

# Chapter 1

## Introduction

In the middle of the twentieth century, we saw our planet from space for the first time. Historians may eventually find that this vision had a greater impact on thought than did the Copernican revolution of the sixteenth century, which upset the human self-image by revealing that the Earth is not the centre of the universe. From space, we see a small and fragile ball dominated not by human activity and edifice but by a pattern of clouds, oceans, greenery, and soils. Humanity's inability to fit its activities into that pattern is changing planetary systems, fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognized—and managed.

World Commission on Environment and Development, *Our Common Future* (1987: 11).

Throughout the ages, people have said that the world is in the midst of big change. But the level and degree of global change that we face today is far more profound than at any other period in my adult lifetime. I call this period the Great Transition.

Ban Ki-moon, UN Secretary-General, speech, Stanford University (2013).

We still aspire to fit humanity's activities into Earth's patterns. Most of the reports on our progress in achieving sustainable development are devastating. In preparation for the 2012 Rio+20 summit, the *Department of Economic and Social Affairs of the United Nations* (UNDESA) concluded that

The political deal that emerged from the Earth Summit in 1992 has, for various reasons, never been fulfilled. Neither the expected outcomes—elimination of poverty, reduction in disparities in standards of living, patterns of consumption and production that are compatible with the carrying capacity of ecosystems, sustainable management of renewable resources—nor the agreed means to achieve them, have materialized (UNDESA 2012: iii).

After nearly three decades of aspiration it is not surprising that the language that describes what it would take to turn the wheel and reach this deal has become more radical. The terms 'Great Transition' or 'Transformation' have become common in recent years. In September 2015, the heads of UN states adopted *The 2030 Agenda for Sustainable Development: Transforming our World* (UN 2015: 2). It contains 17 newly agreed *Sustainable Development Goals* (SDGs) that map where this transformation is supposed to lead. These cover the topics of the earlier Millennium Development Goals like ending poverty and hunger, improving education and

health, but also encompass goals and targets for improved work situations, income distribution, more sustainable growth patterns and city developments as well as resource efficiency, clean energy and the protection of marine and land ecosystems. Two of the goals also provide targets for governance improvements and the quality of institutions and partnerships, which should help the implementation process (UN 2015).

Some critics may lament that these goals are pipe dreams, too ambitious and sometimes contradictory, given that the socioeconomic pledges can only be realized if the targets for environmental protection are missed. I think that this will certainly be the case if the spirit of transformation and radical change that UN Secretary General Ban Ki-moon expressed in his 2014 preparatory report on reaching the SDGs is lost. Ki-moon wrote, “Transformation is our watchword. At this moment in time, we are called to lead and act with courage. We are called to embrace change. Change in our societies. Change in the management of our economies. Change in our relationship with our one and only planet” (UN 2014: 3).

It is this spirit of transformation that I want to support with this book. To me it holds a renewed window of opportunity for the radical changes that in essence the sustainable development agenda always held. And I want to show that radicalness in purpose should not be conflated with a call for instant revolution, tearing down the system or hostility to dissenting ideas. Radicalness in purpose is equivalent to holding a vision or belief in what could be possible if X, Y or Z was to change, an imaginary that stirs up energy, commitment—and persistence in taking the many incremental steps required to get there.

Sociologists use the term ‘imaginary’ to capture more than ideas: it includes a set of values, institutions, laws and symbols with which people imagine their social whole. Without this combination of radical imaginary and persistent progress toward it, not much transformation will happen, at least not in the direction of sustainable development. The path dependencies that shape humanity’s activities and development dynamics today are pushing and pulling in a decidedly non-sustainable direction.

This is why I also want to make the case that we should not simply stick the label ‘transformation’ on any amendment to the status quo, or call each technological efficiency gain an ‘innovation.’ If the benchmark for the changes to which we aspire is not radically different to the one that has guided development solutions so far, humanity will not escape those strong path dependencies. At the same time, dismissing the role that incremental steps play in getting there means ignoring the insights that complex system research offers about patterns of change. So juxtaposing the two approaches as entirely separate strategies—a practice often used to discredit someone else’s proposals—does not help. What helps is to keep each other challenged with respect to both the radicalness of the imagined outcomes (what do we deem possible) and the amount of change in this direction that the next, often little, steps could bring (what do we do to make it happen).

This book speaks to this combination under the tagline of radical incremental transformation strategies. The purpose that these strategies should serve here is long-term sustainable development as defined in the Rio Declaration of 1992 and

now the SDGs. For an analytical approach it is important to make this explicit and not conflate process-design with desired outcome. One is descriptive and the other one normative: transformation is a *qualitative degree of change* that might happen in a system, and research seeks to describe typical patterns of such change processes so that they can be understood or at best guided. Sustainable development, on the other hand, is one possible *quality of the outcome* of a transformation process, and research supporting this normative goal seeks to identify and describe typical design principles that characterize sustainable systems.

Today's analysis reveals that the world is undergoing massive transformations and that we need to change their qualities to achieve sustainable development. It also shows that very skillfully managed transformation processes can lead to very unsustainable outcomes and very well-designed sustainability solutions can cause resistance or even turmoil in a system that is not ready for this change.

Since this is the thorny challenge that confronts every change agent for sustainable development, the overarching goal of this book is to contribute to both Transformation Science (understanding how transformation processes happen) and Transformative Science (developing approaches for a furthering of transformation processes) alike (WBGU 2011a: 342). These related and yet somewhat divergent contributions shape the structure of the chapters: Chapters 2 and 3 provide the backbone to a reflexive political economy understanding of transformations toward sustainable development, Chap. 4 presents case studies of pioneering practices that fit the remit of the suggested Great Mindshift, and Chap. 5 offers a summarizing framework for individual 'transformative literacy' for those seeking to support it as well.

## 1.1 It's the Economy, Stupid!

As one can hardly hope to capture or work on all aspects of sustainability transformations at once, I have zoomed in on what could be a key leverage point in different projects and change initiatives surrounding this purpose. The idea was to follow the dictum of Richard Rumelt, one of *The Economist's* "management gurus" and an expert on "Good Strategy/Bad Strategy" (2011). He says that a good diagnosis, "simplifies the often overwhelming complexity of reality by identifying certain aspects of the situation as critical" (Rumelt 2011, quoted from his blog). My diagnosis is that the most critical aspect for turning the wheel toward fulfilling the SDGs is changing the economic paradigm. Hence the title of the book.

But why economic thought above all? Because it informed the creation of the practices, norms, laws, rules, business and market structures, and technologies that delivered unsustainable development in the first place. Because governments, ministries, international organizations, corporations and banks that move big money around and design the rules of our markets use economic models and expertise in their decision-making and justification of it. Economic calculations of, for example, productivity or competitiveness have also become the most important frames when

disputing the trade-offs behind political decisions or when justifying business strategies. The economic paradigm is thus massively influential in what is deemed possible and legitimate for hypothetical future development paths. Eric Beinhocker, director of the *Institute for New Economic Thinking's* (INET) research program in Oxford, explains: “Just as abstract scientific theories are made real in our lives through the airplanes we fly in, the medicines we take, and the computers we use, economic ideas are made real in our lives through the organizations that employ us, the goods and services we consume, and the policies of our governments” (Beinhocker 2006: xi–xii).

Paul A. Samuelson, Nobel laureate and one of the most influential economists of the twentieth century, went as far as to say: “I don’t care who writes a nation’s laws—or crafts its advanced treatises—if I can write its economics textbooks” (Weinstein 2009 citing Samuelson). His textbook *Economics* was a bestseller for nearly 30 years and translated into 20 languages.

Similarly, popular economist John Maynard Keynes shared Samuelson’s opinion: “the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else” (Keynes 2007: 383–384). He continued to reflect on the effects that this power of ideas has on societies and commented on his own overturning of firm beliefs: “The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds” (ibid: preface).

It is this stickiness that most of the book seeks to highlight and understand. Because after all, some of the most powerful current economic ideas—like ‘gain’ being the prime human motivation, ‘utility’ a good measure for well-being and ‘capital’ a useful container term for everything that might be needed in production processes—were once radically new and far from common sense. They were integral components of the massive paradigm shift that has been called the Enlightenment movement. Dirk Messner, leading German transformation researcher and president of the *German Development Institute* (DIE) has described its effect as a change in the social, cultural and cognitive ‘software’ of the agrarian societies: it changed the reservoir of ideas, norms, values and principles which actors drew on when creating technologies, institutions, laws, business models and individual identities (Messner 2015: 263).

Today, 250 years later, these powerful ideas and economic concepts have become the basis of a new normal, of a civilization and development model that is unsustainable in a world with nine times as many people as there were when these concepts were invented. Applying them means that leaders claim progress even when the patterns of the clouds, the oceans, the forests and the very soil are destroyed to a degree that threatens to tip our fragile planet out of balance. In addition, while this development model has created much material wealth, it has not generated the maximum happiness for the maximum number of people as its progenitors and promoters believed it would. Meanwhile, the market system that hosts this type of civilization has become one of global reach and highly complex

feedback loops that are very difficult to change without risking collapses in wide parts of the global economy.

Thus, a transformational 2030 sustainable development agenda needs new 'software' that opens up the imaginary and thus political space for radically different development solutions and systems. And I feel we might be at a turning point: the first 40 years of sustainable development agenda left the economic paradigm widely unchallenged. Instead of integrating economic, environmental and social dimensions of development—as mandated by the *Brundtland Report* defining sustainable development—social and environmental concerns have been inserted into an economic way of seeing and therefore governing the world. As a result, quantification and marketization in the service of endless 'growth' has become the dominant mode of organizing ever more areas of life. Diversified governance solutions have been homogenized to fit in with this paradigm.

But since the consequences of accelerating natural exploitation and social inequality have become more tangible in rich countries, an awareness of the pitfalls of this shift is coming to the fore. Moreover, since the 2007 financial crisis hit the 'developed world' hard, even the deeply 'economic' institutions like the *Organisation for Economic Cooperation and Development* (OECD), *International Monetary Fund* (IMF) and World Bank have begun to question some of Samuelson's ideas and their own established models. The *World Economic Forum* (WEF) has launched a sustainability-adjusted competitiveness index and lists global inequality as well as job-loss in rich countries through digitalized industrialization 4.0 as top topics of conversation. Former Wall Street heroes linked to George Soros put \$200 million into the Institute for New Economic Thinking and the OECD hosted a Commission on the Measurement of Economic Performance and Social Progress chaired by Nobel laureate economists Joseph Stiglitz and Amartya Sen, which has just started its second round of work.

Of course this does not mean that the people in powerful positions now know better than the thinkers who have been challenging the mainstream economic paradigm for decades or centuries. Nor does it imply they do better than the practitioners who have worked incredibly hard to achieve sustainable niche solutions within a system that's pushing in the opposite direction. It does mean, however, that the hegemony of the mainstream economic paradigm is broken. The credibility of the trickle-down and green growth narratives that it informed is lost.

In the decades to come, the old and alternative paradigms will be struggling to fit the shape taken by what could become the Second Enlightenment. Our task is to fill the reservoir of social and cultural inventions with ideas, norms, principles and values that support a de-commodified view of human needs, nature and money, based on twenty-first century natural and social sciences that include many non-quantifiable variables. They provide alternative meaning, legitimacy and practice options for everyone engaging in the highly political struggles over transformations for sustainable development. This is what *The Great Mindshift* stands for.

## 1.2 Structure of the Book

To support and explore the claims made in this introduction the book goes back and forth between transformation research and the discussion of changing economic paradigms in theory and practice. It introduces four analytical concepts and two heuristics in order to provide some answers to the following overarching questions:

1. If the changes envisioned by the 2030 Sustainable Development Agenda are supposed to be transformational in quality, how do we work toward this quality?
2. If the transformations envisioned are supposed to support sustainable development, what are the key leverage points to unlock unsustainable path dependencies?

The second chapter, on transformation research in the context of sustainable development, provides the conceptual background to my call for radical incremental transformation strategies. Based on an overview of major strands of system transformation research, I develop three analytical concepts to make the case:

*Materialization of ideas:* Transformation research literature describes the transformational quality as manifesting itself in “co-evolutionary changes in technologies, markets, institutional frameworks, cultural meanings and everyday life practices” (Geels et al. 2015: 2) and often uses the concept ‘system innovation’ to capture it. The 2015 OECD *System Innovation* report defines these as “radical—insofar as they alter existing system dynamics—innovations in socio-technical systems that fulfill societal functions, entailing changes in both the components and the architecture of the systems” (OECD 2015: 6).

While these definitions provide a helpful description by which to distinguish transformational change from normal, adaptive change, they do not say much about how the reconfiguration of these system elements is taking place. In the literature one finds catchy terms like “innovation cascades,” “knock-on effects,” “diffusion of new technologies” or “(re)alignments between multiple elements and interactions between multiple actors,” all of which “changes cultural discourse and behaviour” (Geels et al. 2015: 6). But who are the agents behind all these descriptive nouns? In this book system innovations are understood to be driven by humans: purposefully acting individuals who see what could be possible beyond the status quo and make it happen.

Bringing individuals and their mind-sets into systems is an important step toward understanding where change originates and who promotes it with what effects. I introduce the concept ‘materialization of ideas’ to discuss this structural interplay between ideas, human behavior, collective action and institutional design. It highlights both how the resulting systems shape reality and freedom of agents in the future and also how the agents’ freedom to think, feel, reason and act differently fuels the transformational phenomena that characterize system innovations.

*Repurposing systems:* Most of the literature (Geels et al. 2015; Messner 2015; WBGU 2011a: 342) states that transformation cannot be planned nor will it unfold

according to plan. It can primarily be diagnosed when looking back from the future. Yet, if the sustainable development community understands that the degree of change necessary to reach its goals cannot fall short of being transformational, science should help the community to get a grip on which change strategies and initiatives seem promising. If transformational change is defined as radical because a system's dynamics, components and architecture have been changed, two questions arise: how can a radical degree of reconfiguration be intentionally pursued? And how can the system dynamics be altered to this degree without causing collapse or rejection?

In order to answer these questions it is crucial to once again link back to purposefully acting individuals who engage with one another and nature to produce the goods and services they deem necessary or beneficial to their well-being. Such engagement involves the creation of facilitating institutions and technologies that amount to what transition research calls socio-technical systems (STS's). Hence, each of the systems is designed to fulfill a particular purpose, so understanding this purpose will shed light on where to find core drivers of its current dynamics. This also means that when the goals and ends of the system are in question, innovation strategies should first focus on defining a new purpose, and then coordinating updates of technologies and institutions with that purpose (Leadbeater and Mulgan 2013: 46).

The sustainable development agenda called the outcomes of the old economic growth path into question, but most of its strategies have fallen short of defining a new guiding purpose: they kept economic growth and tried to quickly provide yet more of it—just with less environmental damage. Current statistics show that simply driving the system to do more is not enough if a real change is needed, as the following quote from UNDESA's 2012 *Back to Our Common Future* report highlights: "Even if we succeeded in pushing our technological capabilities to the utmost, without doing something else, in a few decades we are likely to end up in a world that would offer reduced opportunities for our children and grandchildren to flourish" (UNDESA 2012: iii).

In the "doing something else" we find the benchmark for a transformational agenda. It has to start with what is captured by the heuristic 'repurposing a system'—e.g., properly replacing the pole star of economic growth with that of sustainable development. To do so one should, I argue here, check if the prevailing mind-sets or paradigms and the models and measures they inform can guide repurposing strategies—or also need to be shifted.

*Radical incremental transformation:* However, declaring a radically different purpose and even clearly seeing which flawed assumptions and unhelpful path dependencies stand in its way will of course not magically transform them. This requires intense work of an often highly political character and the acceptance that it takes time. Seeking to change a system too swiftly or too drastically is likely to create self-defensive or destabilizing reactions. The art of system innovation therefore entails finding the right steps and measures at the right time, and also being prepared to deal with unexpected results.

This is why I reject the juxtaposition of radical versus incremental change and propose the conceptual framework of ‘radical incremental transformation.’ The radically new purpose informs which multiple and diversified incremental interventions are necessary to unlock the path dependencies that keep the system in the old dynamic. Often it is easier to focus energy on discontinuing a few strong drivers or root causes and observing how this creates new dynamics that allow parts of the system to start reorganizing. Yet, some agreement about the direction of purposeful reorganization has to prevail for collective strategic action to take place.

The third chapter, which deals with the mainstream economic paradigm, therefore launches straight into discussing both the root causes and the direction of purposeful action for sustainable development. It highlights why it is important to check for the worldviews and paradigms on which key actors and coalitions base the narratives surrounding their collective action. While the former capture how a person or a scientific discipline views the world, the latter captures the rationale or stories that actors share to argue their choices and activities. The crux of the matter is that one and the same narrative for collective action, e.g., ‘we want to achieve sustainable development,’ can host very different ideas about how it could best be done. These differences may emerge from interests and power games but even those are embedded in and influenced by differences in worldviews and paradigms. These soft factors are the source of how sense-making people believe the world works, how it could or should therefore be governed and which role they should play in it.

From this perspective, Chap. 3 puts the second question center stage and explains why the mainstream economic paradigm might well be the most important lever for unlocking unsustainable path dependencies. Its main argument runs as follows: The world started engaging with environmental problems in the 1960s. The first big report to make global waves was the 1972 *Limits to Growth* issued by the Club of Rome think-tank. The international community reacted and in 1987 the UN-appointed *World Commission on Environment and Development* (WCED) published its ground-breaking *Our Common Future*. The commission and the report also carry the name of Gro Harlem Brundtland, the former prime minister of Norway who led the work.

The report exposed many of the degrading effects that the twentieth century’s economic development path had inflicted on the environment, while failing to eradicate poverty. It therefore called for the replacement of this path with “sustainable development,” which was defined as development which meets “the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 16). To that end emerged what became the infamous “integrated perspective,” namely that “the common theme throughout this strategy for sustainable development is the need to integrate economic and ecological considerations in decision making. They are, after all, integrated in the workings of the real world. This will require a change in attitudes and objectives and in institutional arrangements at every level” (WCED 1987: 55). Any negative social consequences of the twentieth century development ideal were not really acknowledged. The problem was put down to insufficient economic output to lift everyone above poverty lines.

So what happened? Instead of a proper interdisciplinary endeavor to define a new paradigm that captures the purpose of sustainable development holistically, the already dominant economic paradigm became paramount. Social and ecological dimensions were inserted into its monetary quantification frameworks. This could not change attitudes, objectives and institutional arrangement toward sustainable development simply because the basic ideas of that paradigm do not say much about either human needs or the environment's ability to replenish resources. The chapter zooms in on a few key concepts underlying this, for example, the pursuit of endless economic 'growth' to achieve development, maximizing 'utility' to meet human needs and substituting 'natural capital' so that everything can continue to grow in the future.

Some of the detrimental effects these concepts have on understanding how to reach the goals of sustainable development are discussed by bringing in insights from twenty-first century social and natural sciences as well as alternative economic thought. Earth system sciences, ecological economics, sociology, well-being studies, psychology and neurosciences have much to say about human needs, nature's laws and the impact on both of these of economic growth-driven societies. Adding these findings to the picture shows that the paradigm and ideas that informed the creation of unsustainable system dynamics cannot guide their removal.

So which paradigm can achieve this? This is the key question that spans Chap. 4 and the case studies on pioneers working with different imaginaries of what the purpose of sustainable development could mean in practice. With the intention of investigating which key ideas or concepts a new and transformational development paradigm could build on, I took a closer look at the following initiatives: the *Economy for the Common Good* (a prominent business initiative in Germany and Austria), *Transition Towns* (an urban community initiative born in the United Kingdom), the *Commoning Movement* (civil society initiative spanning the Atlantic between the United States and Europe) as well as the Bhutanese *Gross National Happiness* (GNH) Framework (government initiatives that want to supplement GDP with other performance indicators).

Although I would not venture to state that one can define a clear-cut new paradigm or streamlining development purpose like, for example, 'economic growth,' I was surprised by the common ground between theory and practice as well as across practice examples. The worldviews of how to understand human needs and nature's laws and the narratives about what development should therefore aim to achieve are very similar. All of these movements adopt the view that ecological systems host sociocultural systems and that economic systems are subordinate means in successfully structuring nature-human relations. This is radically different to the view of the mainstream paradigm that pursues the ongoing integration of social and environmental concerns into economic governance logics by pricing them. So I would go as far as to set one common heuristic that expresses the radical purpose and another to capture the strategic directions that the incremental steps of these pioneers are taking.

The radical repurposing agenda could be summarized as *recoupling* economic processes with human well-being and nature's laws by making the economic dimension the one that needs changing. Given the structural reality of today's path dependencies, the foremost strategy for successive change in this direction—the incremental strategies that can achieve it—is *double-decoupling*:

1. Decouple the production of goods and services from unsustainable, wasteful or uncaring treatment of humans, nature and animals (do better).
2. Decouple the satisfaction of human needs from the imperative to deliver ever more economic output (do well).

The latter has been given much less attention because the worldview informed by the mainstream economic paradigm cannot even countenance it.

This last argument lies at the core of the fifth and final Chap. 5, which explores how a shift in a paradigm and the mind-sets it informs can be the mediating element between the radical imaginary and the incremental steps toward repurposing systems. It uses the findings of the transformation research discussions to present a framework that helps individuals hack the system they work in, identify and argue for change strategies that work both aspects of decoupling. This framework is thus an updating contribution to *transformative literacy*: “the ability to read and utilize information about societal transformation processes, to accordingly interpret and get actively involved in these processes” (Schneidewind 2013: 83).

Impactful repurposing strategies need to reflect on the paradigm that informed the system's goals and purpose. There always exist several paradigms in parallel, but one becomes dominant. It frames the issues at stake and thus the selection of relevant information, the legitimacy of arguments, the normative judgments of proposed solutions, the acceptance of rules and institutions and the beliefs that something is worth pursuing. Paradigms are the sources of systems. They function as a reference framework for individuals wanting to do something and so shape the mindsets of the people involved in the system.

Of course, structural path dependencies are not overcome merely by changing the way the world is viewed. For structural path dependencies to be overcome requires a lot of engagement, effort, persistence and struggle. It also requires mindfulness and challenging one's own belief systems, habits and convictions in the search for different solutions. The SDGs capture a transformational agenda for the entire world precisely because there is no sustainable role model to copy. The search is on and the more freely ideas behind unsustainable solutions are reassessed, the more creative and transformational the agenda can be. Declaring that the current situation has no alternative or that we are simply at the end of history would be bad news.

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