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How Do We Change the World?

1.1 The Call for Transformation

'Transforming our world' was the rallying cry when more than 150 world leaders converged on the United Nations (UN) to decide on the new *2030 Agenda for Sustainable Development* in 2015 (UN General Assembly, 2015). When the agenda was unanimously adopted by 193 members of the UN, it was hailed as an historic moment. This unprecedented transformational agenda was set to end poverty, fight inequality and protect the environment (UN General Assembly, 2015).

Acclaimed actor and celebrity advocate Leonardo DiCaprio addressed the summit for local leaders in Paris during the 2015 UN climate negotiations, treating the theme 'What is the transformation imperative?' (Bloomberg Philanthropies, 2015). German Chancellor Angela Merkel asserted her 'conviction that the transformation to a low-carbon economy brings enormous opportunities for growth' at the 2017 climate negotiations in Bonn (Bundeskanzlerin, 2017). Rebuking Trumpism before the US Congress in April 2018, French President Emmanuel Macron reproached those who see preserving current polluting industries as 'more urgent than transforming our economies to meet the global challenge of climate change' (Élysée, 2018). The list of examples goes on. Not only is *societal transformation towards sustainability* heralded in speeches; it has also entered into decision-making, planning and public discourse.

In submitting their official contributions to the 2015 Paris Climate Agreement, more than forty countries, mainly from the Global South, used the language of various versions of societal transformation: from Cabo Verde seeking to exploit windows of opportunity in a world in economic transformation (African Development Bank, 2012) to Papua New Guinea aspiring to 'transform the nation's mind-set and attitude' (UNFCCC, 2015x). Since then, the concept of

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transformation has grown in prominence also in high-income countries, for example, in the 2019 EU climate strategy.

The scientific community is concurrently directing increasing attention towards societal transformations. The international research initiative Future Earth seeks to mobilise thousands of scientists with the ultimate objective of supporting 'the more fundamental and innovative long-term transformations that are needed to move towards a sustainable future' (Future Earth, 2015). In its special report on limiting warming to 1.5°C, the Intergovernmental Panel on Climate Change (IPCC) mentions transformation in various ways over 300 times – that is, on almost every other page of the report. Similarly, the 2019 global assessment report from the Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services, warning of an accelerating depletion of nature, is sprinkled with references to the concept. With one million species being threatened with extinction, the global assessment concludes that transformative changes are imperative for restoring and safeguarding nature (IPBES, 2019).

These are just a few examples of how the slow progress in many pressing areas of global environmental change and global development has prompted calls to scale up and accelerate actions to promote sustainability. Incremental change simply will not suffice. Instead, societal transformations infer *profound and enduring non-linear systemic changes, typically involving social, cultural, technological, political, economic, and/or environmental processes* (Brand, 2016; Driessen et al., 2013; Hölscher et al., 2018; Patterson et al., 2017; Wibeck et al., 2019).

The need for sustainability transformations is felt and expressed by people in many parts of the world. As this book will show, citizens in countries as diverse as Cabo Verde, China, Fiji, Sweden, and the USA highlight both similarities and differences in visions of future sustainable societies and of what it would take to attain these futures, breaking with the unsustainable conditions currently affecting their everyday lives.

The concept of transformation is sometimes used figuratively and not explicitly defined (Feola, 2015). But, as Karen O'Brien observed, 'transformation means different things to different people or groups, and it is not always clear what exactly needs to be transformed and why, whose interest these transformations serve, and what will be the consequences' (O'Brien, 2012:670). Even if we can agree on a core definition of transformations, assessments of whether they have occurred will always differ. In the words of Ioan Fazey et al., 'whether something is considered to have transformed is inherently subjective and relative' (2018:198). What is considered by one person or group to be fundamental change of a system towards sustainability may be insignificant in the eyes of another individual or group. To mention just a few examples, the societal transformation concept is used to capture the striving of countries to rise in the world economic ranking from the

low- to middle-income level or to improve public health; of cities to shrink their carbon footprints or become climate resilient; of business communities or policy-makers to restructure sectors such as energy, transport, or agriculture; to civil society in the form of sharing economy-based communities or calling for new ontologies transgressing the human–nature divide.

As the 'transformation creed' is often expressed in general terms, the deeper questions of what is to be transformed, by whom, and of how transformation is to be governed – if this is even possible – often remain unarticulated and unclear (Feola, 2015; Patterson et al., 2017). Without acknowledging these many variations, societal transformation risks becoming another catchword as an antonym for incremental change.

On a closer look, as we will show throughout this book, expectations regarding transformation differ greatly across societies, not least in relation to the UN 2030 Agenda and the implementation of the Paris Climate Agreement. Unpacking the varied sense-making about societal transformations is therefore necessary, not only to gain conceptual clarity about sustainability initiatives, but to enhance our knowledge of the dynamics, premises, and promises of societal transformations.

1.2 Transitions and Transformations

Transition is often used as a synonym for transformation. Comparing the concepts, Katharina Hölscher et al. (2018:1) argued that 'a lack of conceptual clarity − especially regarding the features making change "transformational" − can void the terms of their contribution to challenge the status quo'. We agree that, if transformation becomes a floating signifier, without a referent that denotes any particular quality or feature of change, it becomes just a general synonym for major change and loses its potential to unleash new ways of making sense of the predicaments of our time and the inevitable shifts we are facing.

The concept of transition is often used interchangeably with transformation to capture systemic, non-linear, non-incremental change. For example, Johannes de Haan and Jans Rotmans (2011:92) defined transition as a 'fundamental change in the structures, cultures and practices of a societal system, profoundly altering the way it functions'. Over the last two decades, research into transition has grown, manifested, for example, in the Sustainable Transitions Research Network (2010).

Hölscher et al. (2018), at the Dutch Research Institute for Transitions, see the terms *transformation* and *transition* as complementary. After reviewing how the concepts are used in research, they concluded empirically that the concepts 'provide nuanced perspectives on how to describe, interpret and support desirable radical and non-linear societal change. Their differences may partially result

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from their etymological origins, but they largely stem from the different research communities concerned with either transition or transformation' (Hölscher et al., 2018:2).

Nonetheless, metaphors matter. As metaphors, transitions and transformations have different connotations, and their etymological difference is important: *transition* is rooted in the notion of a passage – 'going across' from one state to another – whereas *transformation* refers to 'change in form or shape'. As emphasised by George Lakoff and Mark Johnson (1980:145) in their seminal work on metaphors, 'new metaphors have the power to create a new reality'. In shaping the narratives on evolving sustainable societies and how they should be achieved, it matters whether we are seeking to shift something to a different state of things or fundamentally change its form. We can, for example, think about transformation in terms of allegories, such as the metamorphosis from pupa, through caterpillar, to butterfly, as illustrated by this book's back cover or the frog prince transmuted by the kiss of a princess.

Transition research typically focuses on three levels of socio-technical systems: the niche, regime, and landscape levels. A *niche* describes a space of innovation where new ideas, technologies, and practices are developed and tested. The *regime* level describes the structural conditions that provide stability, including infrastructure choices, institutions, and established practices. These can make for lock-ins in path dependencies, but when altered may provide opportunities for rapid, fundamental change.

Finally, the exogenous socio-technical *landscape* refers to the context thought to be outside the system but influencing it. This level is the locus of global environmental change, international politics, and global trade, all of which can be difficult to influence, but certainly affect the system level, determining to what extent and how a system can be changed (Fridahl & Johansson, 2017; Geels & Schot, 2010; Laes et al., 2014; Markard et al., 2012; Sustainable Transitions Research Network, 2010).

Andy Stirling (2015) sees a complementary duality between societal transition and transformation in which the two concepts constitute each other, rather than being mutually exclusive ways to understand change. He suggests a distinction in which transition is 'mediated mainly through technological innovation implemented under structured control, presided over by incumbent interests according to tightly-disciplined knowledge, towards a particular known (presumptively shared) end' (Stirling, 2015:54), whereas societal transformation involves not only technological innovation, but a broader range of social practices and knowledge.

The Global Commission on the Geopolitics of Energy Transformation (2019:14) illustrates the difference between the concepts as follows: The 'ongoing transition to renewables is not just a shift from one set of fuels to another. It involves a much

deeper transformation of the world's energy systems that will have major social, economic and political implications which go well beyond the energy sector. The term "energy transformation" captures these broader implications.' We will make a similar distinction in this book.

1.3 Exploring Transformations

This book explores variations and commonalities in sense-making regarding sustainability transformations in different arenas and societies around the world. From lay focus groups to high politics, from scholarly debates to the news media, we examine how societal actors in different geographical, political, and cultural contexts – not least outside the high-income countries – understand the why, what, and how of societal transformation.

The book examines sustainability transformations from a broad international perspective. In addition, we provide in-depth insights into sense-making from five distinct locations: Praia in Cabo Verde, Guangzhou in China, the city of Nadi and a village in the Yasawa Islands in Fiji, Boulder in the USA, and the Östergötland region in Sweden. These are sites with ongoing public discussions and policy aspirations addressing societal transformation towards sustainability; they also represent different economic, geopolitical, and social circumstances.

Societies are continually in a process of transformation, incidentally or through deliberate governance. Correspondingly, scholars have long grappled with theories of social change. As discussed in Chapter 3, the industrial revolution in the late eighteenth and early nineteenth centuries exemplifies a major societal transformation, one based on the adoption of fossil fuels and thus tightly connected to alterations in the supply and use of energy (Barrett, 1999; Brown et al., 2013; Pearson & Foxon, 2012). Today, we are experiencing rapid fusions of technology in the digital, physical, and biological spheres – from artificial intelligence to gene editing – profoundly shifting the way we live our lives and organise our societies. The World Economic Forum calls this transformation the Fourth Industrial Revolution.

'In terms of dimension', states one research report, 'the transformation into a low-carbon society is on par with a new Industrial Revolution in fast motion' (WBGU, 2011:28). However, questions remain as to the appropriateness of such an analogy. Are the same driving forces operative as before? Framing sustainability transformation as a new industrial revolution may signal that the coming transformation will be driven by technology. Yet, as we shall see, historians do not all agree on whether technology-induced industrial development was the inceptive driving force behind the transformation called the Industrial Revolution, or whether it was a manifestation of a transformation of, for example, the political

economy, the changed thinking and practices of modernity, or the ecological expropriation of the 'Second Earth' (Worster, 2016:13) made possible by the discovery of the Americas.

A fundamental question is to what extent societal transformations can be governed. After our exposition of examples of how sustainability transformations are made sense of around the world, we will discuss the governance of transformation, considering whether transformation can be steered, who has the agency to execute this governance, and who will be affected and how. Depending on whether one takes a quantum leap, convergent, emergent, or gradualist approach to societal change, policy alternatives will range from those that directly target mega-transformation to those that seek to foster specific changes within an existing system, and from those that seek abrupt changes to those that foster gradual evolution.

The main analytical foundation of this book is *sense-making analysis*, which helps us explore competing and complementary framings and narratives of societal transformations. The scholarly literature distinguishes between personal and societal transformations. Whereas there is a rich literature on transformation on a personal level, discussing preconditions for changes in individuals' worldviews, choices, and behaviour, our book specifically focuses on the *societal* dimensions of transformation toward sustainability, and on sense-making as an *interactional* rather than an individual process.

Improved understanding of sense-making processes across societies is important for decision-making in four ways: first, from a democratisation perspective, it can increase the transparency of private and public decision-making, as it sheds lights on the intrinsic, and often contained, personal, societal, and political preferences for certain transformation pathways. Second, organisational problems are likely to arise if we are not aware of different actors' understandings and if their points of view collide. Third, we believe that an enhanced understanding of how various transformation pathways are envisioned around the world and of what facilitates or hinders transformation in different contexts will contribute to greater transparency and ultimately effectiveness of global efforts to realise the 2030 Agenda for sustainable development and the ultimate goals of the Paris Agreement. Lastly, the importance of the sense-making analysis goes beyond the decisions in politics and industry, to ultimately speak to peoples' existential deliberations of how they want to lead their life, what kind of societies they hope to be a part of, and desire for future generations (Wibeck et al., 2019).

1.4 Research *on* and *for* Sustainability Transformations

In the literature on sustainability transformations, we find two broad research approaches: descriptive–analytical and solution-oriented approaches (Feola,

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2015). These are respectively referred to as 'transformation research', which explores the preconditions and characteristics of transformation processes, and 'transformative research', which seeks to actively advance transformation processes (WBGU, 2011) – or, in simpler terms, research *on* transformations and research *for* transformations to sustainability. Brand (2016) distinguishes transformation as a strategic concept for advancing desired policies from transformation as an analytical concept with which to understand historic and present changes in society. These two approaches should not be seen as mutually exclusive. In fact, they are often interrelated. Social science research often takes on the roles of both critical analysis producing explanatory insights, and solution-oriented research delivering strategic knowledge and policy recommendations.

While there is an intriguing literature providing growing empirical basis for research *for* transformations, our study taps into the descriptive–analytical research *on* social change with ambition to inform the solution-oriented research *for* sustainability transformations.

What is the goal of societal transformation? For this book, this is an empirical question. When analysing sense-making among groups in different geopolitical and cultural settings, the analysis cannot start with a normatively predetermined definition of the end goal of sustainability transformations. Rather, we need to explore how various articulations reflect differences in interests and values within and between societies. Such knowledge can support a necessary mind shift for sustainability transformations. It supports governance by goal-setting by, in the words of Petra Kuenkel (2019:210, emphasis in original), allowing us to 'move from seeing *goals as desired stable future state* to acknowledging the role of *goals as transformation guidance*'. It can empower people to identify what patterns need to change, and how and when such changes could be triggered.

The research literature on societal transformations towards sustainability spans multiple disciplines and the number of peer-reviewed publications in this area is increasing. So far, this research has largely been based on case studies of particular – often locally situated – environmental areas or sectors. Chapter 5 presents a few case studies. Nevertheless, our overall aim is to broaden the scope beyond local examples of transformation initiatives. First, we want to capture how the concept is made sense of in different places around the world. Second, we want to provide a range of examples, from laypeople to high politics in different countries. Our intention is that the analyses presented here should facilitate the exploration of understandings of and priorities for societal transformations to sustainability across world regions and actor groups.