning - Learning and empowerment connected
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<i>Hellon Sustainability Futures Game: dimension of value 10</i>	The emergent value of the game approach? Keeping an eye on the unexpected
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> - Did something surprising come out that you did not expect?

X2.1 Furtherfield – The Treaty of Finsbury Park

<i>Furtherfield – Treaty of Finsbury Park – dimension of value 1</i>	More than human governance and ability to shape environment, more than human action
What do you want to learn for your own practice about each value?	<ul style="list-style-type: none"> • Different ways of being an arts organization in a more than human space • How to connect and engage Jo Public in questions on governance
Who have you or are you looking for to engage with and how do they relate to values?	<ul style="list-style-type: none"> • Biosystems experts who bring in expert knowledge; IPBES, policy higher level both in terms of research and policy making

<p>How would you like others to see these values?</p>	<ul style="list-style-type: none"> ● People to be astonished by the conversations that they gather that people are having - especially by the politics of those conversations ● Understand natural regulatory systems that may have an impact on how people feel about getting involved in governance - seeing governance as a part of ecology - feeling better about it ● Infrastructure of urban green space as something that they can change
<p>How does this dimension relate to transformation?</p>	<ul style="list-style-type: none"> ● It's that the people we work with feel more connected, more informed, and more able to act together because of the project ● This project changes how policy makers see the role of bottom-up engagement to bring information to the top parts of the system, to inform policy

<p><i>Furtherfield – Treaty of Finsbury Park – dimension of value 2</i></p>	<p>Translocal coordination/cooperation – Care not as a zero sum game, co-thriving, politics of care</p>
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<p>What do you want to learn for your own practice about each value?</p>	<ul style="list-style-type: none"> ● How we can constantly re-create combinations of people as an efficacious space? ● How do you care for each of those constituent groups? ● How to activate Jo Public in relation to what actions to take for the more than human culture ● How people can find common cause and common strategies in their relationships with their localities ● How do you build communication and community infrastructure and economies to support long term collaboration across locations?
<p>Who have you or are you looking for to engage with and how do they relate to values?</p>	<ul style="list-style-type: none"> ● Decentralized web community ● The Furtherfield groups
<p>How would you like others to see these values?</p>	<ul style="list-style-type: none"> ● Considering the project at all through translocal coordination - and care in these contexts (for humans and more than humans) ● Loving where you're at to also love where you're from. Understanding this space to enrich your understanding of other spaces. Immersing yourself locally, even in transience. Loving Finsbury Park - loving where you came from ● Learning to love place - wherever you go ● Reconnecting the value of place into networked art practices

<p>How does this dimension relate to transformation?</p>	<ul style="list-style-type: none"> ● Starting to demonstrate better tools and better processes for translocal care ● Scaling out across the world - a Treaty for every city. Templating something so that it can be customized. Peer to peer knowledge building opportunities ● Getting someone in a space that models an attitude that is scalable. Scalable attitude!
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<p><i>Furtherfield – Treaty of Finsbury Park – dimension of value 3</i></p>	<p>Transgression and moral hazard</p>
<p>What do you want to learn for your own practice about each value?</p>	<ul style="list-style-type: none"> ● A climate of generalized uncertainty is essential to Furtherfield - it's the means by which new ideas come into the world ● By immersing ourselves in things like critical animal studies and Haraway staying with the trouble, Cthulhucene. Thinking about more than human justice we get into some very interesting problems about it ● Making topics that are full of political controversy and triggering into a play context. We want to learn how to do that well ● How to get right into the difficult stuff

<p>Who have you or are you looking for to engage with and how do they relate to values?</p>	<ul style="list-style-type: none"> ● How to bring people from very different backgrounds together to deal with FUD - how do they feel both safe and empowered? ● Because we're worried about staying safe we can't make the connections we need to ● Arts council ● Policy makers and researchers ● Decentralized communication tech people
<p>How would you like others to see these values?</p>	<ul style="list-style-type: none"> ● They are afraid of change - they should see that these types of FUD play environments deliver greater agency and change ● Food policy can't be made without insights from the ground - because policy always gets made from data at a distance... generally ● We'd want them to see the project as offering strategies for increasing expressivity and privacy
<p>How does this dimension relate to transformation?</p>	<ul style="list-style-type: none"> ● Without FUD there is no transformation (Lara - co-signed?) ● Doing good as being something that you do with a pious attitude. We need to get into transgressive space <ul style="list-style-type: none"> ○ Connects to the translocal lens

<p><i>Furtherfield – Treaty of Finsbury Park – dimension of value 4</i></p>	<p>Economics of the project</p>
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<p>What do you want to learn for your own practice about each value?</p>	<ul style="list-style-type: none"> ● What would be a sustainable, repeatable process? A business model for producing this again and again ● Relationship between a financially sustainable business model and local business models and infrastructures? ● Radiating and nurturing effect?
<p>Who do you or are you looking to engage with and how do they relate to values?</p>	<ul style="list-style-type: none"> ● Other local authorities ● Trojan horse quality - what is it like to take a project like this into a corporate environment? ● Consultation tools ● Regen network NGO - new ways of doing things
<p>How would you like others to see these values?</p>	<ul style="list-style-type: none"> ● That it has an in-built economic sustainability model, self-regenerating, solar powered ● Distributing resources/money to more diverse people ● Different way of doing business - sustaining a beneficial project that has implications for wider economics - coming at it from non-profit and planet ● Regenerative economies - not extractive ● Pioneers a way of using creativity that circumvents problematic economic models
<p>How does this dimension relate to transformation?</p>	<ul style="list-style-type: none"> ● Transforming from an extractive economic model towards regenerative economics, self-supporting models, by doing it

Other lenses not examined using the questions (see section 4.1):

1. Emergent, collectively, created, people to people diverse human and more than human knowledge systems
2. Play
3. Aesthetics, expression, communication
4. Make believe

5. Embodiment, feeling as a way of knowing, empathy
6. Limits and impossibility, partiality/incompleteness
7. The sense of possibility, empowerment
8. More-than-human action and experience
9. More-than-human life and technology – how we shape new technologies through more than human awareness growing
10. Urgent response
11. Iteration, co-design, interdisciplinary collaboration and learning from that
12. Inclusivity and accessibility

X2.3 Superflux – Invocation of Hope

<i>Superflux - Invocation of Hope</i>	<i>Dimension of value 1: Creating new myths, narratives, sense making'</i>
What do you want to learn for your own practice about this dimension?	<p>How to do it:</p> <ul style="list-style-type: none"> - How do we craft these stories in tangible, visceral forms? - What does it mean to give a seat to the table to pests and vermin? Breaking down categories in stories? - Inviting in a more-than-human perspective - Moving from speculative realism towards the mytho-poetic <p>What it does:</p> <ul style="list-style-type: none"> - What emotions does it elicit? What about it is disturbing/angry making, etc? - How do people carry these stories forward? - How do we know something has been seeded? - Deep provocations - you won't necessarily see it
Who are you or are you looking to engage with, and how do they relate to the dimension?	<ul style="list-style-type: none"> - Wide range of publics - people who visit the biennales - families, architects, artists, tourists, locals - Other artists, other practitioners- there have been a lot of other forest works. How are we contributing to this conversation with other players - how do we position ourselves?
How would you like others to see this dimension?	<ul style="list-style-type: none"> - This exhibition allows people to observe and notice 'other things'. - What does it mean to think of a fox as a shapeshifter - as a being at the table - a trickster who is important to our relationships with other species? - Unexpected reactions - and how to track them? - Example of unexpected impact: from apocalypse to resurgence as an attraction in a resort
How do you think this dimension relates to	<ul style="list-style-type: none"> - Confusion, fear of speaking out, camps, tribalism - what are the things that are going to hold us

transformation?	<p>together?</p> <ul style="list-style-type: none"> - Adam Curtis - we have avoided grand narratives recently. Shelldrake - the need for new myths - we are lost - Move beyond you're right I'm wrong - new stories beyond centered around humans - a new politics - Myths, narratives and stories have the power of spreading - they become a way for us to connect and get together
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<i>Superflux - Invocation of Hope</i>	<i>Dimension of value 2: Ecological perspective/consciousness</i>
What do you want to learn for your own practice about this dimension?	<ul style="list-style-type: none"> - Our relations to ourselves and the world are often in the abstract - We think of ourselves as separate, as these identities where we can take from the world - Dreamlike abstract play of identity - Ecological perspective as the dreamlike thing - but the inverse is true. Belief in ourselves as separate is the dream - The identity play is so strong that it is about to undermine life - To get a deeper understanding of how the work we can do can even/or powerfully effect that change - Seeing beyond the imagined boundary of your identity - Even if you see this clearly, you still get sucked into the imagery of a powerful advertisement and imagine a sort of fantasy identity - How can it play its part within that deeper change? Any one discipline or experience cannot help create that change by itself
Who are you or are you looking to engage with, and how do they relate to the dimension?	<ul style="list-style-type: none"> - Same as previous dimension
How would you like others to see this dimension?	<ul style="list-style-type: none"> - Same as previous dimension
How do you think this dimension relates to transformation?	<ul style="list-style-type: none"> - Same as previous dimension

<i>Superflux - Invocation of Hope</i>	<i>Dimension of value 3: Relationship with other practitioners: Allowing people to find their own roles</i>
What do you want to learn for your own practice about this dimension?	<ul style="list-style-type: none"> - Our understanding about how we influence other practitioners is anecdotal. Can we parse signal from noise? - Is this interaction indicative of whether the work is inspiring to a larger set of people? - We've been led by intuition and where our hearts are at - If we would have all the metrics in front of us, would it influence our work - Staying small, staying nimble, trying things - Spec work that's about your passions - Superflux have been quite internally focused - not really looking out
Who are you or are you looking to engage with, and how do they relate to the dimension?	<ul style="list-style-type: none"> - 10 years behind and now there's a practice that stands out to other people - Work doesn't have populist appeal - but appeals to practitioners - Imaginaries and the world of practitioners being aware of each other - Practitioners working in our field - they're happy to pick up on our work - A scope or scape
How would you like others to see this dimension?	<ul style="list-style-type: none"> - Seeding change with practitioners - inspire people to go a little deeper to the core of issues - Practice is not limited to design and art practice. It's expansive, interdisciplinary, multidisciplinary space - Trying new things, being inspired by the way a film creates a world etc.
How do you think this dimension relates to transformation?	<ul style="list-style-type: none"> - Mitigation of shock - as much as anyone else it helped out thinking about the work - It started to embody that world - creating a space to think from - Physically embodying yourself within a new context - Some of the furniture came from our own house