

The Meaning of Transformations

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Keywords: systems change, transformations, systems thinking, practitioner, transdisciplinary

Abstract

“Transformations” are increasingly being sought as humanity approaches planetary boundaries that define the environmental limits within which societies can safely operate. Within social-ecological systems (SES) research, transformations are understood to affect different system elements simultaneously, occur at different rates and in distinct phases, and impact the system at multiple levels and temporal, spatial, and organizational scales. As this complexity implies, transformations are not predictable or controllable and can, at best be navigated. We draw on interviews with sixty practitioners within the Transformations Community to explore how their conception of ‘transformations’ highlights differences between interdisciplinary and transdisciplinary action research. Practitioners described transformation as a complex multi-level and multi-phase process and an engaged and embodied practice. They suggest that the ability to practice transformation is predicated on experiencing personal transformation, which involves re-examining assumptions and core beliefs through disruptive learning experiences.

Transformations rely on forging alliances with marginal actors and communities to redress historical injustice, engaging powerful social and political actors and institutions who often resist the actions needed for sustainable and equitable futures. Accordingly, these practitioners emphasize that transformation was slow and unpredictable, requiring patient work by many people. Acknowledging that their work often has little immediate impact on transformation, transformation practitioners emphasize the importance of developing transformative capacity, which may lie latent until the time is right to catalyze systems change.

Introduction

What does the word “transformation” mean to the members of the Transformations Community, an international association of “action researchers and reflective practitioners” who seek to bring about a just transition toward a more sustainable future? Drawing from sixty interviews with members of the Transformations Community, we explore the diverse ways transformation practitioners understand the idea at the core of their practice. We also identify how their

definition of transformation reinforces key differences between interdisciplinary transformation research and their transdisciplinary practice.

Transformations practitioners were generally in accord with the research literature that transformations are a complex multi-level and multi-stage process that can be observed or critiqued, as laid out in the literature review below. In addition, they described the transformation as an engaged and embodied practice. Experiencing a personal transformation is a precondition for transformations practice, which involves re-examining one's assumptions and core beliefs as an outcome of disruptive learning experiences. Transformations practice itself was described less as a technical process or product of strategic planning and more in terms of forging alliances with marginal actors and communities to redress historical injustice, engaging powerful social and political actors and institutions who are often resistant to change. Accordingly, they emphasized that transformation is slow, unpredictable, and intermittent, requiring patience and the combined work of many people over the years. Acknowledging that much of their work may not have an appreciable immediate impact on transformation, they often cite the need to develop latent transformative capacity, which can enable transformation when the time is right.

Literature Review

The general meaning of 'transformation' is a complete change in form, shape, or appearance (Oxford English Dictionary, 2022). The term describes something timeless and essential. It came directly from the Latin and was often used by Shakespeare. Today, it is commonly used by the public and specialists, such as its use in biology to describe metamorphosis and in physics to describe how one substance changes into another, such as a solid into a liquid or liquid into a gas. In the fields and disciplines associated with sustainability – and especially the social-ecological systems (SES) research community - the term has come into widespread use as a response to unprecedented and deeply-rooted obdurate problems, such as climate change and its attendant impacts on ecosystems, resources, health, and security and livelihoods.

These kinds of problems are associated with the Anthropocene, the term used to describe the emergence of humanity as the dominant force shaping the possibilities for life on earth. As we head toward an unpredictable and dangerous future, many SES researchers argue that more than an adaptive response is needed – instead, social and ecological transformations are required (Folke et al. 2010; Olsson et al. 2014). Adaptive responses alter features or components of a social-ecological system to enable it to respond to a challenge and continue operating more or less as it has before. In contrast, transformations are about enabling a system to emerge that has wholly new behaviors. While elements of the previous system may be retained, their relationship to other system elements often shifts as new system identities emerge (Walker et al. 2004, Folke et al. 2010). Desirable transformations are usually framed in terms of redressing intractable problems and achieving desires that diverse communities have for more sustainable and equitable futures (Leach et al. 2010).

In order to achieve these deep behavioral shifts, transformations influence multiple elements of a system, including the socio-cultural, political, ecological, economic, and technological.

Transformation can take place at various levels and temporal, spatial, and organizational scales, such as the individual, group, community, organization, and institution. The possibilities for transformation can increase through action at different “leverage points” in a system, including rules, norms, institutions, interests, and power relationships, and most effectively, the way we make meaning out of events, relationships, and ourselves through our paradigms, goals, and mental models (Meadows 1999). Furthermore, transformation may take place in phases, for instance, by progressing from community-scale innovation to scale-up to disrupt and replace regimes whose persistence stymies sustainability transitions (Grin et al. 2010). This complexity underscores that social-ecological transformations are not predictable or controllable; they are political and can, at best, be navigated (Olsson et al. 2006; Manuel-Navarrete and Pelling 2015). The process can be slow and deliberate, and it can also be fast and dramatic, as tipping points and thresholds are crossed that set off rapid nonlinear change. The opportunities to direct change can be fleeting, for instance, when crises provide “windows of opportunity” to promote the broader adoption of a promising innovation (Tyre and Orlikowski 1994).

Methods

This project began as a joint effort between the University of Colorado Boulder Masters of the Environment Program (MENV) and the Arizona State University (ASU) Graduate Programs on Sustainability. We embarked on this project to:

- Provide students interested in systems change with an opportunity to engage with members of the Transformations Community.
- Check-in with the Transformations Community membership on how the community can better serve them.
- Use the Transformations Community as a case study to develop and share our understanding of the emerging field of transformations-in-practice.

In August 2021, the Transformations Community solicited interview subjects in our quarterly newsletter, which is sent to approximately 1500 transformations practitioners, most of whom had attended one or more of the five conferences convened by the Transformations Community biennially since 2013. We screened the 80 responses to this request to obtain a broad representation and diversity of perspectives and selected 60 subjects for interviews, four of which were not completed. The 56 members of the Transformations Community that we interviewed:

- Were about equally divided between males (26) and females (30) (note that we did not ask them for this information, and our estimate is based on their online biographies).
- 22 identified an academic institution as their organizational affiliation, 20 were from non-profits/government or the private sector, and 14 were from both.
- 29 were from the U.S. and Canada, nine from Latin America and the Caribbean, eight from Europe, six from Australia/Oceania, three from Asia, and one from Africa.

This sample is more heavily weighted toward the U.S. and Canada than the Transformations Community as a whole, perhaps because they were more likely to volunteer to be a part of a project conducted by two U.S. universities and U.S.-based graduate students. Most of those associated with academic institutions gave their field/discipline affiliation as one of the fields where social and ecological systems are jointly studied. These included Anthropology, Applied Ecology, Environmental science, and Geography. Table 1 lists the terms they used to describe their applied research domain and professional practice.

Table 1: Domains of applied research and professional practice

Adaptive management	Organizational change
Biodiversity conservation	Organizational learning and change process
Climate adaptation	Permaculture design
Climate change adaptation and resilience	Policy and governance
Community-based policy development	Policy research and analysis
Corporate responsibility	Polycentric governance
Creative arts	Public Participation
Ecosystem management	Reducing social inequality
Ecosystem services	Regenerative economics
Environmental governance	Social entrepreneurship and social innovation
Food sovereignty	Social-ecological resilience
Inter-organizational collaboration	Sustainability
Management and governance transitions	Sustainable Food systems
Monitoring and evaluation	Urban agriculture
Natural resource management	Urban/smallholder agricultural systems
Network management and governance	Visioning and futuring
Organizational behavior	

The two lead authors organized interviewing teams of three graduate students, two from MENV and one from ASU. Student groups were able to select their interview subjects from the pool of sixty practitioners based on their alignment with their interests on a first-come, first-served basis. On each campus, faculty trained the students in semi-structured interviewing techniques, including opening the interview, establishing rapport, and probing for detail and examples.

Students scheduled an initial meeting to meet the other members of their interviewing team and then coordinated with the practitioners to schedule one-hour interviews in October 2021. Before the interview, students emailed their interview subjects an informational memo and consent form that stated that the interview data would not be publicly shared and that we planned to publish and distribute the results of the interviews without personal attribution. Students informed respondents that they could choose not to answer any questions and could request at any time that they leave the study and have their data deleted.

One student conducted the 90-minute interview, one managed the Zoom platform, and the final member of the team took notes and identified key moments for later analysis. Questions from a semi-structured interview protocol examined these themes:

- What do they understand transformations practice to be, and how does it show up in their lives and work?
- How did they develop their capacity to engage in transformation practice, both personally and professionally?
- What are their challenges to achieving transformation, and how do they address them?
- How do the institutions they are currently engaged in support or hinder their transformations work?
- How could the Transformation Community help them become more professionally and personally fulfilled?

Students created an automated transcript which they corrected and uploaded onto a shared Google drive folder. By the end of November 2021, student groups prepared a memo containing their insights and reflections on their own career development, which they discussed in class. The contents of these memos were not analyzed further or incorporated into this analysis.

During Spring 2022, the authors coded and analyzed the interview transcripts using Delve content analysis software. Grounded Theory (Corbin and Strauss, 2015) guided analysis of individual cases, emphasizing identifying emergent themes and insights (Law, 2004). We edited the transcripts to enhance their clarity and enable them to stand alone in this format. We limited these edits to changing tense or pronoun and removing elements characteristic of verbal speech (e.g., phrases like “um” and “well”).

This article is one of four articles created from this analysis that appear in this special issue. The other three examine transformations practice as a transdisciplinary and interdisciplinary field (Goldstein et al. 2022), how to become a transformations practitioner (Navarrete et al. 2022), and the challenges that transformations practitioners face (Balakrishna et al. 2022).

Results

Introduction: a multi-dimensional definition of transformation

Practitioners defined transformations as engaged and embodied work grounded in their ability to undergo personal change, including shifts in worldview and growing awareness of their own role in maintaining inequitable and unsustainable systems. With the direction and sense of agency that this work provided, they identified ways to participate in transformations processes across multiple scales that contributed toward a morally grounded outcome.

Systems transformation as process and outcome

When the practitioners described transformative outcomes, they often described the degree of change as “fundamental”:

- “Transformation is wholesale change that represents the behavior of a system and the interaction among different elements within the system. It is a change in the system to such a degree that the system looks fundamentally different from what it was before.”
- “Transformation is a fundamental shift in the way systems work, involving the creation of new feedbacks and new driving forces within the system.”
- “Transformation is qualitative, a fundamental change in a system that may involve a change in resource flows, authority, structure, and overall purpose.”

Some offered a holistic view, identifying changes in individual components of the system as well as the whole system:

- “Transformation involves looking at things from a systemic level rather than just an individual component level. While individual component transformation is important, you need to have a system where those changes can thrive in order to truly transform.”

They also described transformation as an incremental process:

- “While the magnitude of change is large, transformation can occur through the summation of smaller initiatives over time. Transformation is not abrupt but is slowly being built around us.”
- “Transformation is not an overnight process. It takes time.”
- “Transformation is the summation of many small changes over time.”

Transformations can be thought of as a way to understand change and a way to appreciate the difficulty of bringing change about:

- “Transformation is both a theoretical approach to understanding large scale system change and a way to understand the nuances behind the challenges preventing change.”
- “Transformation requires a systems view of the types of change that needs to happen in the world.”

Multi-scalar transformation

Another aspect of transformations work is to establish synergetic linkages across scales where change occurs:

- “Transformation involves looking at all of the different levels: from the individual and small communities to institutions and then to the broader system and the policies embedded within them.”

- “Transformation is both multi-level and multi-scale.”

The implications of this sequencing could be daunting:

- “Transformation occurs when you fundamentally rethink and recreate a system at every level.”

Transformation as a way of being in the world

Practitioners emphasized that transformation was not just another scientific field:

- “Transformation requires a different approach than any other field.”

Transformation requires learning how to engage with the world differently:

- “Transformation is a fundamental shift in the way you think about things: you've got to be in a learning mode, have the input that changes you, and be open to being changed.”
- “Transformation is a shift to a whole new loop of learning.”

Transformation work could be particularly challenging because it requires shifts in one’s worldview:

- “Transformation is a deep, profound, and difficult challenge. Until we shift our worldview, we can’t make the changes needed to achieve transformation. This work is so challenging because it’s very difficult to perceive anything other than the paradigm we are familiar with.”

Undergoing this kind of personal transformation was essential to being an effective transformations practitioner:

- “It’s very hard to be in the practice of transformations unless you have done personal transformation on some level first. Doing so provides an understanding that small, incremental change can blossom into something that is totally transformative over time.”
- “For transformation to occur, we must be willing to transform ourselves as part of that process. Individual transformation is the seed where it all begins, as it allows people to become more open, more receptive, and more aware.”

Indeed, and discussed in more detail by Manuel-Navarrete et al. (2022, this issue), personal change was a necessary precondition to larger-scale systems change:

- “Large-scale transformation is inextricably linked to small-scale, personal transformation.”
- “When you undergo personal transformation, you not only change your space, but you change other people and your life as well. From this, you can ultimately change society.”

Transformations as an action verb

Transformations were sometimes described not as an end-state or an ongoing process of change. Instead, transformation is an active verb, a form of direct action with a clear ethical core that supports sustainability with a social equity lens:

- “Transformation means challenging institutions and moving them out of the equilibrium that we have now. That means looking for the things that maintain the inertia of these institutions, such as the feedbacks that are maintaining systems of power. Then how do you undo those feedbacks and create new ones, to create a transition towards something that is more desirable.”
- “Obviously it's important to ask, “desirable for who”? So, transformation is a concerted effort to challenge current institutions and create institutions that are more equitable.”

Critical to this definition was the idea that critique alone – being content with just pointing out the structural limitations of the system – was not transformative unless it served to enhance capacity for real-world change. This capacity could develop without any outward evidence of change at all, only to blossom forth when it is needed:

- “Transformation is about fostering capacity within the current system and creating conditions that allow us to address grand challenges.”

Discussion

Consistent with social-ecological studies (SES), transformations practitioners defined transformation as a complex multi-level and multi-phase process that could be understood through theory and observation. In addition, they described the transformation as an engaged and embodied practice, thus applying their understanding of change processes to how they could drive change. Their understanding of transformation processes was inseparable from their experience as practitioners, emphasizing the following three conclusions:

1. Personal transformation is a precondition for transformations practice, which involves re-examining one's assumptions and core beliefs as an outcome of disruptive learning experiences.

Transformations practitioners described their work as a fluid process, a learning loop in which understanding is continuously reshaped by what is learned through action (see Goldstein et al. 2022, this issue). This kind of learning cycle can be personally disorienting and collectively hard to manage since it is unlike the managerial conventions of professional practice (Wilson 2020). When facilitated in a safe and trusting setting, individual transformative learning is a way to become familiar and comfortable with transformation before attempting to practice it. This can be done by experiencing “disorienting dilemmas” that do not fit into current beliefs about the world (Mezirow 2009), followed by critical reflection on the assumptions and beliefs within the current paradigm, and reintegration around a more inclusive and responsive paradigm to inform

future action. This is transformation in three dimensions: psychological (changes in the understanding of the self), convictional (revision of belief systems), and behavioral (changes in action), which is where the critical link is made to effecting transformational change. Counterintuitively, O'Brien and Sygna (2013) identify this domain of personal transformation as a more powerful sphere of action than the practical or the political because the personal is where values, beliefs, and worldviews are shaped and where changes result in seeing systems and structures in entirely new ways.

2. Transformations practice requires forging alliances with marginal actors and communities to redress historical injustice and engaging powerful social and political actors and institutions often resistant to change.

Seeing transformations through a lens of political change and social mobilization has direct implications for transformations practitioners' actions. Rather than approaching transformations work as a techno-managerial process, practitioners often focus on developing interactive spaces that are explorative, creative, and practical, where they can support dialogue, reflection, and reflexive learning and experiment with new social relations. This requires an ability to maintain the tension between protecting these spaces from those who oppose change and finding effective ways to engage powerful actors to set transformations in motion (these implications for practice are explored in greater detail in Goldstein et al. 2022, this issue). While the transformations practitioners we interviewed embrace progressive values, many other transformative change practitioners embrace other values. For instance, consider the Federalist Society, which achieved a conservative revolution in U.S. constitutional interpretation through patient organizing efforts over the last forty years (Hollis-Brusky 2015). However, a critical distinction between transformation practitioners and many other groups of change agents beyond political ideology is the attentiveness of transformations practitioners to the risk of imposing their paradigms and beliefs on others. They focus on community consultation and knowledge co-production and seek to maintain a partnership with communities at every stage of the process, from defining the bounds of the system to identifying desired alternatives, gathering and interpreting knowledge from multiple sources, and initiating action.

3. Transformation is usually slow and intermittent. Transformative capacity may be latent for a long time before it is drawn upon, and the practitioner needs patience and reliance on others to see their work through to fruition when the time is right.

Because of their marginality to powerful people and institutions, transformations practitioners emphasize the need to sustain transformative capacity over an indeterminate time before the opportunity for change occurs. This requires remaining sensitive for when the moment for action has arrived and mobilizing quickly and effectively when it does. Changes at smaller scales – at the community or “niche” scale (Grin et al. 2010) – often proceed larger-scale transformations, and these smaller-scale transformations can be gratifyingly quick or even seem instantaneous, such as when an individual's assumptions give way to new beliefs. At higher scales, things are more challenging – efforts to transform social systems often create pushback and resistance from people with established practices, assumptions, and vested interests. Even when change occurs, it

may be so incremental that it may not be apparent until it accumulates to such a degree that a broader transformation comes into focus. This emphasis on building transformative capacity whose application might be realized at some later time is reflected in their focus on promoting solidarity and well-being among transformations practitioners (for a broader discussion of the challenges that practitioners face, see Balakrishna et al. 2022, this issue).

Conclusion

The way that transformations practitioners define transformation lies at the core of their approach to influencing the future by growing and directing collective capacity for change. Transformations practice is transdisciplinary and collaborative, incorporating different knowledge practices to drive an ongoing cycle between knowledge and action (for more on transdisciplinarity, see Goldstein et al. 2022, this issue). For practitioners, transformations are both a way of understanding the complexity of systems change and a pathway for identifying the boundaries and dynamics of the system to be transformed. This understanding is not the goal but a means to redefine system goals and paradigms and foster innovations that have the potential to contribute to new systems by making the old systems obsolete.

Acknowledgments

Sincere thanks to the Fall 2021 cohorts of graduate students enrolled at the University of Colorado Boulder Masters of the Environment Program and the Arizona State University Graduate Programs on Sustainability, and to the members of the Transformations Community for generously participating in this study. We would also like to thank our research assistant Chukwuma Paul, and the Reviewers for their time, effort, and careful and insightful reviews.

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