Chapter 2
Setting the Scene: How to Connect with a World as an Interconnected Whole

Petra Kuenkel

Abstract This chapter offers a conceptual deep dive into the complex field of mindset shifts as prerequisite for regenerative civilizations and a driver of transformations. The chapter explores why a global shift in mindsets is a necessary condition for accelerating proactive and collective behaviour change, and how this could happen. It suggests that mindsets are both place-based and global. They emerge from culture and traditions and are at the same time heavily influenced by global exchange and communication. The stories about how the world works, how reality emerges and how people can co-create futures give rise to narratives of possibilities—the key leverage points for *transformation literacy*. The chapter identifies three noticeable trends which have implications for transformation literacy. The *first* trend is a deeper understanding of *co-evolution* which refers to the world's complex relationality in dynamic co-evolutionary patterns. The *second* trend is the emerging theme of a relational *quality of life* that refers to the interaction of social, political and natural systems. The *third* trend is the emerging realization of the need for *stewardship* referring to a caring role in future-making. The chapter concludes with an overview of the different authors' chapters and how they relate to the emerging trends.

Keywords Co-evolution · Quality of life · Stewardship · Transformation literacy · Interconnectedness · Regenerative civilizations · Life-support systems · Collective stewardship · Transformative change · Resilience

2.1 Introduction

The effects of man-made climate change have been known since decades, and not only since the media presence of the Swedish schoolgirl Greta Thunberg and the Fridays for Future movement that she set in motion. But the worldwide groups of young climate activists brought climate change to the stage in many countries and, in January 2020, to the renowned World Economic Forum: it made many wealthy

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individuals and business people ponder the impact of unsustainable action in the world. While on a world-scale, a turnaround to future-oriented collective behaviour is almost unnoticeable, many politicians have already taken decisive steps forward. In the coming decades, this will have a massive impact on which forms of economic activities are considered acceptable. Towards the end of 2019, the European Commission passed the "Green New Deal", which aims to reduce 55% Carbon emission by 2030 and strives for climate neutrality in Europe by 2050. It is intended to regenerate biodiversity, make agricultural and food production sustainable, and proactively involve economic players in the implementation of a future circular economy. The introduction of a new taxonomy[1] for the assessment of finance products and financial performance means that, at least for Europe, it is much more transparent, what ecologically sustainable management means, how it can be measured and how companies and financial institutions should report. In the midst of the effects of the corona pandemic, which has led to massive challenges for citizens and business in many societies, the voices of those who point out that economic stimulus packages must focus on the criteria of a sustainable future are getting louder. In September 2020, 65 countries lined up behind a "leaders' pledge for nature" as part of the United Nations Summit on Biodiversity. Thus, beyond all political dissent and fierce discussions, a clear basic trend has emerged that places our responsibility for life on our planet in the foreground of all social and economic activity. But what does that mean for us, for our daily actions, for our contribution to such a future worth living in? Is the gradual switch to sustainable products, reduction in carbon dioxide and green mobility enough? Don't we have to ask ourselves how our view of the world will need to change if we want to co-create a different future?

This section explores *why*—beyond suggestions for technical solutions—a global shift in mindsets is a necessary condition for accelerating proactive and collective behaviour change, and how this could happen. Mindsets are both place-based and global. They emerge from culture and traditions and are at the same time heavily influenced by global exchange and communication. The story about how the world works, how reality emerges and how people can or cannot co-create future, give rise to narratives of possibilities, which are one of the key leverage points for *transformation literacy*. There is already a scientific history of the call for mindset shifts towards seeing the world as an interconnected living system, which has been emerging as a backdrop to the increasing destruction of the living world. From various schools of thought, and often disconnected, there exists a long-standing academic and philosophical discourse on systemic and nonlinear thinking as a prerequisite for understanding the world in a more appropriate way. Understanding the premises and synergies of these thought traditions can greatly inform *transformation literacy*.

[1] In 2020 the European Union has agreed on a taxonomy to redirect investments towards sustainable projects. The classification system has defined which economic activities are considered sustainable. Source: https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en; accessed 7th May 2021.

2.2 The Re-Emergence of an Interconnected Worldview

In his book about the Anthropocene, Erle C-Ellis (2018, p. 158) summarized the challenge: "At this time in which we change the world as we know it, we must also change the way we know the world." The term Anthropocene highlights that the exponential speed and magnitude of sustainability challenges such as biodiversity loss or climate change is caused humankind's behavioural and mental influence on Earth (Crutzen, 2002). Yet, there is increasing scientific warning that time is running out to steward our planet Earth away from a scenario of a Hothouse Earth into a more moderate trajectory (Steffen et al., 2018) and to prevent negative spiralling dynamics of tipping points around bio-physical planetary boundaries. But what is the fundamental shift in thinking that helps us co-construct future realities in a way that they align human development with nature's inherent tendency to further life? What is the individual shift of mindset that needs to take place and how will this translate into massive collective behaviour change?

A step in the right direction is certainly to complement the dominance of a mechanistic, dualistic and linear perception of our world with more systemic approaches and nonlinear thinking. Increasingly, actors in sustainability transformations use the term "systemic" to advocate for a holistic set of measures and activities (Otto et al., 2020; Waddell et al., 2015). There might be many different understandings of what this term means, but fundamentally it refers to the acknowledgement that a symptom, a problem, or a challenge and subsequent measures are related to each other and affect the whole system—however large this system is defined. Climate change is probably the best understood symptom of many seemingly isolated, but actually interrelated actions having a destabilizing effect on the Earth system. Hence, the notion of interrelatedness or interconnectedness of problems and actions has found its way into the discourse on sustainability transformations. But is this enough?

This section argues that we need to look beyond the proliferations of superficial terms. Servicing wellbeing on a healthy planet at scale, not in exceptions, requires the reconnection with the world as an interconnected whole at all levels—from the individual to the collective, from thought processes to the purpose of institutional structures. For this to happen, it is important to briefly trace the history of thought that underpins looking at the world as an interconnected whole.

A system's view of life has many connotations and origins and comes from different disciplines and thought traditions. Beyond the many indigenous and spiritual traditions around the world that never lost a holistic view of the world, such a view in modern science can be traced back to the early developments of what has been declared "systems theory", which began early last century (Capra & Luisi, 2014). Without necessarily exchanging their insights, new discoveries in psychology, biology, ecology and quantum physics contradicted the increasingly machine-like metaphors in science that had emerged from the industrial age. The general underlying consensus was that living organisms needed to be seen as dynamic interactive networks. The focus on matter and structure, and on the dichotomies between subject and object, was complemented by a deeper understanding of relationality,

intertwined processes, and dynamic patterns, (ibid.; Jackson and Van den Nouweland, 2005; Jackson et al., 2003; Weinberg, 2001; Checkland & Holwell, 1998). The scientific insight moved from dissecting and categorizing parts to the interconnected whole. The Macy conferences, which took place in the USA between 1946 and 1953, brought protagonists from social and natural science together to advance interdisciplinary systems thinking.[2] This, among others, advanced Heinz von Foerster's cybernetic second order proposition, and his approach to the complex circular causality of self-referential systems (Ashby, 1962). These insights and approaches have informed a whole generation of Earth System modellers. The most famous example is the Club of Rome report "Limits to Growth", published in 1972, that predicted exponential economic and population growth on a finite planet would endanger the carrying capacity of the Earth (Meadows et al., 1972). In systems thinking, different streams of scientific insight in biology, social sciences, mathematics, consciousness studies, psychology and physics have both merged and departed. But the general perspective on living systems as self-organizing, interconnected and interdependent networks has been taken up by complexity theory, chaos theory and living systems theory (Hammer et al., 2012; Kauffman, 1996; Luhmann, 1990; Mennin & Farach, 2007; Prigogine, 1996; Stewart, 2002). Today there is an advanced understanding of systems and nonlinear dynamics in both living and non-living systems (Hilborn, 2000). This has also informed climate science and, in particular, the research on dangerous and spiralling run-way feedback-loops that expect tipping points to cause trajectories towards the mentioned "Hothouse Earth" (Steffen et al., 2018). The perspectives that the world is a vast interconnected system in constant interaction are beginning to move into mainstream natural and social science as well as strategy and policy development. This is evidenced in the literature on global transformation, earth governance, multi-stakeholder collaboration, natural resource management and to some extent leadership (Kuenkel, 2019; Kuenkel & Waddock, 2019). All these discourses refer to a worldview of dynamic systems, although they use different variations of systems theory. There are three noticeable additional trends in both academic literature as well as sustainability-related blogposts, strategy or policy papers. All three are particularly important for the topic of transformation literacy. The *first* trend refers to the increasingly emerging understanding of the world's complex relationality as ordered in dynamic co-evolutionary patterns. The more widespread perception of reality and future-making in *co-evolution* is a departure from a mindset of linear cause and effect thinking towards multi-faceted relationality. The *second* trend refers to the role of enlivenment or aliveness, emerging as a result of a relational *quality of life* that encompasses much more then captured in economic progress and refers to social, political and natural system, as well as their interaction. This is a departure from the dominance of a mechanistic, binary or dichotomic view of reality and moves thinking towards a better understanding of how complementary and plural approaches generate aliveness in smaller and larger system. The *third* trend refers to a scientifically grounded revival of the humble responsibility of humankind to

[2] Most prominent participants among many others were Gergory Bateson, Heinz von Foerster, Margret Mead, Kurt Lewin, Norbert Wiener.

Table 2.1 Trends in mindset shifts

Co-evolution	There is growing awareness that the effects of human actions in the era of the Anthropocene are interconnected. A new worldview emerges, which reconnects with ancient or indigenous worldviews in so far as the relationality and interdependence of living and non-living matter as well as human and nature is acknowledged
Quality of life	There is increasing reference made to the quality of life as wellbeing of people on a healthy planet. This includes a growing search for future systems that build regenerative civilizations and safeguard life support systems in their political, social and economic aspects
Stewardship	There is growing commitment to take responsibility for a livable future and for a collective approach to bringing about transformations. This also refers to collaboration at multiple levels with multiple stakeholders

become a partner of the evolutionary process rather than its enemy. This is captured in the increasingly used term *stewardship* and refers the caring role in future-making rather than continuing the trajectory of destruction. This is a departure from the narrative of humans standing above nature to an embedded humility in which human intelligence is utilized for human wellbeing in conjunction with our planet's regenerative capacity. These important trends in mindsets are summarized in Table 2.1 and will be explored in more detail.

2.2.1 Co-evolution

The attempt to understand wellbeing of people and nature as based on relational and dynamic co-evolutionary patterns of mental and physical structures that generate vitality and resilience can be found in indigenous knowledge systems, mythology and modern science. The term "pattern" in this context describes both visible and invisible structures. They can range from ordered natural or artificial layouts, as in geophysical systems, landscapes, urban structures, to behaviour of animals, human beings and other living organisms, even to structures of thought or software design (for the latter, see Gabriel, 1996). The relationality of patterns is a foundation for life, if these relationships are dynamically interactive. Yet patterns can only be recognized for human perception when these relationships are communicatively enacted between objects, properties, elements, thoughts or actions (Bollier & Helfrich, 2015; Finidori, 2016; Margolis, 1987). Hence, patterns that generate life are never static and always co-evolutionary. The perception of patterns, as an invisible or visible order, is part of the experience of reality (Bateson, 1979; Wheatley, 1999). For the advancement of mindsets of co-evolution that support *transformation literacy*, moving away from a more mechanical cause–effect understanding of reality to the cognizance of mutually supportive patterned relationships is important. It helps actors understand dysfunctional patterns in socio-ecological-economic systems and guides them to positively

influence the relational dynamics of systems. Looking at reality as a *patterned occurrence* and at deliberate transformative change as *patterned interaction* will help to identify underlying drivers and societal dynamics of unsustainable trajectories, and to design change in the form of multiple complementary trajectories that, together, work for wellbeing and a healthy planet (Bai et al., 2016). This mindset trend has even reached policy-making realms. For example, the way the European Green Deal has been presented in 2020 as a systemic, hence patterned strategy with multiple action trajectories, illustrates this emerging trend. It suggests intertwined transition ambitions such as zero pollution, a circular economy, smart mobility, sustainable food production, ecosystem restoration, resource efficiency and more. But still, the underlying worldview remains: the transformation to a sustainable Europe seems to be mainly a technical and strategic challenge that require additive strategies. It could, however, be vitally important for decision-makers tasked to implement intentionally transformative strategies such as the European Green Deal to become "pattern literate". This would mean an advanced ability to not prescribe strategies, but identify relational principles of patterned strategies that allow for the many multi-faceted dynamic subsystems in a Region like Europe to find their own specific pathways to sustainability transformations. Bai et al. (2016) summarize this trend when they suggest that future thinking needs to explore multiple different trajectories rather than deterministic single trajectories (p. 10). But even in this view of reality as patterned occurrence something important is missing—a new understanding of the quality of life.

2.2.2 Quality of Life

The transference of the machine-like metaphor to many aspects of biological and human life has begun to omit an ancient knowledge—that the attention to the quality of a pattern, an arrangement of structures, or a combination of strategies, as well as diversity in complexity, is essential for life to thrive. A profane example for this in ecosystems is the comparison between a plantation and a natural forest. Plantations, even though they might include not only one variety of trees, tend to ignore the dynamic relational patterns of a large variety of species that make up the vitality of natural forests. Yet, the vitality of forests is not only a nice-to-have occurrence for human regeneration, for example, in national parks, but essential to the ability of forests to stabilize the climate. Hence, vitality or aliveness of a particular systems, be it ecological or social is fundamental for humankind's future, for wellbeing in general and for sustainability transformations in particular. While we tend to understand vitality as a perceived individual experience, we need to begin to see that it has a patterned relational quality that we can individually experience, but also measure at a collective scale. For example, the emerging trend to redefine human progress in relation to an expanded view of what *quality of life* is can be seen in the many attempts to find more adequate and holistic indicators to measure human progress, such as the "Better Life Index" of the OECD or the Gross National Happiness Index

that emerged from Bhutan (Hajiran, 2006; Pennock & Ura, 2011). As Janine Benyus puts it, we need to learn from life, because "life creates the conditions conducive to life"[3]. This emerging mindset realizes that *quality of life* is actualized through mutually supportive reciprocal interactions—the web of life in which human and non-human interactions are intrinsically linked (Capra & Luisi, 2014; Weber, 2016). Understanding aliveness or vitality must start with seeing us as humankind as part of nature. Working towards an alive and ecologically intact planet, then is not a luxury or moral obligation, but a necessity for human progress. A shift in consciousness towards seeing ourselves as part of a vast interconnected collaborative network of life would give rise to patterns of thought and behaviour that serve humankind individually and as a collective, as well as the planet as a whole. Yet, the vitality of systems is not an end-state to be reached and planned for, but a transitory state that needs to continuously co-created, regenerated, maintained and safeguarded. For the process of visioning future more sustainable systems, this is an important insight. Rather than aiming for a fixed desired endpoint of a sustainable future, it is more important for *transformation literacy* to identify the principles that help generate the dynamic relational quality of life in that future state. While a picture of a sustainable future is important in order to generate meaning and intention, it is less the detailed description of the future state that empowers. More important for transformation literacy is to enact principles that generate the quality of life as part of the process of co-creating future more consciously. This leads to more humble responsibility of stewardship.

2.2.3 Stewardship

These emerging shifts in mindsets regarding *co-evolution* as relational interaction and *quality of life* as recognizable and measurable vitality of systems suggest a broad-based shift in thinking about humankind's role, place, and participation in the ever-unfolding complex matrix of evolutionary progress in the era of the Anthropocene. It supports mindsets and narratives that argue for a profound empathy with and reverence for the evolutionary process (Kuenkel, 2019). Such mindsets pay tribute to humankind's technological, economic and social advancements, but redefine them in the context of the greater good and people's ability to take care of each other and this greater good. They re-connect humankind to the experience of being part of an integrated whole. This emerging trend is most visible in scientific publications which begin to talk about Earth Stewardship (Steffen et al., 2018), and in the multiple international initiatives that claim the need for stewardship of certain aspects of the vitality of human-ecological systems, for example agroecology, rewildering, ocean clean-ups or global commons. However, taking care of our precious life-support systems as a core driver for individual and collective behaviour change needs to include the empathy with fellow human beings. If one acknowledges that all beings strive for

[3] Source: https://biomimicry.org/learning-nature-designing-nature-regenerative-cultures-create-conditions-conducive-life/): accessed 7th May 2021.

more aliveness, or in the human realm for a better quality of life, it is obvious that the individual feeling of aliveness is inextricably linked to the vitality of larger social and ecological systems. *Stewardship* as a mindset that underpins *transformation literacy* "means to profoundly rethink our relationship to the world, to the whole—and to other individuals who are selves like us" (Weber, 2013, p. 58). Safeguarding one's own aliveness and quality of life then requires helping other people and ecosystems into aliveness. Understanding transformations as a stewardship task cautions people to see sustainability challenges as dysfunctional socio-ecological systems interactions that co-create dangerous path dependencies. It encourages them to venture into local to global collective learning processes towards rehabilitating, maintaining or co-creating more socio-ecological patterns which support wellbeing on a healthy planet. Becoming conscious of how human beings can influence not only their individual pattern of aliveness, but also those of institutions, ecological systems and societies, and how this eventually contributes to the quality of life on the planet is a cornerstone of transformation literacy. The potential of being is the ability to learn and change behaviour, individually and collectively.

2.2.4 Multiple Mindset Shifts

The above trends can be observed for both in the conceptual framing mentioned *narratives of emergency and emergence. Emergency narratives* expectedly origin from the warnings of people and organizations that had already for a long time the future of our planet as their core mission. They have begun to move into the institutional landscape of UN organizations, academic institutions, national administrations and increasingly heads of state. *Emergence narratives* are much more widely distributed, focus on different topics, include cultural and historic diversity and views which have not yet entered into the institutional landscape. They also issue a warning: ignoring the implications that the outdated human mindsets of control over nature, people and technological fixes had not only on the destabilization of the planetary life-support system, but also on human dignity, may fire-back in the attempts to save the planet. Such narratives rightly argue that it is the acknowledgement of human dignity that is intrinsically linked to the emergence of a regenerative civilization, or to wellbeing on a healthy planet. The contributions of this section take these warnings seriously and suggest different perspectives with which mindset shifts as key element of transformation literacy can be approached. In their different and specific perspectives, they touch on all three trends, future-making as interdependent co-evolution, the connection between mindsets and the quality of life and the role of human stewardship towards regenerative civilizations.

Chapter 3 by **Christa Zettel** takes us not only into a historic perspective that looks at human consciousness development over many millennia, but emphasizes the importance of mythology as the most deeply ingrained way of humankind to keep learning. The author argues, contrary to the modern mind's needs, that the creative aspect of change or transformation is not order, but disorder or chaos. Moreover,

transformations happen in the human mind not necessarily in the conscious "I", but in the sub-consciousness, which is not only individual, but also collective. She suggests that what she calls the "universal power of self-renewal" has to be reintegrated into our rational approaches to transformations, and into science. In her view, the story of the soul, passed on by the peoples and nations in a nonlinear-out-of-time-way, is an important resource to understand the entire process of the development towards more regenerative civilizations.

Chapter 4 by a collective of authors looks at possible futures from a critical stance informed by a Global South perspective. **Samantha Suppiah, Sahana Chattopadhyay, Anna Clara Franzen De Nardin and Lua Couto** argue that the regeneration of the Global South is not only paramount, but at the core of regenerative global civilizations. This essay succinctly reminds us that the history of the very institutional framework that begins to adopt the emergency narrative to save the planet has been built on the exploitation of the Global South. In the author's view, driving the immense transformations required to reach the aspiration of regenerative civilizations means to acknowledge the critically flawed philosophies, arguments and institutional frameworks that have defined recent human history. The authors hint to the fact that past and present hegemonic powers run deep, strong undercurrents throughout our globalized capitalist human systems, today and tomorrow. They suggest that, for *transformation literacy*, our ability to dance with complexity and chaos, even if awkwardly at first, underscores the emergent experimentation desperately needed to find new routes to our possible futures. In support of the emergence narrative, they emphasize that a pluriverse of options already exists, where restored and newly fostered ecosystems co-evolve with a freshly reinvigorated humanity.

Chapter 5 by **Nicole Dewandre** takes us into the mindset changes necessary and partly happening in powerful political and institutional structures such as the European Commission. The author argues that the *emergency narrative*, which she calls a culture of catastrophism does not deliver politically, because it is using mindsets and approaches of the past. She reminds us that the language of battle, which is frequently used in the *emergency narratives*, such as combating climate change or striking a war against sustainability challenges, undermines *transformation literacy*, because, in her view, fear will not mobilize people to engage with pathways towards regenerative civilizations. Even if it may be more challenging for humankind—and hence for politics—to stay on Earth than to explore the universe, people need more than protecting them from a catastrophe and instead work towards an emotionally engaging future. The author suggests that *transformation literacy* requires to let go of some fundamental features of modernity, such as the excessive reliance on rationality and on causality, coupled with the illusion of omnipotence. As an alternative way of thinking about future-making she offers a deep dive into the writings and concepts developed by Hannah Arendt and her reconceptualization of the human condition. Not only forges Arendt a concept of humanness that complements modern rationality with our animality or organic nature, but she also emphasizes plurality, reminding

us that human diversity in being, culture and approaches is an asset. Dewandre shows how Arendt's frameworks can make a decisive contribution to the relevance, responsiveness and effectiveness of politics.

Chapter 6 by **Man Fang** elaborates how the cultural perspective of Chinese philosophy supports an interconnected worldview. In this essay, the author elaborates how three fundamental Chinese traditional beliefs not only manifest in social life in China, but could make a decisive contribution to the *emerging narratives* around generative civilization. In Chinese harmonic philosophy, the assumption is that in their core all people are good and kind and that part of the social obligation is to grow by taking care and trusting each other, while protecting the essential human virtues in a harmonic atmosphere. In this philosophical tradition, personal development is not isolated from others, it begins in the self and emerges gradually into the family-oriented self, then into the extended family-oriented self, and finally into taking responsibility for one's organization, the community and even the state, respectively the globality of all people. All these layers are inseparably linked. The author suggests that China's contribution to mastering the global challenges in the Anthropocene goes far beyond technological and political capacities to meet ecological, social and ecological targets. The treasures of Chinese philosophy offer opportunities to reframe our views of reality in a way that may be much more in service of wellbeing on a healthy planet.

Chapter 7 by **Petra Kuenkel** suggests that shifts in mindsets need to reflect an emerging new view of reality. In her article she argues that COVID 19 as a global pandemic has alerted many people not only to the need to realign humankind's relationship with nature, but also highlighted the global interconnectedness and the vulnerability of people. The increasing concern for the future of humanity and our life-support system needs reflections about the underlying view of reality that informs approaches to transformations. She argues that if humanity wants to rise up to collective stewardship towards stabilizing the trajectories of our planet, transformation actors need to become humble partners of life's potential to renew and replenish. This article introduces the concept of *systems aliveness* as a guiding compass for transformative change. It emphasizes that understanding what gives life to systems needs to be at the centre of emerging transformation literacy. Drawing from multiple, interdisciplinary sources, the systems aliveness approach offers an avenue to reorientate transformation efforts around six generic principles. Using these principles as a lens to designing transformation initiatives and translating them into a stewardship architecture provides creative pathways for the long journey to regenerative civilizations.

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