

Beyond “blah blah blah”: Exploring the “how” of transformation

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Abstract

Calls for transformations are clear and multiple pathways and alternative visions for the future have been defined. Yet, there is very little shared understanding of how such transformations come about and how knowledge-action gaps will be filled. This Special Feature focuses on how we can go beyond the “blah blah blah” of transformation and towards action for results. It does so by distinguishing between the *means* of transformation and the *manner* of transformation, two dimensions key to answering the question of “how.” The means can be understood as the many solutions, technical and practical methods or actions that are presented as significant to transformative change. The manner, in contrast, represents the ways in which something is done, i.e., ways of acting. It describes the core values, principles, qualities, and relationships that not only underpin and motivate transformative change, but shape the process. Integrating rather than conflating the means and the manner is important to better understand how transformations come about. We then present insights from the collection of papers that focus on the “how” of transformation. The papers describe different ways of integrating the means and the manner in transformation processes. We have organized them thematically as follows: papers that draw on the integration of meaning making, the integration of learning and listening, and the integration of different ways of being and becoming. Drawing on both science and alternative ways of knowing, they weave together new narratives and stories about nature, society, and the future, inviting us to embark on the journey of creating sustainability pathways.

Keywords: transformations, transformative change, sustainability, climate change,

1. Introduction

The posters criticizing “blah blah blah” and demanding “real action” could be seen all over Glasgow. These reflected more than Greta Thunberg’s impatience with the lack of political progress on climate change at the COP26 meeting. The “blah blah blah” meme simultaneously dismisses politics as usual, business as usual, and action as usual. In other words, it reflects a growing recognition that societies need to transform now, and at a rate and scale that it hard to imagine, let alone implement. The messages carried by youth, activists, practitioners, artists, critical intellectuals, and concerned citizens drew attention to the need

for substantial rather than superficial change. While many have identified *what* needs to be done, one question stands out: *How?*

Despite an obvious need to rapidly transform systems and cultures to promote sustainability and resilience, there is very little shared understanding of how such transformations come about. Driven by a sense of urgency, the focus tends to be on *what* needs to transform (energy systems, transport systems, financial systems, consumption patterns, power relations, values, consciousness, etc.) rather than *how*. Often, the “what” and the “how” are conflated, with sustainability blueprints and roadmaps seen as laying out clear pathways for transformative change. For example, Rockström et al. (2017) describe the herculean efforts that are called for in this decade to reduce emissions 40 to 50% by 2030, and point to the importance expanding carbon pricing to cover all greenhouse gas emissions and decarbonizing long-distance transport through renewable fuels, electrification, and other. There is an assumption that once we know what needs to be done, then mobilization, organization, decisions, and action will follow. Yet this assumption has again and again failed to produce results at scale, suggesting that closing the gap between knowledge and action calls for qualitatively different approaches to understanding and activating transformations to sustainability.

This *Sustainability Science* special feature on “The ‘How’ of Transformation: Integrative Approaches to Sustainability” highlights a variety of approaches based on a distinction between the *means* of transformation and the *manner* of transformation. The means can be understood as the many solutions that are presented as significant to transformative change. Literally, “means” describes something useful in achieving a desired outcome or end, or a method or directed, purposeful action that leads to a result. Manner, in contrast, represents the way in which something is done, i.e., a way of acting. It describes the core values, principles, qualities, and relationships underpinning and motivating transformative change. Both the means and the manner of transformation are critical, drawing attention to the importance of integrating -- rather than conflating -- the two. Integrative approaches, we argue, can contribute to better understandings of *how* transformations come about. Rather than presenting definitive instructions or recipes for how to transform, this special feature offers approaches and examples that seek to move from superficial to substantial change, i.e., beyond the “blah blah blah” of transformation. The articles of this special feature illustrate and discuss concrete approaches, methods, and tools to create transformative impact (means) while integrating and building upon the core values, principles and qualities that motivate and shape transformative change (manner). Such an integration is important to avoid the concept of transformation becoming an alibi for superficial responses in research, policy, and practice.

The papers included in this special feature offer diverse perspectives on integrating the means and manner of transformation. Many of the papers emerged from a 2019 Symposium on “The Alchemy of Adaptation,” which explored transformation as a deeper form of adaptation to complex global challenges, with the aim of drawing out insights on how transformation comes about. The papers all acknowledge the importance of structural and systems

change for achieving results. They also recognize the importance of subjective or “interior” dimensions of transformation, emphasizing how these influence both politics and practices. Integrative approaches can be considered a prerequisite for understanding how we can transform in a manner that is not only rapid, far-reaching and unprecedented (IPCC, 2018), but also equitable, ethical, and sustainable.

2. The importance of integrative approaches

Transformation as a concept and goal has become a new sustainability buzzword (Blythe et al., 2018). It is referred to in discourses linked to the United Nations Sustainable Development Goals (SDGs) (United Nations, 2015) as well as in science-policy forums, such as the Intergovernmental Panel on Climate Change (IPCC, 2018) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES, 2019). Businesses are also increasingly using the language of transitions and transformations in their strategies and communication (Waddock, 2020). The very idea of transformation is appealing to many, as it carries with it a promise of real change that contributes to greater equity, justice and sustainability, both locally and globally (Kates et al., 2012; O’Brien, 2012; Pelling et al., 2015).

While there is an urgent need to transform towards equitable and sustainable ways of living, rapid transformations can have profound social, economic, political, institutional, and cultural consequences. Indeed, transformative change can often be perceived as threatening, particularly when it is viewed as part of a political agenda or when it challenges vested interests and power structures. In some cases, calls for radical change, including degrowth, may be viewed as forms of continued colonialism, or economic and environmental imperialism (Dengler & Seebacher, 2019). Still, little attention has been paid to the relationship between the means and manner, the “what” and “how,” and the “doing” and “being” of transformation, including how to integrate them in ways that support equitable and enduring transformations to sustainability. Without looking at the beliefs and assumptions influencing how individuals and groups perceive of and relate to self, other, nature, politics, and the future, it is difficult to see, let alone acknowledge, other possibilities and potentials for structural change, social change, and systems change (O’Brien, 2021).

Attitudes and experiences of transformation are highly contextual, and the manner in which the means are developed, discussed, debated, and implemented is not trivial. The word “transformation” is already frequently used as an alibi for continuing with business as usual, often by making ubiquitous calls for “others” to change. Such calls can take the form of normative demands for individuals, groups, sectors, institutions, and governments to take environmental challenges seriously and “transform.” This “fix-it” and “fix-others” mentality reinforces a social narrative fixated on techno-managerial solutions and individual behavioral changes, while ignoring structural and systemic factors and the underlying causes of inequitable and unsustainable outcomes. As Blythe et al. (2018) argue, without addressing existing issues of power and politics,

transformation is at risk of getting co-opted by actors who favor or benefit from maintaining the status quo. Focusing on fixing the external and “other” while failing to reflect on one’s own patterns, interests, assumptions, and blind spots may perpetuate existing power structures and patterns of interactions, including within the sciences themselves (Lahsen and Turnhout 2021, Ives et al. 2020).

Over the past few years, a substantial body of conceptual, theoretical, and empirical research on transformations has been published within the field of sustainability science. As pointed out by many authors, much of this focuses on the *means* of transformation, namely the technical and practical frameworks and methods that describe the processes, actors, and actions that contribute to transformative change at different scales (Adloff & Neckel, 2019; Blackburn, 2018; Fazey et al., 2018; Heyen & Wolff, 2019; Pereira et al., 2020; Sachs et al., 2019). In addition, there is a growing body of literature on leverage points and social tipping points that emphasizes the types of interventions that could contribute to rapid carbon reductions and sustainability solutions (Abson et al., 2017; Bentley et al., 2014; Chan et al., 2018; Fischer & Riechers, 2019; Otto et al., 2020). Within this literature, culture, values, and the role of human agency are increasingly acknowledged as mechanisms or levers of change that can trigger these tipping points (Brooks et al., 2018; K. M. Chan et al., 2018; Horcea-Milcu et al., 2019; Otto et al., 2020). This literature points to a diversity of transformation pathways, and to the importance of integrating subjective and interior aspects of transformation into analyses and practices (Wamsler et al., 2021). Yet surprisingly little explicit attention has been paid to linking the *means* and the *manner* in which transformations are carried out. Below, we address the question of “how” by focusing on different ways of integrating the means and manner of transformation, and introducing the articles in this Special Feature.

3. Integrating the Means and Manner of Transformation

The *manner* can be distinguished from the *means* of transformation, yet both are important to a broader, deeper and more integrative approach to societal change. Such conceptual integration is critical if research on transformations is to inspire actions that matter. It draws attention to ways of being and interacting, and as such points out that transformation is as much personal as it is political. The manner explores, for example, the values and visions that guide strategies and actions for transformative change and how these are embodied in practice. This includes but is not limited to the interior or subjective dimension, which penetrates (and is often shaped by) politics and practices. Transformation is, however, deeply personal – values, worldviews and mindsets not only shape the goals and means identified as acceptable but can – and arguably must – themselves be reshaped through transformation processes. Yet which (and whose) values do the shaping, and which (and whose) are shaped, are clearly political questions. Without integrating responses in a manner that recognizes equity, transparency, and accountability in transformative processes, transformation risks the same critiques applied to adaptation (Eriksen et al., 2021). Experiences from the past and present carried out under the guise of

'development' or 'adaptation' show that many transformational processes did not leave people and societies stronger and more resilient (Reo & Parker, 2013). Sustainability transformations risk falling into the same traps if they are similarly framed as both apolitical and inevitable (or automatic, once the desired goals and the necessary means are mapped out) (Pelling et al., 2015).

Going beyond the technical, apolitical, and value-neutral framings of transformation and breaking with ideas of business as usual, the following papers focus on the importance of recognizing and integrating both the means and the manner of transformation. Rather than presenting a single strategy or one answer regarding the "how" of transformation, we extract some of the larger themes from the collection of papers to describe different ways that this integration influences transformation processes. The themes covered include the integration of meaning making, the integration of learning and listening, and the integration of diverse ways of being and becoming. Taken together, the articles emphasize that the means are not sufficient for generating transformations, and that the manner of change is critical to "how" transformations to sustainability come about.

3.1 Integrating meaning making

Research has shown that transformations at any scale are shaped by, and will shape, the distribution of wealth, opportunities, and privileges of different social groups (Blythe et al., 2018). Lack of consideration of local people's voices and their needs in such processes can emphasize and even reproduce pre-existing injustices, such as inappropriate representation and uneven power dynamics (Reckien et al., 2017). It requires deliberative processes that acknowledge and respect diverse rights, needs, livelihoods, knowledge, worldviews, and cultures through transparency, accountability, legitimacy, and responsiveness (Bennett et al., 2019). New, more creative and more equitable forms of collaboration have been called for, where common values, shared meanings, and agency can be created (Chambers et al., 2022).

Common values and shared meanings are an important theme in Milda Rosenberg's (2021) paper on **What matters? The role of values in transformations toward sustainability: a case study of coffee production in Burundi**. Drawing on environmental humanities research on new materialism, Rosenberg examines the role of values in change processes and considers them as dynamic relations of socio-ecological systems. The paper shows how values of togetherness, care, dignity, and faith can help to reconfigure the socio-ecological system of coffee production and in doing so, it reveals relational aspects of transformations. Rosenberg (2021) suggests that transformations are about shifts in values as material-discursive practices that occur through everyday intra-actions, rather than through shifting the values of others. This takes us beyond the common understanding of values as barriers to or levers of change processes and instead presents them as material-discursive practices that contribute to the becoming of socio-ecological systems. In short, the paper

suggests that an integration of “doing” and “being” can transform land use practices in a more equitable and sustainable manner.

Building on the idea of shared values, Gail Hochachka (2021) examines how to integrate and overcome the value-action gap and social inertia that make it challenging for many to actively engage with climate change. In **Finding shared meaning in the Anthropocene: engaging diverse perspectives on climate change**, she explores transformation through a psychosocial approach to individual and collective meaning-making processes. Her research in the highland coffee region of Guatemala examines how to overcome some of the meaning-making challenges specific to climate change, including how to come to shared understandings and agreements amidst plural views. Drawing on a constructive-developmental approach and using photo voice as a transformative action-research method, she shows how to make room for a multiplicity of perspectives and support a process of shared meaning-making. Her results suggest that seeing and understanding the plasticity of climate meanings as a spectrum of “whole-parts” transcends simplistic understandings of earlier meaning-systems as being “incorrect.” Processes that open up space for a plurality of perspectives not only invite shared meaning-making within a larger group, but also validate diverse responses to climate change.

Taking shared values and multiple ways of meaning-making into account, transformations to an equitable and sustainable world inevitably involve shifting dominant discourses. In **Discursive entrepreneurship: ethical meaning-making as a transformative practice for sustainable futures**, Chris Riedy (Riedy, 2021) acknowledges that discourses are reproduced and evolve through the telling and retelling of many stories, particularly stories that spread. In the article, Riedy integrates the means and manner of transformation through the practice of creating, performing, and transforming memes, stories, narratives, and discourses. Recognizing that we live in a discursive landscape that influences our identity, social relations, and behaviors, Riedy explores the nested relationship between discourses, narratives, stories, and memes and considers how they can be used to support transformations that value sustainability. Riedy emphasizes the relationship between meaning-making and agency, which he considers to be at the heart of discursive entrepreneurship. He also points to the ethical challenges of deconstructing meaning-making and calls for reflection on what is being offered as an alternative. He suggests that “strategies that support people to engage in their own meaning-making seem ethically preferable to those that promote pre-selected meanings” (Riedy, 2021, p. 12). This points to the need for “much greater efforts into collaborating with citizens, empowering them to tell their own stories and helping them to find their own meanings in a time of transformation” (Riedy, 2021, p. 12)

Maja Essebo’s (2021) article on **Storytelling COVID-19: fear, digitalization, and the transformational potential of storytelling** picks up on this theme and considers what we can learn about the proliferation of stories from COVID-19. Focusing on everyday stories that help to make sense of experiences and beliefs, she emphasizes that the transformative potential of stories is complex and messy. Though there is a growing desire to tell stories that transform the world,

or “tell things into being,” Essebo calls for greater attention to the elements of stories, including the element of fear. She recognizes that people tend to shy away from stories that challenge worldviews, and instead prefer the security of echo chambers, where “fear can be faced through shared perceptions of good and evil” (Essebo 2021, p. 4). If storytelling is an effective way of dealing with fear, digitalization represents a new medium accessible to storytellers and non-human actors alike in the form of algorithms. The manipulation of conversations on social media platforms, she argues, plays an important role in repetition, which is key to story naturalization. Using the case of both COVID-19 and climate change, Essebo shows that digital storytelling can limit the potential of co-creative storytelling. Reminding us that transformative practices must demonstrate and narrate the ability to effect change in the face of fear, she warns against the false binary of stories and truth: “Misinformation must be challenged, but doing so includes understanding it for its narrative purpose and use. Alternative facts need to be met with alternative stories” (Essebo, 2021, p, 10). Whereas storytelling may be viewed as a means to an end, *how* we engage with its power and complexity will shape its transformative potential.

In their article **On the discovery and enactment of positive socio-ecological tipping points: insights from energy systems interventions in Bangladesh and Indonesia**, David Tabara and colleagues (2021) consider how positive “Social-Ecological Tipping Points” (SETPs) can bring about transformations, including how multiple ontological, epistemological, and normative questions influence how researchers and change agents define, approach and assess their systems. Their starting point is that there are multiple understandings of systems, and they are always socially, politically, culturally, and historically constructed. Given a lack of shared perspective on systems change, what are the critical moments when the combination of events, actions, and interventions lead to structural changes? Since a SETP can occur at any scale or system, it may not be possible to identify causal drivers. Attitudes and worldviews about systems need to be considered, as well as normative aspects, such as the visions, values, and criteria that are deemed positive. In their Bangladeshi and Indonesian case studies, they identify the significance of reflective and relational methodologies for both research and action on sustainability transformations, pointing out that the “how” of transformation is also a continuous learning process.

3.2 Integrating learning and listening

The fact that sustainability transformations mean different things to different people supports the idea of making room for listening and exploring those meanings and their associated values. Learning how to engage with transformations plays an important role in addressing global sustainability challenges. There is a growing recognition that education needs to change in order to address climate change, yet the question remains “how?” Teaching about environmental change is often limited to explaining the causes and effects. There is less attention to how transformations that are both equitable and sustainable occur, and how students, educators, and citizens can contribute to large-scale change. Technical ways of conceptualizing climate change can be disempowering due to a limited consideration of individual and collective agency

in transforming systems and cultures (Leichenko & O'Brien, 2019). There is a need for experiential and life-long learning approaches that integrate more than the cognitive aspects of climate change, allowing the creation of personal meaning. Such approaches involve ethical, affective, and aesthetic knowledges, which influence how we interpret and assign value to certain aspects of our life (Bentz, 2020; Castree et al., 2014). In practice, this implies a very different approach to learning and engaging people with sustainability issues -- one that aims to meet learners where they are at in terms of interests, concerns, and meanings -- by listening and co-creating the learning process with them and addressing transformation through a topic or lens they find relevant.

In **Teaching the “how” of transformation**, Robin Leichenko, Irmelin Gram-Hanssen and Karen O'Brien (2021) address the question of how sustainability educators and teachers can meaningfully respond to the need for transformative solutions to environmental challenges. Drawing on the “Three Spheres” model of transformation they show how to facilitate an integrative learning process that enables an understanding and realization of the connection between individual and collective change. Through a pilot assessment based on case studies in USA and Norway, they describe how experiential learning processes can be used to integrate personal, political and practical dimensions of sustainability transformation, and suggest that this can enhance a sense of agency among learners, an ability to see that their actions can make a difference, as well as the capacity to articulate their role in change processes. Their results suggest that an integrative approach to learning that focuses on the “how” of transformation can address and overcome several of the limitations in common climate change education, namely “the tendency to limit analysis to disciplinary silos, the perceived dichotomy between individual and collective action, and the limited recognition of the role of emotion in motivating action” (Leichenko et al. 2021, p. 11). This can help students to approach climate change in a holistic manner that engages them personally and allows them to see themselves as active agents capable of influencing larger systems.

The question of how transformations come about is taken up by Cathy Day and Sarah Cramer (2021) in **Transforming to a regenerative U.S. agriculture: the role of policy, process, and education**. Recognizing that little attention has been paid to the underlying values and beliefs that perpetuate unsustainable farming systems, Day and Cramer focus on the affective and social aspects of agricultural transformations to regenerative practices. In reviewing and synthesizing the literature on education and policy-making in relation to U.S. agriculture, they emphasize the friction associated with transformative change, as well as opportunities for greater traction. They explain why the affective, cognitive, and social dimensions matter, and discuss the importance of supportive networks that encourage the exploration of regenerative solutions, and how polycentric governance can be used to build bridges between conventional and alternative agricultural networks. The importance of social learning and changes to formal education and funding are discussed, as is the importance of supporting the well-being of both farmers and farm workers. In calling for greater attention to the beliefs, values, worldviews, and paradigms of farmers, policymakers, and educators, Day and Cramer (2021) link changes in

the personal sphere with changes in policy and practice, and they highlight the importance of sharing and spreading new stories about the potentials and possibilities of regenerative agriculture.

In **Regenerating soil, regenerating soul: an integral approach to understanding agricultural transformation**, Hannah Gosnell (2021) draws attention to the importance of interactions among the material and non-material aspects of transformation. Drawing on research in NW Australia, she shows how experiential, behavioral, cultural, and systemic change can together create synergistic feedbacks that promote holistic transformations. Reconnecting farmers to nature and to the soil they are cultivating can activate biophilic emotions that lead to new behaviors, including collective actions and new societal norms that will, ultimately, be reflected in systemic change. As an example, learning about and connecting with soil contributes to farmers' feelings of kinship with nature (animals, plants, microbes), which can shift mindsets regarding farming without chemicals and thus create conditions for transformative change. However, Gosnell also found that abandoning old practices can lead to a loss of community, and that systems of power influence individual farmer decision-making and behavior. Using Integral Theory as a framework for analysis, Gosnell explores how culture, shared values, and communities of practice interact with system dynamics, and how embodied experiences in nature and in communion with nonhuman beings and kindred humans contribute to social-ecological dynamics at different scales. In short, both negative feelings of disconnection and positive biophilic emotions contributed to new identities of farmers as stewards of soil and a sense of right livelihoods: "regenerating soil goes hand in hand with the regeneration of their dignity; sense of purpose, and sense of connection to their land, animals, and community, i.e., regeneration of their soul" (Gosnell 2021, p. 14).

Learning how to support transformation in particular places and in the face of concrete problems offers a challenge for engaged researchers. Hemant Ojha and colleagues' (2022) paper on **Transforming environmental governance: Critical Action Intellectuals and their praxis in the field** offers a reflection on how "Critical Action Intellectuals" can make a difference through long-term and reflective engagement in particular fields of environmental governance. They illustrate this through three cases of natural resource governance in Nepal, Nicaragua and Guatemala, and Kenya, where the authors themselves have engaged as CAIs. In alliance with other actors and through engaging with the policy process in critical yet pragmatic ways, the authors argue that CAIs can support the reshaping of environmental governance fields towards improved justice and sustainability. Based on an understanding of real-world problems experienced by local communities, CAI praxis includes "epistemic disruption, development of alternatives to hegemonic power-knowledge systems, and collaborative engagement" (Ojha et al. p. ?). While the authors indicate that the transformative potential of CAI praxis is contingent on the particular fields in which they operate and is never guaranteed, the work serves to highlight a positive role that researchers can play through critical and reflective engagement with both marginalized groups and policymakers.

Learning and listening is also relevant on a policy level. Implementing the SDGs is a complex challenge for policy makers that may be addressed using alternative, more creative approaches. In **Can the sustainable development goals harness the means and the manner of transformation?** Siri Veland and colleagues (2021) draw on metaphors from music to explore the tensions between the universality of the SDGs and their heterogeneous and contextual implementation. With reference to the disconnects between SDG indicators and goals, they point out that “the more we try and plan for transformation from within our current vantage point, the more the future resembles the present” (Veland et al. 2021, p. 5). Arguing that the legacy of scientific reductionism informs the current target- and indicator-based approach to the SDGs, they liken this technocratic approach to the 12-tone composition in music – one that is devoid of emotion. Instead, they argue that the fugue offers a better way to weave together interdependent melodic lines, allowing rhythm, harmony and structure to emerge through interactions. Moreover, they contend that improvisation may be the best way forward, as transformation is a space of inherent unknowability and unfamiliarity that can benefit from a group flow and a “group mind.” In other words, the “how” of transformation is truly an art, and engaging in a creative manner can be critical to its success:

Learning to listen to one another, learning to riff off the ideas, learning when to speak, when to make space, learning to find the music through an emergent priority, and letting ourselves be transformed and defined by the process itself is the challenge—letting go of the ‘what’ to implement and exploring ‘how’ to co-create pathways to the goals through this moment of transformation. (Veland et al. 2021, p. 12)

3.3 Integrating diverse ways of being and becoming

It is a challenge to overcome ideas and mindsets rooted in Cartesian rationalism, which separates the body from the mind, and in a Newtonian positivism that emphasizes the distinction between subjects and objects and mechanistically reduces the cosmos to a machine characterized by order and determinism, where there is no room for consciousness and free will (O'Brien, 2021). These ideas remain at the core of westernized worldviews and they influence how sustainability issues have been approached and addressed – a rational, human-centered approach that can be described as “disenchanting”, as well as “sterile, stripped of emotions, feelings, angels and demons” (Dieleman, 2017, S. ?). In this disenchanted world, sustainability has been mainstreamed into business as usual in order to “green” the development path, while leaving the underlying structural factors that contribute to unsustainable development intact (Dieleman, 2017). An integrative approach seeks to transform these dualities by bringing together diverse forms of knowledge in open, collaborative, and creative ways, connecting the internal and external dimension of transformations and fusing science and art to weave together new narratives and stories about nature, society and knowledge. It requires embarking on a journey with a mindset of connectedness, wonder and enchantment.

In **Getting to the heart of transformation**, Coleen Vogel and Karen O'Brien (2021) take a deeper look into what transformation means, both literally and figuratively. They start with the prefix "trans," which refers to moving "across, over or beyond" the current state of affairs. A "trans"-formation can be considered as a process that involves more than knowledge and facts – it is a journey of becoming that cannot be reduced to any single knowledge system, method or approach. Going beyond established and entrenched boundaries and limits, they argue, calls for 1) transdisciplinary approaches that take diverse types of knowledge and perspectives seriously; 2) transgressive approaches that disrupt moral and or social boundaries that preserve power asymmetries; and 3) transcendent approaches that involve moving beyond the usual conceptual understanding of human experience (Vogel and O'Brien, 2021). These approaches and actions call for courage to experiment and move beyond reliance on familiar blueprints or roadmaps, particularly when pathways are not clear. As a generative process, transformations imply a willingness to go beyond current ideas and approaches to change. In other words, to collectively shift systems and cultures calls for moving beyond habitual ways of being and doing, and to approach transformations in an equitable, inclusive, and sustainable manner.

John Robinson (2021) takes these ideas further by exploring the concept of transmutation. In **Sustainability as transmutation: an alchemical interpretation of a transformation to sustainability**, Robinson looks specifically at how the Modernist view of reality came to dominate our understanding of both worlds and worldviews. Focusing on the esoteric tradition of alchemy, he traces its impacts through the Renaissance in Western Europe and looks at its role in the development of modern Western science, then considers what an alchemical understanding of the world may offer to contemporary transformations to sustainability. With reference to the image of the Four Horsemen of the Apocalypse, he describes how the medieval context created moments that were ripe for challenging conventional views of humanity and its role in the world, and of the world itself. Esoteric approaches such as alchemy gained attention, not just as a search to turn lead into gold, but as a form of spiritual transmutation. In terms of the "how" of transformation, Robinson (2021, page ?) argues that an alchemical perspective invites us to challenge our assumptions about the nature of reality, including "the idea that there is a single world, which it is the purpose of our science and knowledge systems to describe." The idea of transmutation as an "ontological metamorphosis" calls for us to transform both ourselves and our worlds, and he shows us that such shifts are indeed possible.

Reflecting on how such shifts might occur in the context of research practice with indigenous people, in **Decolonizing transformations through "right relations"**, Irmelin Gram-Hanssen, Nicole Schafenacker and Julia Bentz (2021) discuss ways to overcome the complex problems created by a modernist worldview, recognizing that the mindset that gave way for the exploitation of "distant Others" during colonization is the same mindset responsible for wreaking havoc on ecosystems and the global climate. To put forward a new, decolonizing mindset that actively contributes to transformations to

sustainability, they suggest grounding transformative (research) efforts in critical reflection and equitable, decolonial action through the enactment of four qualities, namely listening deeply, engaging in a continuous process of self reflexivity, creating space, and being in action. As non-Indigenous climate change and sustainability researchers with European and settler backgrounds who work in Indigenous contexts, they recognize the acute need for critical reflexivity on their own roles as engaged researchers. The active engagement of non-Indigenous peoples in decolonial efforts in a way that puts equitable relationships between Indigenous and non-Indigenous people at the center is seen as a prerequisite and inherent part of sustainable transformations. This involves continuously “decolonizing ourselves and our research practices [as] a journey without a final destination” (Gram-Hanssen et al., 2021, p.?). In other words, enacting new ways of knowing and being in a manner that reflects “right relations.”

As Julia Bentz and colleagues (2021) show in **Creative, embodied practices and the potentialities for transformation**, transformation involves embarking on a journey of discovery -- a journey that has no defined destination. The openness required for such an endeavor can be created through embodied art. Art can create spaces for people to engage with climate change on a personal and emotional level, linking the issue to their own lives and communities. Drawing on personal, embodied knowledges through art can help us address the gap between what we know and what we do about climate change. When the inseparability between the body and mind is recognized, art can help to connect with the innate knowledge that our senses reveal about an ever-changing world. As it is through the senses and the body that we can see and experience ourselves and the world, we can also potentially learn to know differently through the body and alter our way of being in the world. This may have profound implications on sustainability transformations. Bentz and colleagues suggest that embodied art forms can create spaces for meaning-making where relationships to self, others and nature can be questioned and redefined, arguing that “transformation may be made up of several subtle, yet profound, individual changes” (Bentz et al., 2021, p. 10).

4. Conclusion

The calls for transformations are clear. The UN has declared the 2020s as the “Decade of Action,” and multiple pathways and alternative visions for the future have been defined. Thousands of solutions have been put forth as essential to transformation. However, although the means of transformation have been described and detailed over and over, many seem to assume that this alone is sufficient to inform and activate transformative change. It is becoming clear that the “transform-everything-and-everyone else” approach shows few signs of succeeding at scale, and it is not surprising that it comes across to many as nothing more than hot air, or “blah blah blah.”

Although research on transformation is growing, the societal discourse on transformation runs the risk of increasing fragmentation and polarization, and it

can generate unforeseen side effects and tradeoffs. Without attention to the manner of transformation, an emphasis on the means alone may come across as yet another chapter in a long history of processes carried out under the guise of “development.” Whether referred to as adaptation or transformation, such processes do not always leave people and societies stronger and more capable of creating an equitable and sustainable future (Reo & Parker, 2013). In fact, many techno-fixes, including solar geo-engineering, introduce political, social, technical, and ethical risks that are incompatible with global sustainability goals (Biermann et al. 2022).

The distinction between the means and manner of transformation described in this introduction to the Special Feature can be likened to the difference between pathways and journeys. A pathway is something that can be objectively described or even mapped out (e.g., a roadmap) and it can include various destinations and multiple options for reaching them, which can be objectively identified, discussed, and eventually agreed upon. While pathways to sustainability is a powerful metaphor (see Chan et al., 2019; Frantzeskaki et al., 2019; Luederitz et al., 2017), discussions of pathways seldom integrate the values and worldviews that influence the manner in which people choose to travel along a particular pathway. A journey, on the other hand, can be open-ended, co-creative, potentially slow and time-consuming, and the final destination or result may differ from initial expectations. In contrast to a road or pathway, which is quite clear, a journey is less well-defined. Embarking on a journey of transformation includes reflecting on the various values and visions that are guiding the efforts, how we relate to fellow travelers and the surrounding environment, what and who is expected to transform, and not the least, how.

As the papers in this Special Feature suggest, there are diverse ways to embark on a journey. Many of the papers highlight the role of art, co-creation and learning, with the recognition that “artful being and doing” are not limited to artists, nor is learning limited to formal education. Learning through the body is a way to connect to emotions and understand theoretical concepts. It is like an open experiment, or a journey that involves a reflective practice that can generate new insights and understandings (Dieleman, 2017; Schön, 1992). Experiences that connect us with equitable and sustainable transformations in a deeper and more embodied way are crucial to closing the gap between knowledge and action. Connecting meaning making, emotions, and values is an important prerequisite for activating the means of transformation. This highlights the importance of empowering citizens, practitioners, and scientists to engage in their own meaning-making and to tell their own stories about transformation (Riedy, 2021).

The pathways and the journeys must be integrated. Transformations involve both, and both the means and manner are critical to an equitable and sustainable future. Yet there is no single recipe or strategy for integrating both the means and the manner of transformation. If transformation is a journey, then pathways will be shaped not just by whether but how we show up. As described in the papers in this issue, the possibilities for integrating meaning making, learning

and listening, and diverse ways of being and becoming can be considered potent entry points for engaging with the “how” of transformation. As poet Antonia Machado wrote, “we make the path by walking.” Rather than just talking about sustainability, paying closer attention to the manner in which we walk the path may be the first step towards moving beyond the “blah blah blah” of transformation.

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