



CREATURES



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CREATURES DELIVERABLE

D4.1 Prioritised indicators and baseline v1

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Version	Date	Status	Author (Partner)	Description
1.0	31/8/2020	Submitted	Aalto, Sniffer, UoS, UU	Original, submitted version
1.1	7/9/2021	Revised version (in-depth)	Aalto, Sniffer, UoS, UU	Changed sections: <u>Introduction</u> : Re-written. Definitions added. Explanation creative practices and practitioners added. Three scopes for investigating the evaluation of creative practices added.

				<p><u>Current research priorities:</u> Removed. Replaced with new section: Indicators and thresholds for evaluative practice. New section elaborates on the three scopes, includes scientific literature on transformations and provided indicators and thresholds for evaluating creative practice and transformations.</p> <p><u>Understanding the contribution of creative practices:</u> Removed. Relevant parts were integrated into the introduction and section 2: indicators and thresholds for evaluative practice.</p> <p><u>Defining transformations to sustainable futures:</u> Re-written and moved into section 3: Key ideas about the evaluation of creative practice.</p> <p><u>Emerging research directions:</u> Removed. Relevant parts were integrated into section 3: Key ideas about the evaluation of creative practice.</p> <p><u>Accounting for the aesthetic dimensions of creative practices:</u> Re-written and moved into section 3: Key ideas about the evaluation of creative practice.</p> <p><u>Transforming evaluation: sustainability, creative practice & policy:</u> Updated and divided over Section 2, scope 3: evaluation practices among governing actors and section 3: Key ideas about the evaluation of creative practice.</p> <p><u>Removed sections:</u></p> <ul style="list-style-type: none"> - Attention to systemic transformations - Allowing evaluation aims to be transformed
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Abstract

This deliverable offers a review of key indicators and thresholds for transformation across relevant literature - connected to where creative practices can be understood to contribute to those thresholds. Building on this review (scope 1), we discuss two other scopes: 2) tracking the evaluation practices of creative practitioners; and 3) the need to investigate how broader systemic evaluations are conducted.

This document accompanies D4.3 (Guidelines for participatory impact monitoring), in which we discuss *how we develop* our approach to evaluation. Both deliverables (D4.1 and D4.3) are part of Task 4.1 (Define indicators and evaluation procedures for understanding and reproducing effects).

D4.1 Prioritised indicators and baseline v1

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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 mobilising from their own platforms using distinctive forms of expertise. They are catalysing 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 organisations 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 organisations 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 policymaking, with additional expertise provided by the Open Knowledge Foundation Finland and UK-based sustainability organisation 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.

This report outlines key research trajectories for the Evaluation of Creative Practice in relation to Sustainable Transformations - using 3 scopes: 1) indicators and thresholds for transformation through creative practice; 2) evaluation practices of creative practitioners; and 3) evaluation at the level of systems. It has been compiled by researchers at Utrecht University, in collaboration with researchers from the University of Sussex and our partner organisation Sniffer.

1. Introduction

The Horizon 2020 CreaTures Project investigates how creative practices can contribute to sustainability transformations. In the CreaTures project, we work together with creative partners in the shared recognition that socio-ecological systems have been deeply degraded by human action and that a change to our collective actions is urgently required. Within CreaTures, the evaluation work package (WP4) creates new tools for understanding how to evaluate the contribution that creative practices make towards sustainability transformations.

This involves unpacking existing evaluative practices (both research-oriented and organisational), plus trialling new modes of evaluation to provide new ways to understand the value of creative processes in producing specific forms of change. Beyond understanding, we aim to develop an approach to evaluation that supports creative practitioners, governing actors, researchers and others in their aspiration to work towards various socio-ecological transformations. We are convinced that in order to do so, we need to bring the three elements - creative practices, sustainability transformations, and evaluation - into the conversation so they can strengthen each other.

Throughout this deliverable, we will use the following terms that often come up when thinking about evaluation:

A 'unit of analysis' is the specified and bounded subject of what any attempt to analyse a complex process may focus on. For instance: an individual and their behaviour regarding a certain topic; a policy process; a city; a network of organizations (Babbie, 2020).

An 'indicator' is a unit of analysis, operationalized for evaluation. So for instance, if individual behaviour is the unit of analysis, the indicator may be 'individuals' willingness to participate in local decision making' (Jupp, 2006).

A 'threshold' is a state of an indicator to which the researchers or evaluators assign significance (Jeakins et al. 2014).

It is important to note that we will use these terms, but they will be used in a highly critical and reflexive manner. Units of analysis, indicators and thresholds come 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 2008; 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 - since creative practices engage with human complexity in ways that are incredibly hard to box in without destroying their complexity. Moreover, we recognize that evaluation practices themselves shape social realities by selecting, filtering, framing and labelling the complexities of life. The reason we will still use

units of analysis, indicators, and - if they can be established - thresholds is because they do allow us to help focus the energies of research efforts toward specific aspects of change processes. Who is studying what (unit of analysis)? What would be relevant to measure in terms of change (indicator)? What does significant change look like (threshold)? Always asking - according to whom and for what reasons (political, disciplinary, ideological etc. etc.)? It is important to realize that these units of analysis, indicators and thresholds will often provide a shorthand for more complex analyses.

Finally, in the CreaTures project, we use the cross-sectoral framing of 'creative practice.' We chose to do so because our pilot research found that similar forms of environmentally engaged practice have been occurring across very different creative fields (Light et al, 2018). One of the key aims of the CreaTures project has, therefore, been to create a platform and connect practitioners creating environmentally engaged work across disciplinary divides. Our expansive definition of creative practice has also emerged from this pilot research. The creative practice may include "all constructive and imaginative labour: from writing, art and theatre to designing to repair cafes and open data hackathons; from community development to storytelling to participative citizen science and experimentation" (Light et al 2018: 3).

More specifically, the creative partners in the CreaTures consortium include artists, artistic producers, designers, curators and social change activists, and so we have a natural focus on these fields. To go further, we might flag up our partners' profound interests in participatory processes, networked art forms, bio arts, service design, critical and speculative design, citizen-led activism and social change-making. Working with the term "creative practice" presents a set of complex challenges for understanding what these practices *do* in the world. What happens when creative practitioners create artworks, experiences, exhibitions, texts, educational programmes, organisational forms, networking platforms, business models (and more) to work on the problem of "un-sustainability"? Creative works may take on meaning in the specific context of a field's stated boundaries, or shared imaginations.

All of the partners in CreaTures were invited to participate in the project because they have a mission to work towards socio-ecologically sustainable futures. They may describe themselves as being purposeful, spectacular, aesthetic and relational. They are simultaneously groups of individuals but plugged into large networks of support, interest, collaboration and dissemination. They are interested in the personal but set it against a backdrop of systems thinking, critical of the financial, legal and care structures within society and at different tiers. They understand the relations between local stressors and systemic human and environmental conditions. They function in many worlds and across different vocabularies and scales. They reshape to fit – as we have seen in their adaptations to the pandemic structures – but they hold on to a core vision of socio-ecological sustainability.

Following the observation that evaluation practices also frame and can even direct change, in this deliverable, we will investigate three 'scopes' of interest for the evaluation of creative practices. In terms of scope 1, we investigate *how the literature tracks how societies transform and how changes associated with creative practices are being mapped to these changes*. For this, we draw on literature from various relevant fields. For the second scope, we focus on *how creative*

practitioners use evaluation to understand themselves and communicate to others. For the third scope, we investigate how the work of creative practitioners is being evaluated and understood by those operating in their contexts - governing actors and others.

Table 1: Three scopes for investigating the evaluation of creative practices.

Scope 1: Mapping indicators for evaluation in creative practice	
Focus	Sources
Societal change: What are the indicators that show that something is changing in society? How do creative practices contribute to such transformations?	Transformation Literature; literature on creative practice.; drawing on CreaTures evaluation workshops.
Scope 2: Evaluation practices of creative practitioners	
Focus	Sources
How do creative practices understand themselves: What are the indicators that show how creative practitioners understand/evaluate/communicate their work?	Evaluation literature, drawing on CreaTures evaluation workshops.
Scope 3: Evaluation practitioners of governing actors	
Focus	Sources
How governing actors and others evaluate creative practices: What are the indicators that show the shifts in the external evaluation of creative practice?	Literature on regimes of value, drawing on CreaTures evaluation workshops.

In this deliverable, we explain that, next to evaluating how creative practices contribute to changes in society (scope 1), their own evaluation practices can also be a part of the problems and solutions in sustainability transformations (scope 2); and so can, in turn, the ways in which the creative practices are being evaluated by others (scope 3). This way, we provide a kind of ‘double meta’-perspective on evaluation practice.

We start this deliverable with an analysis of the indicators and thresholds of change as described in the transformations literature - and how creative practices might contribute to change in these indicators (scope 1). Building on this review, we discuss scope 2, and scope 3, building on workshops and dialogues with CreaTures members. The deliverable ends by articulating the key ideas that underpin our approach to evaluation by describing the shared research priorities that

emerged from our interdisciplinary exchanges. Also, it advances a set of research trajectories that we want to pursue based on our theory of change.

This document should be read alongside Deliverable D4.3 Guidelines for participatory impact monitoring, which outlines the practical work that we have done with ExP practitioners to learn about their existing modes of evaluative practice and to co-design open mechanisms into each work. For further reflections and research on the impact of COVID-19 on creative practice more broadly, see deliverable D2.2.

2. Indicators and thresholds for evaluative practice

Below, we will investigate the tree outlined scopes for evaluation: indicators and thresholds for creative practice & transformations (scope 1); evaluation practices of creative practitioners (scope 2); and how creative practices are being evaluated by others (scope 3). Note that the main focus of this deliverable is on scope 1 as a basis for evaluation research in CreaTures. Scope 2 will be discussed based on workshops with CreaTures practitioners. Scope 3 will be introduced as the focus of later project research dedicated to governing actors.

Scope 1: Mapping indicators for evaluation - creative practices in the context of sustainability transformations

We have conducted a multi-dimensional literature analysis to identify change indicators in the transformations literature - and associated thresholds.

To structure and bound this literature analysis, we focused on a key concept in transformations theory - leverage points, or places to intervene in a system, as developed by Donella Meadows (Meadows, 1999). This framework, based on complex systems science, drives thinking about transformation and change. The core idea of the leverage points perspective is that places to intervene in systems can be identified from more superficial but relatively more straightforward to deeper interventions that have more of an impact but might be more difficult to achieve (see figure 1).

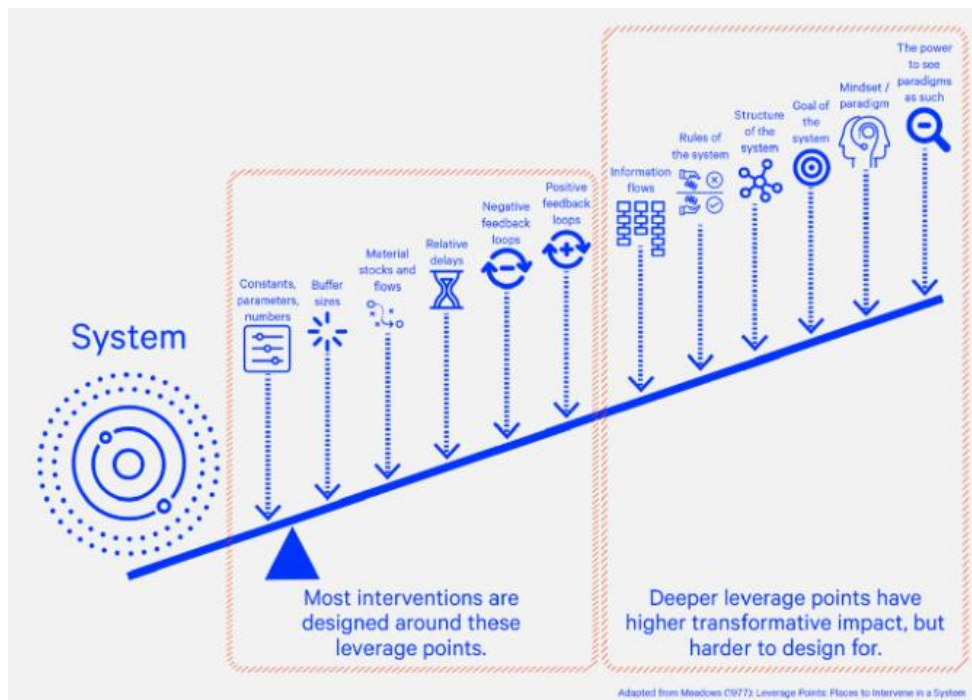


Figure 1. Leverage points, or places to intervene in a system. Adapted from Meadows (1977) by Angheliou (2018).

As we will see, this leverage points framing is also going to be very useful for distinguishing where creative practices may be more impactful.

Similarly, the body of literature that is most useful to draw on for our indicators and thresholds is transformation literature building on this notion of leverage points. A seminal special issue in the leading sustainability journal *Sustainability Science* has been published recently (Leventon et al., 2021) that presents a set of papers that each investigate how leverage points can be investigated for transformational change. This special issue served as our core body of literature - along with the fundamental papers that informed it.

Next to the leverage points approach another way in which we structured our analysis was multi-level framing (Cash et al. 2006; O'Brien et al. 2013). We used a specific set of levels - individuals, local communities, organizations, and institutions and systems - because this connected most clearly with the CreaTures framing of systems change. With this framing, we want to emphasize the importance of connecting the individual scale to the collective scale (Stoetzler et al., 2002). By this, we mean that the mental processes of an individual can contribute to a collective process of imagining change, and the vision of a collective can affect a person's individual experience and actions. Hence, In the words of Abson et al., (2017) "What matters for any sustainable and just transformation will be how a change restructures, reconnects, and remakes the meanings of relationships between people, and between people and the ecosystems in which they are embedded." The combination of the two frames resulted in a framework for our analysis of indicators - see Table 2.

This is a simplified table, and the significantly more elaborate version including indicators, thresholds and references can be accessed with the following link: <https://docs.google.com/spreadsheets/d/11ghulRbMnwIMZwetcusrr-ZErolbNOUDad0kv7Lx3N4/edit#gid=0>. It will also be added to this deliverable in the appendix.

Table 2 presents qualitative indicators and thresholds because the contributions of creative practices to transformations are typically researched using qualitative methods - and they cannot be quantified in general without looking at the specificity of each project context individually. The transformative agency of creative practices involves different forms of system entrepreneurship and is distributed across scales and multiple agents, in other words, it is collective. Yet, transformative processes can never be entirely controlled, and thus, the causal relationship between practices and transformation is difficult to discover (Moore & Milkoreit, 2020). Moreover, as described in the introduction, we recognize that evaluation practices themselves shape social realities by selecting, filtering, framing and labelling the complexities of life. To elaborate, arts-based inquiry, in its open-ended approach (as opposed to fixed solutions and outcomes) may reveal surprising connections (Kagan, 2010; Barona & Eisner, 2011). The generated insights (that is, the interpretations of meanings rather than 'positive facts' and processes) are likely to be highly situated, context-sensitive and containing multiple perspectives. Hence, by using qualitative indicators and thresholds, our qualitative, inductive approach to data generation and analysis

allows us to grasp the complexity and open-ended nature of the experiences (Galafassi et al., 2018a).

The thresholds were defined carefully based on the literature that provided the indicators, while taking into account the notion that both overly optimistic and overly pessimistic desired states (i.e. thresholds) may evoke a similar effect, in that they feel too decoupled from the actual, collective present to enable creative practitioners to feel connected to them (Moore & Milkoreit, 2020). With these thresholds, we aim to focus on the steps required to move away from the present system toward transformed futures (Pigott, 2018).

We acknowledge that the process of establishing thresholds for qualitative indicators in the context of creative practice and transformation can be seen as a process of visioning: the process of co-creating an image of a desired world (i.e. state) in which practitioners would engage and work towards. We also want to emphasize that the task of visioning desired states (i.e. thresholds) is not solely up to us, referring to the research by Galafassi et al. (2018a) which states that instead of visioning desired states once and for all, visioning should be a dynamic effort of exploring alternative futures through sensory and aesthetic engagement that may progressively yield a sense of direction. They also state that arts-based approaches have an extensive repertoire of practices to support this task (Galafassi et al., 2018a).

After identifying the indicators and their thresholds in the literature, we estimated which of these indicators could be most directly affected by creative practices. We based this estimation on the CreaTures evaluation workshops described more elaborately in Deliverable 4.3 - where the influence of creative practices was described in one of the workshop exercises. This combination of transformation indicators and creative practices doubles as agenda-setting for research because each connection can support further investigation - in CreaTures and beyond.

Apart from the evaluation workshop, we also based our estimations of creative practice influence on transformations literature. For instance, Galafassi et al. (2018b) describe how in global change and sustainability literature, arts-based practices have been argued to play a variety of roles in transformations. They identify 12 dimensions of climate change transformations possibly accessible through arts, which correspond well with our framework and indicators/thresholds. See Table 1. In the Galafassi et al. (2018b) paper for an elaborated description of these potential roles of arts-based practices as identified by them.

Table 2: *Simplified version of the table for Indicators of change for Creative Practice & Transformations. The rows represent different system levels; whereas the columns represent different places to intervene in systems (following Meadows, 1977). See the text for a link to a more detailed table with thresholds and references. The different colourings in the cells represent an application of the CreaTures project partners' reflections on where creative practices have less or more direct impacts: Lighter orange for low/indirect influence; darker orange for medium direct influence; and bright orange for high direct influence.*

	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	Formal institutions support local dynamics	Infrastructures for imaginaries and default options for decisions	System design/structural change	Aligned interventions towards goals	Question mental models and narratives
	Economic measures	Accountability effects	Systems for sustainability innovation	Transformative actions' legitimacy	Sustainable whole system goals	Dominant system definitions
Organizational	Energy and motivation for change		Opening spaces for co-creating	Organisational trust	Political economy of power structures	Political economy of power structures
	Resources available for change		Self-assessment techniques for reflexivity	Challenging established rules	Openness of power in relationships	
Local networks and communities	Social practices	Local networks and communities gaining access to formal institutions	Interplay between formal and informal institutions	Sustaining social networks	Building local trust, maintaining experience and values	Inclusion less powerful voices
	Resources available for change		Spaces for co-creating	From symbolic to real participation		Building affection
Individual	Resources and buffer	Adaptive capacity to cope with structural change	Skills influence system structure.	Power to influence system structure	Efficacy in altering different aspects of the system	Questioning assumptions
			System entrepreneurs	Reward and recognition	Willingness to change	Sustainable worldviews/paradigms

The indicators and thresholds on which creative practices within CreaTures are estimated to have a high, direct influence concentrate mostly at the right side of the table. These include the leverage points described by Meadows as the “deeper” leverage points that can potentially have a higher transformative impact but are more difficult to devise, implement and measure. The places to intervene in the system called knowledge and information flows and system and rules of the system are grouped into the analytical category “system structure”, encompassing indicators like the capacity for self-organising system structure (Fischer and Riechers, 2019). Thresholds for these kinds of indicators involve for example the achievement of the capacity to design for and with emergence, experimentation and learning (Angheloiu & Tennant, 2020).

An example of an indicator for the leverage point of knowledge and information flows and systems is: Opening spaces for co-creating at the local level. Inclusive information flows and network structures for the selection of stakeholders through negotiation (Moreno-Cely et al., 2021). The corresponding threshold for this indicator is: Spaces for co-creating have been established at the local level that embraces complexity and uncertainty. These include learning communities that focus on decolonising knowledge, being and actions (Moreno-Cely et al., 2021). Inclusive information flows and network structures are created that facilitate the selection and inclusion of stakeholders through negotiation (Schlaile et al., 2021).

The places to intervene in the system called intentions and goals of the system and mindsets, paradigms, worldviews and values are grouped into the analytical category “mental models”, encompassing similarly called indicators. Thresholds for these kinds of indicators involve for example having the power to transcend paradigms through recognising them as such (Angheloiu & Tennant, 2020).

An example of an indicator for the leverage point of mindsets, paradigms, worldviews and values is: Sustainable individual worldviews/paradigms (Davelaar, 2021). The corresponding threshold for this indicator is: Individual worldviews/paradigms allow for sustainable transformation to take place (Capra and Luisi 2014; Kuhn 1996; Sterling, 2003; Zweers 2000).

Affirming what was described above, how these types of interventions contribute to transformations cannot be measured quantitatively, because they tackle underlying structures influencing patterns and flows and the underpinning mental models. They provide insights into “the system as it could be” (Angheloiu, 2018) and point us to the states that the indicators should achieve for them to be transformative.

It is important to mention that in the group of mental models an even deeper layer, -a lower place to intervene can be distinguished: that of “Myths and metaphors”. This place is harder to change than anything else about the system and is therefore also the most difficult to measure. In a single individual, paradigm change can happen in a millisecond. All it takes is “a click in the mind, a falling of scales from eyes, a new way of seeing.” (Meadows, 1999, p. 18). How to indicate changes at this deepest level is, however, still a subject for further research. The same counts for indicating the societal change at this level, which is even harder. Societies resist challenges to their paradigm more than they resist anything else (Ibid.).

The “shallower” places to intervene in the system at the left side of the table have a more incremental impact (Fischer and Riechers, 2019). Unsurprisingly, creative practices within CreaTures are estimated to have a lower and indirect influence here. More quantitative ways of measuring change are only possible at the utmost left side of the table and do not relate much to what creative practice does. In the words of Donella Meadows: “[parameters] *rarely change behaviour*. If the system is chronically stagnant, parameter changes rarely kick-start it. If it’s widely variable, they don’t usually stabilize it. If it’s growing out of control, they don’t break it.” (Meadows, 1999, p.6).

Also, the influence of creative practices is likely to be highest and most direct on the indicators at the organizational, community, and individual levels, and lower and less direct at the institutional/systemic level. Creative practices are only estimated to have a direct influence at the institutional/systemic level on the indicators under mindsets, worldviews, paradigms, and values. This corresponds to the ideas of Thomas Kuhn (Kuhn, 1962), explaining that systemic paradigm shifts involve to keep pointing at the anomalies and failures in the old paradigm, keep speaking louder and with assurance from the new one, inserting people with the new paradigm in places of public visibility and power, and working with active change agents (in our case, creative practitioners) and with the vast middle ground of people who are open-minded (their participants) (Meadows, 1999).

Scope 2: Understanding evaluation by creative practitioners

In the Scope 1 section, we have reviewed how transformations science understands indicators of change - organized across different levels and different leverage points. Here, we want to take a step back and provide a starting point for reflecting on how creative practitioners themselves evaluate their own work. More specifically, on this level, we investigate how creative practices evaluate, understand, and communicate about themselves and also how outsiders are evaluating them.

A workshop was conducted with all CreaTures partners (September 30th 2020), including creative practitioners leading the Experimental Productions (ExPs). Deliverable 4.3 explains the process and details of this workshop. Here, we are primarily interested in learning the following from this process - what aspects of the evaluation approaches of creative practices should be investigated? This question results in a number of key questions that we will develop into a full tool for evaluation re-design for creative practitioners (Deliverable 4.2).

1. How do creative practitioners understand their own contributions to transformations?

Asking this question offers a broad outline of how creative practitioners see their work function in the world, and in what ways it relates to transformation (as outlined in Scope 1). In the workshop, Answers included 'challenging existing values', 'building relationships', 'supporting governance capacity', 'knowledge brokering' and more.

2. What dimensions of value can be surfaced?

Each of the different ways in which creative practitioners understand their contributions to change in the world can be understood as a 'dimension' (Vervoort et al. 2012) of value that is perceived as being connected to the practice. For instance, relationship building implies an entire dimension of activity with many aspects, rhythms and textures of knowledge. Capturing these dimensions without 'flattening' them into specific indicators is an important second step.

3. What do creative practices want to learn for themselves?

Evaluation is conducted for the sake of internal or collaborative learning; and for the sake of communication (including reporting for funds, marketing, and more). Starting with internal learning, a question that can be asked about the evaluation of creative practices is - what do practitioners want to learn? This question can help establish more concrete units of analysis and indicators specific to internal learning - and help identify the methods for studying them. For instance, it may be possible to measure knowledge shifts through interviews and questionnaires with participants in a workshop; but the proliferation of key ideas and concepts may need a discourse analysis over a longer time period.

4. Who do Creative Practitioners want to engage with in terms of evaluation? What do they want to communicate to others?

Next, we move from internal to external engagement around different dimensions of value in evaluation. Who are key groups - funders, peers, networkers, potential players or users, etc. - that creative practitioners want to engage with, and how do the evaluation practices of Creative Practitioners help achieve this communication? What units of analysis, indicators, thresholds and methods fit each of these goals? For instance, the Hologram ExP's organizers want to be perceived and understood as a health intervention - which means connecting to the health sector and using methods that help measure health benefits, in a qualitative, narrative manner.

5. How do Creative Practitioners understand interactions between different dimensions of value?

Having mapped out different dimensions of value, and having specified how these relate to learning and communication, the next question is - how do these different dimensions of value interact with each other to generate beneficial dynamics in terms of sustainability transformations?

6. How do Creative Practitioners understand how different dimensions of value relate to transformation?

Based on insights from the five previous steps, we can turn back to the question of how the various dimensions, indicators and methods of measurement are translated back to contribution to transformations. What are evaluative practices telling creative practitioners about the relationships between Creative Practice and transformations?

Note that this is where the fundamental tension in evaluating creative practice work for transformation comes up. In the CreaTures partners workshop, Creative Practice project members discussed the limitations of many evaluation methods in terms of capturing unintended and unexpected effects of Creative Practice work. As Scope 1 indicates, Creative Practice has great potential in contributing to the deepest levels of systems change - but these deepest levels are hardest to measure or evaluate in any straightforward manner. In-depth, long-term studies based on methods such as ethnography and collaborative self-evaluation with groups of participants have been indicated as the most useful in this regard by CreaTures creative

practitioners - but they also point out some fundamental problems with the need to identify the impacts of any one creative project or process. This brings us to the third scope.

Scope 3: Evaluation practices among governing actors

Another step back can be taken - away from the evaluations used by creative practitioners, and towards looking at how wider systems of evaluation limit and enable creative practices. The CreaTures partner workshops discussed in detail in D4.3 indicate that dominant forms of evaluation in the systemic contexts of creative practices have a major steering effect.

A key conclusion that emerged is that evaluation practices themselves need to be transformed. For creative practices to be understood as contributing to societal transformations, we should aim for the transformation of how Europe evaluates its creative practices. We focus here specifically on Europe since the CreaTures project is set at the European level. Evaluation by governments, investors and funders, key partners, educational institutions etc. is a key strategic force that shapes creative practices in Europe. Ultimately, the way such practices are evaluated or not evaluated plays a large part in their survival. Evaluation and metrics are important tools for enacting and perpetuating practices, and they can be key tools for transformation. As an example, the reflexive and deliberative reframing of metrics of success for transport in the city of Copenhagen has been used successfully to transform the city into a much more bike-oriented system (Jensen et al. 2017). However, the evaluation of creative practices is currently highly path-dependent and tied to historic biases. It is also highly fragmented and lacking transformative impulse or strategy. Finally, it is, in many cases, also highly insular and inwardly focused.

The need to transform evaluative practices leads us to the following conceptual model (see figure 2).

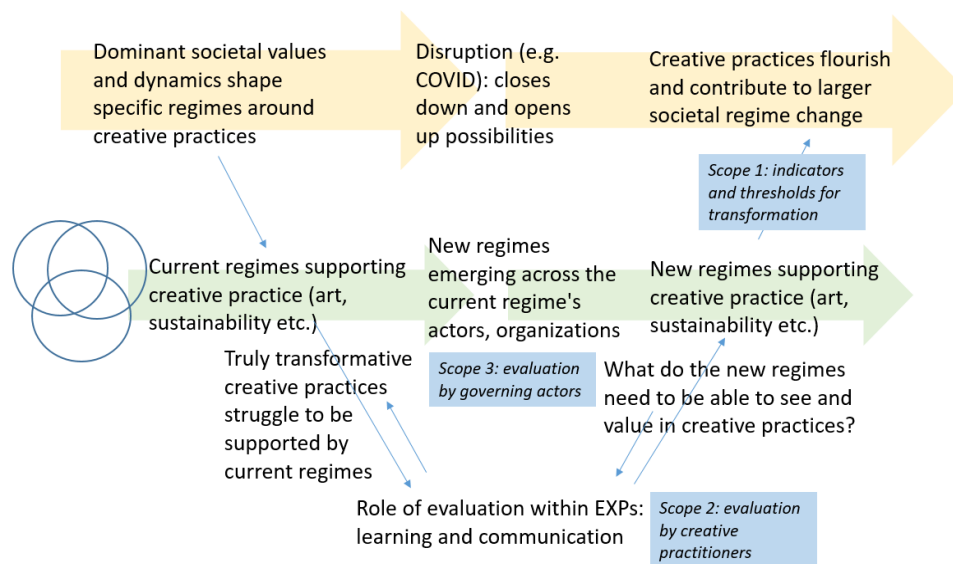


Figure 2. Understanding the need for regime change in the evaluation of creative practices. Scopes 1, 2 and 3 are all integrated.

Dominant values and dynamics shape specific 'regimes of value' (see also Deliverable 4.6) - ways in which creative practices are being valued (and not valued). Such regimes of value shape what is being evaluated by governing actors - policymakers, funders and others - including how peers understand and value each others' work.

The questions asked for Scope 2 can be asked to governing actors as well - including how these governing actors are themselves being evaluated in turn on their support for creative practices. Then, collaborative efforts to understand how evaluation practices and their supporting regimes of value can be shifted can be undertaken. This is a key activity for the policy engagement in the CreaTures project. Such a shift in regimes of value can be informed by Scope 1 - insights into how creative practices can contribute to larger-scale systems change; and Scope 2 - insights into how creative practitioners understand their own work. Shifts in regimes of value and evaluation can be made based on better recognition of the realities of change and of creative practitioners. This, in turn, can help create significantly better-enabling environments for creative practices to contribute to sustainability transformations.

3.Key ideas about the evaluation of creative practice

This supplementary section articulates the key ideas that underpin our approach to evaluation by describing the shared research priorities that emerged from our interdisciplinary exchanges discussed in D4.3, and building on the preceding chapters in this deliverable. In this section of the deliverable, we connect our thinking to specific communities, so the language and framings shift slightly. These communities represent important stakeholders in the project (e.g. creative practitioners, policymakers) as well as our various disciplinary backgrounds in arts, design and various domains of the social sciences. We believe that this is a productive approach to managing the dynamics of interdisciplinary knowledge production - finding alignments and also accommodating differences.¹

Defining transformations to sustainable futures and creative practices

The CreaTures project aims to build on the work in this deliverable to further identify those aspects of creative practices that contribute most effectively to positive socio-ecological sustainable transformation. This is a normative enterprise to some extent, where we set “transformation” and “sustainability” as the bounds of a value judgement, in order to learn how creative practice contributes to our shared challenge of moving the world towards a more sustainable footing. Our project aims to be inclusive of both the epistemic cultures of sustainability science *and* creative practices, which produce different forms of knowledge in response to the problems of “un-sustainability”. In the face of climate breakdown, mass extinctions and the toxic consequences of capitalist production, creative practitioners have developed their own ideas about what needs to happen now, and in many instances, they are assembling their own knowledge canons. In this project, we, therefore, seek a wide definition of sustainability that includes known and urgent actions (such as decarbonisation) named by sustainability science - but that also makes room for experimental ways of life that answer recent calls for “system change” or system reimagination. We posit that these may form the core contribution made by creative practices.

Therefore, we have begun the project by opening up these two terms for shared exploration between researchers and practitioners. This is an essential step because previous attempts at interdisciplinary collaboration have demoted creative practices to the role of communicating an already-formed “message” about “sustainable” lifestyles or behaviours, leading to

¹ We will continue our interdisciplinary exchanges as we create research outputs for the project, including writing research contributions for different research communities, and engaging the relevant stakeholders from within these communities. We envisage collecting these in book form towards the end of the project. The modular nature of the project’s final output - the Open Creative Practice Framework - also gives us a way to aggregate the diverse insights into a coherent format.

instrumentalised or didactic outcomes (Maggs and Robinson, 2020), rather than producing an account of the contribution of creative practices as they occur.

Accounting for the aesthetic dimensions of creative practice

It is increasingly common for sustainability researchers to call for the help of creative practitioners in building broad-based coalitions towards more sustainable ways of life (Galafassi et al., 2018b). So common, in fact, that the instrumentalisation of art as a means of translating science messages to reach broader publics (what Light et al call “illustrative creative practice”) has become a feature of the funding landscape. In particular, Maggs and Robinson give a detailed critical account of how art practices have been taken up in interdisciplinary sustainability research (2020). They find that - in some cases - sustainability researchers have sought to appropriate the social utility of art, whilst not taking into account its aesthetic contribution. They argue that in interdisciplinary exchanges “making room for [artists] to attend to the world in terms of aesthetics remains the unique offering of an arts-based approach...it is this invitation that elicits that transformational, ontological dimension of art practices” (2020: 56). We suggest that this may be the case across the entire sphere of creative practice: that an important part of what creative practices do in the world is engaging the public in and through a range of aesthetic processes.

The analysis of socially and ecologically engaged practices is currently dominated by “an “ethical reasoning that fails to accommodate the aesthetics or to understand it as an autonomous realm of experience” (Bishop, 2012). What this means for evaluation in CreaTures, is wrestling with the paradox of art and politics as described by Ranciere: art being removed from life/political world and at the same time bound up in the promise of a transformation. The questions that the focus on the art world brings for evaluation are: what kind of aesthetic regime does the creative practice produce? How does it negotiate the tension between pushing for social change and at the same time separating aesthetics from other forms of experience?

Here, we build on the proposition of artist and educator Helguera that socially engaged art practice operates across three spaces: the experience of immediate participants, the art world itself and the wider societal and governance structures it might be influencing (2011). Picking up these three registers and transplanting them into CreaTures context, grounds our evaluation in the specific spaces - each producing, and being sustained by, different kinds of relations and discursive criteria for ‘making something count’ within them.

The first space consists of immediate participants/audience the creative practice operates within. These participants in our case range from the supporters, friends, those thinking with and along the transformational lines as well as those curious, passing by - digitally, interested, willing to engage and, a step further, other creatures that some of the project’s ExP’s engage with - food, plants, seaweed to name a few.

When it comes to socially and ecologically engaged creative practices (like those in CreaTures), transformation in this space is “baked into” the definition of working with the audiences: something will be transformed in those directly involved with (or experiencing) the creative practice.

Evaluating this aspiration then focuses us on what creative practice does - with, and to - its immediate participants/audience. This gives way for a number of questions: what kind of audience/participants does the creative practice produce? Is it an emancipated one? Is the experiential effect it produces one that expands the space of what is sayable, feelable and thinkable in the world and therefore brings us closer to imagining and enacting transformational futures?

Second is the space of the creative world that the works emerge from- peer artists, creatives, producers, critics, institutions (including funders) and ultimately the aesthetic regime - in which creative practitioners within CreaTures operate within and contribute to, each in their own unique ways. Aesthetic regimes may be different for CreaTures partners - which span contemporary and participatory arts, critical and speculative design and social change. Bringing the ethical and political concerns that each creative practitioner advocates for in their work in dialogue with the aesthetic regime they speak to/produce are important because it keeps us from slipping into judging creative practice based solely on its 'social impact'. While this aesthetic regime surely runs through all the spaces described here, it is the creative worlds' specific social, political and ultimately historical situatedness that they depart from and transform.

The third space in which creative practice operates in the space of society at large, structures, processes and institutions that may become affected by, absorb and assimilate ideas of the given creative practice. This third space is specifically important to us because this is where creative work relates to sustainability transformations. Evaluating in this space is, first of all, looping back to the space of immediate participants, then building on the second space in which we pay attention to creative practice's aesthetic regime; then meshing the two spaces in ways that are attuned to the transformational effects of creative practices.

It is within this space that we are evaluating, it becomes crucial to stay with the trouble of "symbolic ruptures, ideas and affects" (Bishop, 2012) that each of the creative practices (in its own social, political and aesthetic contexts) generates and speaks to. Within the third space of transformational effect, a specific point of attention is how creative practices work towards and are part of systemic societal change. This is a specifically important point of attention with CreaTures, not in the least because the creative practitioners themselves through their practice connect the specific work of creative interventions to the societal dynamics of (un)sustainability and change.

In developing our evaluative practice it is essential to understand the value of connections of our creative practices within and across these three spaces. Where these spaces have often been considered separately, we aim to bring them in conversations to build toward a deeper understanding of the value of creative practices. In situating our approach to evaluation, it is helpful to draw on existing ways that creative fields make sense of their own interventions.

Allowing evaluation practice to transform

The COVID crisis, occurring throughout the lifespan of the CreaTures project and most likely far beyond it, offers both an existential challenge and potentially an opening for how governing actors evaluate creative practices. In a time when many creative efforts are put on hold, their value in maintaining resilient societies is becoming painfully clear. At the same time, the financial impacts of COVID and its restrictions are, in many cases, effectively killing off many of the more experimental, alternative, counter-cultural initiatives, and reinforcing and exacerbating pre-existing power dynamics that are exclusionary and homogenizing in impact. It can be speculated that some of this is the result of conscious action by political interest groups that seize the opportunity to shape cultural sectors; but that, in many cases, this is simply the result of pre-existing biases, preferences, and networks of influence playing out under this unique set of stressors.

We believe it is more important than ever for governing actors who are in one way or another involved in the framing of the evaluation (and therefore funding, support, etc.) of creative practices to deeply re-examine their short- and long-term strategies. Based on our experiences in the CreaTures project so far, we argue that key points are:

Dimensionalizing evaluation. Our ongoing research in CreaTures shows that creative practices contribute to change across many different dimensions of societal engagement - many of which are not typically considered by those setting evaluation standards for those creative practices to follow. *Opening up evaluation practices across many dimensions will be key to capture the richness of the contribution of creative practices.* Such dimensions should emerge from bottom-up investigations, proposed by those involved in creative practices themselves.

Considering creative practices in the context of thriving, resilient, sustainable societies while avoiding instrumentalization. A key critique of funding and governing actors connected to creative practices, or the 'aesthetic regime' is its inward-looking habit. Evaluation strategies among governing and funding actors should be based on an understanding, informed by research, that creative practices are essential to the societal and ecological well being in its most multidimensional sense. Literature around resilience and transformation supports the notion that this includes creative practices that are not so easily 'flattened' into clear instrumental benefits. There needs to be room for exploration and for the emergence of radically alternative ways of being and making. Part of the concrete work here is to bring in actors from other sectors (health, sustainability, education) to help consider the support and evaluation of creative practices. But such inter-sectoral collaboration should seek to recognize and evaluate the value of creative practices in the same multi-dimensional, bottom-up manner as described in the first point.

Concretely, the transformation of the evaluation of creative practices can start by setting up transition or transformation 'arenas', similar to what has been successfully done for other transformations (Loorbach and Rotmans, 2010). These arenas bring together constellations of key actors across the spectrum of funders and evaluators, and especially those in the current regime who are already interested in such transformative efforts, with those involved in creative

practices. Shared explorations of how evaluation of creative practices could be re-framed to contribute to thriving, resilient and sustainable societies could help start movements to overcome historic biases and fragmented evaluation standards and practices. We believe that knowledge brokers and connecting and boundary organizations (both between creative practices and governing actors and between different sectors) can play a crucial role as champions of and experts on this transformative effort. The transformation of the evaluation of creative practices by governing actors can be investigated in tandem with the sharing and support of best practices around internal evaluation used by creative practices themselves.

3. Conclusion

We started this deliverable by outlining three scopes for investigating the evaluation of creative practices:

- Scope 1: Mapping indicators for evaluation in creative practice
- Scope 2: Evaluation practices of creative practitioners
- Scope 3: Evaluation practitioners of governing actors

To summarize, we explained that next to evaluating how creative practices contribute to societal change (scope 1), their own evaluation practices also influence the problems and solutions in sustainability transformations (scope 2); and so do the ways in which the creative practices are valued by others (scope 3).

Regarding the first scope, we provided a framework of indicators and thresholds for creative practice and transformation based on a key concept in transformations theory - leverage points, or places to intervene in a system, as developed by Donella Meadows (Meadows, 1999). We found that the creative practices within CreaTures are likely to have the highest, most direct influence on the indicators that are, according to Meadows, most effective, but hardest to measure.

Regarding the second scope, we provided a blueprint for investigating how creative practitioners evaluate their own work, focusing on dimensions of value and how to operationalise them. Regarding the third scope, we proposed a conceptual framework for considering how systemically dominant forms of evaluation shape the possibility space for creative practitioners to contribute to larger societal transformations. The deliverable concluded with an additional section that articulated the key ideas underpinning our approach to evaluation.

These three assessment scopes, contextualized by the agenda setting that follows them, will provide the baseline for research on evaluation in the CreaTures project.

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Appendix 1: Detailed table of indicators, thresholds and references

See next page.

	Material flows		Feedbacks and delays		Knowledge and information flows and systems		Rules of the system		Intentions and goals of the system		Mindsets, paradigms, worldviews, values, supported by myths and metaphors				
	Indicator	Threshold	Indicator	Threshold	Indicator	Threshold	Indicator	Threshold	Indicator	Threshold	Indicator	Threshold			
Institutional/systemic	The use of power in sustainable transformations (especially by those who have the power to give success to the successful) - typified by financial and resourcing flows (Birney, 2021).	The powerful are ready and open to divert their resources towards new goals. Consequently, a flourishing of funding and initiatives are going towards those goals (Birney, 2021).	The capacity of formal institutions to connect with and support local dynamics and informal institutions (Jiren et al., 2021)	The synergies in the cooperation between formal institutions and informal institutions are identified and strengthened, causing a widening of the scope of interventions by formal institutions to a more holistic focus (Jiren et al., 2021).	The creation of institutional and physical infrastructures that provide spaces for imaginaries and default options for decisions.	Institutional and physical infrastructures allow decisions to default to the most sustainable options; or to generate imaginative solutions.	Improving system design/making structural changes (Jiren et al., 2021).	Structural changes to improve system design are inclusive and take into account all sides of the problem chain AND the consequences of the solutions for all sides of the solution chain. (Jiren et al., 2021).	Interventions that are coordinated and are aligning towards goals that are working for the health or regenerative capacity of the system (Birney, 2021).	Interventions are aligned to re-framed sustainable goals, ensuring that the goals are working for the health and regenerative capacity of the system (Birney, 2021).	Reflexive processes to question mental models and narratives at institutional/systemic level, including innovation paradigms (Birney, 2021; Schlaile et al., 2021).	The questioning of assumptions, mental models and narratives at the institutional/systemic level has become a conventional practice (Birney, 2021). As a consequence, new/sustainable systemic patterns emerge where needed (Sarasvathy 2008).			
	Economic measures for welfare, growth (Tröger & Reese, 2021).	Sufficiency has informed economic norms (Tröger & Reese, 2021).	Recognizing and using the accountability effects of social networks (Hanspach et al., 2014)	Established social networks increase the accountability of political elites (Lebel et al. 2006, Berkes 2009) and, simultaneously, enhance the adaptive capacity of vulnerable groups (Carpenter et al. 2001, Holling 2001).	Systems for sustainability innovation (Schlaile et al., 2021).	Innovation systems designed to contribute to transformative innovations" (Pyka 2017; Schlaile et al., 2021).	The perceived legitimacy of transformative actions (Wigboldus, S. & Jochemsen, 2021).	The perceived legitimacy of transformative actions is sufficient for rapid change.	Setting sustainable whole system goals! ensuring coherence between goals across the system, including for innovation systems (Birney, 2021).	Sustainable goals take into account all aspects of organisational systems and aim to embed sustainability into the core organisational systems. The continuous reflection on the core values and definitions that (subconsciously) inspire goals (e.g. inclusivity, sustainability, progress, scalability, etc.) has become a customary, multidisciplinary activity (Birney, 2021; Meadows, 1999)	Dominant system definitions; discourses. (Schlaile et al., 2021)	The sustainability discourse is institutionalised holistically; the subject of sustainability is connected to all aspects of the system and trade-offs and synergies are recognized, acknowledged and discussed. Negotiation and consensus building have become conventional practice (Schlaile et al., 2021). As a consequence, problems are being solved on a different level than we created them (Davelaar, 2021)			
Organizational	Organizational energy and motivation for change (Birney, 2021)	People's desire to change is being stimulated and supported on the organizational level (Stroh 2015, Omidyar 2017).			Opening spaces for co-creating at the organizational level. Focusing on listening instead of speaking as a capacity. (Moreno-Cely et al., 2021).	Spaces for co-creating have been established at the organisational level that embrace complexity and uncertainty. These include learning communities that focus on decolonising knowledge, being and actions. (Chilisa 2012; Smith 2012). A dialogical organizational space emphasising listening instead of speaking is created. In this new ethical space, a cooperative spirit prevails (Ermine 2007).	Organisational trust (Birney, 2021).	The investment in relationships has led to high levels of organisational trust and has increased the capacity for new diverse relationships to work together. As a result, new models are flourishing and providing proof points for a new way for the system to operate (LaLoux 2016, Robertson 2015).	Taking on the political economy of power structures: showing biases inherent in the system's goals (Wigboldus, S. & Jochemsen, 2021).	Political economic assumptions inherent in the goals of the system are revealed, acknowledged, and transformed (Wigboldus, S. & Jochemsen, 2021).	Taking on the political economy of power structures: revealing inequalities in worldviews, paradigms, values, mindsets (Wigboldus, S. & Jochemsen, 2021).	Deep inequalities in worldviews, values, paradigms and mindsets are recognized and transformed (Birney, 2021; Schlaile et al., 2021).			
	The organizational resources available for change (Birney, 2021)	Organizational resources available for change have increased sufficiently (people report that they feel like there are enough resources) (Stroh 2015, Omidyar 2017).			Reflexivity and collective learning: new formats of cooperation and coordination - crossing the mental boundaries of disciplines and social classes (Wolfram 2016)	New self-assessment techniques have been implemented at the organizational level. As a result, reflexivity addresses all agency levels and relates to all core development processes, as well as to leadership, governance and community empowerment (Wolfram 2016).	Challenging established rules of collaboration-awareness of (shared) responsibilities (Schlaile et al., 2021)	The informal conditioning constraints (rules) of cooperation networks have been challenged (e.g., Bornstein 2007). This has led to the establishment of new, sustainable, and inclusive rules of collaboration (e.g., Battilana & Lee 2014).	Openness of power in relationships - over, between and within actors (Moreno-Cely et al., 2021)	Relationships and power dynamics have been recognized, opened up - allowing for experimental models of organising. This has inspired a willingness to change (especially by those in power) (Birney, 2021).					

