



CREATURES



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CREATURES DELIVERABLE

D2.3 Review report of transformational strategies v2

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Abstract
This report provides an overview of our approach to researching selected examples of transformative creative practice and the building of the Observatory repository of transformational cases. It is the second report in a series of three (published at 10-month intervals until April 2022).

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Executive summary

In **Section 1**, we give an overview of the CreaTures project and its ambitions. This introduces the working relationship between researchers and practitioners in the project and how we understand the interchanges between them, recognizing that the reflective time that CreaTures supplies enables partners to contribute to the research as well as create examples for study. This section also includes a definition of creative practices, which is broad and stresses the work of imagination as well as the application of it. It ends by drawing attention to the social science methods employed to make sense of the project and its materials, while drawing on interdisciplinary approaches from many genres of research, including from the arts and humanities and physical sciences.

In **Section 2**, we review the literature defining transformation, drawing attention to the different strands and how these relate to different understandings of sustainability. A critical distinction between solution-focused and more descriptive accounts of transformation helps articulate the contribution that the arts can offer and some of the reasons that this is overlooked, including a sub-section on how science research has evolved in such a way that engaged forms of knowing are devalued. We point to the alternative commitments that come with arts practice, including to experience, aesthetics and meaning making, which inform definitions of transformation drawn from the arts and the processes by which these take place. Contemplating these differences – and imagination and anticipation as relevant future-oriented activities - helps us situate CreaTures and identify our understanding of transformation in multiple partner-led versions of moving away from un-sustainability.

Section 3 gives three examples of data gathered from observing and participating in work by creative partners on CreaTures, while **Section 4** draws material from the interviews undertaken with partners to illustrate key themes appearing in the project. This starts with an introduction to method and goes on to show how much more complex are the outcomes of creative projects than a simple solution-focused and instrumental analysis of arts practice would discern and value.

The last substantive section, **Section 5**, focuses on the repository, its design and its current contents. The report also explains how the corpus was started and what criteria are used for compiling it. Appendices that follow give examples of other repositories and discuss the merits of their designs.

Introduction: Review report of transformational strategies v2

This report (Deliverable 2.3) is the second in a series of three documents dedicated to reviewing transformational strategies for creative practice. The objectives that guided the creation of this Deliverable are as follows:

Objective 1 of the CreaTures project is –

- To identify and map existing, new and emerging initiatives that aim to produce transformational action through creative practices.

We agreed to meet this objective by:

- Working within our multidisciplinary consortium and extended networks to locate a variety of initiatives that are already focusing their work on the area of social and ecological sustainability.
- Conducting systematic mapping, connecting, and analysis of their purpose, how they operate, with whom/how/where they work, their conceptual and practical approaches to creative practice, and how they currently understand and evaluate the social and ecological impacts of their work.
- Presenting the findings of this work on an evolving website that functions as both a repository and a hub, named the CreaTures Repository.
- Standardising research approaches and making findings commensurable, so that the Observatory also co-ordinates the documentation of the Laboratory programme of creative works organised by creative partners.

Our progress so far:

In 2020, in-person events were suspended across Europe, due to COVID-19 pandemic restrictions on social mixing. Reflecting the turmoil experienced by creative practitioners (some of whom were forced to temporarily shut down their activities entirely), we used a section of the first Deliverable (D2.2 submitted in August 2020) to document the initial impacts of the restrictions on environmentally engaged organisations. In D2.2, we also introduced several pilot processes for engaging creative practitioners, including a survey and a set of interviews with CreaTures practitioners. In this Deliverable (2.3), we update these and present the insights that they generated, in addition to introducing initial insights from the first ExPs.

In this Deliverable, our focus is on creative practitioners, and how they work on sustainability challenges, and meet sustainability researchers. What kinds of effects do they want their work to have on publics of all kinds (e.g. audience attendees, other practitioner groups or other organisations)? How do creative practitioners conceptualise transformation to sustainable futures (i.e. in terms of worldviews, values and actions) and how does this differ from more mainstream sustainability approaches? What specific techniques are providing generative outcomes? As Feola notes, the term transformation is becoming more widely used in sustainability literature and policy-making, but the term encompasses several distinct definitions and lineages (2015). So, since the focus of this Deliverable (D2.3) is on *transformational strategies* we ask: how do sustainability scholars and creative practitioners understand transformation?.

Regarding the CreaTures Repository—in D2.2., we described the creation of a [pilot version](#)¹ of the website, built with cases nominated by CreaTures interviewees. In this Deliverable we provide an update on the process of migrating to the new, final [CreaTures Repository website](#),² including our design decisions and our future plans.

The intended audience for this Deliverable includes both academic researchers and creative practice communities so we include insights on transformational strategies from both. Each project Deliverable, therefore, includes a mix of academic components and practice-focussed insights from creative practice (at times hybridized).

The structure of this report is as follows: in Section 1, we set the scene by defining creative practice and explaining the significance of choosing such a wide cross-sectoral framing, despite its methodological challenges. In Section 2, we introduce the literature on creative practices and sustainability. In Section 3, we present pilot case studies of three ExPs, illustrating the detailed insights that are beginning to emerge from the data that we have been gathering since 2020. In Section 4, we provide an analysis of the CreaTures practitioner and researcher interviews and the cases that they nominated to the Repository. Finally, in Section 5, we discuss our approach to the design of the CreaTures online Repository to disseminate key cases. Note that the third and final version of this Deliverable (D2.4) will be published in April 2022.

¹ The pilot CreaTures Repository (using the GraphCommons platform) can be accessed here: <https://graphcommons.com/graphs/980d936d-92fc-4e12-9702-1b21eb55ff33>

² The updated CreaTures Repository website can be accessed here: <https://creatures-eu.org/cases/>

Section 1: The CreaTures project

The scale of global challenges has become urgent and apparent, affecting all creatures living on this planet. New approaches and transformative actions that stabilize and restore social and ecological systems are critically needed. Increasingly, researchers from a range of scientific fields are pointing to the need for a wider rethink of humanity's impacts on the earth as a whole. Researchers point to three critical sustainability challenges as urgent priorities - climate change, the destruction of ecosystems and the mass extinction of species (Bradshaw et al., 2021; Dasgupta, 2021). Processes of mitigation and adaptation are urgently needed, and these are known to require integrative approaches that approach these elements as related—however, many current strategies to address unsustainable living make a target of easy but negligible components, such as household recycling. In the CreaTures project, we recognise the role of unsustainable ways of life in fuelling these crises. However, we also recognise that effective pathways towards changes in human practices, lifestyles, means of production and political systems require a focus on cultural context and work to change human priorities. Only new visions about how to live together on a damaged planet will avert the worst scenarios being articulated: such rerouting requires more than tweaks in behaviour.

Thus, both academic researchers and creative practitioners have argued that, in order to build more sustainable ways of life, we must examine and amend our cultures, value systems and worldviews (WEF, 2021) to change how we live as a part of planetary ecosystems. They have suggested that creative practices (in art, design, culture and social change) have a critical role to play in these processes of exploration, and transformation. While design and other forms of making contribute to social and ecological unsustainability (Papanek, 1972), they can also play a pivotal role in bringing us towards more positive, sustainable futures. Creative practitioners and researchers have long experimented with diverse methodologies, theories and approaches to support transformative social action; for example showing that art and design are potent in provoking situations that bring together stakeholders in imaginative, reflective exchange (e.g. Irwin, 2015; Hesselgren et al. 2018).

This process of stimulating transformative thinking and action is fundamental to the kind of shifts in culture that are needed to move away from our current destructive, extractive orientations to the earth and towards more thoughtful, responsive and regenerative futures. Creative practitioners offer thought-provoking ways to understand how and why our current conditions are unsustainable and open up space to explore alternatives. Given the magnitude of current challenges, creative processes necessarily appear across many different scales and in many different sustainability-related domains. This has resulted in diverse creative expressions, from immersive installations urging publics and policymakers to back post-fossil projects (Hajer and Pelzer, 2018), to projects enacting a change towards more equal and just social systems (Agid, 2018), to developing or-reconnecting with world-views that imagine how we might live well with other species through interconnected existence (for example multi-species work by Clarke, 2020; but also decolonial and Indigenous scholarship such as Page and Memmott 2021; Kølbæk Iversen et al., 2020; Anderson et al., 2019). The CreaTures project seeks to contribute to this

emergent body of interdisciplinary research by exploring how creative practices can contribute to sustainable transformations. This Deliverable is dedicated to exploring the specific transformational strategies that creative practitioners and researchers in related fields are currently using.

CreaTures: Working with academic and practitioner communities

Interdisciplinary forms of knowledge production are increasingly recognized as required to understand, and to respond to large-scale sustainability challenges (Cairns et al., 2020; Khoo, 2017). The CreaTures project brings together an interdisciplinary consortium that unites emerging and established research approaches to creative practice and sustainability, drawing on the arts, the natural and social sciences. Specifically, our research team bring insights from participatory design, socially engaged arts practice, social change action, sociology, urban studies and sustainability science (explored further in the literature review section of this Deliverable). In addition to academic researchers, our project includes professional creative practitioners enacting eco-social innovation. Our project structure has been designed to incorporate insights from multiple academic research fields and link it with the knowledge produced by creative practitioners in arts, design and social change organisations. This project design ensures contact between academic researchers and creative practitioners and allows for free exchange of ideas: compared with projects where knowledge production resides only with academics, this approach allows practitioner insights to be disseminated more widely into policy and for research to travel further amongst practitioner communities.

Khoo suggests that interdisciplinary research often opens up ‘questions of what constitutes legitimate knowledge’ (2017: 10). In the CreaTures project, where many forms of knowledge are being brought together to consider transformation and evaluation, such concerns as *how we know* as well as *what we know* are part of the knowledge making and one outcome from the project will be a reflection on the gulfs in understanding between sectors and what translation is needed for transformative change work to be understood. This tension is made more manifest by evaluation regimes that operate within paradigms that would not be able to recognize the outcome of the transformations being sought, if successful. Translation within the project is actively pursued, with the preparation of a Glossary of terms and methodological processes (internal Deliverable D2.7) and regular meetings to articulate points of view, involving ‘academic’ knowledge objects, but also objects of professional practice from creative sectors.

Most members of the Consortium maintain composite identities of some sort – producing both creative and academic outputs. All of the researchers use inventive methods to produce creative outputs anchored in research and likewise many of the creative practitioners already write about their creative work in research contexts. Rather than emerging primarily from the field of sustainability (as other work on solution-oriented, or deliberate transformations has tended to), much of our project is led by creative practitioners and researchers from design, socially-engaged art and participatory action research. This breadth of engagement presents an additional perspective that can generatively contribute to vibrant work within the field of

sustainability transitions and transformations (as we will explore in the literature review within this Deliverable).

Given this distinctive mix of expertise inside the Consortium, we have found it important to set up co-creative ways of working together so that practitioners are treated equitably as co-researchers, rather than merely research subjects. Our project follows established modes of practice-based research where creative activities are understood to be notable modes of enquiry in their own right (Durrant et al., 2017). Making use of new research on success factors in interdisciplinary sustainability projects, the project makes visible and tangible the plurality of approaches and seeks to create 'social conditions' whereby a shared problem-framing can emerge (Cairns et al. 2020). We manage these dynamics through: 1) the project's structural design and 2), the co-design processes that were established by the researchers and practitioners for interdisciplinary working in the first stages of the project.

1. The project structure:

CreaTures consists of five groupings that work together in close collaboration. Central to the project is the Laboratory strand of work (Work Package 3), where creative partners create new works (known in the project as Experimental Productions, or ExPs) which engage publics and stakeholders in sustainability-related experiences at selected locations across Europe. These include gallery exhibitions, participatory games, participatory performances, courses, and a wide range of other events (see Deliverable 3.1 for a complete list). The Observatory (Work Package 2) monitors and records the ExP development processes and outcomes. Observatory researchers are working in a descriptive mode to build a deep understanding of the significance of the works themselves, the networks being built by creative practitioners and the impacts of the organisations. Researchers in the Observatory also investigate other transformative cases across the fields of art, design and social change (the topic of this Deliverable), using desk research and interviewing. The Observatory findings are reported in two key ways:

1) in this series of three Deliverables reviewing transformative strategies:

- *D2.2 Review report of transformational strategies v1, published August 2020*
- *D2.3 Review report of transformational strategies v2, published August 2021*
- *D2.4 Review report of transformational strategies v3, to be published April 2022.*

2) An evolving online Repository of transformational cases, called the 'CreaTures Repository'.

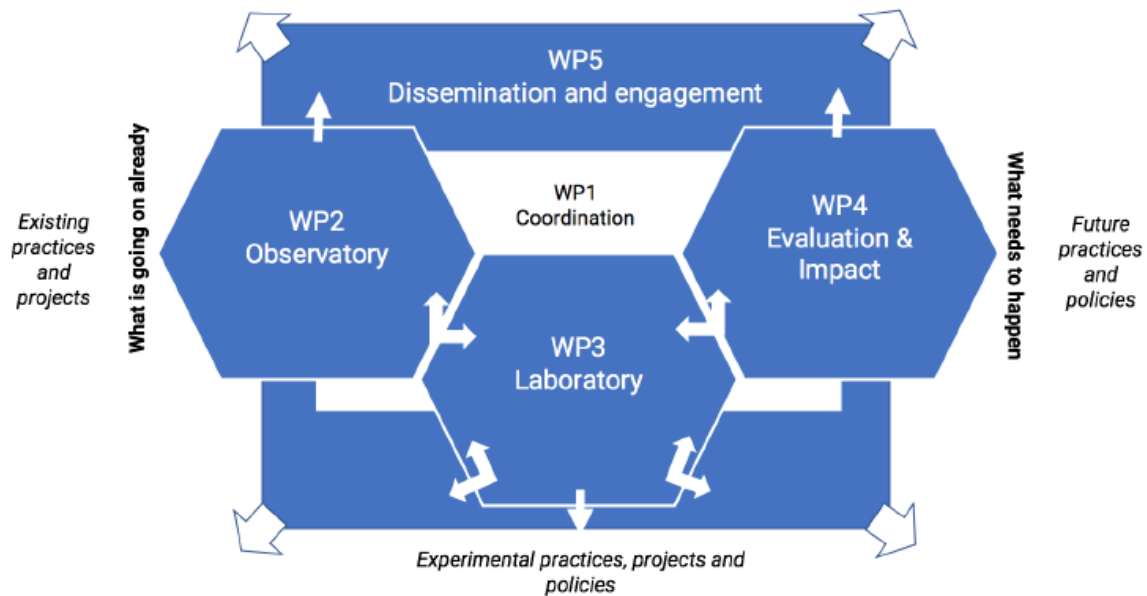


Figure 1: The CreaTures relationship between components

The Evaluation group (Work Package 4) creates new tools for understanding how to evaluate the contribution that creative practices makes towards sustainable transformation. 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. These are useful for both practitioners and for decision-makers, for example in policy and funding organisations.

The Engagement group (Work Package 5) works with all of the other groups to equitably engage stakeholders around the ExPs, and to ensure that the project's research is disseminated widely, paying particular attention to issues of inclusion.

2. Internal co-design processes:

CreaTures university-based researchers involve creative partners as co-researchers, meaning that documentation and evaluation practices are designed together in an iterative process. Creative partners help shape the research, including the research questions and the research methods used for documentation and evaluation.

Some of the activities that we have undertaken are indicative, exploratory, or intended to spark new conversations with practitioners, in addition to other activities that aim to generate more specific research results. Where we understand this kind of work to be looking productive, but still nebulous, it is stated as *provisional*. Further, one learning has been that the techniques we are devising for use within the project to communicate between the different strands have value beyond the confines of CreaTures, and these will, therefore, be added as a contribution to the final Framework Deliverable alongside anticipated outcomes.

What do we mean by 'creative practice'?

The broadest definition of creative practice that we've used in our 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, taken from Light et al., 2019). Creativity is an important aspect of almost all everyday practice. It can be a sensitivity, or an approach to the world as well as a practical, material pursuit. It is important to acknowledge the ubiquity of creative practice in general, and the multiple and heterogeneous people engaged in it. Theorists of creative practice suggest that everyone is creative (e.g. Richards, 2007 on 'everyday creativity') and creativity is as alive in scientific pursuits as well as those deemed artistic or formally 'creative' (Latour and Woolgar, 1979). This is important for the approaches adopted by the practitioners we are working with, since many of them are interested in stimulating creative responses (e.g. adaptive, pre-emptive and reflective) modes in those they are working with and breaking down artificial barriers between scientific and other experimental modes of inquiry.

However, for the purposes of this project, we have chosen to look exclusively at creative practice undertaken by people who identify themselves as professionals, by people who identify themselves as creative practitioners (artists, designers, design researchers, curators, cultural producers and social change-makers). More specifically, we have chosen to work with practitioners that have previously worked on projects relating to ecological and social sustainability and addressing sustainable futures (conceptualised widely). The CreaTures project builds directly on pilot research by Light et al., in which a multi-disciplinary group of researchers assembled and then analysed a corpus of creative projects that engaged with sustainability concerns with the intention of provoking transformation (2018).

One of the core intentions of this research was to analyse practices from different disciplines that are not usually considered together. Light et al. noticed that, across projects with different disciplinary commitments, very similar techniques or processes were being used (2018: 2). This had two significant aspects to it: first, there were common processes to identify and considerable knowledge about context and use to be mined; second, like-minded creative practitioners and researchers were not easily able to find and connect with each other across fields. In the CreaTures project, our remit has therefore been to identify hidden processes and assemble otherwise fragmented languages across multiple and diverse creative fields. Choosing the term 'creative practice' signals our interest in the creative practices themselves (rather than the disciplines that contain them). This framing also allows us to include interdisciplinary projects that may otherwise defy categorisation. And inter- and trans-disciplinary projects seem increasingly prevalent and important in making transformations towards more sustainable futures (see Lam et al., 2014 for a literature review).

The expansive nature of this definition poses a methodological challenge, since it is too large a task for this project to review all creative disciplines that exist. In practice, we have used several sub-categories or framing devices to focus our efforts. The next paragraphs describe these practices and the rationale for our choices in more

detail, but, in summary, we have focused on experiential creative practices and those defined as intentionally transformative³. We have also approached this through recent (rather than historic) organisations and works.

1. Experiential creative practices

We have chosen to work with creative practitioners that bring about experiences rather than make artefacts. We have been influenced by emerging work in Futures Studies that investigates how sensory experiences can help participants to more fully engage with sustainable futures (e.g. Pelzer and Versteeg, 2019). Our project explores the significance of the experiential qualities of creative practice, and how important they are in engaging participants, publics and communities more viscerally in thinking about sustainable transformation. This emphasis on experience aligns us well with art and design communities who are already using participatory and socially-engaged approaches. Many of the CreaTures creative partners organise activities for publics or communities to do together, for example: creating courses, playing games, convening workshops. However, some of our partners retain a more artist-led focus, creating installation artworks or performances that audiences are invited to experience or explore, with a focus on their senses.

2. Transformative creative practices

In selecting which creative practices to examine (within the definition given above), we have also drawn on the four loose categories created in Light et al.'s pilot research: illustrative, responsive, practical, and transformative (2018)⁴. These form an imperfect heuristic on the dynamics of sustainability-related creative projects. However, we use them here to prioritise a style of creative project that warrants further research attention as being intentionally transformative. We have chosen to explore *transformative* projects, which were 'created to have a significant affective, political or spiritual impact on self and others, often to a stated end but not always articulated in the work' (Light et al., 2018: 3-4). This definition focusses less on the direct material outcomes that were valued in some previous strands of arts-sustainability research (e.g. in behaviour change and information-deficit models). It prioritises understanding how creative practices may change the inner landscape of individuals, and the shared experiences of publics in ways that impact everyday practices, beliefs and, ultimately, cultural norms, thereby leading to more sustainable worlds. Thus, CreaTures selects projects that give people an aesthetic experience (one of the distinctive qualities of creative practice), but also equip people's capacities to develop different practices or relationships. This transformative category points towards modalities of engagement that may be easier to find in some creative fields than others.

3. Recent (rather than historic) organisations and works

³ Section 2 will provide more details about definitions of transformation within the sustainability literature, e.g. see page 13).

⁴ We have prioritised work in the transformative category above the other three categories: *illustrative* projects are created to explain or communicate – where the arts play a primary role in sharing knowledge or information (e.g. a film about climate change); *responsive* projects react to sustainability issues by stressing the artist's sensibilities (e.g. a poem about climate grief); *practical* projects change materials into a more useful form (e.g. re-distributing waste materials to community groups).

Since understanding of the interlinked environmental crises has evolved significantly very recently, we focus our efforts on contemporary practices that deal with current conditions, rather than taking an historical approach. For example, our longest-established partner has been running since 1996 (Kersnikova, Furtherfield), and our newest partner since 2012 (Open Knowledge Finland). However, we are tracing the threads of these organisations and their work in relation to previous practices, for example their antecedents in socially engaged practice. These threads are useful to demonstrate the co-evolution of recent scientific knowledge and new philosophical orientations.

Finally, it is important to note that when we talk about creative practice (and creative practitioners), we are evoking a heterogeneous ecosystem rather than stable and easily separable entities. Within our partner group, many practitioners maintain hybrid forms of practice, for example some act as curators *and* artists – in the CreaTures project they are both creating their own works and commissioning and supporting other works. Organisations may engage in different sectors, for example in both art and design – creating works for art spaces and for commercial clients. They also differ widely in size and organisational structure, from small social change organisations, to middle-sizes businesses, to production houses that swell and shrink depending on the project. This heterogeneity in scale and longevity reflects the wider creative sector, which ranges from micro-businesses to huge and well-established institutions that have been running, in rare cases, for several hundred years.

Methods overview

A key objective has been to identify and map existing, new and emerging initiatives that aim to produce transformational action through creative practices. In this Deliverable, we have two goals related to this objective: firstly, identifying transformational strategies, and secondly, describing the work of building the CreaTures Repository of transformative cases. For the reasons previously outlined, we have chosen to take a broad view on what constitutes creative practice. We are operating with a broad range of approaches and interpretations, both as researchers and in terms of the material we are reviewing. These come together in building a picture of transformative creative organisations, projects and practice.

Due to the nature of the field of creative practice, we have found that the work of identifying strategies and identifying cases is deeply interlinked—for example, creative practitioners may develop highly successful projects and then reflect on the methods used. Or, they may come across highly impactful strategies, and then create works that utilise these. Since it is difficult to separate the strategies from the cases, we have used several different research techniques and processes to query the field of creative practice across these two specific areas, ensuring that these are complementary and keep constant both the systematic nature of our inquiry and the component parts, allowing comparisons of context and technique.

Some techniques are designed primarily to elicit transformative *strategies*—but also throw up possible cases for the Repository. Other techniques have been designed to

identify cases—but inevitably also provide insights into transformative strategies. The following guide provides more information on the key focus of each section:

Section 2 - Perspectives from sustainability

A review of the literature on transformations and creative practice, which picks out key transformational strategies that have been written about in the sustainability literature.

Section 3 - ExP case summaries

This section presents three ExP cases that began in 2020, including their background, the transformative goals they are pursuing and the transformative methods that they are using. These are selected examples of a broader set of ExPs supported and studied by CreaTures, intended to give a flavour of our materials.

Section 4 – CreaTures interviews and case corpus

This section provides an analysis of the interviews that we have undertaken with CreaTures researchers and practitioners. This demonstrates the rich and diverse findings beginning to emerge from the project.

Section 5 – The design of the repository

Here, we provide details for the rationale of the Repository’s design and our forthcoming plans. This section also gives an overview of materials being entered into the Repository.

The specific methodological processes are unpacked in detail in each respective section.

Section 2: Perspectives from sustainability

What is Transformation? An overview of relevant literature

Many different academic communities are grappling with the question of how we might change our systems, governance structures, practices, and cultures to live more sustainably on our planet. We share similar goals to two sustainability communities, oriented around ideas of transition and transformation. Academic communities within the field of sustainability science exploring transformation are of particular interest to the CreaTures project: framed as radical change to complex, non-linear systems that include both social and material elements.

The transitions community emerged in the early 2000s, when researchers recognised that climate change, the destruction of ecosystems and the mass extinction of species are brought about by ‘unsustainable consumption and production patterns in socio-technical systems’ (Köhler et al., 2019: 3). Scholars argued that incremental changes to these would not be enough to manage climate and ecosystem crises; radical transitions to (new) more sustainable systems were urgently required (e.g. Elzen et al., 2004; Grin et al. 2010)

The sustainability transitions field is interdisciplinary, and includes natural scientists, sustainability scientists, modellers, and social and political scientists. Energy and transportation infrastructures in the global North provided the first settings for these studies, which explored ways to shift towards low-carbon alternatives (Smith et al., 2005). In the years since, the field has dramatically expanded. In their review of the literature, Köhler et al. identify the following nine themes within the current literature: understanding transitions; power, agency and politics; governing transitions; civil society, culture and social movements; businesses and industries; transitions in practice and everyday life; geography of transitions; ethical aspects; and methodologies (2019: 1). Political economy and justice are emerging as key issues, as the transitions field is increasingly taken up by scholars in the global South. These scholars bring alternative traditions of knowledge production and energise the field with new sets of priorities that can generatively unsettle Northern-dominant assumptions around global orderings (see for example Kumar et al., 2021 on global South energy transitions). Increasingly, it is understood that effective social change requires considerations of environmental justice.

Geels (2004) argues that the key object of analysis for Transitions Studies are socio-technical systems, and therefore they can be situated at a ‘meso’ scale (in contrast to ‘macro’ level sustainability debates on the nature of capitalism, for example, or a ‘micro’ level focus on individual decision-making). However, it is worth noting that these are perhaps best considered indicative rather than stable categories (artefacts of analysis that help with sense-making in complex situations). In Transitions Studies, socio-technical systems themselves are understood to be heterogeneous, encompassing material infrastructural elements, social practices, and governance regimes.

Researchers of complex, large-scale phenomena must make careful choices about how to construct objects of analysis (for an extended discussion, see Law, 2004). Transition Studies’ focus on systems (rather than practices, for example, as Shove,

2010) has specific effects on the way that change comes to be framed. Focussing on systems may be resonant for phenomena with clear boundaries – for example, energy systems have: material infrastructures; governance regimes that relate closely to practices of energy generation; and a clear ecology of producers, sellers and consumers – but it is less tractable an approach when the sector in focus is less defined. Transitions research builds on prior studies of socio-technical change in infrastructures, focussing on long-term change processes where tension between existing orders and new developments can be observed in non-linear temporalities that include elements of uncertainty. Transition involves multi-actor co-evolution, in change processes which reflect these interdependencies.

This field is alert to issues of power and governance – indeed Köhler et al. argue that transitions research features values clashes, contestation and disagreement as a core characteristic, as different groups of people hold divergent ideas about which sustainability ‘pathways’ (the process of moving towards practical ends) are best. Thus, choice of pathway has become a key definitional aspect in applied social science (Leach et al., 2007). At the same time, Köhler et al. suggest, transitions have a ‘normative directionality’ (2019: 4). Since private actors (such as business within capitalist systems) are not necessarily incentivised to prioritise sustainable transition above other concerns, ‘public policy must play a central role in shaping the directionality of transitions through environmental regulations, standards, taxes, subsidies, and innovation policies’ which ‘necessitates normative statements about what transitions seek to achieve’ (2019: 4). Transitions therefore may be more often associated with changing a system from one known state to another, with a significant shaping role being played by policy actors.

From Transitions to Transformations

A second community of inter-disciplinary scholars gather round the term *transformation*, also the term chosen by the CreaTures project. Although the terms *transition* and *transformation* are often used interchangeably to refer to major shifts in socio-material systems that are complex and contain non-linear dynamics, Hölscher et al. outline some subtle differences in orientation. First, objects of focus in Transition Studies tend to be ‘societal sub-systems’ (such as energy and transportation infrastructures) versus the looser ‘large-scale societal change processes’ in Transformation Studies that may provide more opportunities for moving across meso, macro and micro levels (repeating Geels terminology, 2004). Secondly, modes of enquiry in Transition Studies tend to explore ‘how’ non-linear change occurs, versus exploration of emergent patterns of change towards diverse ends. Third, for Hölscher et al. there is a pronounced difference around normativity: Transitions Studies ‘focus on shift from unsustainable to sustainable system state’ where Transformations Studies ‘focus on creating safe and just operating spaces’ (2018: 3) – representing a more open-ended approach. In general, whilst there is a generative traffic between and across these aligned trans-disciplinary fields, their differentiation may lie in the slightly different communities that choose to align with the two terms (Hölscher et al. 2018).

The study of transformations is an emerging field, so consensus is still settling around its core concepts. Feola’s substantive review of the literature finds that

transformation is often used as a metaphor; on the one hand creating a space for cross-disciplinary communication; on the other, potentially evacuating the term of meaning. In texts where definitions were provided, it was 'widely agreed that transformation is a process of structural change, i.e., a change of fundamental patterns, elements, and interrelations in the system, and that pursuing sustainability requires the involvement of social symbolic, physical, and material changes that is, fundamental alterations in e.g. sense-making, worldviews, political and power relations, social networks, and ecosystems, physical infrastructure, and technology, respectively' (2015: 382). Feola finds some agreement too, around the temporal range, with scholars from different sub-groupings generally approaching it as an historical process, unfolding over the long-term, but with potentially different rhythms (where a small, incremental change may trigger a larger, transformative one). Systems remain the dominant unit of analysis within this field, whether conceptualised as socio-technical, or socio-ecological (however Feola also includes social practice theory (2015, after Shove, 2010)).

Feola usefully distinguishes between descriptive and prescriptive concepts of transformation. We unpack this distinction here, in order to fully situate the CreaTures approach in later sections of the text. Descriptive studies identify patterns of change without registering a normative end-point, while prescriptive approaches focus on specific pathways and define transformative outcomes (Feola, 2015: 382). Descriptive-analytical ways of working embrace the unexpected, unknown and inadvertent dynamics of change processes. Research of this nature is ultimately intended to 'describe and understand the complexity of human-environment interactions, and thus provide the knowledge that would ultimately translate into practical solutions' (2015: 384). In this case, the assumption is that by understanding more about existing change processes, it may be possible to better design or steer new change processes. In contrast, solution-oriented approaches 'take a more strategic and operational approach to issues of change' (2015: 384). They place more of an emphasis on deliberate action, for example by seeding new processes of change situated in a specific, local context that then produces generalisable knowledge about how to steer transformation processes.

The Transformations community has formed a particular hotspot for research on creative practices, perhaps given this community's interest in large-scale societal change processes (over the transition of specific sub-systems) and its orientation towards emergent patterns of change (see, for instance, Fazey et al., 2020). CreaTures has chosen the term *transformations* in part, to connect with this community. However, we also develop our own sense of what transformation means when articulated by creative practitioners in their own creative environments, beyond the sphere of research activity.

The next section explores existing research in the transformations community, which we describe in some detail, so that we can later articulate the ways that our research both resonates with and departs from this cluster of work.

Creative practices in the sustainability transformations literature

The transformations field has embraced the promise of creative practice in helping people to move towards more sustainable ways of life. In some instances, a turn to creative practices has been motivated by the failures of previous models of change. In their book on the arts and sustainability, Maggs and Robinson deconstruct the information deficit model (where rational individuals are assumed to change their behaviour based on the provision of complete information) (2020: 17). A recurrent theme throughout the literature is that change processes have failed to sufficiently engage people's values. For example, Maggs and Robinson argue that inter-governmental efforts to manage climate change have 'failed to corral public values sufficient to secure widespread transformation of the industrial world' (2020: 17). Galafassi et al. are in agreement, pointing to an increasing awareness in the sustainability research community about the need for 'cultural transformations... that affect the cultural roots of groups and societies, including beliefs, behaviours, values and worldviews' (2018a: 71). This attention to values and worldviews also resonates with canonical work by Donella Meadows on leverage points for system change – she argues that the two most significant leverage points relate directly to values and worldviews: firstly, the 'power to transcend paradigms' and secondly, the 'mindset or paradigm out of which the system – its goals, structure, rules, delays, parameters – arises' (1997, n.p.).

However, there is also some scepticism from transformations scholars about any simple approach to questions of values—for example the idea that the fact-value dichotomy can be solved by simply adding values onto facts. Galafassi et al. note a changing consensus in the wider field of sustainability around the usefulness of binaries such as between facts and values (or nature and culture). They argue that these binaries are no longer able to 'make sense of the objects of sustainability and to prompt broader and more significant engagements towards social—ecological transformations' (2018a: 72). Whilst there is a consensus in the literature that values are something that needs to be worked on as a way to think beyond failing (global Northern) binaries there is not yet any significant consensus on how these processes work.

Günther Bachmann, from the German Council for Sustainable Development, writes: 'Theoretically, everyone talks about the importance of the arts for more sustainable thinking. Practically, it is underused, and underrated, maybe even not well understood and, worse, not well conceptualized by the artists themselves. It is not at all acknowledged in... art's business' (Bachmann, 2008: 8). The latest research in transformations takes this impasse seriously and has begun to produce fine-grained analyses of how creative practices can provide practical and imaginative resources to help publics to think critically and reflectively about sustainability challenges.

A key contribution that the CreaTures project makes is to articulate perspectives from within creative practice and design research, showing how the problem of sustainability and responses to unsustainable conditions are 'art's business' and at the same time are different from science-based approaches, in ways that generatively challenge the objects of concern and the approaches to repairing relations. By doing so, new avenues are born that combine 'eco-social' understanding with knowledge of creative engagement processes, positive ways to respond to crisis, imagined desirable futures and inclusive co-created change.

Genealogies of science and the humanities

Returning to Bachmann's earlier proposition, we ask: why is the agency of creative practices for sustainability so well-recognised but so little-understood? We suggest that this is not just a practical knowledge gap – where knowing more about creative practices will produce clarity about specific mechanisms for change. Instead, it reflects a larger question about the normative ways that global Northern (and in particular, Euro-American) societies understand the proper categorisation of knowledge systems, and their deep assumptions about the nature of reality.

This question is important in adapting to increasingly inter-disciplinary and inter-cultural ways of working, for example, The Trans-Atlantic Platform for Social Sciences and Humanities (T-AP), defines sustainability as 'an encompassing term that covers a wide range of problems and disciplines, with an increasing demand for interactions between the social sciences, humanities and environmental science' (2015, n.p.). Recent work on the history of humanities and its evolution in Euro-American contexts as a modern disciplinary field, provides some clues as to the learning that we must do as interdisciplinary researchers and practitioners in order to increase the productive interactions called for by T-AP.

Although they are not the only scholars to trouble the distinctions between the sciences and humanities, Paul Reitter and Chad Wellmon provide a genealogical account of the creation of the modern European humanities in a series of articles and blog posts (on their forthcoming book *Permanent Crisis: The Humanities in a Disenchanted Age*). Retracing intellectual debates in and around German universities in late nineteenth and early twentieth century Germany, they show how the modern Euro-American humanities 'first assumed institutional shape and gained conceptual coherence... as a reaction to the rise of the natural sciences' (2018, n.p.). Maintaining science as a value-free endeavour (dedicated to the study of an inert nature) depended on externalising values-laden work onto the humanities. These were the subjects left over once science had been removed – the 'not-natural sciences' as philosopher Heinrich Rickert summed it up in the 1890s - which were intended to fill a perceived 'moral lacuna' (Wellmon, 2018, n.p.).

Reitter and Wellmon argue that this nineteenth-century splitting has exerted a profound moral force that lives on today 'in the presumption that something called the humanities are uniquely positioned to study meaning making, value, and the subjective, uniquely capable of accounting for with human action and intention, human agency and purpose' (2018, n.p.). Reitter and Wellmon describe a genre of discourse called 'Humanities Talk' that justifies the humanities in the public sphere, for example: we 'turn to the humanities and arts for answers, for healing, and for resolution' and the humanities are where 'we locate our own lives, our own meanings' (2018, n.p.). We see a parallel here with creative practice more widely.

What can be taken away from Reitter and Wellmon's analysis? The first insight is that the gap between natural and 'not-natural' science is more than simply a disciplinary divide (which is demonstrated here using the example of values). Creative practices can be seen as an under-explored terrain, often overlooked or dismissed as much because of the politics of knowledge as because they are

fragmented or complex to grasp in their entirety. The second insight relates to the specific example of ‘Humanities Talk’. In their analysis of art and sustainability Maggs and Robinson caution that creative practices should not be ascribed total responsibility for ‘values’ work, as there is a risk of setting up ‘damning expectations’ on creative practices to deliver transformation (2020: 38).

Though there is not scope for a full literature review here on the notion of values (see O’Brien 2009 for a detailed overview in relation to climate change adaptation) we want to argue against the bracketing of values as existing primarily or solely in the cultural domain. Instead of seeing values as psychological artefacts, we understand them as qualities of material and social interaction (this situated approach is developed further in Section 4). Practically, it may be helpful in interdisciplinary settings to find ways to nuance the boundaries set by our disciplines. For example, in their rich co-creative study Galafassi et al. set up two parallel processes for creating socio-climate futures on the Iberian Peninsula in Spain – one science-led and one arts-based. An important finding from the arts-based strand was the significance of ‘more-than-rational knowing’ – forms of experience and learning that were ‘not confined to a logico-rational frame’ including ‘aesthetic elements, affect and subjective experiences that can at times be hard to put into words’ (2018b: 7).

In these categories we can see similar dynamics at work as those articulated by Reitter and Wellmon, in that the distinctive contributions of creative practice are being described in opposition to the rational (scientific) perspective. Galafassi et al. were right to point out that creative spaces deliberately engage and nurture more-than-rational knowing, and quotations from some of the participants within the article showed scientists being wonderfully moved by participating in modes of creative performance (2018b: 9)⁵. However, it is important to treat practices symmetrically, and to look for more-than-rational knowing within science-led or interdisciplinary practices as well. Science and Technology Studies (STS) provides helpful resources for this pursuit, since many key texts have shown how more-than-rational practices are systematically removed in the process of stabilising assemblages of apparatus and sets of data, in the journey from embodied practice to scientific fact (Latour and Woolgar 1979).

It is interesting to note that the climate emergency has begun unpicking this distinction as more editorials, and interviews come into press written by scientists but abandoning notions of ‘impartiality’ for a more activist role—for example the compendium *Standing up for a Sustainable World*, edited by sustainable development and climate scientists Claude Henry and Johan Rockström (2020), which brings together activist voices in science, land defence movements, environmental litigants, school strikers, social entrepreneurs, eco-activist investors, and sustainability communicators.

Research settings – creative practices in transformation

⁵ A quotation that has stayed with us from Galafassi et al.’s project is: “If we decided to act [to untie the knot during the performance], this is not because we carried out a multi-criteria analysis of the situation; we did so, rather spontaneously because we felt we had to do it so we did” (2018b: 9).

Next, we turn to the literature within transformations that explores creative practice specifically. One important strand provides framing and synthesis for the field (e.g. Galafassi et al, 2018a, Moore and Milkoreit, 2020). This type of scholarship tends to be descriptive-analytical in Feola's terms (2015) and often explores existing processes in the attempt to understand how these can be helpful for seeding and steering transformations to sustainability. Another strand of research sets up practical experiments to investigate the possibilities offered by creative practice in a hands-on way—often as part of wider interdisciplinary projects. These are solution-oriented approaches (Feola, 2015) attempting 'deliberate transformation' (O'Brien, 2012), in specific locations and domains.

An important function of descriptive-analytical studies has been to review previous creative works related to sustainability topics – primarily climate change. Galafassi et al.'s review identifies important capacities of recent climate change-oriented artworks, including: prompting creative imagination and serendipity, dealing with difficult emotions and dilemmas, engaging storytelling, science communication, possibilities for political engagement, exploring futures imaginatively, pre-figuring potential futures through direct action, engaging with values and beliefs, interdisciplinary knowledge integration, awareness of more-than-human worlds, embracing social-ecological complexity (2018a: 74). We found many similar processes at work in the CreaTures practitioner and researcher interviews, which we will explore further in Section 4.

Similar reviews have also been performed by arts and humanities scholars. Giannachi deconstructs different artists' orientation towards 'nature' as an object into three main groups: culture as already embedded in nature, nature as an independent domain of intrinsic value, and nature as appropriated by means of performance (2012: 125). She points to three strategies used by artists to approach climate change 1) Representations—emphasizing visualization and communication, 2) Performance environments—emphasizing immersion and experience and 3) Interventions—emphasizing mitigation and behavioural change' (2012: 125). A similar review by Miles identifies a tension between artistic attempts to distance phenomena versus attempts to bring climate change closer to everyday life (2010). Knebuch also reviews artistic projects on climate change but from a phenomenological perspective—linking ways of understanding the climate (as landscape, weather, atmosphere etc.) with interdisciplinary arts projects (2008).

Sacha Kagan performs a wider, thematic review of arts and sustainability research; identifying four ways that art distinctively engages with sustainability: 1) as topics, 2) within processes, 3) via values and 4) through critical perspectives. Picking up on already-mentioned themes, he argues that artworks create processes of research and learning, develop reflexive skills beyond rationality and challenge limitations on the imagination. He also picks up the question of values (specifically justice), suggesting that artistic projects produce 'an ethical enquiry into the meanings and implications of justice or rather justices in the contemporary world' (2008: 17). Finally, he highlights art's critical praxis, that can deconstruct 'modernity and its mythical figures (the individual, progress, affluence, growth, technology' as well as the art worlds themselves, including institutions and organisations (2008: 17). Modernity is also a core object of deconstruction in Maggs and Robinson (2020).

Significant inter-disciplinary collaboration is involved in both descriptive-analytical and solution-oriented research. As observed by Giannachi, even in artist-led works, scientists often help to supply information and technical support to create artworks (2012). In a later paper, Kagan provides an overview of indicative dynamics of arts and science collaborations in inter- multi- and trans-disciplinary settings, suggesting that these intersections create ‘spaces of possibilities’ of ‘challenging experience, imagination and experimentation’ for those that are part of and external audiences to these collaborations (2015: 7). Solution-oriented projects often involve direct collaborations with scientists and other stakeholders, for example the arts-based climate futures project by Galafassi et. al. mentioned in the previous section (2018b). In other studies, sustainability researchers take on curatorial roles, for example Hajer and Pelzer’s creation of a large-scale futures installation—part of a process that brought together energy policymakers and private sector actors (2018; see also Hajer and Versteeg, 2019; Maggs and Robinson, 2020; Bendor et al., 2015).

Solution-oriented projects tend to work towards a relatively concrete, sustainability-related goal pre-set by the researchers in addition to generating new knowledge about the agency of creative practices in sustainability. Therefore, solution-oriented work starts from the premise that transformation is at least somewhat controllable (though it is recognised that diversions, ruptures or frictions will be experienced in practice), whereas descriptive-analytical work is able to remain more agnostic about this question. However, both types of work search for new ways of conceptualising change, and in particular specific change mechanisms within longer-term, multi-phase transformation processes. Finding ways to abstract from situated practice is important in either case – whether that’s gathering knowledge from studies of social movements in other disciplines to share with the field or disseminating learning from the development of pilot transformation processes.

Creative approaches to inspire social change have long involved participatory design (e.g. Light and Akama 2014; DiSalvo et al., 2018; Escobar, 2018; Smith and Iverson, 2018) transition design (Irwin, 2015), critical and speculative design (Björgvinsson et al., 2012; Pennington, 2018; Wangel et al., 2019) and more. Design and transformations literature share particular synergies at the intersection between design and futuring—for example, the Collaborative Future-Making platform merges co-design and imagination in its anticipatory projects aimed at transformative goals (Hillgren et al., 2020). Much of this work places a focus on locally-situated social innovation that originates within concerned communities, starting from attention to local details, but aiming to inspire long-term, ontological change (Escobar, 2018). In their framework for transformative practice, Hummels et al. (2019) highlight that when working towards transformative change, a first-hand perspective is needed: those aiming to foster a change need to engage with, live, feel, embody and ‘become’ the change on their own.

On aesthetics and experience

One of the key contributions of creative practice is concerned with the perceptual qualities of a work—how it looks, feels, smells and the sensuous atmosphere that it evokes. We note that this tends to be described differently according to creative sub-fields—in transformations (and in allied futures disciplines), these qualities are often

narrated in terms of participant or spectator *experience* (e.g. Hajer and Pelzer's *Energetic Odyssey* explores staging and immersion as 'techniques of futuring' for energy transformations (2018). In research more closely allied to artistic disciplines, *aesthetics* is a more prominent way of understanding the staging of a work and its agency. Whilst this term is conceptually elastic, it is widely understood to refer to the study of art's qualities and their impact on perceptual capacities (Frieze, 2008).

The term 'aesthetics' raises questions about the *quality* of artistic works. Maggs and Robinson argue that aesthetics is a central contribution of art's agency in sustainability transformations (2020). They emphasise the importance of attending to artistic merit—whether a creative work is recognised as high quality in its creative sphere (e.g. as art, or in design). There is a tension here between differing ways of assessing the impacts of creative works—as fulfilling sustainability impacts, or as fulfilling aesthetic aims. For more material to think with, we can look to discussions in socially engaged art, notably the work of art theorist Claire Bishop in the book *Artificial Hells*. For Bishop 'any art engaging with society and the people in it demands a methodological reading that is, at least in part, sociological' but at the same time she finds positivist sociological approaches 'proposed, for example by cultural policy think-tank studies that focus on demonstrable outcomes' to be wholly inadequate (2012: 7).

Taking a historical approach, Bishop revisits similar terrain to Reitter and Wellmon (2018), showing how aesthetic knowledge has been categorised as 'frivolous' and juxtaposed to an idealised 'rational' knowledge. Like us, she also finds a turn to arts practice at the point where other knowledges have failed to deliver social inclusion (2012: 13)⁶. As in the field of sustainability, a tension arises when socially-engaged artworks are expected to deliver on two sets of challenges at the same time: creating social impact and standing as 'good' art. In situations where art is obliged to create social impact, Bishop finds that judgments of success are based on a 'humanist ethics' where 'what counts is to offer ameliorative solutions, however short-term, rather than the exposure of contradictory social truths' (2012: 276). Bishop highlights a schism in how art is assumed or expected to create effects: building sustainable solutions vs. destabilising systems. For her, art's critical and destabilising mode is 'understood continually to throw established systems of value into question' (2012: 276) and retains its aesthetic priority to devise 'new languages with which to represent and question social contradiction' (2012: 276).

Carrie Lambert-Beatty frames the same dynamic slightly differently, arguing that art is understood as a 'fundamentally frivolous zone' and characterising 'the strangely unshakeable assumption that art is a category defined against reality, unencumbered by—and unempowered by—real consequence' (2009: 80). Since some critical practice is built on 'the contradictions between art's ability to move into and change the world, and art as a space of only symbolic relevance' (2009: 81), some spheres of creative practice demand a more sophisticated critical approach that can take this instability and 'doubling' as serious work.

⁶ Bishop points to changing cultural policy in the European Union as positioning the arts as an antidote to 'social exclusion,' notably in the UK under New Labour (1997-2010).

A question that requires further reflection then, is how to address this contradiction when it necessarily also appears in the wider fields of sustainability. The urgent making of positive impacts and *un-making* of existing systems are both required (Feola, 2019; Lindström and Ståhl, 2020), raising key questions about how we create new categories together—for example, Galafassi et al.’s choice of the term *more-than-rational* invites us to step into an unknown terrain (rather than the more exclusionary ‘non-rational’) (2018b). How might ideas of ‘good’ academic scholarship and effective interventions also need to change to accommodate the critical ontologies that produce effects *because* they resist stable categorisation? Does that mean that new types of scholarship are required (Law, 2004)?

In addition to the themes highlighted so far, two key areas have received extended interest from transformations scholars: the imagination and the work of anticipation. We briefly set out how these are understood as change processes, so that, later in this text, we can juxtapose how these are understood within creative practice fields.

Key concepts and change mechanism: The imagination

Imagination (rather than creative practice as the application of imagination, as in CreaTures) takes centre stage within the transformations literature. Both creative practitioners and sustainability scholars suggest that we are facing a ‘crisis of the imagination’ (notably Ghosh, 2016, in relation to climate collapse). Moore and Milkoreit identify three distinct imaginative failures in responding to sustainability challenges: firstly, we find it difficult to conceptualise long-term negative impacts that are significantly different and only partially known; we find it difficult to visualise the social structures that support current unsustainable ways of life (a failure of our sociological imagination), and thirdly, we lack the ability to imagine adaptive and regenerative futures (2020: 1).

Acts of individual and collective imagining permeate all areas of social life, and it is important to acknowledge the expansive framing for this term. However, creative practices are one area in which the imagination plays a significant role in the work done by practitioners and asked of participants or audiences. Both solution-oriented and descriptive-analytical research in this area has produced insights into the specific mechanisms of action, primarily around how creative practices can enhance this third form of imagination – our ability to imagine sustainable and just futures. Deliberate transformation projects involving art, design and social change have consistently produced the findings that these types of engagement can help to stimulate imaginative capacities in individuals and collectives (Hajer and Pelzer, 2018; Hajer and Versteeg, 2019; Maggs and Robinson, 2020; Bendor et al., 2015; Stripple et al., 2021). But what are the understandings of change that are being operationalised here?

Moore and Milkoreit see the imagination as a necessary capacity ‘for securing ecological, social, economic and cultural well-being in times of rapid and often unpredictable global change’ (2020: 1). For them, the term straddles multiple meanings and mechanisms: as a cognitive capacity, imagination is the ability to generate ideas in the mind about things that cannot be perceived with the senses, including alternative or fictional realities (2020: 3). However, they also point out that

several recent accounts have shown how the imagination is a relational and situated phenomenon, that is ‘both *individual* and *collective*, *self-* as well as *other-* directed, a necessary *condition* as well as the *product* of the dialogical process’ (Stoetzler and Yuval-Davis, 2002: 316, their emphasis). Other fields use similar ideas to understand distributed phenomena, such as the concept of social imaginaries (e.g. Taylor, 2002) and socio-technical imaginaries (Jasanoff and Kim, 2015). These describe how social and material practices take on normative orderings that shape aspects of society.

These theories point to a complex interplay between situated processes of imagining amongst individuals or small groups (e.g. van Dijk and Rietveld’s 2020 study of architects), and patterns of shared meaning generated across wider, often distributed collectives. Moore and Milkoreit isolate three significant relations (or ‘flows’), that are of interest in understanding processes of transformation; firstly, ‘from an individual mind to another individual or group—the revelation of what initially seems an internal, cognitive-emotional reality only’. Secondly, ‘those from a group to an individual—the process of receiving and absorbing ideas shared by a group,’ and thirdly, ‘those between and among groups, including the communication between a specific group and the public at large’ (2020: 9). As objects of analysis, each of these flows suggest different types of framings and methods, raising new questions about how to study the interlinked action between them. These diffuse phenomena pose new analytical challenges for the sustainability community (compared, for example, to the socio-technical infrastructures of energy and mobility that seeded the transitions field).

Nevertheless, studies have begun to explore the role of creative practice in mediating these flows, beginning first with solution-oriented or deliberate transformations designed as part of academic research. They tend to focus on specific events, exploring the relationships between creative works and relatively bounded groups or audiences. For example, in their analysis of creative works submitted to the Post-Fossil City competition (designs, provocations, sculptures etc.), Pelzer and Versteeg describe five ‘imaginative logics’ that the practitioners mobilise to articulate change in their creative works. The ‘doable logic’ for example ‘intends to engender optimism and potentially collective action. It does not necessarily have to be feasible in practice yet, but it does provide its audience with a perspective of direction and a potential course of action’ (Pelzer and Versteeg, 2019: 18). In contrast the ‘guerrilla logic’ depends on the blurring of boundaries between fact and fiction. As a result, it may cause confusion or even a feeling of uncanniness which is productive because it can spark a discussion’ (Pelzer and Versteeg, 2019: 22).

Likewise, Stripple and colleagues write about a multi-stakeholder project that they created called ‘Carbon Ruins—An Exhibition of the Fossil Era’. This future museum exhibit showcased artefacts of a past fossil-fuel world – including burgers, frequent flyer cars and plastic toys. Visitors to the exhibition were invited to enter a (fictional) future and to look back on an unsustainable past— using the mechanism of defamiliarization as a change agent (also mentioned by Galafassi et al. 2018a). Stripple et al. suggest that ‘by destabilising our accustomed ways of thinking, such interventions clear a space for things to be otherwise’ (2021: 88) This highlights the temporal link that is often made between imagination and anticipation that will be

further explored in the next section. Gradually, exposure to such destabilising ideas from multiple sources can create a new sense of what normal may be, as well as offering in-the-moment provocation.

So, in addition to research on solution-oriented or deliberate transformations, scholars have also begun to query whether and how creative works can change imaginaries. These often focus on popular media formats with larger audiences. Some of them centre on the role of creative works in changing individuals (for example Nikoleris et al.'s 2017 study of the narration of shared socioeconomic pathways in literary fiction on climate change) or Johns-Putra's (2016) exploration of 'cli-lit' (climate literature), while other research explores wider 'flows,' for example, Dasilva's study of how Hollywood speculative fiction orients towards sustainability, linking specific movies to strands of environmental political thought in an attempt to map formations.

Moore and Milkoreit highlight key areas where further research is warranted: 'there is no clear evidence that can answer whether arts-based approaches are suitable for national-scale transformations' and ask if some approaches are more helpful at 'identifying current aspects of a system that need to be dismantled rather than imagining a completely different alternative' (2020: 11). We will explore how CreaTures intends to contribute to these open challenges later in this Deliverable.

Key concepts and mechanism: Anticipation and the creation of futures

A second key concept and mechanism concerns anticipation (and more specifically, the production of futures). As we have seen, imagination is of such importance to transformations scholars specifically because it provides capacity for future-making. Moore and Milkoreit draw significant links between imagination and temporality, suggesting that for individuals and collectives, imagination is important in understanding firstly, where we are—our current degraded socio-ecological conditions and the systems that brought these about—and secondly, where we could go—through envisioning both likely and desirable futures (2020: 2).

Muidermann et al. show the future itself is conceptualised differently in different types of sustainability-focussed work. Reviewing recent research, they identify four prominent ways of framing the future: as 'probable', 'plausible', 'pluralistic' or 'performative / critical' (2020). This goes beyond the rhetoric of the 'futures cone' (see Voros, 2017), a popular aid to consider 'the future' in a specific situation, thus within a single paradigm (possible, probable, plausible), rather than reflecting on the construction of ideas of the future. Creative practice, most often by regarding futures as plural, can carry a constructivist position into its approach to futures work. Thus, along a continuum of futures research, creative practice-led approaches often fall into the space that Muidermann et al. open up between 'performative / critical' and 'pluralistic' approaches. These take the form of both solution-oriented and descriptive-analytical accounts of making futures with a range of actors: from policy-makers, to exhibition visitors, but begin from the position that futures are not the same for everyone and depend on starting point, even if material events develop similarly.

Conceptualisations of the future are associated with different lines of reasoning as to why and how predicting, forecasting or imagining the future can structure action in the present. Futuring may be used to form deeper knowledge, mobilise communities, to plan and build capacities, or to enhance democratising participation in decision-making (Muidermann et al, 2020: 3) and the methods that fall out of these goals are very different. As Light says: ‘there are politics to futures in the present, and ethics to one’s methodology for impacting them’ (2015: 86-87). Therefore the creation of futures is recognised as having a political character: these are not merely logical spaces but rather, ‘moral space[s] of possibility where what one conceives of as possible in the future influences the choices made in the present’ (Kendig and Bauchspies, 2021: 229), which scholars regard as a crucial form of agency. Anticipation is ‘one of the most relevant – if not the most relevant – value-generating, sense-making’ forces (Poli, 2015: 108). As a result, ‘the exercising of “anticipatory consciousness” is an active political subjectivity’ (Amsler and Facer 2017b) that underlies other forms of agency. In transformations research, anticipatory approaches are valued for their ability to identify diverse futures, and to create participatory processes that can engage multiple actors (Muiderman et al 2020: 13).

Concepts of ‘futures literacy’ have been used to describe these capacities for imagining and future-making and to point out that they are widely distributed. Some researchers have found that creative practices offer specific characteristics that aid futures literacy. Pluralistic and performative futures are associated with fully embodied, experiential methods (see, e.g., Bendor et al. 2017) that are valued for their ability to trigger more-than-rational ways of knowing (in Galafassi et al.’s terms, 2018b). Stripple et al. argue that ‘when responding to imaginary worlds, we engage both abstract thought and emotion, to vividly simulate what is not but might be’ (2021: 89). They describe this project as a form of participatory world-building ‘that allows for new ways of knowing, and new ways of being’ (2021: 87). Bringing together imaginative capacities with future-making processes is a core understanding of how change happens within the transformations literature.

There is a particular synergy here between transformations literature and speculative and critical design, which have a long tradition of using speculative methods to produce provocative future visions that prompt discussion amongst publics (including decision-makers) about desirable futures, with particular reference to technological developments (see Dunne and Raby, 2013; Broms et al., 2017, Biggs and Desjardins, 2020; and Candy and Potter’s edited book *Design and Futures*, 2019 for a more comprehensive overview).

Where is CreaTures situated?

Overall, the CreaTures project is well aligned with these strands of thought within the transformations literature. One subtle difference is that our focus is on *transformative creative practice*, which we have defined previously as works ‘created to have a significant affective, political or spiritual impact on self and others, often to a stated end but not always articulated in the work’ (Light et al., 2018: 3-4). We have chosen *practices* over *systems* as a unit of analysis, following the ‘practice turn’ in the social sciences (Schatzki and Knorr Cetina, 2000) – this allows us to focus on how things manifest with and through different agents without ignoring the situated nature of

action. Our research study starts with specific practices—those used by our partners to create their ExPs—and moves outwards, tracing their effects. Our key definition also highlights the affective dimensions of change processes, which acts as an emerging and important counterpoint to solution-focussed accounts of material change. It allows us to explore what our creative practitioners intend, what they actually do and how these actions marry to effects beyond them. Our approach is one way to make an analytic ‘cut’ into the more diffuse field of culture change, and acknowledge that no transformation happens in isolation – change is unfolding in every arena all the time.

As a project, CreaTures is best understood as an umbrella under which multiple smaller works (called ExPs for ‘experimental productions’) are being simultaneously produced and researched. ExPs are being developed by the diverse creative partners within our Consortium, including university design researchers, designers in commercial design companies, artists and curators in arts organisations and cultural producers in social change organisations. ExPs are creative projects, springing from the interests and orientations of the Consortium’s creative partners (rather than sustainability scientists, for example). Most ExPs involve natural scientists directly as partners or consultants—collaborating within processes led by creative practitioners. As previously mentioned, the ExPs are experiential creative works, often including open-ended and participatory processes, rather than artefacts: for example, board gaming events, interdisciplinary workshops, such as those that involve knitting with seaweed, or tours of a research forest.

As part of the Observatory strand of research, the Work Package 2 team collaborates with all the creative partners in the Consortium to document the process of developing and performing the ExPs. In doing so, the team develops a detailed understanding of the changes that each practitioner would like to produce, and how they choreograph a creative work in anticipation—pulling out the ideas and assumptions that practitioners hold about how change occurs. Working with the Evaluation team in Work Package 4, we also document the impacts and effects that ExPs have on participants or audiences. A focus on the efficacy of projects as the unit of analysis—a ‘project-eye view’—is common, because creative (and academic) fields tend to work on a project-by-project basis, meaning that evaluative practice commonly adheres to particular projects (whether undertaken by researchers, or mandated by private or public funders). Within CreaTures, our open focus allows us to include, but also go beyond, this set of relationships.

Our initial research has revealed that creative practices produce many more impacts than may be obvious from a project-eye-view. In addition to studying the ExPs, we are also beginning to study the creative organisations themselves, in particular their temporal trajectories. We are interested in the work that goes into developing relatively new organisations and sustaining existing organisations. This involves a time span from 1996 – when our oldest partner organisation was founded—to the present day. We are using mapping and elicitation tools with some of our creative partners to understand how organisations develop heterogeneous capacities over time. Many of our creative partners are highly flexible organisations that add capacity in order to undertake specific projects. Some of these relationships are long-term, intimate collaborations that are not well-captured by terms like ‘sub-contracting’. For example, creative producers Zemos98 have instituted a network of Ambassadors to

distribute their board game *Commonspoly*, an arrangement that came about as an alternative to conventional models of retailing and logistics; while curators and artists at Kersnikova produced new incubation chambers for the visual display of biological processes, which subsequently travelled to scientific and industrial settings through industry partnerships.

Taking an organisational view, we can also see surprising aspects of practice that sometimes shape specific ExPs. In interviews, creative practitioners often mention having had conversations or experiences with peers in other organisations (and often in other fields) that had profoundly shaped their own practice in general and the shape of the ExPs in particular. This has also pointed us to the embeddedness of organisations within wider communities of practice that operate as dynamic entities and sites where creative practitioners and organisations exert influences on each other, and even more widely into social formations (e.g. imaginaries). Unlike other fields where relations between entities are well-categorised (e.g. energy markets where producer, distributor and consumer relationships are well-defined categories related to concrete relationships of exchange), we find affect-driven, personal relationships to be highly significant but not well-understood in these creative communities of practice. We need to find new terms to describe these nuanced relationships—as loose connects that can exert profound effects. We are currently experimenting with methods that can tie together these different types of effects in a way reminiscent of the call to explore different types of ‘flows’, articulated by Moore and Milkoreit (2020) to conceptualise transformations across spatial and temporal scales.

The Take-Away

Our literature review has provided some insights into the ways that researchers and creative practitioners are thinking and working on issues concerning sustainability. To sum up the key points:

- Creative practitioners make works on *topics* related to sustainability (in our sample, these included: climate change, natural phenomena, relationships with nature, and what constitutes sustainable and just futures—but of course this list could be expanded).
- Creative practices were characterised as having the following *effects*: engaging values and beliefs, prompting creative imagination (as a property of always culturally-embedded individuals, and as a shared societal construct), creating processes of research and learning, creating spaces of political, moral or ethical negotiation, prompting more-than-rational senses (including dealing with emotions) and critiquing current ways of life (for example by surfacing contradictions or defamiliarization processes).
- Creative practitioners set the *conditions* for these effects by developing participatory processes, creating engaging sensory experiences, communicating symbolic content, and bringing together practitioners from different disciplines.

This is a rich set of insights from an emerging field. However, there are still productive frictions in understanding sustainability as a *topic*; particularly in ensuring the term makes space for both specific urgent goals and emergent experimental approaches. We need more understanding as to how particular transformative

conditions can be designed. However, there is uncertainty about the extent that transformation processes can be controlled (and deliberate *effects* produced), with theories of indeterminacy coming from complexity theory, feminist technoscience and other post-solutionist domains, leaving questions as to what can be achieved.

Nonetheless, sustainability researchers, arts researchers and creative practitioners have all embraced interdisciplinary exchange. This presents a compelling opportunity to move beyond the binaries and habits of thought that sustainability scholars have identified as no longer effective (if they ever were). To realise this potential will involve addressing entrenched power dynamics between science and those other disciplines that have been defined in relation to it. What space is there here for undoing the bracketing of aesthetic, experiential and more-than-rational knowledges? Significant questions are raised about how creative practices are valued and by whom. Creative practitioners are under pressure to deliver defined sustainability outcomes that are significant in sustainability and great art that is significant as art, as Bishop notes (2012), with a further requirement to manage expectations on all sides. This will involve creating greater understanding across inter-disciplinary communities of the complexities of artistic practice, practice which may operate between ontological registers, with no ambitions towards the stable categorisation that underpins ‘good’ research in most disciplines.

Positioning CreaTures’ philosophical commitments: Eco-social sustainability

Throughout the previous sections, we have been building an argument for studying creative practices as deeply situated endeavours. Our project ambitions are to be part of the effort of locating generalisable techniques from creative practice that can seed or steer sustainability transformations. However, as researchers and practitioners, we are also alert to the potential for ontological change that creative practice offers (Escobar, 2018). Here, we use the term ontology to refer to shared assumptions about the character of the world (Law, 2015). Sustainability scholars in the global North are, as noted, questioning foundational categories such as nature and culture, and demonstrating how they are losing their usefulness (Galafassi et al, 2018). In this atmosphere of remaking ontologies, creative practice can provide a space to do, not only *moral* work, but *ontological* re-tooling.

Scholars from Science and Technology Studies (STS), feminist technoscience (FTS), and scholars of post-colonial and Indigenous politics have been using empirical social science to deconstruct the idea of any single Euro-American ontology; debunking the singular ‘one-world world’ (Law, 2015; Verran, 2001; Barad, 2007; Escobar, 2018) and exploring how it came to be a dominant view and what and whose purposes this has served. The one-world world can be seen as playing a strategic role in matters of sustainability, for example, in discourses around the international governance of climate change (in translations between Northern concepts of ‘nature’ and Southern concepts of ‘Pachamama’ for example).

In recent years (as we have seen in the transitions literature review), more weight has been given to issues of justice and inclusion—particularly of Indigenous and non Northern-centric worldviews. In their work, STS and FTS scholars have proposed multiple ways of understanding ontological multiplicity (Law, 2015), as ontological

micro-worlds (Verran, 2001), intra-actions (Barad, 2007) or pluriverses, where one world contains many other worlds (Escobar, 2018). We argue that creative spaces form one important site of ontological playfulness, where ontological design for a pluriversal world can be openly worked on (see Escobar's *Pluriversal Design*, 2018) and where new and fertile conceptions of relations can be explored and understood.

Ontological differences emerge from situated processes of enquiry. It is for this reason that creative practices need to be studied on their own terms. By doing so, distinctions in worldview are not only observed, but understood as contributing to the ambitions and choices of method employed. Attending to creative practices as situated, also means defining sustainability in pluralistic ways that allow different communities to articulate their own objects of concern (in addition to exploring existing objects such as climate change). The creative partners within the CreaTures project, for example are motivated by current unsustainable conditions. A significant grouping of ExPs refer to more generalised notions of crisis and the affective experience of living in an increasingly unstable world. They highlight the tensions in moving towards more sustainable futures (or indeed, what our consortium might consider to be *abandoning unsustainability*, which is not quite the same thing as sustainability). They engage their staff, their audiences and their wider publics (for instance, through the media) with these tensions too, and in doing so stretch conventional ideas of sustainability in generative ways.

Maggs and Robinson make similar arguments in their book *Sustainability in an Imaginary World* (2020), which explores the agency of creative practice by inviting practitioners to create new works in response to a prompt created by the researchers. This was subsequently developed into a large-scale immersive art installation (combining descriptive-analytical and solution-oriented approaches). Like Maggs and Robinson, we understand sustainability as situated and relational. They write: 'sustainability is not a scientific principle or set of expert-derived practices that can be bestowed upon publics, but something that must be forged by and through those publics as a space of possibility; it is itself emergent from such processes' (2020: 25). They point to sustainability as a process, which requires new capacities for transformation in an increasingly unstable world. Consequently, sustainability 'emerges as a normative ethical principle rather than a scientific concept' (Maggs and Robinson, 2020: 25). This approach resonates with creative practice as a site for negotiating ontological and moral questions. It untethers the concept of sustainability from ideas of nature, environmental ecosystems and scientific knowledges, while acknowledging that the instabilities to be responded to may relate directly to physical systems.

Other practitioners maintain that a change in social structures is not enough. Shifting the site of sustainability from the planet to the socio-ecological transformations needed, Moore and Milkoreit argue that '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 (2020: 4). This definition moves beyond the nature-culture binary (where natural ecosystems are framed as objects external to human social worlds) and foregrounds the production of meaningful social and material relationships between people and within the ecosystems that they are already embedded in, as Earth-dwellers. Following a similar trajectory, Kagan argues that

creative works exploring sustainability as a topic or issue ‘should ideally connect issues of social justice, cultural diversity and ecological issues’ (2008: 17).

All these commentators link transformation in social norms and ecological wellbeing more explicitly than other sections of the sustainability literature. Where the sustainability literature has tended to explore human *adaptation and mitigation* more directly in terms of physical changes, evaluating progress towards metrics such as temperature and food production targets, creative practitioners, with an interest in the role of culture(s), imaginaries and ontologies, provide a corrective to a single-minded pursuit of physical targets. There are multiple reasons for this:

- 1) at their simplest, these targets are not sensitive to winners and losers, current injustices and unsustainable lives, whose world is saved and whose is sacrificed – there is no common vision, just considerable anxiety;
- 2) without the will of the majority, political pressure on lobbying factions and changes in mindset as well as behaviour, the ambitious targets cannot be realised and few have a plan for how to accomplish this transition in culture;
- 3) the targets continue to change based on new learnings, even while the science is clear, meaning that an adaptable and responsive world population with an interest in adjusting not once, but often, is essential.

Within the literature, transformations are conceptualised as multi-year, multi-phase system changes, and therefore it is methodologically challenging to identify when or how a social change tips over into an ecological one. Further, none of these cultural transformations can be judged as an individual transition, though there may be indications that changes are taking place in a group or region. Thus, though there are practical difficulties in distinguishing social and ecological relations (how they influence each other in the short-term and how they contribute to specific ecological goals), there is perhaps less value in drawing these demarcations than is supposed.

Kagan manages these tensions by framing sustainability as a series of challenging reconciliations: ‘of the economy with the ecology, reconciliation of matter and culture (i.e. society, technology and environment), and reconciliation of intra-generational and intergenerational justices (i.e. the needs of present generations across the planet and the needs of future’ (2008: 16). Consequently, although there are clear sustainability goals to implement, such as urgent decarbonisation to combat climate change, as a wider concept, sustainability may be better conceptualised as a space in which the aforementioned tensions can be negotiated as processes.

Gathering these insights together, we suggest that the works cited here by Maggs and Robinson (2020), Moore and Milkoreit (2020) and Kagan (2008) represent a new strand of what we are choosing to call ‘eco-social sustainability’. These scholars recognise that sustainability cannot solely be conceived in terms of *what we know* about specific topics but must also be understood as an emergent process (*how we know*). These processes exist in a world that cannot be usefully split into ‘nature’ and ‘culture’ nor ‘social’ and ‘material’. Eco-social sustainability allows different ontological and epistemological orientations to be held together, pluralistically, within a wider field. This requires researchers, practitioners—and even disciplines—to open up reflexive processes to account for our basic understanding of the world, and how is best to know it.

Section 3: Three ExP Case Examples

Introduction

Within the CreaTures project, the Observatory strand of the research led by Work Package 2, is responsible for co-ordinating the documentation of the ExPs and also reaching beyond them to understand the characteristics of transformative creative practice more widely. As outlined in Section 1,⁷ the ExP cases allow us to gather detailed data about the development of specific projects. Accounts of the ExPs form a significant part of the CreaTures Repository of transformative cases.

This section provides case summaries of three of the first ExPs, which began in 2020, identifying the transformative goals, methods and outcomes used in the projects. Although these are very much work-in-progress case analyses, they provide an indication of the kinds of insights that are available from the longer-term and more detailed ExP data collection that will be included in the online Repository.

1. The Hologram



Figure 2: Images from the communication materials of the Hologram – a mythoreal viral distribution system for non-expert healthcare, practiced from couches around the world. (Photo credits: Cassie Thornton).

Background:

[The Hologram](#)⁸ Collective Health as a Really Beautiful Artwork is a strand of work led by artist Cassie Thornton, dedicated to developing social technologies for peer-to-peer healthcare. At the centre of the project is a simple structure: a person – known as 'the hologram' – invites three friends or acquaintances (known as 'the triangle') to meet on a regular basis to discuss their physical, emotional and social health. The project as a whole has produced a protocol that individual holograms can use to facilitate these meetings (The Hologram is capitalized when referring to the project; in lower case when referring to individual practitioners). Thornton first encountered this structure in 2016 whilst visiting the Thessaloniki Workers' Clinic (set up in response to Greece's financial and refugee crises) where people are treated by a

⁷ See page 7 of this document for a project overview, including a diagram of the interlocking components.

⁸ The Hologram website is accessible here: <https://thehologram.xyz/>

team of three practitioners, producing a three-dimensional or ‘holographic’ view of their physical, social and psychological life (Thornton, 2020).

In 2020, Thornton embarked on a residency with the non-profit arts organization Furtherfield, working with artists Ruth Catlow and youth worker Lita Wallis, where she began to experiment with the possibilities of the hologram structure outside of a clinical setting. Out of this came an ongoing series of ten-week courses that have acted as experimental sites to stabilize a protocol for the practice of ‘social holography’ and as dissemination channels for newcomers to learn the practice. To date, three courses have been completed, with around 25 participants each. The following auto-ethnographic excerpt gives an overview of the five steps in a hologram meeting.

‘The sun is setting when I log into the first Hologram session. As the Zoom window flutters open, I hear the sound of pop music as I watch 27 other faces pop up on-screen. After an introductions round, it’s time for a demonstration. A course facilitator becomes the hologram, three volunteers take the role of her triangle. 1] Each group member starts with the ‘stuck dance,’ making a shape with their body, to share corporeal impressions. 2] The hologram ‘marks the task’ that she’d like to address today – she’s at a transition point in her life and wants to be surrounded by positive feelings. 3] The triangle gently ask her clarifying questions, using “we” instead of “I”, thereby creating a powerful collectivizing effect. In answering their questions, the hologram allows herself to become vulnerable, even in front of this unknown audience. 4] The triangle members are invited to reflect. One tells the hologram how privileged he felt to take part in the meeting. In that moment any trace of shame stemming from vulnerability is transmuted into radical acceptance. I feel my heart swell. 5] The triangle provides feedback to the hologram in the form of patterns, wishes or provocations.’ (researcher’s notes, 2020)

Transformative Goals:

Central to the Hologram project is an understanding of health that moves beyond the idea of (dys)functional bodies. Health is understood in relational terms, as selves and bodies take shape in relation to the prevailing conditions of social, economic and political life – echoing research showing that people are more able to maintain good health in more equal societies that feature higher degrees of trust (Wilkinson and Pickett, 2009). The Hologram therefore responds to societal-scale challenges and seeks to make change at that level, as Thornton explains: ‘at its broadest and most ambitious scale the Hologram is intended as an open-source, peer-to-peer, viral social technology for de-habituating humans from capitalism’ (Thornton, 2020: 13). Since capitalism is a social phenomenon that ‘deeply influences how we relate to one another, how we interact, how we imagine ourselves and one another, even how we talk and feel’ (Thornton, 2020: 13) the Hologram, as a social technology, intends to change these ‘cultures of financialization’ (Haiven, 2014) by giving people experiences of radical acceptance, and a structure that they can use to prioritize self-care with trusted others.

Two participants (who were later trained as facilitators) detailed the skills they had learned from the course: including patience, courage, listening, questioning and emotional stamina – the experience “of not needing to have the answer and feeling confident enough to try something, knowing it might not work out” (interview,

2021). They felt the course boosted participants' sociological imagination: "your capacity to imagine yourself as part of a whole and imagine how that whole impacts you" (interview, 2021). Hologram practitioners are invited to share these insights (and the inevitable challenges that also arise) in a dedicated community of practice – convened via a text chat app and online monthly meetings. The assumption at the heart of the project is that these intimate transformations will aggregate in ways that change wider capitalist relations towards structures that are more sustainable for humans and earth systems. The concept of care is central to the Hologram: people need caring relations in their lives, but they also need to be treated with care when interfacing with wider systems (care is conceived throughout this text as fundamental respect for all living entities – following emergent work bridging feminist, materialist scholarship with concerns for environmental phenomena, puig de la Bellacasa, 2012). The Hologram aims to create a transformative program of un-learning to help people undo internalized norms about who deserves care, and gives them tools to remake their own conditions.

Transformative Methods:

Given the project's huge ambition, Thornton has given thought to how the project can scale, and has embedded a viral scaling mechanism inside the practice itself. Simply put, when a new triangle is formed, the hologram is tasked with supporting her triangle members to set up new hologram groups for themselves. This is not merely a dissemination mechanism but is central to the relations of care. As Catlow explains: "as a hologram you are very invested in the health of your triangle, you understand that it's equally important to take responsibility for the health of your triangle members by helping them to learn how to be a hologram themselves" (interview, 2020). This central convention allows for reciprocity between the triangle members (who are providing care) and the hologram (who is receiving it). However, it also avoids any transactional requirement that the exchange be equalized. Instead, relations of care radiate outwards as holograms invite triangles, who become holograms, who invite triangles. In designing this viral peer-to-peer form, Thornton was inspired by the Black Panther Party's sharing of acupuncture techniques within their activist movement (Meng, 2020). The project team are continuing to disseminate the practice via this viral scaling mechanism, the aforementioned courses, and *The Hologram* book (Thornton, 2020). They are currently inviting groups from beyond the art world (such as healthcare workers) to join the project and to actively mutate the practice. Thornton hopes to exit project in 2023 and is actively opening up stewardship to curators, co-facilitators and others in the community of practice.

2. Commons poly



Figure 3: The setting of a Commonspoly gameplay session and the game board (Photo credits: ZEMOS98 and Julio Albarrán).

‘As I open the box and take out the game board, I take the time to look carefully at all the spaces laid out. I know that this game is a criticism of Monopoly, so I immediately look for familiar references. I make unexpected discoveries, such as the hack lab and the multi-confessional chapel and I appreciate the diversity in the character descriptions. As I lay down the rest of the game tokens, I instinctively wonder: Where is the money?’ (researcher’s notes)

Background:

Commonspoly (<https://commonspoly.cc/>) is a non-profit, open source board game initiated by the Spanish cultural cooperative ZEMOS98, designed to stimulate a collaborative, commons-based approach to the use of public resources and question the violent model of neoliberal privatization. The first Commonspoly version emerged out of a program called ‘Hackcamp’, where approximately 80 invited activists, researchers, educators, artists and mediamakers, from various European countries came together to work under the theme ‘Reclaim the Commons’. A working group of 13 decided to hack the popular board game Monopoly whose design principles prescribe land monopolization, rent extraction and driving competing players to bankruptcy as a win strategy. Since its launch in 1935, Monopoly has had many versions and many parodies or unauthorised adaptations. Despite its fiercely competitive nature and neoliberal advocacy, Monopoly’s origins go back to the Landlord’s Game, designed by Elizabeth Maggie in 1903, to show the negative implications of land monopolies. Maggie self-published the game until 1932 when Charles Darrow got to know the game through friends, appropriated the concept and sold the game to the Parker Brothers, who have been publishing it ever since under the Monopoly brand with the current set of rules. By creating this alternative proposition to Monopoly, this group of ‘Hackcamp’ participants wanted to revive Maggie’s Landlord’s Game and restore justice to the original spirit of the game. Contrary to Monopoly, Commonspoly invites players to collectively convert private spaces on the game board to public, and eventually into common holdings. Commonspoly is typically played in public game sessions at cultural events, but the game can also be purchased or downloaded as print-ready files and played privately. Upon request, ZEMOS98 provides editable game files to encourage collaborative game development, which is further supported through cocreative events with diverse local communities. So far, the game has reached people in 23 countries, been released in five iterations, and exists in four languages.

Transformative Goals:

The game's design principles draw on insights from commoning practices (Bollier and Helfrich, 2015) and encourage players to pool their resources and act collectively against 'looming speculators' – nefarious game characters advocating privatization, often played by the game facilitators. ZEMOS98 co-founder adds: "In this game, as in reality, you're in a race against time and need all the help you can get to bring about change" (interview, 2020). The game thus aims to bring players together to negotiate and imagine various commoning strategies and engage in critical discussion. As such, Commonspoly forms part of a growing corpus of critical games (Croco, 2011; Flanagan, 2009) that encourage critical thinking about hegemonic ideas and unsustainable practices through principles embedded in the game design. The Commonspoly project works towards social change through two means: 1) the collective development, distribution and appropriation of the game across diverse local, social contexts; 2) the individual gameplays that bring together stakeholders interested in commons into a critical discussion. Through these processes, the project has attracted a variety of stakeholders and scaled into a distributed community network focused on the topic of commons.

Transformative Methods:

The growth of the Commonspoly network has brought about a greater diversity of inputs for the game, but also several practical concerns. One of the key challenges for ZEMOS98 is to manage tensions emerging from the collective game development and Intellectual Property (IP). Defining the exact scope of contributions by all authors who supported the iterative game progress and including them in every new game version release is impossible. Managing contributors' expectations and facilitating negotiation about various game changes became too resource-demanding for a small collective like ZEMOS98 that currently has 5 members and is supported mostly by arts funding.

To address the issue, ZEMOS98 embraced the concept of 'forking' that originates in the free software movement (Robles and González-Barahona, 2012) and involves individual naming of all different versions coming from one original source to satisfy contributors' distinct needs. Each new Commonspoly fork is thus named and described by its author and licensed under the Peer Production License that enables any non-profit entity to use and adapt the game for non-commercial use. ZEMOS98 is only listed as author of the first fork, for which it is accountable; thus leaving an open space for a collective Commonspoly authorship to flourish. Many fork authors have shared their versions: For instance, a Brazilian teacher adapted the game to the local context for her students; a UK-based Esperanto expert made a game translation. The collective game development is an ongoing process, and – similar to the free software movement – the 'success' of this approach is likely to emerge over time, as the collective authorship of the game unfolds. Another issue in scaling out Commonspoly is distribution: finding appropriate channels and resources to distribute the physical game widely, across diverse geographical areas and communities, has proved difficult. Staying true to their commitment to commoning values, ZEMOS98 deliberately avoids large suppliers with monopolistic practices such as Amazon. Until recently, the collective would store the full stock of game copies and dispatch them on an individual basis, which was costly and inefficient.

Transformative Methods:

To scale out their distribution system, ZEMOS98 has recently started leveraging the Commonsopol community to establish a network of ‘Ambassadors’: individuals and small bookshops that manage the sales and distribution of small game stocks locally, acting as Commonsopol advocates as well as gameplays facilitators. 10 bookstores around Spain have been successfully secured and the network is envisioned to expand internationally. To address how lack of resources hinders their efforts in Commonsopol development, ZEMOS98 has also worked on sustaining collaborations and relations with like-minded cultural institutions. Through their long-standing collaboration with the European Cultural Foundation (ECF) an Amsterdam-based institution with the goal to foster a sentiment of mutual understanding across European people by promoting culture, the collective has been able to produce more physical game copies, and expand their community of practice by accessing ECF’s audiences. The decision to include institutions in their – decidedly grassroots – processes was not straightforward for ZEMOS98:

“By having access to larger institutional bodies, we can sustain our connections with smaller actors and individuals. But that’s related to our survival rather than our desire. Ideally, we would skip larger bodies...but till now they have been an essential resource for” (personal communication, 2020).

Nevertheless, the aim is to keep these institutional collaborations truthful to the commoning values and maintain a mutually beneficial relationship: “ECF provides financial support, but also knowledge; we provide our knowledge and experience in return. We don’t feel merely funded, but rather like nurturing a relationship that follows a shared goal: fostering solidarity and strengthening democracy.” (pers. comm., 2020). For ZEMOS98, Commonsopol is not a product but a resource. Rather than promoting the game to sell more copies, Commonsopol is designed to help educate people about commoning; its methods of distribution are designed with the same values as the game board. Rather than developing a network for efficient distribution, ZEMOS98 nurtures an international network of relations that includes local Commonsopol players, Ambassadors, and cultural institutions. By dissolving their authorship and ‘forking’ it widely, ZEMOS98 enables a pluralistic game development, paying attention to local contexts.

3. Feeding Food Futures



Figure 4: FFF workshops – foraging for boundary objects; co-designing future food scenarios and prototypes; eating and cultivating discussion around a shared table (Photo credits: FFF).

'At our foraging walk around the workshop venue, we notice that local dining options consist of either expensive hotel restaurants or fast-food chains. Acknowledging our privilege of 'luxury of choice', we take lunch at a pizza joint. While eating pizza and sipping soda from gigantic plastic cups, we talk about unequal socio-economic access to 'good' (healthy, sustainable) food-tech products designed for 'good' food practices. As food-tech designers, we need to pay attention to diverse socio-economic sensitivities in food cultures.' (FFF practitioner, auto-ethnographic notes).

Background:

[Feeding Food Futures](#)⁹ (FFF) is a long-term experimental design research project aiming to support critical inquiry into emerging food-technology innovation and nurture imaginaries towards resilient food futures. The project was co-founded in 2019 by four design researchers working at four different universities across the world. It encompasses an ongoing series of co-creative events including workshops, future enactments and performative tastings that enable critical exchange among food-oriented researchers, designers and practitioners. The events are situated primarily at academic conferences where key stakeholders in food-tech design and research usually meet (e.g. DIS, CHI, C&C, CHIPlay). Academia is FFF's 'natural habitat', from where it sprouts, and from where it aims to start making a change: "Supporting a change in food-tech scholarship – which is inevitably connected to the food-tech industry – is the first step for us to help foster sustainable change in wider food systems" (interview with FFF co-founder, 2020). Through the ongoing events series, FFF has proliferated into a globally distributed network of contributors interested in experimenting with diverse co-creative means to support sustainable food transitions.

Transformative Goals:

FFF critically reflects on the role of food-tech innovation in addressing systemic challenges such as food insecurity and unsustainability, which have been identified as outcomes of climate change (Willett et al., 2019). Food-tech designers are proposing a variety of techno-solutions for 'better', more sustainable food practices – from smart kitchenware to digital farming platforms. Many of these proposals are problematic in their impacts on food cultures, extending socio-economic inequalities in global food markets and causing negative changes to social food traditions (Dolejšová et al., 2020). Concerned with what has been identified as a lack of critical reflection in existing food-tech design and research (Altarriba Bertran et al., 2019), FFF was initiated to gather critical voices and foster new experimental collaborations within academic research and professional technology design settings. The project leverages the methods of experimental food design research grounded in embodied co-creation (Wilde et al., 2017) using food both as a research object and a sensory-rich bio-design material to address key questions about inclusion and equity in the design of future food technology systems within academic and professional research settings.

FFF workshops have shown there is interest among scholars and designers in addressing food-tech innovation issues through critical, experimental means and a lack of venues for long-term exploring. This gap has motivated the ongoing proliferation of FFF into a decentralized, globally distributed network of collaborators,

⁹ The Feeding Food Futures website is available here: <https://foodfutures.group/>

who are invited to propose new food design research activities and develop them autonomously, leveraging the network as a resource of knowledge and opportunities for collaboration. These efforts in scaling out a food community network are envisaged to contribute to societal level (food system) change. Reaching from situated events into a distributed network for food system transitions, this work could be a step towards larger social impact.

Transformative Methods:

In FFF, food and food practices are considered as relatable everyday-life elements that happen at the scale of the body – the scale at which people operate, think and easily imagine. Thus, designing with food enables consideration of issues that are global in scope, yet intensely personal in their unfolding. Starting from this methodological angle, each FFF event is different: taking place in a local venue, engaging different groups of participants in activities including co-designing future food scenarios and prototypes, conducting foraging walks, and working with food design props such as Food Tarot cards. While different in their formal scope, the events are designed with the same goal in mind: to bring diverse food stakeholders into a critical human-food-tech exchange that results in co-creative outcomes to be disseminated to wider publics. Among examples from past events are the open access Human-Food Interaction Zine with recommendations for equitable food-tech design and research (FFF, 2019) or the More-than-Human Food Futures Cookbook with experimental recipes for resilient food system processes (FFF, 2021).

Yet, distributing design research practice in this way can be challenging: “We have been encouraging network contributors to co-organize events with us, engage in joint co-authoring of publications, and to propose new events on their own. The oversight of network activities still remains largely with us, though [...]. Network contributors have engaged actively but not yet autonomously” (FFF co-founder, interview, 2020). A number of factors contribute: FFF contributors may have diverse motivations and commitments; academia’s traditional authorship model may be a constraining factor as well. The pressures of the job keep many academics tightly focused on activities recognized by their institutions as having value, and authorship can be a contested process – in academia, shared collective co-authorship that decentres the role of ‘lead’ author is not well supported.

At the heart of FFF’s journey in becoming a diverse, transformative network is thus the challenge of transcending the boundaries of academia while still being a productive part of it. The project makes an ongoing effort to bring new critical voices into the academic food design research and nurture its post-disciplinary flourishing. To learn more and support the network, new open-ended FFF activities have been planned including seminars led by network members, a co-organized workshop at an artistic research festival, a free-access workshop at a design research conference, and an online reading group. These activities are envisioned as less formal entry points from which network members might take the initiative and propose new – perhaps unexpected, surprising – forms of collaboration. Nurturing such ‘hybrid’ food design research spaces on the boundary of the academic realm can be a potent strategy for co-creative design research initiatives: they can provide an opportunity for knowledge exchange that may be beneficial for long-term work of both academic and non-academic participants. Through these actions, FFF aims to foster rich post-

disciplinary ground from which buds of better futures – in food practices as well as in related research efforts – might sprout.

Three ExP cases: Evolving threads

These case accounts provide insights into the transformative goals, methods and (in-process) outcomes of these three CreaTures ExPs. All of the projects engage with eco-social sustainability—inviting participants to: build mutual aid structures, share a playful experience that prompts questions about spatial governance, and to critically explore the design of food infrastructures. Looking across the cases, one significant area of interest emerged—how practitioners created relational mechanisms to disseminate their work. Crucially, they did this not by keeping tight control over the work, but of creating open-ended and experimental artefacts that they invite others to continue to iterate in response to situated conditions.

Having set transformative ambitions, the three projects are allowed to unfold: as experimental processes in progress, where spread and mutation are designed into the form of the work. The projects scale their practice across local and social contexts by leveraging networks of triangles and holograms, game players and ambassadors, and design/research co-authors who enact the practice – or mutations thereof – in their distinct, personally-situated contexts. These networks are the focus of considerable effort for the creative organisations: the relational aspects are part of what is being modelled and replicated. To spread their practice in this lateral way, the ‘monopoly’ over the projects’ authorship is purposely dissolved and the projects’ processes and structures are open to be renegotiated. Openness to (re)negotiation of community values based on emerging insights is a defining element of ‘scaling out’ processes [29] standing in direct contrast to the notion of ‘scaling up’, which is associated with growth whilst holding frameworks or structures static. The projects are thus being gradually transformed in the direction of a large-scale aim (at least provisionally, in the context of this research) – not by performing a series of linear steps towards a concrete and definable goal, but by iteratively performing small changes and actively accumulating, nurturing, and responding to diverse situated knowledges.

Enacting alternative values are not trivial, and there are risks and uncertainties inherent to how such efforts unfold. While purposefully bypassing mainstream distribution chains like Amazon, ZEMOS98 struggles with securing sufficient resources to facilitate the game distribution across alternative channels, such as independent bookstores. The ‘autonomous sprouting’ of the FFF network, which hinges on pro-active behaviour of network contributors and collective authorship, can be challenging to achieve within the academic context. The Hologram recognizes that its culture is shaped by the Anglo-American art world, and encounters productive frictions as it experiments with new ways to engage diverse groups in learning the practice and intervening into the culture of the project itself. However, what the mechanisms in the three projects point to is a different relationship with change, which does not rely on proposing new ideas, but experiments with new ways of encountering the domains in which they are acting. In this way, different facets of each work appear, acting as a comment on the domain *and* a set of specific activities within the domain.

This section has given an insight into the kinds of ExP data that we have collected about the ExPs that are core to the CreaTures project and a central part of the Observatory Repository (for a more complete analysis see Dolejšová et al., 2020)). In the next section, we turn outwards from the ExPs and discuss our approach to identifying and analysing other transformative projects working in an eco-social mode.

Section 4: CreaTures interviews

Introduction and method

In the Autumn of 2020 we conducted fourteen semi-structured interviews with creative practitioners and researchers within the CreaTures consortium, representing the following disciplines: service design, participatory design research, games design, urban planning, science communication, sustainability science, open knowledge, social change, participatory and investigative art. They worked in five different countries: the UK, Spain, Finland, Slovenia and the Netherlands. We chose to treat these experienced practitioners as authorities on transformative creative practice as well as informal researchers interested to explore their work (which is why they became involved with the CreaTures project in the first place). Therefore their status is as critical and reflective informant, and we encouraged them to draw on many years of experience and success and failures as well as examples of practice they found informative. Eliciting these examples of practice to supplement the ExPs that are our primary source of data, we used them also as a basis for interviews. The subsequent sections here detail both the examples that are now part of the Observatory as transformative creative practice and analysis of the interviews that were gathered contemporaneously with them, often referencing the particular choices. Finally, this process produced a kind of project 'self-portrait' that would help us to highlight the convergences and divergences within our group. This was an important strategy in our (previously mentioned) internal co-design processes, allowing us to bring together our different research approaches and to convivially and generatively explore frictions and resonances.

Participants were asked to gather examples of projects that they felt were transformative, (speaking in some way to social and ecological concerns) and bring these to the interview. We followed a semi-structured format, where participants were invited to talk through the nominated cases, explaining why each one was understood to be transformative. Then, we asked participants to reflect with us on the qualities of transformation that their cases had produced. We also asked each participant who spoke a language other than English to describe how the term would be translated within their language and cultural context, giving us a sense of the cultural specificity of ideas of eco-social transformation across Europe.

Each one-hour interview was transcribed and analysed using a reflexive thematic analysis approach (Braun and Clarke, 2020) which involved six (non-linear) phases of work: data familiarisation, systematic coding, generating initial themes, reviewing themes, defining themes and writing-up. Following Braun and Clarke we understand codes as demarcating observations, topics as clusters of codes and themes as 'patterns of shared meaning, united by a central concept or idea' (2020: 14). The reflexive approach emphasises 'the importance of the researcher's subjectivity as an analytic resource, and their reflexive engagement with theory, data and interpretation (2020: 3). This is particularly important in the CreaTures project, where we are seeking to understand the epistemological and ontological assumptions underpinning practitioners' basic understandings of how the world is organised, and in particular how social and material (socio-material) change occurs.

We gathered the cases that were nominated during the interviews into a case corpus of 101 cases. Documentation for each case was reviewed, including websites, practitioners' statements, textual materials, archives, critical reflections. For each case, a researcher picked out the case description, key characteristics and potentially transformative qualities (we provide an initial overview of these in Section 5, along with our rationale for selecting the cases to be added to the Repository website).

In the interviews and the case analysis, we noted the following three strands of activity, in addition to letting themes emerge:

1. The shared imagining of sustainability transformations, in terms of shared goals and pathways considered towards these goals.
2. Concrete actions toward sustainability transformations.
3. How depth of meaning and feeling were considered/measured as indicative signals of transformation attuned to detect the changes that creative practice brings about in individuals or communities.

Working across these three levels we will be able to address different articulations of subject and scale as they emerge in each case (e.g. systems, practical actions, sets of relations, groups and communities, individuals and their behaviours etc.).

Interview findings: Shifting towards relations

The overriding finding from the interviews was that, for most of the group (bar three researchers who consider themselves allied to the transformations field), the term *transformation* was not one that they often used to describe their work. Rather, they had encountered it through the CreaTures bid. Unlike in the transformations community, where there is an emerging common understanding of transformation (as entailing a pronounced change in a system), in our interviews the term *transformation* was applied to many different types of change. The epistemological and ontological concerns articulated in Section 2 came to matter here in the absence of a shared definition of objects and processes of transformation. CreaTures practitioners and researchers tended to define transformation by picking out particular forms of change and elaborating on their significance.

In our interview analysis, what we found most notable was an overwhelming focus on the dynamics of *relations* rather than, for example, the achievement of specific material outcomes. It became clear that creative practitioners and researchers were focussed on changing relations—whether that was setting up new kinds of capacities through prefigurative approaches, or bringing people from different backgrounds together to find shared languages beyond binaries. This was accompanied by a focus on process—a shift of perspective from entities to relations. Turning again to values as an example—these are sometimes considered relatively stable personal attributes and, at other times, as dynamic aspects of specific lived experiences or abstract societal value systems. Practitioners, however, evoked processes of valuing-in-action and world-views-

in-the-making that occur in situated practice. This suggests that rather than thinking about creative works as directly acting on values as stable psychological artefacts, creative works rather set up situations, relations and experiences where processes of valuing are rendered visible, or are framed and engaged differently. Relations are associations between entities—it is these we are seeking to change at scale when we seek to transform culture, but the work of changing what is meaningful is also an engagement with particular contexts and ways of seeing.

Note that in this, our use of the term *relations* broadly follows the Science and Technology Studies (STS) and particularly Feminist Technoscience Studies (FTS) scholarship already mentioned, where relations are forged through practices. As Law explains: ‘practices in the social world are woven out of threads to form weaves that are simultaneously semiotic (because they are relational, and/or they carry meanings) and material (because they are about the physical stuff caught up and shaped in those relations (Law, 2019). Important to our later arguments is an analytic distinction from practice theory between ‘practice-as-performance (that is, enacted in specific moments and places); and practice-as-entity (that is, the emergent outcome of such performances)’ (Shove, 2010: 1279).

In the following sections we move to a discussion of transformation specifically focussed on four different types of changed relations that we heard articulated by practitioners:

- A. relations of participation,
- B. systems and infrastructures,
- C. changed practitioner subjectivities, and
- D. conceptions of wider society.

The final section (E) contains some observations on the making of transformations.

A. Changing relations of participation

A first set of transformative relationships centre around participation. Looking across the cases that CreaTures interviewees nominated and their elaboration in the interviews, what stands out is the sheer range and complexity of relations between the humans (and, sometimes, non-humans) invited into creative projects to co-create or experience them. Several basic distinctions help to set up the interview and case observations that follow.

Creative projects centrally involve the work of inviting, curating, assembling and platforming groups. Within interviews, CreaTures practitioners used the terms ‘people,’ ‘audiences’ and ‘participants / participation’ most often to describe those who took part in the creative cases. We judged that these terms did not really convey the sometimes highly sophisticated relations of participation in some of the creative cases, which was a notable finding that we will follow up further.

As analysts we find it useful to be able to distinguish between ‘collaborative authorship’—where people are invited to *co-author* a work and ‘spectatorship’—where they are

experiencing a work that has been substantially authored by someone else (Bishop, 2012). Rather than setting up an ‘unhelpful binary of ‘active’ and ‘passive’ spectatorship’ (Bishop, 2012: 8) we want to evoke a spectrum, along which different forms of participation sit. Following Bishop, we also dispute any ‘false polarity of ‘bad’ singular authorship and ‘good’ collective authorship’ (2012: 8). Spectatorship can be active and even collaborative, and there is no guarantee that co-authorship will promote equitable or democratic relations (as has also been noted in other spheres, e.g. Cooke and Kothari, 2001).

Rather than adopting Bishop’s terms, we stick to practitioner terms, using words related to ‘participation’ and collaborative authorship to describe situations where people are playing a significant role in the co-creation of a work, and ‘audience’ to denote situations where the authorship has been much more significantly shaped by the creative practitioner (noting that we do not see audience membership as a passive role). It is important to also to express that in our interviews, practitioners did not necessarily use the term ‘people’ to refer to an undifferentiated ‘general public’ of abstractly interchangeable individuals.

The idea of a ‘general public’ doesn’t take into consideration the relational networks of other practitioners and interested people that are often nurtured as part of organisations’ remit. One important finding in the interviews was how organisations gathered interested people around them in loose, but longer-term relations (in addition to attracting more diffuse attendees). As ever, these distinctions hold more and less well across creative disciplines—a fleeting contact with a work in a large gallery installation that attracts thousands, is different from the long-term involvement of in one localised community. The latter situation perhaps forming a ‘public’ around a particular issue (see Marres, 2007, or Le Dantec and di Salvo, 2013 for further elaboration and Light, forthcoming, for a discussion of how different processes may engage publics more or less with provocations).

Indeed, excerpts from the practitioner interviews demonstrate the challenge of neatly bracketing people into any of these categories. For example Ruth Catlow, co-founder of arts organisation Furtherfield described the heterogeneous networking of practitioners and audiences, that she calls ‘animating the practice space’:

“the thing we do really well is maintain a network of practice, of people who are making the work and that involves platforming, and the connecting work to the people, the audiences and creating critical discourse around it and sharing those discourses—animating the practice space” (22 June, 2020)

We approach categorisations (of practitioners/participants/audiences) as temporary stabilities in more complex webs of relation, following Catlow, where for example being a practitioner also means being in community with other organisations (and therefore also an audience member).

Following this brief introduction to key findings and terminology, we now describe 1) how practitioners defined transformation in relation to participation and 2) specific strategies that were used to set transformative conditions. These are set out in subsections that interweave extended practitioner quotations and analyst commentary. Given that we interviewed a small group of practitioners allied with the project, we do not make claims about the representativeness of any of these, but instead argue that they help us to understand the diversity of definitions and strategies that researchers and practitioners draw on. These also throw up new lines of enquiry in addition established interests in the transformations community, which may be fruitful for further investigation.

1. Definitions of transformation:

Transformation as engaged relations

Creative producer Lizzie Crouch chose a humanistic definition for transformation as a quality of relations: “I think successful engagement is transformational... if I’ve been successful in engagement, someone comes away asking more questions than they have going into it” (23 July, 20). She continues: “a transformative experience is one that gives you the skills or the agency to make a change...that could be like “I’m going to change my knowledge levels...my behaviour...my attitudes”” (23 July, 20). For Crouch, transformative conditions are set when people are approached in ways that trigger their curiosity, but at the same time, add to their capacities. This resonates with key mechanisms described in the transformations literature, where participants and audiences are being prompted to think differently, understood for example, by Kagan as learning reflexive skills and capacities (2015). Crouch however avoids defining engagement as a goal-driven pursuit, arguing that the definition of transformation should be left radically open: “it’s simply a change; and that change could go in any direction and it could be defined very well in any way. And I think I intentionally do that with my practice because I think as soon as you try to give it really specific direction then you’re bringing your biases and your privilege into that” (23 July, 20). This definition avoids the normative dynamics of sustainability, and creates links to wider questions of the accessibility of creative practices to diverse audiences, which is perhaps an under-explored question in current research.

Power relations set the conditions for transformation

Looking across the transcripts (and following on from Crouch’s position) most practitioners and researchers were attuned to the power relations established with participants/audience members—either in their own works or their nominated cases. For those engaged specifically in participatory styles of practice and research, the power relations of participation were an important site of enquiry. CreaTures practitioners often understood this to be part of their established disciplinary practice, for example in participatory design, socially engaged art practices and community organising, where actively working to flatten hierarchies and provide spaces for collaborative authorship are the norm. Indeed, many cases were chosen because they actively worked to flatten hierarchies and provide spaces for collaborative authorship. For one practitioner in particular—design researcher Andrea Botero—power relations were central to defining

transformation, and so we use quotations from her interview extensively here as an illustrative example.

Against a backdrop of interventionist colonial histories in the Amazonian regions in Colombia, she argues that transformation can only take place when change processes are initiated by communities themselves: “I don't think one can go and “save” anybody any more...starting stuff feels kind of useless unless you're starting it like from your own backyard, then you would have a stake...but you cannot start something somewhere where you don't have a stake, I think” (22 October, 2020). She refuses interventionist approaches and also seeks to go beyond the normative language of participation (which has been heavily critiqued, e.g. Cooke and Kothari, 2001) to ideas of coalition: “instead of thinking about ...the participatory whatever jargon before us to think about...joining coalitions...So I think there's a kind of a difference—what does it mean that I want you to participate in this idea that I have, or let's kind of join our forces...that seems probably a little bit more responsive to the huge tasks ahead” (22 October, 2020). Here, definitions of transformation are profoundly allied to ideas about justice. Communities themselves are the ones to create spaces of participation, within coalitions that others can join, rather than being ‘infrastructured’ into a public (Le Dantec and Di Salvo, 2013).

2. Approaches to creating transformation:

Transformation through mutual dialogues

Several CreaTures members nominated projects that used mutual inter-cultural or inter-disciplinary dialogues as a way to circumvent established power relations and to flatten hierarchies. Artist and sustainability project manager Iryna Zamuruieva nominated a cluster of organisations that bring artists, scientists (and sometimes activists, journalists, researchers and others) together in a specific location, where they share knowledge and create new works together (Cape Farewell, Estudio Nuboso, Anthropocene Curriculum, LAB de Arte y Ciencia and Zamuruieva's own Climate Art Labs). The curation of these events is important in setting up spaces and activities where all parties are invited to be changed by the experience of encountering each other (for example, as described by Gonzalez in the previous sub-section). For Zamuruieva, these spaces provide the opportunity not only to experience each others' ontological world-views in a productive exchange, but also to do some of the crucial work of creating new, shared objects of thought and action that attempt to move beyond the problematic binaries (that we encountered within the literature review) for example having recognised that the nature-culture binary is not helpful, finding ways to “disassemble [that], whether it is through the creative practice or through creating spaces where that binary can be rethought and re-imagined” (7 October, 2020).

Multi-modal projects

Several of the organisations nominated to the Observatory are notable for their hybridity: often starting from a phenomenon and developing different types of activities around that which combine artistic and other forms of production. Company Drinks, for example, nominated by Ruth Catlow began as an arts commission that re-visited the labour migrations of women and children from East London to Kent up until the 1950s. It is now a community space that grows crops, organises foraging and gleaning walks, hosts discussions and events around food and produces drinks

for sharing and for sale. The drinks company experiments with alternative economic formations, by partnering with local manufacturers to create drinks that are sold in arts venues to subsidise local activities. Ruth Catlow explains its significance at length in the following quotation:

“it's like prefigurative politics...it's modelling...a little micro economy that brings people together across difference to do something which is self sustaining, that allows people to spend time together in a convivial atmosphere, to talk about all kinds of stuff, because [the curators] spike the conversation with all kinds of issues which have to do with the locality. And, and it has all these layers to it. So it's an artwork, and the drinks have an identity and the identity wraps up a whole set of values—but it has all these different entry points for different people who don't care that it's an art work, they just want to come...I really like that in a project—where people are there for their own reasons, and those reasons are very diverse. I think it's a really great way for people to open up to each other, and to build these kind of soft connections that can actually be really powerful. (22 June, 2020)

B. Changing systems and infrastructures

For some of the CreaTures practitioners, creating processes that reconfigure the relationships within systems was a hugely significant task. Transformations were defined in terms of metaphorical and material systems change. Light argues: “a form of system change that is needed... change to the system that we actually live in - rather than the one that we've built over the last 18,000 years, because we blinded ourselves so absolutely to flow and the interdependence” (20 October, 2020). The challenge that Light identifies is to reveal the interdependencies that sustain us (for example our relationships with the more-than-humans that we rely on for food). This requires dismantling long-ingrained habits of thought predicated on domination, represented by Modernist ideals such as growth and progress.

Researcher Cristina Ampatzidou is directly concerned with the impacts made by creative practice outside of creative fields. She defines transformations in terms of concrete systems change, stating: “I'm kind of obsessed lately that the only way we can change something is by changing the laws that define what is good or bad or what is possible” (13 October, 2020). This raises questions about how creative practices can (and cannot) work across sectoral silos and into governance spaces in order to produce direct change.

C. Changing practitioner subjectivities in creative work

All CreaTures researchers and practitioners narrated the cases that they had chosen in tandem with their own biographies. Each interview participant had chosen at least one case that they had been changed by (either by working on a project or participating). They spoke about how encountering a particular case had changed their thinking, had triggered a latent interest, or had sent them on a slightly different pathway. There are important insights here in thinking about the mutually shaping

change relations that occur in producing and experiencing creative works in iterative ways over the course of a career.

Personal transformations through learning and collaboration were beautifully articulated by cultural producer Felipe Gonzalez, who explained: “in our history there are many individuals, but also connected to other social environments, who were crucial for us to grow as an organisation and as people” (14 October, 20). Rather than selecting artworks or projects to nominate into the case corpus, he chose to nominate people. These individuals had connected the organisation into international networks of practice and funding, introduced them to new topics, and shared generative critique. But perhaps most importantly, they had crafted mutually respectful and enriching relationships founded on care, as Gonzalez explains: “something which is intangible, but at the same time it's key for us, is trust....if you want to describe a strong important relationship, you mention trust - but how trust is built, in our case, it's very related to care, but not only care as an academic notion, or even as a political tool for a organizations but also as something which changes you as a person” (14 October, 20).

Care is doing multi-faceted work here as a transformative agent—encompassing an individual and shared affective experience, a dynamic of organisational practice, and as a topic of focus in ZEMOS98’s work in creating group processes (see their open paper *Pedagogy of Care*, which gathers together practical tools for individuals, organisations and funders to take a care-centred approach (ZEMOS98, n.d.). In his selection of relationships-as-cases, Gonzalez is articulating a common transformative dynamic: that practitioners’ subjectivities are radically transformed in the course of their creative work.

The significance of personal missions

A second, and related dynamic that we identified was the significance of personal ‘missions’ in driving longer-term lines of investigation. Sustainability researcher Joost Vervoort outlined how his personal mission meets his disciplinary focus:

“I feel like my personal mission in life at an emotional level as a professional and as a human is to have people see beyond fears and limitations and open up into playful possibilities, I feel like that's my, that's what I'm doing...as a researcher as a teacher with students, everything...I want people to have a more playful, open, less fearful reaction to the world and sort of take it from there to create new realities together. And I guess that just aligns perfectly with futures” (15 October, 20).

In just a few words this snippet opens up a vision of a playful and collaborative world. Subjectivities here become a wellspring for professional action. There are important subtleties here that we are trying to unpick about moral orientations to the world. As Mike Hulme points out in *Why We Disagree About Climate Change*, ‘our beliefs have a profound influence on our attitudes, on our behaviour and on our politics. Our beliefs determine the sort of world we envision in the future, both the world we would like to inhabit and the world we think most likely that we will inhabit’ (2009: 143). These observations are important in understanding why specific forms of action make sense to creative practitioners (and do not always make sense to other actors).

Longer-term lines of enquiry

Personal, biographical narrations give a sense of how lines of enquiry develop across a longer-term trajectory and let us look beneath the topic of each specific project, to identify larger dynamics or logics that practitioners were interested in understanding and contesting. The following extended example from an interview with curator and artist Ruth Catlow illustrates this shift. She begins by unpacking her long-standing interest in art and money:

“I actually don't have a problem with money. It's how money is used to dominate is the problem...and yet the logic of money, somehow we all buy it. Like, it seems like it seems reasonable that like that, some people shouldn't have access to good health care, social care, education....That's the logic that everyone uses to keep this crappy, unequal system in the form that it's in....” (22 June 20).

She explains how this logic of (capitalist) domination is being explored in her own ExP projects within CreaTures. (As post-hoc reflections these are likely to be tidier than the lived experiences she had at the time, but they still give an important sense of how interest and learning are folded into new projects).

“So there are some projects, which don't talk about money at all, like the multispecies, Live Action Role Play [the Treaty of Finsbury Park ExP¹⁰]... this doesn't really address the question of money. It does address the question of power and patriarchy, which is really connected...we're kind of working in a parallel realm. Projects like The Hologram¹¹ address the relationship with money very directly. It's basically it's in its Manifesto...the relationship between debt, health, access to health care...the thing that we're trying to do... is find attitudes to money that we can be transparent about, that basically enable us to talk about difficult things. And that can do a bit of prefigurative politics. So we're kind of living the participation of the community that we think we want to see.” (22 June 20).

Short-term projects remain a highly significant way that creative partners generate an income, and these tend to structure the rhythm of creative work within organisations. These personal stories of longer-term creative interests, which have developed over many years, provide an important counterpoint to the ‘project-eye-view’ that is often taken in considering the impacts of creative practices (for example in funder evaluation reports, and media reporting). What we highlight here is the multi-year, in-depth and exploratory process of enquiry that Catlow maintains as she builds a sustained engagement with a particular logic through many different domains. The fact that some of these domains sit within accepted interpretations of sustainability as a topic (multi-species justice) and some do not (the connection between art and money) reveals the importance of making deeper personal and political connections to sustainability as an emergent process. This allows for radical critiques of capitalism, for example noting the resonances between Catlow's prefigurations and the recent critiques within transformation literature, which also follows a relational turn (e.g. Feola, 2020; Feola et al., 2021). In exploring these links, CreaTures shows a methodological connection between political choices and

¹⁰ The Treaty of Finsbury Park website is accessible here: <https://www.furtherfield.org/the-treaty-of-finsbury-park-2025/>

¹¹ See The Hologram ExP Case Study in Section 3, page 35

the means of making them come to pass. Where the transformations literature posits relations, the creative practitioners are revealing and altering them.

Personal experiences - defining transformation

These biographies are revealing of how practitioners' personal experiences shape their understanding of forms of change as transformative. Design researcher Markéta Dolejšová has lived through significant political upheaval in the Czech Republic. For her, transformation is:

“so much related to the background or the political context of a country that you are somehow affiliated to. For me, being Czech, transformation comes from the need because you don't have conditions to thrive and survive in your country, you need to make those conditions for yourself in your little community...my parents were always hackers and makers, because there were no goods to buy. There was no infrastructure that would be not completely toxic. So you need to create conditions for living for yourself” (5 October, 20).

Hacking (in the sense of adapting resources) and making—sometimes seen as novel forms of cultural production and sites of grassroots innovation (cite Adrian)—are reframed by Dolejšová as everyday ways of getting on in the world under restrictive and uncertain political conditions. In a world that is continually in flux, what counts as transformation is highly contextual.

In summary: practitioners' subjectivities are changed in the course of creative careers; beliefs and experiences profoundly influence the way that practitioners understand sustainability as an object of concern and as a site for action. Practitioners engage in long-term processes of enquiry that offer fertile ground for understanding creative impacts – but these are not visible when the focus is placed on projects or works, suggesting further research may be generative.

D. Changing wider conceptions of society

This final category reflects the attempts made by three CreaTures practitioners to link creative practices to longer-term shifts in cultures and societies (where conceptions of society remain at a diffuse level).

Longer-term institutional perspectives

Cultural producer Simon Gmanjer's perspective on art and social change came from a longer institutional memory. Looking back on 25 years of projects that his organisation Kersnikova has curated, he made connections between the use of technology in art and its diffusion into wider society:

“The ones that are involved with the artistic projects are the ones that get transformed firstly. These are...the scientists and other personnel that the artists are working with. Then you have the policy makers and stakeholders that are setting up the mechanisms of support. Some private [commercial] entities are very interested in the innovative potential that comes out of the collaboration between artists, scientists and technologists...then we have some scientific institutions and so forth, laboratories that are slowly then opening up for these kind of collaborations; setting up departments, providing personnel, then of course the public, the more the public

is involved with this, the more critical mass there is, that gives legitimacy for the kind of art or cultural outputs that come out of these projects, all these processes....society itself comes last because all of the previous, entities that I mentioned before contribute to this ecosystem of understanding that is being set up” (17 November, 20).

In this extended quotation, Gmanjer describes multi-decade processes where the transformations made in and through creative practice contribute to an ‘ecosystem’ of reshaped relations (and indeed only become visible at this moment in time).

As ‘creative practice’ is a cross-sectoral framing it is also important to acknowledge the significance of disciplinary genealogies—the kinds of change that practitioners seek to make is also deeply impacted by the norms set within particular disciplines. Design, for example, may have more focussed, and therefore immediately achievable goals than some forms of art, which seek to problematize the status quo and add collectively to a culture where change is normalized. Awareness of status among other arts practitioners – as both unique and part of a movement – means that although operating as individual organisations, our partners also understand their contribution to be part of a war of attrition.

Transformation is slow

While CreaTures is interested to discover whether signs of transformation are possible to detect ahead of major shifts, the difference between forms of change are caught in considering timescales. Although projects are often short-term, dictated by funding regimes, ambitions are for something deeper and/or wider than can be achieved in the short-term. As Felipe Gonzalez tells it: “When you work in a project that you need to transform something...you need to do something which is changing a reality or a community. So we have learned and we still sometimes need to remind ourselves “yeah, this is so slow”. Transformation is so slow that sometimes you cannot measure change within 2, 3, 4 years” (14 October, 2020).

E. Observations on the making of transformations

As the analysis above demonstrates, in exploring the four sets of relations, we have observed different opinions on how controllable transformations are. We might say that, for some practitioners, transformations are defined as something to be made, whereas for others, they are something to experience – harking back to earlier distinctions between descriptive and solution-orientated forms.

Dolejšová gives a salient example of how the work of changing subjectivities does not necessarily follow goal-oriented approaches (indeed it is perhaps the lack of a goal here that contributes to the project’s transformative impact). She explains: “my favourite projects... don’t define themselves as being transformative—but to me they are, based on the experience” (5 October, 20). One of the projects that transformed her the most was a multi-day workshop called *Humus Sapiens*, held in a German forest, where participants undertook Do-It-Yourself biology experiments (and Dolejšová led a session on food fermentation). She explains “sometimes the motivation is not to transform something or transform yourself...the motivation can be to make a glowing carrot because it sounds like fun... you come to have fun and on the way... transformation just happens” (5 October, 2020). On their website, the

Hackteria event organisers share their own, very broad goal: “Humus Sapiens is a radical project, it attempts (with gentle suggestions, convivial settings and fermented products) to recentre the focus not only on the human as the Primary Actor, but on these processes that move through us and move us”.

In the section exploring relations of participation, we see Crouch’s assertion that transformation as engagement should be a quality of relations that boost capacities but do not control their directionality. At the same time, in the area of systems, Tarmo Toikannen, an open knowledge organiser, nominated organisational change management methodologies that have significantly changed organisational practice, as Observatory cases (such as the agile method of systems development and beyond budgeting approaches which treat budgets as processes rather than artefacts). This is a vision of controlling change through regular checking-in with empowered people working within the organisation and working together to create responses to a set of articulated goals. Here, we see a spectrum of approaches, perhaps to be mediated by Light’s position that transformation is ongoing and belongs wholly to no agent: “transformation is recognition that everything is fluid—that things are happening around us and to us and with us and that we're all part of that entanglement and yet one of the most rigid things are the systems that we're building for ourselves... once you accept transformation as a state rather than looking for an end state, you have the journey. The arts [are part of] the journey towards constant journeying...” (Ann Light, 20 October, 2020).

Which such a diversity of opinions about the possibility of agency, a final insight from the interviews was how little some practitioners and researchers use terms commonly associated with change management; again perhaps reflecting different disciplinary alignments (see Figures 5 and 6 for instances of common change management terms).

Term	Total uses of terms	Number of interviews
Impact	24	14
Output	10	14
Outcome	15	14
Evaluation	7	14

Figure 5: Instances of specific terms across 14 interviews

Term	No. of interviews where terms were not used at all	Number of interviews
Impact	5	14
Output	9	14
Outcome	6	14
Evaluation	12	14

Figure 6: A count of the number of interviews where specific terms were not mentioned, e.g. reading across the top row - in 5 out of 14 interviews, the term ‘impact’ was not used at all.

For instance, the term ‘evaluation’ was only mentioned in two interviews (and one was with the lead researcher of the Evaluation strand in Work Package 4). This reflects a disconnect between the language used by interviewees to narrate change and common framings of change within in governance settings, for example in funder project reports - also explored in our practitioner workshops on evaluation

(which are reported in full in Deliverable D4.3 *Guidelines for Participatory Impact Monitoring*).

This does not mean that creative practitioners do not consider impacts, outputs or outcomes, but that these are framed in different terms. In particular, the exploratory processes that we have documented here may not be recognisable to those working in different regimes (e.g. policymakers). This returns us to core ideas about what creative practice is intended to do in service of sustainability. Some actors—particularly those charged with the stewardship of public funds—place greater emphasis on interventionist projects that can articulate and demonstrate concrete outcomes directly related to phenomena such as climate change. An early focus on behaviour change (discussed in Section 2) favoured clear, causal relationships between an intervention (an action) and a change in behaviour (an outcome). Other approaches take into consideration the complex, even chaotic, situations within which eco-social interventions take place and recognise that connections between actions and outcomes might be difficult to discern.

When creative practitioners and policymakers meet, it is important to locate the different regimes of value with which each are working and to work productively at communication, acknowledging related power relations. This might involve tracing the models that (even informally) shape decision-making processes—for example Hulme’s review of the science-policy models that motivate forms of decision-making. These questions are being explored more comprehensively in Work Package 4 in relation to evaluation (see Deliverables D4.1 and D4.3).

Section 5: Repository data

Introduction and current strategies

The CreaTures repository is a collection of cases that creative practitioners and researchers have found transformative. It takes the form of an online website, featuring written and pictorial explanations of each case, with notes on their transformative capacity. As described in this Deliverable (and the previous iteration D2.2), we have used several different methods to identify cases to be included in the Repository. Since we have been working within the extensive cross-disciplinary framing of 'creative practice' we have started with expert insights, beginning with transformations literature and CreaTures practitioners and working outwards. So far we have used the following instruments to query this expanded field:

1. Cases identified in the literature review

Within the transformations literature we have reviewed 1) key definitions of transformation and 2) specific techniques identified by researchers as having transformative potential. A sub-set of these cases will be included in the online repository, chosen by the Observatory researchers as representing key themes.

2. Cases identified in the interviews with CreaTures practitioners

In this document, we have presented some initial insights from the 101 cases nominated to the Observatory by the CreaTures interviewees. We had originally intended to list all of these cases in short form, expanding some into longer-length case studies. However, following a review of existing, similar repositories (see the next sub-section) we felt that the CreaTures web repository would be most useful if cases were already pre-selected to represent key themes. Therefore, we have chosen to include cases that were really well unpacked by CreaTures interviewees, and represented important themes and dynamics.

3. Cases identified via crowdsourcing

In D2.2, we described the design of a pilot crowdsourcing survey, asking creative communities to nominate cases that they identified as transformative. This survey was less widely taken up than we had hoped, receiving a total of 27 responses so far.

In this section we present our in-progress thoughts on how to select cases for the Repository website in a way that's useful for practitioners and researchers alike. We also set out the next steps for our research in this area. Note that Appendix A contains a detailed review of related repositories that fed into the design insights included in this section, and Appendix B contains three examples of cases that have been selected for inclusion on the website, giving an insight into the style of visual and textual presentation that we have chosen.

The design of the Repository website

In order to decide on the Repository website design (in conjunction with web designers [Structure & Narrative](#)) we undertook a contextual review of other websites performing similar functions (i.e. leading readers productively through a number of cases). We looked at seven websites in total, which had aggregated projects on creative practice and sustainability:

1. Creative Carbon Scotland's [Library of Creative Sustainability](#)¹²
2. [Visible project](#)¹³
3. [Arts for Sustainability Transformations](#) project¹⁴
4. [Seeds of Good Anthropocenes](#) project¹⁵
5. [Stories of Change](#) project website¹⁶
6. Narratopias: [Collective Library of Transformative Narratives](#)¹⁷
7. Julie's Bicycle [Trends map](#)¹⁸

The majority of these were websites that we had encountered in our ongoing research, but we also queried the (English-speaking) Internet to search for others.

When visiting each website we reviewed the stated aims, selection methods, number of projects included, the formats of the cases, and the taxonomy that had been developed. As researcher-practitioners, we noted what we had found illuminating about the presentation of materials on each site (and conversely any frictions that we had encountered). A summary of our six key insights is provided below (the full analysis is available in Appendix A).

- **Repositories should have a clear framing**

What kind of cases are included in this site, and why? Visitors should have a good sense of what they can learn from interacting with the Repository website. We felt that a very large corpus of cases may present a diffuse information environment that could take visitors too long to understand.

- **The rationale for case selection should be clear—and be part of what the site offers to visitors.**

Creative practice and sustainability are both ideas that could be widely interpreted, potentially meaning that a Repository could hold many hundreds of cases. In this case,

¹² The Library of Creative Sustainability can be accessed at:

<https://www.creativecarbonscotland.com/library/the-draw-at-sugar-house/>

¹³ The Visible project website can be accessed at: <https://www.visibleproject.org/blog/>

¹⁴ The Arts for Sustainability Transformations website can be accessed at:

<https://www.artsfortransformations.earth/projects-catalogue/2020/5/22/land-art-generator>

¹⁵ The Seeds of Good Anthropocenes website can be accessed at:

<https://goodanthropocenes.net/seedbank/>

¹⁶ The Stories of Change website can be accessed here: <https://www.storiesofchange.ac.uk/>

¹⁷ The Narratopias Library can be accessed here: <https://platform.plurality-university.org/narratopia/>

¹⁸ Julie's Bicycle Trends map can be accessed here: <https://juliesbicycle.com/the-movement/>

the mere aggregation of cases that fit these categories is not likely to be of immediate usefulness to visitors. Sites that had a rationale for case selection (e.g. the Visible Project's inclusion of long and short-listed works for their prize) offered visitors some sort of prioritisation of cases.

- **Consider using thematic rather than descriptive taxonomies**

The information architecture of some sites was oriented to the content of the cases, rather than their format (e.g. in the Visible Project, cases were organised by themes like 'Alternative Economy' rather than the project's medium of 'installation' or 'performance'). Since visitors are more likely to approach Repositories of this nature with open-ended browsing in mind (over specific searches for known projects) this use of themes in an organising taxonomy allowed visitors to gain speedier insights into what was important and why.

- **Consider extending the website with other media**

The Visible project expanded their taxonomy in the form of an Annotated Bibliography – a longer text that unpacked key ideas also showcased on the site. This helped to augment the web browsing experience with other modes of accessing the Repository content (and its curation or analysis).

- **Present case stories rather than case summaries**

Stories written about cases, that unpacked why they were interesting and significant in the wider creative practice and/or sustainability landscape were more interesting than mere project descriptions. Skilful writing is necessary to help these resources be useful and engaging.

- **Create shorter posts**

Posts of about 600 words effectively balanced being informative and sustaining interest.

These insights have been important in informing the design of the CreaTures online Repository. Having set up the technical specification, we are currently developing a taxonomy and creating case accounts to add to the final CreaTures Repository website¹⁹. It was important to us that the taxonomy should emerge from the research (rather than being decided in advance) and so we are now working to solidify this and will provide a final update in the next Deliverable in this series (D2.4 to be published in April 2022). In the interim, we set out a provisional overview of the CreaTures case corpus in the next sub-section.

The CreaTures case corpus: Provisional insights

¹⁹ The CreaTures case corpus can be interacted with here: <https://graphcommons.com/graphs/980d936d-92fc-4e12-9702-1b21eb55ff33> and the final Repository website can be accessed here: <https://creatures-eu.org/cases/>

As described in more detail in Section 4, in addition to transcribing and analysing the CreaTures interviews, a researcher reviewed the documentation for each of the nominated cases, including visual and textual materials on the project websites, and any published or unpublished practitioner statements and reflections. For each case, a researcher wrote a brief case description, identified key characteristics and commented on potentially transformative qualities, giving us a range of materials to work with.



Figure 7: A screenshot of the interactive Graph Commons website that hosts clickable information about the cases.

In the first instance, we looked at the CreaTures case corpus as a whole, and drew some very provisional insights about what had (and hadn't) been included in the nominations. Prior to interview, CreaTures practitioners and researchers were asked to gather several examples of transformative cases (with the caveat that at least some of these should be projects that they had not directly worked on). In the absence of any additional guidance, interviewees interpreted the word 'case' in a surprising number of ways—choosing to include projects, processes, people, organisations and artefacts as 'cases' (see Figure 2 above for a network map of interviewees and their cases, and Figure 3 below for a visualisation of their types). This speaks to our earlier observation about a privileging of transformative relations (centred in or near to eco-social concerns), over a strict adherence to canonical sustainability topics.

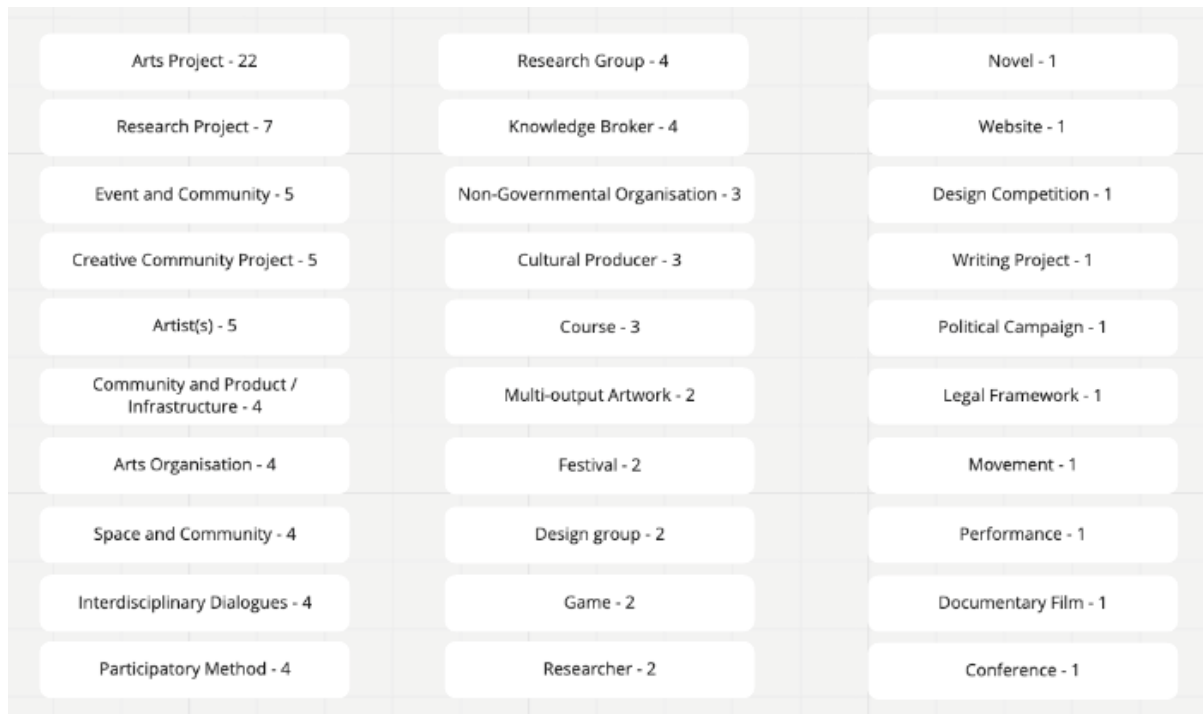


Figure 8 – a snapshot of the types of entities that CreaTures practitioners and researchers nominated. Frequency is noted: columns read downwards, starting from the top left.

Figure 8 shows a loose, researcher-led categorisation of cases that is primarily intended to show the diversity of the group rather than unpack the dominant categories. The key category is ‘arts project’ (we chose the term *project* rather than *work* since the cases tended to be experiential, relational or participatory processes, often manifesting as a series of explorations or iterations in contrast to an artefact brought to a state of fixity, such as a painting). Where organisations were nominated, they tended to be relatively small, and relatively young (under 20 years). Many projects and organisations were locally embedded, though some international campaigns were represented (for example Extinction Rebellion and the Ecocide Law project). Many of the creative projects that were nominated were those that practitioners and researchers had co-organised or attended.

In the interviews, some cases were merely mentioned, whilst others were comprehensively unpacked. Figure 9 (below) provides a snapshot of indicative themes, topics and dimensions taken from the interview transcripts (rather than the cases spreadsheet). This is an associative, researcher-led coding, created as a part of the CreaTures ‘self-portrait’ and primarily used for internal discussion. However, many of the topics are salient to current sustainability debates. Ecology, biodiversity and ecosystems feature prominently; climate change is named as a core problem and well-known political-economic responses such as the circular economy and energy transitions are also included (with the latter two perhaps reflecting a politics of ecological modernization (Hajer, 1995)).



Figure 9 – an indicative snapshot of topics that nominated cases were engaged with. Coloured to show frequency - read top right to bottom left.

Attention is also given to environmental and social justice in many forms—from the problems of extractivism, conflict and displacement that are frequent outcomes of unsustainable practices, to a concern for human and ecosystem rights. The more metaphorical and practical ideas of regeneration and rewilding appear alongside a transformed orientation to more-than-human relations, reflecting both anthropocentric and ecocentric perspectives within the group. All of these interests chime with the definitions of sustainability that we explored earlier in the Deliverable.

A more surprising appearance is care ethics, an approach which was consistently mentioned across the interviews. Care is a diffuse term that encompasses both affective and practical experiences and relations. In the interviews it was most prominently framed as an embodied ethics of working together to make situated ethical judgements about the best course of action, reflecting an eco-feminist influence on the CreaTures practitioners and researchers. Resurgent strands of research and theorising in care ethics over the last decade have been particularly influential in creative and social spheres (e.g. Mol et al. 2010) and have been extended to include more-than-human and ecological relations (e.g. puig de la Bellacasa, 2012)—an interest which is beginning to permeate the transformations community (Moriggi et al. 2020). Our choice of the term ‘eco-social’ seeks to include these kinds of terms and ideas that are normally understood as profoundly humanistic (and far from the canonical idea of a sustainability topic) yet at the same time are doing important political work in speaking to the qualities of relations.

The effects of capitalist systems, such as debt are figured alongside the creation of alternative (prefigurative) economies, that enfold feminist but also anarchist (and perhaps also ‘dark green’ strands of political thought (Hoffman, 2009). Creative forms and movements such as games and sci-fi make and appearances, alongside some aesthetic and potentially political orientations to the world, such as experimental and playful.

Having begun to provisionally explore the case corpus, we can see some important characteristics emerging, such as how key themes and change mechanisms also loosely track modes of green political thought. Omissions also raise lines of further research, such as the lack of larger institutions in this corpus. The cases reveal somewhat surprising themes that sit outside of the sustainability canon such as care, that are artefacts of the relational focus that practitioners bring—what matters is not only the new structures that are built but the way that they are built together.

Future plans

Our plan is ultimately to draw all of these materials in this Deliverable together—the literature review findings, the interview analysis and the cases analysis—to create a research-led taxonomy of key themes for the website. In the meantime, we are beginning to choose cases from the corpus and develop these into longer-form posts with rich media accompaniments (video and audio recordings with practitioners that dive deeper into their projects and practices). Three examples of these texts can be seen in Appendix B. Observatory researchers are prioritising cases that represent frequent and surprising themes or entities. We have also chosen to work with cases that have richer materials associated with them (in terms of original documentation, critical reflection or extended commentary in the CreaTures interviews).

We bring this Deliverable to a close with some comments on the final mechanisms that we plan to use to achieve two specific aims: reaching out to communities beyond the Consortium and following a more systematic method to ensure that relevant fields within the broad framing of creative practices have been able to contribute to the corpus.

1. Working with the ATNC Network and Resident

As part of Work Package 2 we are commissioning our own Experimental Production—a residency on the CreaTures project's allied mailing list (called 'Art, Tech, Nature Culture'). As part of the residency, we will be asking the resident to explore this self-selecting community of creative practitioners and researchers establishing the themes, characteristics and techniques that are central to their work. This will provide another stream of cases that can be analysed and considered for inclusion in the CreaTures Repository.

2. Loose sampling of fields approach

Having started with the CreaTures interview 'self-portrait' there is now a need to pull together a more systematic listing of creative practice fields that are concerned with sustainability transformation (primarily in order to ensure that there none have been overlooked). The work of museums, for example are not currently well represented in the case corpus. We will therefore work with practitioners from outside of the CreaTures consortium to identify creative practice fields that are linked with sustainability transformation and invite a practitioner from each field to a peer-learning interview (similar to the CreaTures interview, but with 2-3 participants to simultaneously platform cross-disciplinary exchange). This helps us to address the diversity of the groups that we are engaging with but also respects our more emergent approach.

The outcomes of this research will be reported in the third and final instalment of this series: D2.4 Review report of transformational strategies v3, to be published in April 2022.

References

- Agid, Shana. "Dismantle, change, build": Designing abolition at the intersections of local, large-scale, and imagined infrastructures'. *Design Studies* 59 (2018): 95–116.
- Altarriba Bertran, Ferran, Samvid Jhaveri, Rosa Lutz, Katherine Isbister, and Danielle Wilde. 'Making Sense of Human-Food Interaction'. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1–13. New York, NY, USA: Association for Computing Machinery, 2019. <http://doi.org/10.1145/3290605.3300908>.
- Amsler, Sarah, and Keri Facer. 'Contesting Anticipatory Regimes in Education: Exploring Alternative Educational Orientations to the Future'. *Futures* 94 (2017): 6–14. <https://doi.org/10.1016/j.futures.2017.01.001>.
- Anderson, R., C.R. Fluker, S.R. Thomas, S. Ba, W.M. Bennet, I. Campbell, E. Carrion, D. Cobb, T. Fielder, and S. Francis. *The Black Speculative Arts Movement: Black Futurity, Art+Design*: Lexington Books. 2019.
- Bachmann, Günther. 'Gatekeeper: A Foreword'. In *Sustainability: A New Frontier for the Arts and Cultures*, edited by Sacha Kagan and Volker Kirchberg, 8–13. Frankfurt am Main: VAS, 2008.
- Barad, Karen. *Meeting the Universe Halfway*, Durham: Duke University Press, NC, USA, 2007.
- Bendor, Roy, Junia Anacleto, Drew Facey, Sid Fels, Tim Herron, David Maggs, Rachel Peake, John Robinson, Michael Robinson, Jon Salter, Stephen Sheppard, Obi Vattanawong, Austin Wang, and Steve Williams. 2015. Sustainability in an imaginary world. *Interactions* 22, 5 (September-October 2015), 54–57. <https://doi.org/10.1145/2801039>
- Bendor, Roy, David Maggs, Rachel Peake, John Robinson, and Steve Williams. 'The Imaginary Worlds of Sustainability: Observations from an Interactive Art Installation'. *Ecology and Society* 22, no. 2 (11 May 2017). <https://doi.org/10.5751/ES-09240-220217>.
- Biggs, Heidi R. and Audrey Desjardins. 'High Water Pants: Designing Embodied Environmental Speculation'. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* 1-13. New York, NY, USA: Association for Computing Machinery, 2020.
- Bishop, Claire. *Artificial Hells: Participatory Art and the Politics of Spectatorship*. New York, USA: Verso, 2012. <https://www.versobooks.com/books/958-artificial-hells>.
- Björgvinsson, Erling, Pelle Ehn, and Per-Anders Hillgren. Agonistic participatory design: working with marginalised social movements. *CoDesign* 8, 2–3 (2012): 127–144.

Bollier, David and Silke Helfrich. *Patterns of commoning*. 2015. Commons Strategy Group and Off the Common Press.

Bradshaw, Corey J. A., Paul R. Ehrlich, Andrew Beattie, Gerardo Ceballos, Eileen Crist, Joan Diamond, Rodolfo Dirzo, et al. 'Underestimating the Challenges of Avoiding a Ghastly Future'. *Frontiers in Conservation Science* 1 (13 January 2021): 615419. <https://doi.org/10.3389/fcosc.2020.615419>.

Braun, Virginia, and Victoria Clarke. 'One Size Fits All? What Counts as Quality Practice in (Reflexive) Thematic Analysis?' *Qualitative Research in Psychology* 18, 3 (12 August 2020): 1–25. <https://doi.org/10.1080/14780887.2020.1769238>.

Broms, Looove, Josefin Wangel, and Camilla Andersson. 'Sensing Energy: Forming Stories through Speculative Design Artefacts'. *Energy Research & Social Science, Narratives and Storytelling in Energy and Climate Change Research*, 31 (2017): 194–204. <https://doi.org/10.1016/j.erss.2017.06.025>.

Cairns, Rose, Sabine Hielscher, and Ann Light. 'Collaboration, Creativity, Conflict and Chaos: Doing Interdisciplinary Sustainability Research'. *Sustainability Science* 15, 6 (2018): 1711–1721. <https://doi.org/10.1007/s11625-020-00784-z>.

Candy, Stuart, and Cher Potter, eds. *Design and Futures*. Taipei: Tamkang University Press, 2019.

Clarke. Rachel E. 'Ministry of Multispecies Communications'. In *Companion Publication of the 2020 ACM Designing Interactive Systems Conference*, 441–444. New York, NY, USA: Association for Computing Machinery, 2020.

Cooke, Bill, and Uma Kothari. *Participation: The New Tyranny?* London: Zed Books, 2001.

Crocco, Francesco. 'Critical gaming pedagogy'. *The Radical Teacher*, 91 (2011): 26–41.

Dasgupta, Partha "The Economics of Biodiversity: The Dasgupta Review" (2 February, 2021). <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review> (accessed August 18, 2021).

Dasilva, Clayton. 'Imagining Decline or Sustainability: Hope, Fear, and Ideological Discourse in Hollywood Speculative Fiction'. Edited by Anne R. Kapuscinski, Kim A. Locke, and Michele-Lee Moore. *Elementa: Science of the Anthropocene* 7, 7 (2019). <https://doi.org/10.1525/elementa.344>.

DiSalvo, Carl, Illah Nourbakhsh, David Holstius, Ayça Akin, and Marti Louw. 'The Neighborhood Networks Project: A Case Study of Critical Engagement and Creative Expression through Participatory Design'. In *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008*, 41–50. PDC '08. USA: Indiana University, 2008.

Dolejšová, Markéta, Danielle Wilde, Ferran Altarriba Bertran, and Hilary Davis. 2020. 'Disrupting (Morethan-) Human-Food Interaction: Experimental Design, Tangibles and Food-Tech Futures'. In *Proceedings of the 2020 ACM Designing Interactive Systems Conference*, 993–1004 New York, NY, USA: Association for Computing Machinery, 2020.

Dunne, Anthony, and Fiona Raby. *Speculative Everything: Design, Fiction, and Social Dreaming*. The MIT Press. Cambridge: The MIT Press, 2013.

Durrant, Abigail C., John Vines, Jayne Wallace, and Joyce S. R. Yee. 'Research Through Design: Twenty-First Century Makers and Materialities'. *Design Issues* 33, 3 (2017): 3–10. https://doi.org/10.1162/DESI_a_00447.

Elzen, Boelem, Frank W. Geels, Green, K. *System Innovation and the Transition to Sustainability - Theory, Evidence and Policy*. Cheltenham, UK / Northampton, MA, USA: Edward Elgar Publishing, 2004.

Escobar, Arturo. *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. New Ecologies for the Twenty-First Century. Durham: Duke University Press, 2018.

Fazey, Ioan, Niko Schöpke, Guido Caniglia, Anthony Hodgson, Ian Kendrick, Christopher Lyon, Glenn Page, et al. 'Transforming Knowledge Systems for Life on Earth: Visions of Future Systems and How to Get There'. *Energy Research & Social Science* 70 (1 December 2020): 101724. <https://doi.org/10.1016/j.erss.2020.101724>.

Feeding Food Futures. *Human-Food Interaction Zine*. 2019. <http://bit.ly/HFIzine> (accessed August 18, 2021).

Feeding Food Futures. *More-than-Human Food Futures Cookbook*. 2021. http://bit.ly/book_anon (accessed August 18, 2021).

Feola, Giuseppe. 'Degrowth and the Unmaking of Capitalism'. *ACME: An International Journal for Critical Geographies* 18, 4 (2019): 977–97.

Feola, Giuseppe. 'Capitalism in Sustainability Transitions Research: Time for a Critical Turn?' *Environmental Innovation and Societal Transitions* 35 (2020): 241–50. <https://doi.org/10.1016/j.eist.2019.02.005>.

Feola, Giuseppe, Olga Koretskaya, and Danika Moore. '(Un)Making in Sustainability Transformation beyond Capitalism'. *Global Environmental Change* 69 (2021): 102290. <https://doi.org/10.1016/j.gloenvcha.2021.102290>.

Feola, Giuseppe. 'Societal Transformation in Response to Global Environmental Change: A Review of Emerging Concepts'. *Ambio* 44, 5 (2015): 376–90. <https://doi.org/10.1007/s13280-014-0582-z>.

Frieze 'The Beautiful Science' 113 (1 March, 2008) <https://www.frieze.com/article/beautiful-science> (accessed August 18, 2021).

Flanagan, Mary. *Critical Play: Radical Game Design*. Cambridge, Massachusetts: MIT Press. 2009.

Galafassi, Diego, Sacha Kagan, Manjana Milkoreit, María Heras, Chantal Bilodeau, Sadhbh Juárez Bourke, Andrew Merrie, Leonie Guerrero, Guðrún Pétursdóttir, and Joan David Tàbara. “Raising the Temperature”: The Arts on a Warming Planet’. *Current Opinion in Environmental Sustainability* 31 (2018): 71–79. <https://doi.org/10.1016/j.cosust.2017.12.010>.

Galafassi, Diego, J. David Tàbara, and María Heras. ‘Restoring Our Senses, Restoring the Earth. Fostering Imaginative Capacities through the Arts for Envisioning Climate Transformations’. Edited by Alastair Iles, Kim A. Locke, and Manjana Milkoreit. *Elementa: Science of the Anthropocene* 6, no. 69 (2018b). <https://doi.org/10.1525/elementa.330>.

Geels, Frank W. ‘The Multi-Level Perspective on Sustainability Transitions: Responses to Seven Criticisms’. *Environmental Innovation and Societal Transitions* 1, 1 (2011): 24–40. <https://doi.org/10.1016/j.eist.2011.02.002>.

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. The Randy L. and Melvin R. Berlin Family Lectures. Chicago: The University of Chicago Press, 2016.

Giannachi Gabriella: Representing, performing and mitigating climate change in contemporary art practice. *Leonardo* 45 (2012): 124-131.

Grin, John, Jan Rotmans, Johan Schot *Transitions to Sustainable Development* ¹_{SEP} *New Directions in the Study of Long Term Transformative Change* Abingdon: Routledge. 2011.

Haiven, Max. *Cultures of financialization: Fictitious capital in popular culture and everyday life*. New York City: Springer. 2014.

Hajer, Maarten A. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*, Oxford: Oxford University Press. 1995.

Hajer and Maarten A. Peter Pelzer ‘2050—An Energetic Odyssey: Understanding “Techniques of Futuring” in the Transition towards Renewable Energy’. *Energy Research & Social Science* 44 (2018): 222–31. <https://doi.org/10.1016/j.erss.2018.01.013>.

Hajer, Maarten, and Wytse Versteeg. ‘Imagining the Post-Fossil City: Why Is It so Difficult to Think of New Possible Worlds?’ *Territory, Politics, Governance* 7, 2 (2019): 122–34. <https://doi.org/10.1080/21622671.2018.1510339>.

Henry, Claude and Johan Rockström eds. *Standing up for a Sustainable World*. Cheltenham: Edward Elgar Publishing, 2020.

Hesselgren, Mia, Elina Eriksson, Josefin Wangel, and Looe Broms. 'Exploring Lost and Found in Future Images of Energy Transitions: Towards a Bridging Practice of Provoking and Affirming Design'. In *Proceedings of Design Research Society 2018*, University of Limerick. 2018. <http://10.21606/dma.2018.324>

Hillgren, Per-Anders, Kristina Lindström, Michael Strange, Richard Topgaard, and Hope Witmer. eds. *Glossary: Collaborative Future-Making*. Malmö University. 2020.

Hoffman, Andrew. 'Shades of Green'. *Stanford Social Innovation Review*, 2009. https://ssir.org/articles/entry/shades_of_green (accessed August 18, 2021).

Hölscher, Katharina, Julia M. Wittmayer, and Derk Loorbach. 'Transition versus Transformation: What's the Difference?' *Environmental Innovation and Societal Transitions* 27 (2018): 1–3. <https://doi.org/10.1016/j.eist.2017.10.007>.

Hummels, Caroline, Ambra Trotto, Jeroen Peeters, Pierre Levy, Jorge Alves Lino, and Sietske Klooster. 'Design research and innovation framework for transformative practices'. *Strategy for change*. Glasgow: Glasgow Caledonian University, (2019) 52-76.

Irwin, Terry. 'Transition Design: A Proposal for a New Area of Design Practice, Study, and Research'. *Design and Culture* 7, 2, (2015): 229-46.

Jasanoff, Sheila, and Sang-Hyun Kim. Eds. *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*. Chicago: The University of Chicago Press, 2015.

Johns-Putra A: Climate change in literature and literary studies: from cli-fi, climate change theater and ecopoetry to ecocriticism and climate change criticism. *WIREs Climate Change* 7 (2016): 266-282.

Kagan, Sacha (2008) 'Introduction: Sustainability: A New Frontier for the Arts and Cultures' in eds Kagan, Sacha and Volker Kirchberg, eds. *Sustainability: A New Frontier for the Arts and Cultures*. Higher Education for Sustainability 3. Frankfurt am Main: VAS, 2008. 14-23.

Kagan, Sacha. 'Artistic Research and Climate Science: Transdisciplinary Learning and Spaces of Possibilities'. *Journal of Science Communication* 14, no. 01 (2015): C07. <https://doi.org/10.22323/2.14010307>.

Kendig, Catherine, and Wenda K. Bauchspies. 'The Ethics of Speculative Anticipation and the Covid-19 Pandemic'. *Hypatia* 36, 1 (2021): 228–36. <https://doi.org/10.1017/hyp.2020.56>.

Khoo, Su-Ming. 'Sustainable Knowledge Transformation in and through Higher Education: A Case for Transdisciplinary Leadership'. *International Journal of Development Education and Global Learning* 8, 3 (2017): 5–24. <https://doi.org/10.18546/IJDEGL.8.3.02>.

Kølbæk Iversen, Anne, and Jane Jin Kaisen, eds. *Community of Parting*. Copenhagen: Archive Books, The Royal Danish Academy of Fine Arts Publishing, 2020.

Knebusch, Julien 'Art and climate (change) perception: Outline of a phenomenology of climate' in Kagan, Sacha and Volker Kirchberg, eds. *Sustainability: A New Frontier for the Arts and Cultures*. Higher Education for Sustainability 3. Frankfurt am Main: VAS, 2008. 241-261.

Kumar, Ankit, Johanna Höffken, and Auke Pols. *Dilemmas of Energy Transitions in the Global South: Balancing Urgency and Justice*. London: Routledge, 2021. <https://doi.org/10.4324/9780367486457>.

Lam, Jacqueline C. K., Richard M. Walker, and Peter Hills. 'Interdisciplinarity in Sustainability Studies: A Review'. *Sustainable Development* 22, 3 (2014): 158–76. <https://doi.org/10.1002/sd.533>.

Lampinen, Airi, Chiara Rossitto, and Christofer Gradin Franzén 'Scaling Out, Scaling Down: Reconsidering growth in grassroots initiatives' in Travlou, P. and Ciolfi, L. eds. *Ethnographies of Collaborative Economies Conference Proceedings*. University of Edinburgh, 25, 2 October 2019. ISBN 978-1-912669-11-0.

Latour, Bruno, and Steve Woolgar. *Laboratory Life: The Construction of Scientific Facts*. Princeton: Princeton University Press, 1979.

Law, John. *After Method: Mess in Social Science Research*. Abingdon: Psychology Press, 2004.

Law, John. 'Material Semiotics' *Heterogeneities Blog* (30 January, 2019). www.heterogeneities.net/publications/Law2019MaterialSemiotics.pdf (accessed August 18, 2021).

Leach, M., Scoones, I. and Stirling, A. 'Pathways to Sustainability: an overview of the STEPS Centre approach,' *STEPS Approach Paper*, Brighton: STEPS Centre, 2007. <https://steps-centre.org/publication/pathways-to-sustainability-an-overview-of-the-steps-centre-approach/> (accessed August 18, 2021).

Le Dantec, Christopher A. and Carl DiSalvo. 'Infrastructuring and the formation of publics in participatory design'. *Social Studies of Science* 43, 2 (2013): 241–264.

Light, Ann, and Yoko Akama. 'Structuring Future Social Relations: The Politics of Care in Participatory Practice'. In *Proceedings of the 13th Participatory Design Conference: Research Papers - Volume 1*, 151–60. PDC '14. New York, NY, USA: Association for Computing Machinery, 2014. <https://doi.org/10.1145/2661435.2661438>.

Light, Ann 'Troubling Futures: can participatory design research provide a constitutive anthropology for the 21st century?' *Interaction Design and Architecture(s) Journal – IxD&A*, 26 (2015) 81-94

Light, A. (forthcoming). Collaborative Speculation: Anticipation, Inclusion and Designing Counterfactual Futures for Appropriation, Special Issue on Anticipation, Futures Journal

Light, A, D. Mason, T. Wakeford, R. Wolstenholme and S. Hielscher. 'Creative Practice and Transformations to Sustainability: Making and Managing Culture Change,' (2018) <https://connected-communities.org/wp-content/uploads/2018/08/Creative-Practice-and-Transformations-to-Sustainability-Making-and-Managing-Culture-Change.pdf> (accessed August 18, 2021).

Lindström, Kristina, and Åsa Ståhl. 'Un/Making in the Aftermath of Design'. In *Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Volume 1*, 12–21. PDC '20. New York, NY, USA: Association for Computing Machinery, 2020. <https://doi.org/10.1145/3385010.3385012>.

Maggs, David, and John Robinson. *Sustainability in an Imaginary World: Art and the Question of Agency*. Oxford: Routledge, 2020.

Miles, Malcolm. 'Representing Nature: Art and Climate Change'. *Cultural Geography* 2010, 17, 1 (2010) 19-35.

Marres, Noortje. *Material Participation: Technology, the Environment and Everyday Publics*. Palgrave Macmillan UK, 2012. <https://doi.org/10.1057/9781137029669>.

Meadows, Donella 'Leverage Points: Places to Intervene in a System,' (1997) <https://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/> (accessed August 18, 2021).

Meng, Eana. 'An Introduction: The Black Panther Party and Acupuncture?' <https://www.ofpartandparcel.com/blog-2/an-introduction-the-black-panther-party-and-acupuncture> (accessed August 18, 2021).

Mol, Annemarie, Ingunn Moser, and Jeannette Pols. 'Care: Putting Practice into Theory'. *Care in Practice: On Tinkering in Clinics, Homes and Farms* (2010) 7–26.

Moore, Michele-Lee, and Manjana Milkoreit. 'Imagination and Transformations to Sustainable and Just Futures'. *Elementa: Science of the Anthropocene* 8, 1 (December 2020). <https://doi.org/10.1525/elementa.2020.081>.

Moriggi, Angela, Katriina Soini, Alex Franklin, and Dirk Roep. 'A Care-Based Approach to Transformative Change: Ethically-Informed Practices, Relational Response-Ability & Emotional Awareness'. *Ethics, Policy & Environment* 23, 3 (2020): 281–98. <https://doi.org/10.1080/21550085.2020.1848186>.

Muiderman, Karlijn, Aarti Gupta, Joost Vervoort, and Frank Biermann. 'Four Approaches to Anticipatory Climate Governance: Different Conceptions of the Future and Implications for the Present'. *WIREs Climate Change* (2020) <https://doi.org/10.1002/wcc.673>.

Nikoleris, Alexandra, Johannes Stripple, and Paul Tenngart. 'Narrating Climate Futures: Shared Socioeconomic Pathways and Literary Fiction'. *Climatic Change* 143, 3 (2017): 307–19. <https://doi.org/10.1007/s10584-017-2020-2>.

O'Brien, Karen 'Do values subjectively define the limits to climate adaptation?' In eds. W. Neil Adger, Irene Lorenzoni, Karen L. O'Brien *Adapting to Climate Change: Thresholds, Values, Governance*, Cambridge: Cambridge University Press, 2009. 164-180.

O'Brien, Karen L. 'Climate Change and Social Transformations: Is It Time for a Quantum Leap?' *WIREs Climate Change* 7, 5 (2016): 618–26. <https://doi.org/10.1002/wcc.413>.

O'Brien, Karen. 'Global Environmental Change II: From Adaptation to Deliberate Transformation'. *Progress in Human Geography* 36, 5 (2012): 667–76. <https://doi.org/10.1177/0309132511425767>.

Page, Alison, and Paul Memmott. 'Design: Building on country'. In eds. Margo Neale *First knowledges*. Melbourne: Thames & Hudson. 2021.

Papanek, Victor *Design for the Real World: Human Ecology and Social Change*. London: Thames and Hudson. 1972

Pargman, Daniel, Elina Eriksson, Mikael Höök, Theresa Jean Tanenbaum, Marcel Pufal, and Josefin Wangel. 'What If There Had Only Been Half the Oil? Rewriting History to Envision the Consequences of Peak Oil'. *Energy Research & Social Science*, Narratives and Storytelling in Energy and Climate Change Research, 31 (2017): 170–78. <https://doi.org/10.1016/j.erss.2017.06.007>.

Pelzer, Peter, and Wytse Versteeg. 'Imagination for Change: The Post-Fossil City Contest'. *Futures* 108 (2019): 12–26. <https://doi.org/10.1016/j.futures.2019.01.005>.

Pennington, Sarah 'Taking Care of Issues of Concern: feminist possibilities and the curation of Speculative and Critical Design'. In *Proceedings of Design Research Society* 2018, University of Limerick. 2018. <http://10.21606/dma.2018.324>

Poli, Roberto. 'The Implicit Future Orientation of the Capability Approach'. *Futures* 71 (2015): 105–13. <https://doi.org/10.1016/j.futures.2015.03.002>.

puig de la Bellacasa, María. "Nothing Comes without Its World": Thinking with Care'. *The Sociological Review* 60 (2012): 197–216. <https://doi.org/10.1111/j.1467-954X.2012.02070.x>.

Richards, R. Everyday creativity: Our hidden potential. In eds. R. Richards *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives* American Psychological Association. 2007. 25–53. <https://doi.org/10.1037/11595-001>

Robles, Gregorio and Jesús M. González-Barahona. A comprehensive study of software forks: Dates, reasons and outcomes. In IFIP International Conference on Open Source Systems, (2012) 1–14. Springer, Berlin, Heidelberg.

Sanders, Elizabeth and Pieter Jan Stappers. Co-creation and the new landscapes of design. *Co-design* 4, 1 (2008): 5–18.

Schatzki, Theodore R., K. Knorr-Cetina, and Eike von Savigny. *The Practice Turn in Contemporary Theory*. Abingdon: Routledge, 2001.

Shove, Elizabeth. 'Social Theory and Climate Change'. *Theory, Culture & Society* 27, 2–3 (2010a): 277–88. <https://doi.org/10.1177/0263276410361498>.

Shove, Elizabeth. 'Beyond the ABC: Climate Change Policy and Theories of Social Change'. *Environment and Planning A: Economy and Space* 42, 6 (2010b): 1273–85. <https://doi.org/10.1068/a42282>.

Smith, Adrian, Andy Stirling, and Frans Berkhout. 'The Governance of Sustainable Socio-Technical Transitions'. *Research Policy* 34, 10 (2005): 1491–1510. <https://doi.org/10.1016/j.respol.2005.07.005>.

Smith, R. C., & Iversen, O. S. 'Participatory design for sustainable social change'. *Design Studies*, 59, (2018) 9-36. doi:<https://doi.org/10.1016/j.destud.2018.05.005>

Stoetzler, Marcel, and Nira Yuval-Davis. 'Standpoint Theory, Situated Knowledge and the Situated Imagination'. *Feminist Theory*. 3, 3 (2002): 315–33. <https://doi.org/10.1177/146470002762492024>.

Stripple, Johannes, Alexandra Nikoleris, and Roger Hildingsson. 'Carbon Ruins: Engaging with Post-Fossil Transitions through Participatory World-Building'. *Politics and Governance* 9, 2 (2021): 87–99. <https://doi.org/10.17645/pag.v9i2.3816>.

Taylor, Charles. 'Modern Social Imaginaries'. *Public Culture* 14, 1 (2002): 91–124.

Thornton, Cassie. *The Hologram: Feminist, Peer-to-Peer Health for a Post-Pandemic Future*. Pluto Press, 2020.

Trans-Atlantic Platform for Social Sciences and Humanities 'Transformative Research: A workshop in São Paulo, Brazil, to discuss new approaches to research in environmental science.' (01 September 2015) <https://transatlanticplatform.com/2015/09/01/transformational-research/> (accessed August 18, 2021).

Voros, Joseph. 'Big History and Anticipation'. In *Handbook of Anticipation: Theoretical and Applied Aspects of the Use of Future in Decision Making*, edited by Roberto Poli, 1–40. Cham: Springer International Publishing, 2017. https://doi.org/10.1007/978-3-319-31737-3_95-1.

Wangel, Josefin, Mia Hesselgren, Elina Eriksson, Looove Broms, Gabriel Kanulf, and Andrejs Ljunggren. 'Vitiden: Transforming a policy-orienting scenario to a practice-oriented energy fiction'. *Futures* 112 (2019): 102440.

Wellmon, Chad. 'Permanent Crisis: The Humanities in a Disenchanted Age' (08 December 2018)

<https://chadwellmon.com/2018/12/08/permanent-crisis-the-humanities-in-a-disenchanted-age/>

(accessed August 18, 2021).

Wilde, Danielle Anna Vallgård, and Oscar Tomico. 'Embodied design ideation methods: analysing the power of estrangement'. *CHI '17: Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (2017) 5158–5170

<https://doi-org/10.1145/3025453.3025873>

Willett, Walter, Johan Rockström, Brent Loken, Marco Springmann, Tim Lang, Sonja Vermeulen, Tara Garnett, David Tilman, Fabrice DeClerck, and Amanda Wood. 'Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems'. *The Lancet* 393, 10170 (2019): 447–492.

World Economic Forum. *The Global Risks Report 2021*.

http://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2021.pdf (accessed August 18, 2021).

Dijk, Ludger van, and Erik Rietveld. 'Situated Imagination'. *Phenomenology and the Cognitive Sciences*, (2020). <https://doi.org/10.1007/s11097-020-09701-2>.

Verran, Helen *Science and an African Logic*, Chicago: University of Chicago Press, 2001.

Wilkinson, Richard G., and Kate Pickett. *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London: Allen Lane, 2009.

ZEMOS98, n.d. *Pedagogy of care: Open paper*

http://zemos98.org/en/portfolio_page/pedagogy-of-care/ (accessed August 18, 2021).

Appendix A: Review of existing repositories

The following document presents an analysis of seven other projects exploring creative practice and sustainability. We have created an overview of each in order to help us to understand what characteristics would be helpful for the CreaTures design. A summary is provided below:

- Repositories should have a clear framing (collections of creative practice and sustainability projects too large a corpus).
- The rationale for project selection should be clear - and be part of what the site offers to visitors.
- Sites that were particularly interesting had defined taxonomies that already provided insights into themes (e.g. the Visible project's taxonomy, which was accompanied by more detailed synthesis in their Annotated Bibliography – a longer text).
- Some sites had other methods of community engagement attached (e.g. Visible held a biannual prize).
- Posts that had a clear framing (as in Stories for Change) were more interesting than project descriptions – skilful writing is necessary to help these resources be useful and engaging.
- Posts longer of about 600w effectively balanced being informative and sustaining interest.

In response to these insights, we have begun to create an online repository with detailed case explorations featuring rich media (video and audio interviews with practitioners, links to online talks).

Library of Creative Sustainability - Creative Carbon Scotland

Link:

<https://www.creativecarbonscotland.com/library/the-draw-at-sugar-house/>

Aim:

Provide a practical resource to organisations, showcase great projects, demonstrate outcomes to commissioners.

Selection method:

'In developing this resource we have spoken with users working in diverse fields including energy, local government, natural heritage, and forestry to help us develop content that is relevant and applicable to the interests and needs of non-arts sectors, and have researched case studies with the aid of many of the featured artists and organisations.' – Text from website separate Introduction

No. of projects: 19

Format: 2000w journalistic write-ups

Taxonomy:

Taxonomies CCS Library of Sustainability			
Location Type	Issues	Types of Organisations	Community Involvement
Areas of outstanding natural beauty	Nature's cultural value	Business	Building restoration
Brownfield	Adaptation to climate change	Community organisation	Citizen science
City centre	Climate change mitigation	Government agency	Civic engagement
Farmland	Biodiversity	Libraries	Community development
High density housing	Community gardens	Local government	Community organisation
Industrial and business	Species	National government	Local steering group
Inner urban area	Design	NGO	Pulbic art
Mining and industrial sites	Economics	Partnership	Supports creatives
Mountain, leatland and moorland	Energy	Schools	Volunteering
River and wetland	Community energy	Statutory agency	
Sea, coast and shoreline	Renewable energy	University or research body	
Sites of special scientific interest	Environmental justice	Utility	
Suburban	Environmental protection		
Town centre	Restoration		
Urban derelict land	Placemaking		
Urban general	Pollution		
Urban green networks	Industrial pollution		
Urban river corrisor and waterfront	Landfill		
Waterfront	Public understanding		

What is helpful about this repository:

- It is very detailed
- Learnings are extracted in a section 'lessons, tips and advice'.
- The projects appear so far to have key themes related to CCS work, e.g. residencies

Project page pic:

The Draw at Sugar House

Artist Patricia Johanson worked alongside others to create a connecting passage under a major expressway. The result was a work of multi-purpose public art that serves as a leisure space, wildlife corridor, flood defence system, and embodiment of the area's cultural and environmental history.

 [Visit project website](#)



In this project

[Project Description](#)

[Partners & Stakeholders](#)

[Sustainability Issues](#)

[Lessons, Tips & Advice](#)

[Funding](#)

[Quotations](#)

[Relevant Links](#)

“

'I never design until I have discovered the meaning of the place. Each place has a unique set of conditions, and we need an intimate understanding of what it has been, is now, and will become in the future, in order to create a design that is more than a wilful act.'

Patricia Johanson, artist

Visible project

Link:

<https://www.visibleproject.org/blog/>

Aim: to research the field of socially engaged artistic practices.

Selection method:

Repository includes projects identified by a 'transnational, intergenerational, gender and racially diverse advisory boards of practitioners and collaborators'.

No. of projects: 200

Format: 350 words, pictures

Taxonomy:

Taxonomy - Visible project		
Year	Filter	Location
2019	Alternative economies	
2017	Community-based	
2015	Decolonial narratives	
2013	Environmental issues	
2011	Feminisms	
	Impacting mediascape	
	Indigenous rights	
	Labor fights	
	Legal loopholing	
	Making assemblies	
	Migrant movements	
	New archives	
	Pedagogical platforms	
	Performing communities	
	Protest forms	
	Publishing matters	
	Queer cultures	
	Racial struggles	
	Rural politics	
	Social design	
	Sustainable urbanism	

What is helpful about this repository:

- The connection to an award is interesting – a different form of recognition.
- The taxonomy is informative because it features a mix of types, themes and techniques

Project page pic:

**Since**

2011

Location

Various cities in the Usa

Proposed by

Alessandra Saviotti

About the project

In 2010, after New York passed America's first laws providing basic rights for domestic workers, an advocacy group approached Studio REV- to help inform the state's 200,000 nannies, housekeepers, and caregivers. We produced a humorous audionovela app which reached up to 1200 users in the first month, was named by CNN named as "one of 5 apps to change the world", and received awards at Obama's White House.

As domestic workers in other states started organizing, we created the NannyVan, a bright orange mobile studio with pop-out craft and media carts. Traveling with my baby, our friend Anium, and women from the

Arts for Sustainability Transformations

Link:

<https://www.artsfortransformations.earth/projects-catalogue/2020/5/22/land-art-generator>

Aim: 'Here you find a growing catalogue of arts-based projects, approaches, ideas and networks working with transformations towards sustainability' - website

Selection method:

People can contribute, plus a researcher selection

No. of projects: 24

Format: At the moment a snippet of text, similar to the short snippets that we're using from the Graph Commons visualisation.

Taxonomy: Tags on the projects

Project page pic:

Land Art Generator

ARTS FOR TRANSFORMATIONS · MAY 22, 2020

The goal of the Land Art Generator is to accelerate the transition to post-carbon economies by providing models of renewable energy infrastructure that add value to public space, inspire, and educate—while providing equitable power to homes around the world.

<https://landartgenerator.org/phone/index.html>



Previous
Kathy Jetñil-Kijiner

Next
Art for Adaptation Project

Seeds of Good Anthropocenes

Link:

<https://goodanthropocenes.net/seedbank/>

Aim: To provide case-based examples of change to be used in scenario production

Selection method:

Seeds are contributed by the team and also crowdsourced. Website text: 'They are likely not widespread nor well-known. They can be social initiatives, new technologies, economic tools, or social-ecological projects, or organisations, movements or new ways of acting that appear to be contributing to the creation of a future that is just, prosperous, and sustainable.'

No. of projects: c150

Format:

Story write-ups with pictures between 200-600 words approx.

What is helpful about this repository:


Taxonomy:

Map is disconnected from 'seedbank blog interface. Primarily moving around via tags which are here:

Seeds of Good Anthropocenes - Tags	
Adaptive reuse	Japan
Agriculture	Management
Architecture	Montreal
Behaviour	Movement
Bicycle	Multifunctional
Canada	Network
Climate change	Networks
Coastal	Park
Colombia	Participation
Commons	Partnership
Community	Public space
Conservation	Resilience
Culture	Scotland
Ecovillage	Social
Education	Social-ecological
Environmental education	South Afrcia
Food	Sustainability
Food production	Sustainable
Governance	Technology
Green building	Urban
Green infrastructure	Urban farming
Intentional community	USA
	Water

Project page pic:

HOME
ABOUT US
SEEDS
NEWS
RESOURCES
VIDEOS
CONTACT
Q



> Seeds Project Receives 2019 Innovation in Sustainability Science Award from Ecological Society of America

> Seeds Project Featured in NESTA report

> La Platjeta – the future of fishing may lie in its past.

> Contribute A Seed

NEWS CATEGORIES

Select Category ▼

POST TAGS

adaptive reuse
agriculture
architecture
behaviour
bicycle
Canada
^

<https://goodanthropocenes.net/wp-content/uploads/2018/01/cap-a-mar.png> | one would not solve the problem of unsustainable fishing. Not

Stories of Change

Link:

<https://www.storiesofchange.ac.uk/>

Aim:

‘The Stories of Change project aims to help to support lively public and political conversations about energy by looking in a fresh way at its past, present and future’ - website

Selection method:

These are stories collected in and through research as part of a research project (focussed on energy).

No. of projects: 229 items

Format: 500 – 900 word blog posts seems most common, but there are also interviews, photo essays, annotated drawings.

What is helpful about this repository:

The blog posts are really interesting in their own right, for example historical pieces about energy in a particular place, personal stories of home transition. They are readable, with hooks and images, rather than boring project descriptions.

Taxonomy: This is only part of a huge taxonomy too big to list here

Stories of change		
Framing	Medium	Narrative
Abundance	Brief	Allegory
Aesthetics	Cartoon	Apocalyptic
Alarmism	Case Study	Character
Climate Contrarianism	Digital Story	Climax
Conservatism	Documentary	Conclusion
Cornucopianism	Drama	Counter Narrative
Freedom	Fiction	Dystopian
Gaia	Film	Elegy
Justice	Interview	Epic
Morality	Map	Idyll
My Friend Jules	Mapping	Imagery
Nostalgia	Network	Imagination
Optimism	Non-fiction	Irony
Pessimism	Novel	Master Narrative
Risk	Oral Narrative	Metaphors
Scarcity	Photograph	Mode
Security	Photostory	Oral History
Techn-utopianism	Poem	Pastoral
Values	Project	Satire
	Scenario	Setting
	Survey	Speculative Fiction
	Television	Tragedy
	Transcript	Tropes
		Utopian

Project page pic:







On the small Hebridean island of Tiree if the locals talk about the wind turbine at the north east end of the island they don't call it a turbine but speak affectionately of Tilley and talk animatedly about how it has benefited their close knit community.

The name of their 75m tall wind turbine on the windswept island, west of Mull, was chosen by local schoolchildren who were doing a project on the Second World War and thought the light at the top of the tower looked like that on a tilley lamp.

As the 653 inhabitants can attest to, wind is something the island has in plentiful supply, so a turbine appeared to be a good way to create renewable energy and generate an income for the island.

Related

-  LIBRARY
Anna Frizzell interview: "Jules gets you addicted"
-  LIBRARY
Renewable Energy - A Farmer's Tale
-  LIBRARY
A solar wildlife haven
-  LIBRARY
Democratising the

Narratopias: Collective Library of Transformative Narratives

Link:

<https://platform.plurality-university.org/narratopia/>

Aim:

'The project has two main objectives. First, to collect existing "new narratives" from all over the world and make them accessible via a "Library". Second, to connect, facilitate and support initiatives that both enrich the diversity of narratives, and use them to empower individuals and communities to think up or effect transformations. Overall, we wish to create a community of persons and groups who discuss, share and learn with each other (different cultures, different visions, different areas of work and activity) by using and adapting transformative narratives in their field of practice and turn them into seeds of concrete change.' – Project page

Selection method:

Crowdsourced narratives, understood as a community commons. Aiming for 300 or more cases by mid 2021.

No. of projects: 133

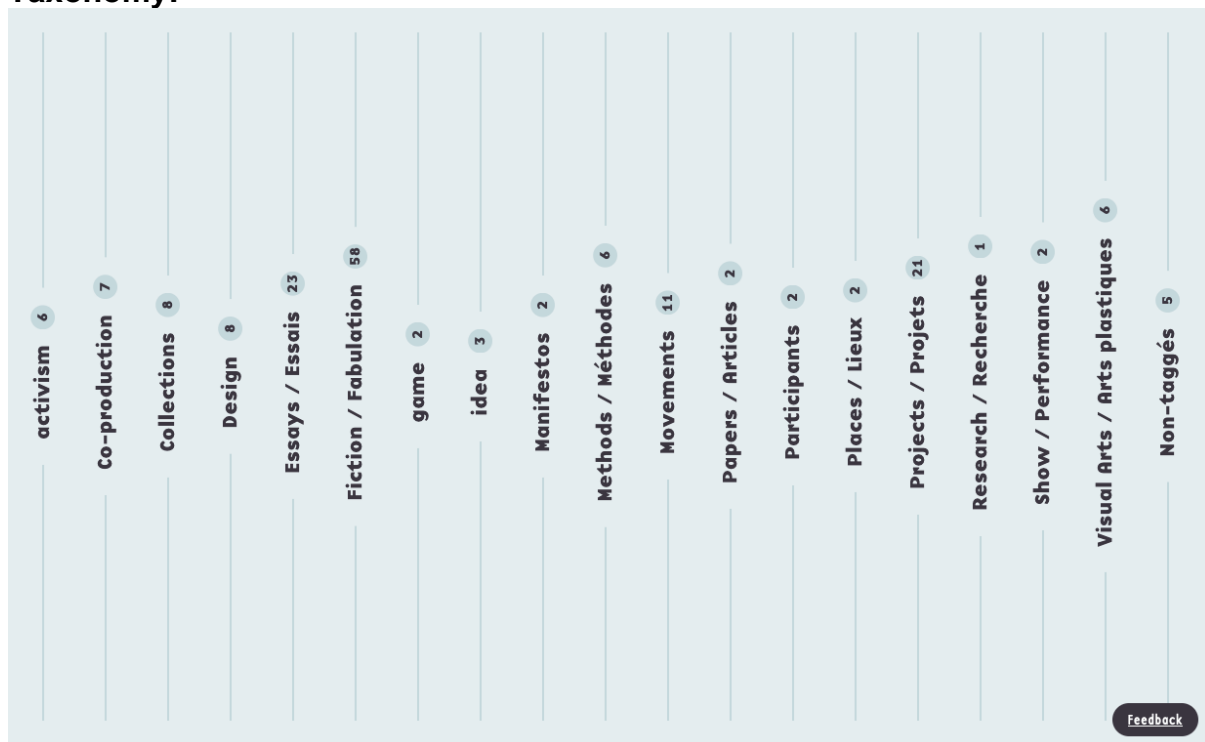
Format: 300+ word descriptions of each item

What is helpful about this repository:

The posts are editable, meaning that they take on a Wiki-like quality of open editorship and addition. Projects can be viewed by the 'source of contribution' – so

it's possible to view contributions generated at a particular workshop. This preserves in the taxonomy, traces of collective or community authorship.

Taxonomy:



Project page pic:

Future Library, 2014-2114 (Katie Paterson)
created 03/23/2021

embed
https://youtu.be/D28Ug208_6M

load

<https://www.futurelibrary.no/>

Future Library, 2014 - 2114
One thousand trees have been planted in Nordmarka, a forest just outside Oslo, which will supply paper for a special anthology of books to be printed in one hundred years time. Between now and then, one writer every year will contribute a text, with the writings held in trust, unpublished, until the year 2114.

More on Katie Paterson's work:
<http://katiepaterson.org/>

Donna Haraway: Story Telling for Earthly Survival
created 03/23/2021

embed
<https://vimeo.com/189163326>

load

A film by Fabrizio Terranova, 2016

Official movie website:
<https://earthysurvival.org/>
Rental on Vimeo: <https://vimeo.com/ondemand/donnaharaway>

““We need other kinds of stories,” Donna Haraway implores as she faces the camera. “Storying otherwise,” in Haraway’s expression, is an apt characterization of the work of this paradigm-shifting thinker, whose contributions to feminist studies of science and technology resist and even rebel against hegemonic ways of thinking and living. But what form should such stories take? What might they sound or feel like?”

Review by Alexandra Middleton, Society for Cultural Anthropology, 2019
<https://culanth.org/fieldsights/storying-otherwise-a-review-of-donna-haraway-story-telling-for-earthly-survival>

Faire récit avec les animaux & les symbiotes
created 03/23/2021

embed
https://youtu.be/_sd3ubNbdE8

load

Vinciane Despret, cycle “Imaginaire des futurs possibles”, Université de Lausanne, 2021

Vinciane Despret, Autobiographie d'un poule Sous-titre et autres récits d'anticipation, Actes Sud, 2021
<https://www.actes-sud.fr/catalogue/autobiographie-dun-poule>

An Ecotopian Lexicon
created 03/22/2021

<https://www.ecotopianlexicon.com/>

load

An Ecotopian Lexicon
Each of the thirty leavewords in an Ecotopian Lexicon, drawn from other languages, speculative fiction, and subcultures of resistance, helps us imagine how to adapt and even flourish in the face of climate change and the socio-ecological adversity that characterizes the Anthropocene

If another world is possible, as activists and scholars frequently assert, what might it look, taste, and feel like? An Ecotopian Lexicon presents a kaleidoscopic window into the ecological multiverse: not what is, but what could or even should be.

Foreword by Kim Stanley Robinson:
“So many new words gathered together like this, each bringing with it a new concept and system, creates a dizzying effect. This is good and right, because we live in a dizzying time. What we do now as a global civilization will create one future out of a vast array of possible futures, an array which ranges from utmost disaster to lasting peace and prosperity. But we can do things, if we can figure out what they are. Various good futures are achievable, even starting from our current moment of high danger. So some really comprehensive analysis, destranding, and remapping is now part of our necessary work. Inevitably new concepts and new words will emerge—lots of them. So this book’s profusion is an accurate foretelling of what will come. It’s a kind of science fiction story in a sense. It’s a lexicon, and it postulates and helps to create a future culture more articulate and diverse than we

Feedback

“Depuis quelques années, nombre d’artistes ont

Julie's Bicycle

Link:

<https://juliesbicycle.com/the-movement/>

Aim: Julie's Bicycle mapped 7 creative climate trends. Using crowdsourcing they have developed an interactive map of people and projects that sit within these 7 categories:



Selection method:

Crowdsourcing

No. of projects: Too many to count

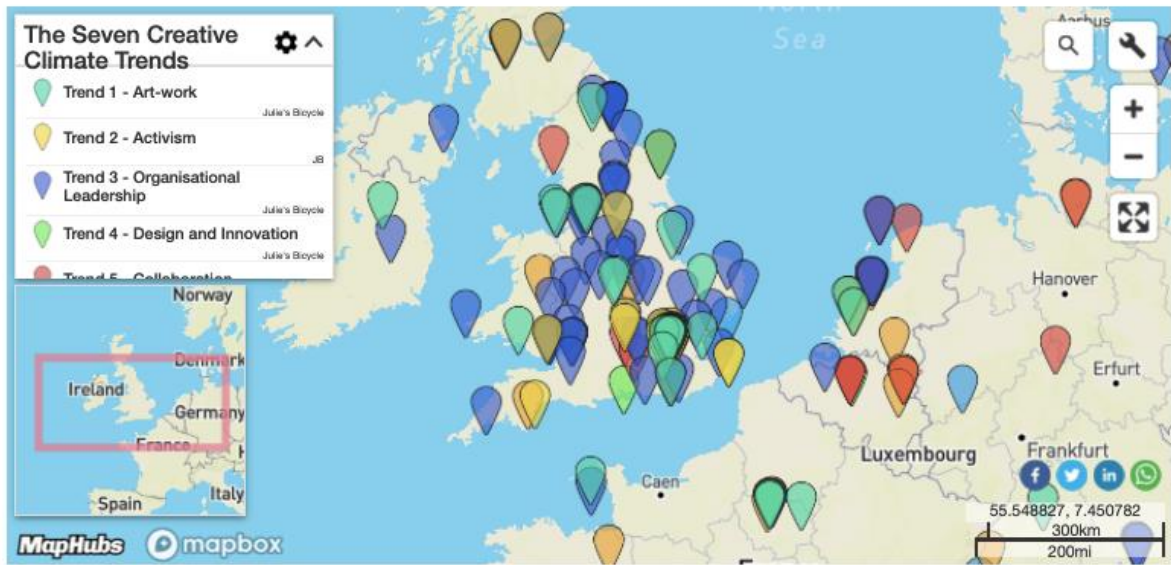
Format: A map interface with one-sentence biography of project, person or place.

What is helpful about this repository: Work has been done to map the themes in a report format and this gives additional connections into a geographically distributed network.

Taxonomy:

Artwork, Activism, Organisational Leadership, Pathfinding, Collaboration, Policy Changing

Project page pic:



Appendix B: Three examples of detailed cases to be featured on the CreaTures Repository website

Case 1: Remendar lo Nuevo (Mending The New)



Photo on the left: Tejedotras por la Memoria de Sonson, exploring one of the digital textile prototypes done during the workshops with communities. This prototype was called “La Encomienda.” Archive Remendar lo Nuevo

Photo on the right: Detail of exhibit “The Time(s) to Listen” showing a proposed interaction in the textile cloth made by group Artesanías Guayacán. Archive Remendar lo Nuevo

Context:

In Colombia, textile making has emerged as an important way for collectives of women to process the grief and trauma that they have suffered through many years of conflict. Since the 2016 peace agreement, the country has turned towards processes of reconciliation. The project Remendar lo Nuevo (*Mending The New*), brings together researchers from the Universidad Nacional de Colombia, Universidad de Antioquia and Universidad de Los Andes with several women’s textile collectives to explore how physical and digital artefacts can be combined to create an archive of textile testimonials. The project is called Remendar lo Nuevo (*Mending The New*), because communities are being asked to explore what reconciliation means for them, and in many cases they are still figuring out how (and with whom) to mend relationships in an unstable situation where violence still regularly emerges.

“It’s often assumed that peace means leaving something behind, but in Colombia (and many other societies) it doesn’t work like that because conflict is an ongoing situation. When you’re asked to reconcile – a discourse that is new – but there are still things happening in terms of conflict, how can you reconcile and with whom? Why do I have to? The idea of something new that has to be mended came about because people haven’t considered the meanings that are attributed to this mandate.” – Tania Pérez-Bustos

Transformative creative practices:

During the two-year project, researchers organised a series of ‘workshops with communities inviting them to think through their textile making about reconciliation,

they also organised a couple of mingas (spaces for collaboration and thinking/making together) where researchers, artists, designers and technologists worked with women's stories and pieces to add digital artefacts into their processes of memorial-making. In these spaces they experiment with textile and digital artefacts – often augmenting textile pieces with the capacity to send SMS messages, or store digitally-recorded oral histories. The physical and sensory qualities of textile work create what project leader Tania Perez-Bustos calls 'textile atmospheres' – that allow people to listen differently.

"If you have a threaded needle and a round tambour with some fabric in it, you are holding it close to you... the needle goes into the fabric and goes out. The movements are reflexive and that creates some inner reflection... and when you do that with others it creates a textile atmosphere in which you are listening with the bodies of the others that are also making. There's a togetherness that is created in this process." – Tania Pérez-Bustos

Doing textile work together opens up a space of reflection and offers a way for the women to re-narrate traumas stitch by stitch amongst a supportive group. In addition to making the textiles, they are also re-making themselves through a process of deep reflection. Pérez-Bustos calls these practices and spaces "improvisational technologies of healing".

"When you take the time to stitch in a beautiful typography the name of someone who was killed, then you stay with that name for five hours in that silence it is very powerful...you're creating memory, you're creating a document that you have made."

Connections to eco-social sustainability:

Past conflicts in Colombia have been deeply entwined with control over land use, in what Pérez-Bustos calls an "an ecological war". Women displaced from their own smallholdings and into cities also grieve the loss of this connection to the land through textile making. Flora and fauna are often included in textile pieces remembering lost practices: of growing, of cooking and of healing using medicinal plants. Sustainable land stewardship relies on stable communities, and in Colombia, rebuilding one lays the foundations for rebuilding the other.

"The losses of war are not only human lives, but also territories in danger... the women are creating memories of those more-than-human losses to an ecological war".

Learn more:

Researchers worked with textile collectives in Chocó, Bolívar and Antioquia to carefully document new and existing textile works in collaboration with the women. Together the project participants produce an online exhibition, an e-book and an online web archive that seek to capture the spirit of collectivity engendered at the research, and to invite people from outside to connect with the stories that are being told by the women through their embroidery.

The online exhibition *Los Tiempos De La Escucha (Time to Listen)* is a curated exhibition of the works created by the women working in common exploration with artists, designers and makers in spaces of shared reflection. It includes images of

the work and oral testimonies of the women. It reveals some of the metaphors that the communities use to characterise reconciliation: seeing echoes in certain cooking practices, in medicinal plants, or in the movement of animals. The e-book *Remendar lo nuevo: Compartiendo Aprendizajes (Mending the New: Sharing Learnings)* was composed by the communities, and includes pieces of oral storytelling, photographs and texts. Finally, the *Archivo Digital De Textiles Testimonials (Digital Archive of Textile Testimonies)* is a wider digital archive that links together the work of 10 different initiatives of sewing for memory in Colombia. The Archive was also co-designed with the women and provides detailed information about each piece, including recordings of how it was made, and an object biography.

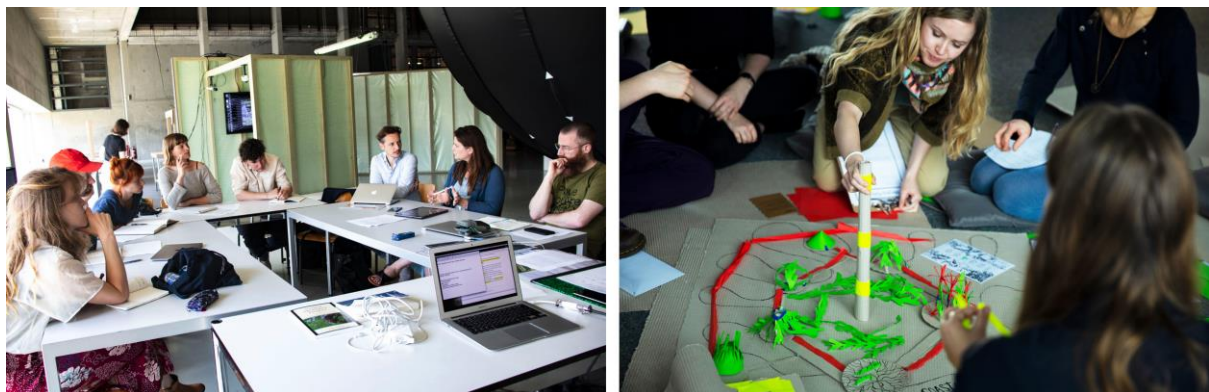
These web resources amplify the women's own documentation practices, helping them to reach new publics as part of a responsive and open research practice. They ask visitors to step into communities of displaced people, as Pérez-Bustos says "to make the trouble of these communities our own, to understand that we are in here together".

Project credits:

The project was funded by the Ministry of Science and Technology in Colombia. It was led by Universidad Nacional de Colombia. Principal Investigator: Dr. Tania Perez-Bustos, Universidad Nacional de Colombia, Co-investigators: Natalia Quiceno Toro, Olga Jaramillo González and Isabel Gonzáles, Universidad de Antioquia, Jaime Patarroyo and Eliana Sánchez Aldana, Universidad de Los Andes.

The Project received collaboration of the Newton Fund. Prof. Dimitris Papadopoulos, The University of Nottingham, Prof. Lucy Suchman, Lancaster University, Dr. Maria Puig de la Bellacasa, Warwick University.

Case 2: Zoöp



Photos of Zoöp workshops credits: Klaas Kuitenbrouwer, Florine van Rees

Context:

The Zoöp project has developed a legal and organisational structure to allow humans and non-humans (a term that includes all living things) to work together to govern our planet. The project was seeded in 2018 in a speculative arts workshop held at Het Nieuwe Instituut in the Netherlands. Since then, Klaas Kuitenbrouwer and a group of collaborators including Sjef van Gaalen have continued to develop the concept and framework, drawing centrally on creative practices.

“The Zoop is a concept for a new legal format incorporating human and non-human collectives as owner-employees...the project’s two main goals are to strengthen the position of non-humans within human society, expanding their ability to act within the wider social fabric, and to engender ecological regeneration and to grow in a way that’s capable of resisting the extractivist dynamics of the way economies are currently structured.” – Sjef van Gaalen

In 2021, the law firm De Brauw Blackstone Westbroek completed the legal framework for ‘zoöperation’ (a portmanteau of the Greek word zoë and co-operation), using existing law and policy in the Netherlands. A Zoöp is formed when a human organisation enters into a co-operative agreement with the non-human inhabitants of a particular piece of land. Since the plants and animals that live there cannot attend co-op meetings, an independent group of humans (a ‘Zoöconomic Foundation’) represents their interests on the Executive Board instead. In order to establish who exactly needs to be represented (and how), a Zoöconomic Foundation must first establish a baseline measurement of all non-human life on that particular site. Then, they must set up instruments to track how these life-forms are faring (by using digital and analogue sensing). Each Zoöconomic Foundation is ‘bound by its charter to only act on behalf of the multispecies ecological community at the organisations’ piece of earth’. Local Zoöps are supported and governed by The Zoöp Institute, which is managed by Kuitenbrouwer.

Connections to eco-social sustainability:

The project is designed to sit within existing economic and legal paradigms, so that it is easy to understand and straightforward to adopt. However, at the same time it also attempts to change systems from the inside out. Unlike regular co-ops, Zoöps must work towards an additional shared goal – creating thriving multi-species communities on the land (or within bodies of water). This promotes regenerative land management practices over extractive ones – potentially creating tangible ecosystem improvements in areas that choose to become Zoöps. The project also develops new terms and imaginaries that allow people to better understand what regenerative futures might look like. The idea of a multi-species ‘zoöonomy’ where everyone gets the resources they need, replaces the human-centric notion of ‘economy’ where the wealth and health of only one species is considered.

“The goal was to do something that would be implementable on a systems level and have those kind of local effects, that would also still give the room for each of these zoöps to be their own local organisations, since we have a pretty broad diversity of pilot sites now.” – Sjef van Gaalen

Transformative creative practices:

The project has been incubated (and continues to develop) in arts spaces – at galleries, festivals, exhibitions and events. Often, these provide research and development spaces where people from different disciplinary backgrounds can productively work together – to imagine new futures, or to brainstorm interdisciplinary approaches that break open old silos. The Venice Exploratorium, for example is a platform for joint online research between artists and scientists. In 2020, it hosted workshops to develop a Zoöconomic Method for figuring out how to map and measure non-humans at four ‘proto-Zoöp’ pilot sites across Europe. In these workshops – for example, around sensing – the aesthetic and relational priorities of arts practitioners

met scientific practices used to measure non-human life. Value systems for regenerative futures are experimented on and tested here, giving rise to new forms of social and material practice.

“Through thinking about the future and then acting in the present...there are inflection points where you can pull those strings and pull the future that’s way out there in the possible towards the plausible by yanking on it.” – Sjef van Gaalen

Learn more:

Kuitenbrouwer and collaborators are currently working with twelve ‘proto-Zoöps’ across Europe to test and refine the Zoöconomic Method – including farms, food forests, universities and cultural centres, and a hotel. The project team have also begun a series of courses on The Zoöconomic Curriculum, to train participants how to start and manage their own Zoöp. More complete documentation is available on the [Zoöp website](#).

Project credits:

The zoöp concept and its key methods were developed in a public research trajectory of Het Nieuwe Instituut that took place during the [Terraforming Earth Labs](#) (2018), the [Neuhaus](#) academy for more-than-human knowledge (2019), and the [Venice Exploratorium](#) (2020).

The following people have contributed to the development of the zoöp model and important aspects of its methods:

Yin Aiwen, Brice Ammar-Khodja, Samuel Bianchini, Sanne Bloemink, Andrei Bocin-Dumitriu, Ziegavanden Berk, Gijs Bosman, Laura Burgers, Ricardo Cano Mateo, Cristina Cochior, Francesca Cozzolino, Leonardo Dellanoce, Malou den Dekker, Natalia Derossi, Andre Ficcato, Syne Fonk, Sjefvan Gaalen, Edwin Gardner Lotte van Geeven, Michelle Geraerts, Marcel Goethals, Paulina Grebenstein, Max Hampshire, Thieme Hennis, Robin Hoske, Martina Huynh, Ernestien Idenburg, Vincent Koorstra, Ian Ingram, Franceso degl’Inocenti, Theun Karelse, Sophie Krier, Klaas Kuitenbrouwer, Anne van Leeuwen, Jane da Mosto, Gilbert de Nijs, Yanshan Ou, Daniela de Paulis, Marthijn Pool, Patricia Ribault, Jarl Schulp, Hugo Scurto, Francesco Sebregondi, Bianca Slieker, Fabian van der Sluijs, Debra Solomon, Youran Song, Jay Springett, Daniël Steginga, Miha Tursic, Sander Turnhout, Josh Wodak, Thijs de Zeeuw.

Case 3: Nature-aware service design on Elisaari island



Images from Elisaari Island, courtesy of Kirsi Hakio

Context:

Design researcher Kirsi Hakio worked with the custodians of Elisaari island in Finland to develop a set of ‘awareness-based’ service design methods that help people to tune in to their inner worlds and think of themselves as connected to wider ecosystems. Elisaari island sits off the coast of Helsinki and is accessible to the public for recreation from May to October. Although it is owned by the city, it is managed by an entrepreneurial couple, who run nature-based tourism services there including a café, camping facilities and boating services. Hakio was interested in working with these custodians to develop new services. However, she soon found that traditional service design methods couldn’t adequately account for the island’s main stakeholder: nature. She began exploring new techniques to connect with Elisaari’s human and non-human stakeholders.

“Mainly it’s inhabited by the non-humans, the animals the plants, the nature – they really own the place, and then people come part-time in the year.” – Kirsi Hakio

Connections to eco-social sustainability:

Hakio is interested in the inner dimensions of sustainability: our personal modes of sense and meaning-making that we each carry around with us, which deeply influence our everyday choices.

“Our inner world really animates our actions...our inner conditioning and mental models and the worldviews that we have – even though we may not notice it, they effect how we behave, how we make decisions how we encounter others – humans and non-humans” – Kirsi Hakio

Hakio created a series of co-design workshops that brought together stakeholders from Elisaari to help them to recognise and share these unspoken assumptions. At the first workshop she trialled awareness-based exercises that asked participants to become present and observe what was happening inside their minds and bodies. This was followed by dramaturgical exercises where participants used their bodies to take on different roles and to act out scenarios for future services, which enabled participants to visualise and share their own inner lives and orientations with the group.

Transformative creative practices:

The second set of workshops took place on Elisaari island and focussed on generating empathic connections to the non-human stakeholders. A series of walking meditations helped participants to connect more deeply to the place. Hakio also asked participants to assume the role of animals, trees, historical figures and nature spirits from Elisaari. She then interviewed the participants in character using classic service design questions, asking someone acting as a deer or a rock how they would ensure repeat customers. All of these activities were designed to give participants the experience of being deeply connected to a wider ecosystem of which they were one part of a larger whole: an experience of the 'ecological self' (Bragg, 1996).

“Participants see themselves as part of this interconnected worldview... and I think in that state they want to start changing their behaviour... they are having experiences that are very difficult to explain to others maybe of connectedness and of connecting to the place.” – Kirsi Hakio

However Hakio notes that the challenge in sustaining these motivations beyond the workshop experience.

“when participants enter home it’s really difficult to maintain because the environment is completely different... It’s really difficult to turn those experiences into actions... I see how the custodians of the island are living in that kind of state all the time. So I’m not sure if we’re supposed to be in that bubble for a longer time – because usually we don’t have time and resources – or if we need to build our communities differently.” – Kirsi Hakio

In the later phase of the Elisaari project Hakio worked with the island’s custodians to develop co-design techniques for the orientation of new employees. These helped the group to co-create shared values that subsequently went on to influence the working culture of the island. Awareness-based approaches provide ways to intervene in the interactions between people and place, by opening up space to articulate different mental models and bring alternative worldviews into being. Hakio’s work challenges us to think about how awareness-based methods might be used beyond service design to prompt cultural and social change. What might we need to change about our material and social worlds for people to act as their ecological selves all the time?

Nominator:

“We were walking through the forest in different roles. I walked with someone who was a sheep...I had to think through the nature materials and how we could bring that into the catering....it was more or less play around with the idea, but it was such a change maker to my, my thinking is, I’ll never forget.” – Tuuli Mattelmäki

Learn more:

<https://people.aalto.fi/kirsi.hakio>

<https://www.elisaari.fi>

<https://www.villasofiabarosund.fi>

Project credits:

This research was funded by Aalto University.