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Stewarding Sustainability Transformations

An Emerging Theory and Practice of SDG Implementation

THE CLUB OF ROME

A Report to the Club of Rome

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Foreword

In August 2018, the *Proceedings of the National Academy of Sciences of the United States of America* published an article on possible trajectories of the Earth System (Steffens et al. 2018) that, if not halted in time, would cause serious danger for the entire ecosystem and subsequently for our societies and economies. The authors, a renowned group of international researchers, warn of self-reinforcing feedback mechanisms through human-induced emissions of greenhouse gases. Such pathways would severely endanger the stabilization of the climate and create a "hothouse Earth" that could change the conditions for life on Earth in an unprecedented way. The authors call for collective human action and emphasize the need for humanity's stewardship role in collectively ensuring a safe pathway for human development. This, they argue, requires a shift in thinking toward seeing humankind as an integral part of the Earth System – and a much more responsible actor.

While the urgency to find pathways to collective action has grown, the insight that only human agency can change negative trajectories is not new. Since its inception in 1968, the message of the Club of Rome has always conveyed the need for a radical change in thinking – one that would enable humankind to reshape its relationship with planet Earth and economic development. Since then, the Club of Rome continued to encourage a systems-oriented perspective of an interconnected world development and called for ways of jointly tackling complex sustainability challenges across institutions, cultures, and national boundaries. It also emphasized holistic thinking and transdisciplinary collaboration, encouraging world leaders to take a long-term perspective and formulate future-oriented policies. The famous Club of Rome report, "Limits to Growth" (Meadows et al. 1972) – while heavily criticized by most policy-makers and economists – contributed strongly to a growing global awareness of an endangered life-support system, our planet Earth.

In 1977, the then president of the Club of Rome, Aurelio Peccei (1977), spoke of the need for a new and revolutionary humanism that he considered the foundation for stewarding man's influence on the planet in harmony with nature. The subsequent Report to the Club of Rome that was titled "No Limits to Learning" encouraged the world to bring the human capability to learn fast center stage (Botkin et al. 1979). The 17 Sustainable Development Goals, adopted by the UN in 2015, underpin

a worldwide collective action approach encouraging governments to integrate the goals into their national development plans. While the agreement on the SDGs is a considerable advancement of humankind, their strictly technical implementation, particularly that of the 11 socioeconomic goals based on conventional growth policies, would make it virtually impossible to meet the three ecological goals. Without a serious shift in thinking that acknowledges the interconnectedness of the goals, the Agenda 2030, also called "Transforming Our World," cannot be successful. Collaboration and collective action at all levels of the global society are considered important drivers of these transformations.

The 2018 Report to the Club of Rome titled "Come On – Capitalism, Short-termism, Population and the Destruction of the Planet" (Weizsäcker and Wijkman, 2018) addresses the necessary value shift by highlighting the discrepancy between wisdom and action as a philosophical crisis. While analyzing the foundations of philosophical thinking that contributed to the destruction of the planet, it comes to the conclusion that the world needs a "new enlightenment." With a critical assessment of the old enlightenment that not only was Europe-centered but also overly emphasized rationalism, the report advanced a new thinking that invites complementarity, synergies, and balance as critical elements for a different way of approaching world development. The report makes clear, in order to overcome the greed, short-termism, and dangerous individualism that fuel the destruction of our common home, the Earth, new wisdom needs to acknowledge the complementarity of human and nature, markets and regulations, speed and stability, short term and long term, as well as outer action and inner resourcefulness. Transforming our world requires changing the approach to development and exploring the underlying mental models that drive human behavior.

Today, 50 years after the formation of the Club of Rome, it is still clear that current worldwide trends are not sustainable and that overcoming the philosophical crisis is more than urgent. This is, indeed, a foundation for the kind of collective stewardship necessary to stabilize planet Earth. The 2018 follow-on Report to the Club of Rome "A Finer Future" (Lovins et al. 2018) takes up these fundamental shifts and suggests concrete pathways to shift collective action toward an economy in service to life. Stewarding these transformations to regenerative economies is at the core of what needs to happen. It requires courageous and collaborative human agency at all levels of the global society and calls for collective stewardship based on a mindset that acknowledges the interconnectedness of the world.

Petra Kuenkel's *Stewarding Sustainability Transformations* lays the theoretical foundation for this to happen. It also shows practical pathways to transformation literacy, which is defined as the skill to steward transformative change collectively across the boundaries of institutions, nations, sectors, and cultures. When you begin to read this book, we suggest that you fasten your seat belts. This new Report to the Club of Rome will take you on a journey of theory and practice that, if widely understood, will revolutionize the way we, or humankind as a whole, will approach our future. It will change the way we collectively make future. In the era of the Anthropocene, the time in the planetary history where the human footprint has begun to change the course of planetary evolution, we need to learn fast to act as

stewards of a livable future for all. The new report suggests that the concept of *systems aliveness* is key to anchoring approaches to global sustainability in a scientifically grounded, yet philosophical foundation. Drawing on many visionary and revolutionary scientific scholars as well as engaged practitioners, it shows that all life on this planet is ordered in patterns and most prominently thrives best with patterns that enhance systems aliveness. If this were not the case, life on this planet, including us as humans, would long be extinct.

The transdisciplinary research captured arrives at the *Patterns of Aliveness Theory* that uncovers six aliveness-enhancing principles inherent both in nature and human systems. But the book ventures far beyond theory. Petra Kuenkel shows how the principles inform collaboration initiatives for global and local change and how they can be integrated into the large systems change envisaged for the implementation of the Sustainable Development Goals. Collective stewardship can be adopted as a day-to-day management approach of governments, development agencies, corporations, and civil society activists. This book shows an incredible important and persuasive pathway to making this happen.

The Co-Presidents of the Club of Rome   Ernst Ulrich von Weizsäcker
August 30, 2018   Anders Wijkman

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Preface

The overarching aim of this book is to translate a systemic – and enlivening – world-view into the practice of stewarding transformative change for sustainability. It connects the emerging practice of collaboration between multiple stakeholders with the call for a new way of seeing the world and ourselves as part of nature. In that way, this book 's intention is civilizational. My hope is to contribute to bridging the gap between the so urgently needed renewed way of seeing the world as an interconnected whole and the practice of tangible action, for example, in climate change mitigation, integrated water resource management, poverty alleviation, renewable energy development, land restoration, or even in changing our economic system toward a regenerative economy.

What if we all knew the place within that is at home with the universe? What, if what lies behind the complex sustainability challenges we are facing in our world, behind the vicious cycles and wicked problems we are dealing with on a day-to-day basis at local as much as at global scale, are the same principles that we are part of and that – if we understood them much better – could take us into a sustainable future? What if we all knew how it feels to tend the common, the very force that nurtures all of us?

If we look at the world as a whole, there are uncounted numbers of people engaged for the betterment of the world. So many people are aware that humanity is at stake. It is increasingly becoming clear that unless we change course and see ourselves as part of nature, and acknowledge the limits of an endangering growth paradigm, we cannot become benign partners of the evolutionary process.

In my work as a strategic advisor to a large number of global, national, and local multi-stakeholder initiatives that aim at solving intractable sustainability challenges across societal sectors, institutions, nations, and cultures, I have met many people who were passionate about making a difference. They worked relentlessly to make collaborative efforts successful, because they knew that this would be the only pathway to take. It often struck me how they battled with structures that held unsustainable behavior patterns in place and yet how much they wanted to break out of old patterns of thinking and acting.

The fact that the world, for the first time in human history, has agreed on a set of 17 Global Sustainability Goal in the year 2015, is an encouraging shift toward looking at the world as a whole. Despite inherent contradictions between the goals, this is a breakthrough – not only because of the comprehensive written document specifying 169 agreed-upon targets that are necessary guiding structures. It is breakthrough, first, because the goals foster the slowly emerging mindset that humankind, indeed, could be able to take care of a global future, in which humanity and the nonhuman nature can thrive together. Second, and this tends to move into the background, it was a breakthrough, because of the way the goals emerged in a long and arduous process of multi-stakeholder collaboration that preceded their final formulation. If such a global collaboration process is possible, there is hope that humankind can learn from it and gradually adopt a stewarding role in partnering with nature rather than destroying the essence that makes us alive in this world.

In my last publication, *The Art of Leading Collectively (2016)*, I ended with an invitation to join the collaboration journey toward a more sustainable world. I noted, "*while our sustainability challenges are complex, we have also grown a complexity of responses that will invite us to learn the art of leading collectively. But the dream is much bigger than just learning how to collaborate; it is also about remembering that we are human – and that the more human we are, the more we're in tune with the planet to which we belong as humankind.*"

This book's purpose is to take a planetary view and help readers become in tune with life's process of generating life, because this is the core of the evolutionary process. We need to understand these fundamentals better, even if we might never be able to grasp the entire beauty and complexity of life's processes.

While my professional practice since more than two decades focused on capacitating stakeholders from all societal actors to see collaboration as an opportunity to lead sustainability transformations collectively, I was increasingly inspired by the many facets of quantum physics and systems theory with all its branches into biology, ecology, economics, and psychology. I uncovered a thread of thinking that let to me a strikingly simple insight that many authors have alerted us to in a variety of ways: *Life's intention is to create more life*. But it is not doing so in a mechanical way, on the contrary, it does it in an amazing beauty of generation and regeneration. We, most profoundly with our emotional sense of aliveness, are directly connected to this so immensely powerful force of evolution. With the acknowledgment that we cannot understand the life process in all its details in the sense of deconstructing the cause and effect relationships, this book shows how we can learn to see the patterns that enhance life. This understanding will shift our thinking about our role in this deeply interconnected world, which will subsequently inform our action.

I believe that the current means of global communication invite us to rethink our role in an interconnected world. It encourages us to more explicitly know what we already know – that we co-create our world every day, from local to global scale and vice versa; and that we do so together with nature, because we are part of it. But this book goes beyond suggesting a new philosophy. It connects to the tangible collective actions the world needs.

The huge sustainability challenges we have in the world follow the same underlying patterns and principles as the solutions to the problems we can find and as the processes required to continuously find new solutions. Both are driven by the urge for aliveness, yet, while most wicked problems of today's sustainability challenges have become vicious cycles of unbalanced patterns, the solutions, that we need to find – however temporary they may be – need to be co-constructed as functional patterns that enhance life in systems from small to large.

This book's purpose, therefore, is to show that conceptualizing, planning, and implementing transformative change processes toward sustainability can be based on an understanding of aliveness principles translated into the daily practice of managing change. This will help us to become more conscious partners of the co-evolutionary process – and not its enemies. It will help many actors to become transformation literate and jointly discover sustainable pathways for a responsible Anthropocene.

Potsdam, Germany   Petra Kuenkel

Text on the Club of Rome

This book has been approved as a "Report to the Club of Rome," a series of publications which started in 1972 with famous report *The Limits to Growth*. The Club of Rome is a proactive network of pioneering thinkers, scientists, and practitioners with a global systems-oriented perspective. They share a common concern for the future of humanity, analyze global sustainability challenges, and promote collective stewardship for the Earth System. In order to become a "Report to the Club of Rome," a publication has to be innovative, has to present new approaches, and has to be based on sound scientific evidence. The acceptance as a "Report to the Club of Rome" indicates that the Club of Rome appreciates and promotes the publication as an important intellectual contribution but does not mean that all members share all of the thoughts presented in the book.

Acknowledgments

The journey of writing a book, which touches a topic as complex as global sustainability transformations, begins long before the actual writing process. It emerges from increasing inquiry into how humankind could become more aware of its many ways of co-creating future, including their ability to change their choices collectively. This book captures more than two decades of integrating theory and practice. It draws on extensive experience in accompanying many complex international multi-stakeholder initiatives for sustainability. New ways of collaborating across sectors and institutions were paramount for their success. The practice triggered also thorough research inquiry into living systems theory, constructivism, and finally academic and practitioner discourses on global sustainability transformations. It has been supported and inspired by the advent of the 17 Sustainable Development Goals, which, for the first time in the history of humankind, seem to become a reference point for an imagined future to which all of humankind can contribute. The book's content idea matured in many conversations that started long before the actual writing but continued throughout. These conversations took place during conferences, workshops, and bilateral meetings. Insights emerged in these conversations and invited further literature research. In that way many people contributed to this dissertation consciously or unconsciously. I am grateful to all those who knowingly or unknowingly added a further piece to a complex puzzle as supporters, critics, and encouragers. Many encounters with people from academia shaped this journey into an emerging theory. But beyond the uncounted inspiring contributors, I want to especially thank Helena Wagener from South Africa for her continuous encouragement to name the essentials of the emerging theory and to Steve Waddell from the United States for his passion for large systems change that inspired me tremendously. I am also extremely grateful to Dr. Ginny Belden-Charles for accompanying me throughout the journey from conceptualizing to suggesting improvements, to Sheila McNamee from the Taos Institute for her uniquely supportive role, and to Prof. Vala Ragnarsdottir for her inputs and recommendations.

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About the Author

Petra Kuenkel is a full Member of the International Club of Rome and the Executive Director of the Collective Leadership Institute, a Germany and South Africa–based social enterprise building collaboration competency for transformative change toward world sustainability. As a seasoned systems scientist, visionary author, and expert in complex multi-stakeholder settings, she promotes systems transformations by scaling-up collective stewardship skills for decision-makers from corporations, public sector, and civil society. With her educational background in change management, organizational psychology, and political science, she has profound international experiences in corporate change, development cooperation, and policy implementation. She is a leading strategic advisor to pioneering international initiatives that tackle sustainability challenges. Based on successful transformation processes, she developed the *dialogic change methodology* and the *Collective Leadership Compass*, a guiding tool for navigating change in complex multi-actor settings. Kuenkel's groundbreaking publication *The Art of Leading Collectively: Co-Creating a Sustainable, Socially Just Future* received international attention; her writings have appeared in numerous professional journals as well as *The Guardian* and *The Huffington Post*. For more information, please visit www.collectiveleadership.com or www.clubofrome.org.

Acronyms

4C	Common Code for the Coffee Community
AFI	Alliance for Financial Inclusion
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit
CE	Circular Economy
CEO	Chief Executive Officer
DKV	German Coffee Association
GDP	Gross Domestic Product
GPEDC	Global Partnership for Effective Development Cooperation
GRLI	Globally Responsible Leadership Initiative
GWP	Global Water Partnership
ICO	International Coffee Organization
ILO	International Labor Organization
IWRM	Integrated Water Resource Management
LSC	Large Systems Change
MNC	Multinational Corporation
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-Operation and Development
QDI	Quality of Development Index
SDG	Sustainable Development Goals
SDSN	Sustainable Development Solution Network
SITRA	Finnish Innovation Fund
SRC	Stockholm Resilience Centre
UN	United Nations
UNGC	United Nations Global Compact
US	United States
VUCADD	Volatility, Uncertainty, Complexity, Ambiguity, Diversity, Dynamics
WBGU	German Advisory Board Global Change
WCED	World Commission on Environment and Development
WWF	World Wide Fund for Nature

Chapter 1
Introduction and Context: The State of the World

In July 2012, UN Secretary General Ban Ki-moon convened a high-level panel composed of 27 eminent people from around the world. The panel was invited to provide consultative advice for a global development framework beyond 2015 (United Nations 2014b). Their report, published in May 2013, emphasized "the central importance of a new spirit to guide a global partnership for a people-centered and planet-sensitive agenda, based on the principle of our common humanity" (United Nations 2014a, p. 8). In order to accomplish this transformation, the report suggested forging a spirit of solidarity, cooperation, and mutual accountability. After extensive consultations and broad intergovernmental agreement, the UN agreed on a set of Sustainable Development Goals (SDGs),[1] officially known as "Transforming Our World: the 2030 Agenda for Sustainable Development," in September 2015. These 17 goals, depicted in Fig. 1.1, have 169 targets with close interdependencies (Le Blanc 2015). They are expected to function as a plan of action for world development, with voluntary achievement commitments for the public sector, the private sector, and civil society in all countries.

The UN's 2015 Sustainable Development Goals provide a global framework for the world's actors to effect significant large system change (LSC). The SDGs are designed to bring about a more prosperous, equitable, and sustainable world for all, in short, a flourishing world. Created through broad intergovernmental agreement resulting from extensive stakeholder consultative processes, they are aspirational, global, and comprehensive. These guiding and highly interconnected goals provide a framework for numerous initiatives at multiple levels. They focus on globally intractable issues such as complete eradication of poverty and hunger, good health and well-being for all, gender equality, and reduced inequality, among other laudable and exceedingly difficult goals.

The vision seems to be utopian: it is one of a world that is free from poverty, hunger, and disease and at the same time a world where life can thrive – life of all

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Fig. 1.1 The United Nations 2015 Sustainable Development Goals. (Source of image: http://www.globalgoals.org. Accessed on first July 2017)

species including humans. It is a world of peace where all people have access to sufficient education and to social protection and health care (WCED 1987). In this world, well-being refers to physical, mental, and social qualities, and humankind lives in harmony with nature within the boundaries of the planet Earth (Constanza and Kubiszewski 2014; Pirson 2012; Lovins 2012; Rockström et al. 2009). Such a world would require redefining an economic system that is currently built on depleting the Earth's resources (Berry 1988; Buss and Craik 1983; Capra 1982). A new economic system would have to radically change to operate, as Korten (2015, p. 136) puts it, "in co-productive partnership with nature to maintain the conditions essential to all life" or, as Fullerton (2015) suggests, as a regenerative economy that aims for long-term economic vitality by looking at an appropriate mix between market dynamic and governance systems.

However, the current state of the world is far away from this vision. Researchers from the Stockholm Resilience Centre (SRC) have suggested nine interdependent chemical and biological planetary boundaries: climate change, ocean acidification, stratospheric ozone, biogeochemical nitrogen and phosphorus, global freshwater use, biological diversity, and chemical pollution and atmospheric aerosol loading (Rockström et al. 2009). They reckon that humankind has already transgressed three of these boundaries and that the boundaries are interconnected such that transgression of one may accelerate the transgression of others. In addition, territorial wars as well as civil wars are raging in many countries. Nations that began to transform into democracies after the Arab Spring have a long way to go to achieve the necessary societal and economic stability. Millions of people are migrating for a variety of reasons: for example, to find places of peace or better economic prosperity. Climate change's effects will presumably result in increased levels of migration (Black et al. 2011; Kritz 1987). In many countries, the gap between rich and poor is widening (Atkinson 2015; Beinhocker 2007).

It is increasingly clear that monetization of all goods (including many public goods) puts the market entirely before the interests of humankind and the planet (Hajiran 2006; Kaul 2013) and may not serve humankind or the planet as a whole (Frey and Stutzer 2002; Fullerton 2015; Godfray et al. 2010; Meadows et al. 1972; Meadows et al. 2004). The December 2015 climate summit in Paris invited hope that there is a growing global awareness carried forward by visionary, concerned,

and committed people from companies, cities, research institutions, governments, and civil society organizations. Addressing sustainability challenges clearly requires different actors in all sectors to work together in a more fruitful and constructive way (Finidori 2016; Kuenkel 2016; Senge et al. 2015). No single actor has all the solutions, but each actor may essentially contribute a parcel of knowledge, a puzzle piece that counts. Partnering and multi-stakeholder collaboration between business, NGOs, government, the UN, and communities are expected to be essential to achieve sustainability and development goals, but they will be needed at a scale and quality that goes far beyond the current capacity for collaboration (Bøås and McNeill 2004; Kuenkel 2016; Meadows et al. 2004; Peltoniemi and Vuori 2005; OECD 2015; Timmer et al. 2008).

The notion of sustainable development can be tracked back to the 1987 report of the World Commission on Environment and Development. The report defined sustainability as the ability to "meet the needs of the present generation without compromising the ability of future generations to meet their needs" (WCED 1987, p. 41). At the surface level, this notion of sustainability, as well as the global agreements on the 17 goals, seems to be in alignment with the working definition of sustainability based on a systems view of life, as defined by Capra and Luisi (2014, p. 353): "… to design a human community in such a way that its activities do not interfere with nature's inherent ability to sustain life." However, the 17 Sustainable Development Goals are more complex and interdependent than a surface level definition suggests. A recent report of an international initiative by researchers and practitioners, called "The World in 2050," suggests to look beyond (TWI2050 2018). It explores transformational pathways toward a comprehensive people and planet approach and suggests an integration of the Global Goals by focusing on six sustainable pathways, which the authors call necessary transformations: human capacity and demography; consumption and production; decarbonization and energy; food, biosphere, and water; smart cities; and digital revolution. The authors consider that a shift in thinking has already started and highlight the emergence of a "normative framework" (p. 9) for addressing the world's sustainability challenges. Collaboration, at all levels of the global society, is considered an important driver of transformations. The authors suggest a radical shift toward seeing the world as an interconnected whole and advocate for a change in the global society's value systems.

1.1   Sustainability Challenges

Sustainability challenges range from climate change to ecosystem decline and from energy insecurity to water scarcity. They affect resource management, poverty, economic justice, food security, demographic change, population growth, and more. In August 2018, a group of renowned scientists published an article on possible trajectories of the Earth System (Steffen et al. 2018). They argue that the current trajectories, if not halted in time, would cause serious danger for the global ecosystem and

subsequently for our societies and economies. The authors warn of self-reinforcing biogeophysical feedback dynamics through human-induced emissions of greenhouse gases. Such a pathway would severely endanger the stabilization of the climate and create a "Hothouse Earth" that could change the conditions for life on Earth in an unprecedented way. They call for collective human action toward cutting greenhouse gas emissions and enhancement of carbon sinks as the only way to steer away from the danger toward stabilizing climate conditions. They emphasize the need for humanity's stewardship role in collectively ensuring a safe pathway for the Earth. This, they argue, requires a shift in thinking toward seeing humankind as an integral part of the Earth System – and a possibly much more responsible actor.

The need for engaging with sustainability is increasingly accepted in the corporate world, as businesses recognize that without a major shift, unsustainable global trends will impact them over the next 20 years (KPMG International et al. 2012; Hayward et al. 2013; Hay 2013). Because the most pressing problems of the twenty-first century are all connected and interdependent, they cannot be interpreted or addressed in isolation. The major world challenges addressed by the 17 goals are all *systemic* in nature (Capra and Luisi 2014) and require the driving of collective impact (Kania and Kramer 2011; Patscheke et al. 2014), regardless of whether they relate to energy, climate, economic activities, financial systems, or food security (Brown 2011; Meadows et al. 2004; OECD 2015). Hence, they need to be addressed with a systemic approach to solutions generation (Brown 2011). However, a more linear worldview that negates the interconnected nature and systemic complexity of evolutionary change, and which Capra and Luisi (2014) as well as many other scholars term mechanistic or reductionist, (Ackoff 1998; Allen et al. 1999; Biesta and Mirón 2002), influences the dominant discourse within most educational systems and institutional environments and forms the cornerstone of more than 200 years of economic thinking.

This worldview has several consequences with regard to meeting sustainability goals. *First*, the institutions expected to deliver on the Sustainable Development Goals work in a silo mentality, with competitive planning modes that fuel the notion (or illusion) of measurable development based on perpetual economic growth. *Second*, the notion of development embedded in a non-systemic worldview tends to address issues separately while ignoring the interdependence of the planetary boundaries (Friedrich et al. 2016; Meadows et al. 1972; Meadows 1994; Rockström et al. 2009). *Third*, most planning and economic measurement systems not only fundamentally follow a perpetual growth paradigm but also tend to exclude nonlinear, interconnected, and systemic views of life and development (Capra and Luisi 2014; Meadows 1999; Bai et al. 2016).

However, a growing body of both activists and researchers criticizes the dominant linear and non-systemic approach to development and the economic growth paradigm and also suggests alternatives (Capra and Luisi 2014; Fullerton 2015; Lovins 2012; Meadows 1999). A systems view of life could potentially incorporate shifts in perspective from the parts to the whole, from silo thinking to networked collective action, and from fixation on economic growth rates to revisiting the pur-

pose of measurements. It could raise issues of qualitative growth, refocus on process and relationships, and suggest that humankind find ways of dealing more effectively with complexity and uncertainty (Capra and Luisi 2014; Senge et al. 2015).

The dilemma is obvious: on the one hand, sustainability – *defined here as the ability of humankind to live well within the planetary boundaries and their systemic logic* – is on the agenda of every nation, every organization, and many citizens today. It is in many ways a global movement that cannot be ignored. On the other hand, it is not clear if this movement can accelerate the transformation quickly enough. The Paris goal of keeping warming "well below 2°C" will remain an enormous challenge. The hope that arose from the Paris agreement is that collective action by different actors, including governments, engaged citizens, cities, companies, financial markets, and civil society organizations, is possible.

In addition, as mentioned above, reaching a more sustainable world will presumably require a fundamentally change in the way the world economy functions today (Donaldson 2012; Fullerton 2015; Lovins 2012; Weber 2016; Korten 2015). This calls for a global mind-set shift accompanied by widespread implementation of sustainable behavior (Goepel 2016). Furthermore, new forms of organizing, such as collaboration among different actors across institutions and sectors, are not only paramount but also the sole route to successfully addressing the challenges the world faces (Hanleybrown et al. 2012; Patscheke et al. 2014). In a global survey of more than a thousand CEOs, 84% (Haygroup 2014) were convinced that the corporate world could have a decisive impact on global sustainability challenges, if there was a strong commitment to collaboration across sectors and to collective efforts for transformation. There are many examples of multi-stakeholder collaboration initiatives that attempt to address the complex challenges in collaboration (Bäckstrand 2006; Kuenkel 2015, 2016; Patscheke et al. 2014; Wilkinson and Eidinow 2008).

1.2 A New Narrative for a Sustainable World

A growing number of committed individuals and organizations, including leaders from business, academics, government, media, and civil society organizations, have begun to support for a new narrative. This narrative goes beyond the notion of sustainability as compliance and instead advocates for a vision of a world that works for 100% of humanity *and* the planet (Lovins 2012; Pirson and Lawrence 2015; Weber 2013). Such a vision requires an understanding of sustainability that is not limited to "doing no harm" to planet and people but continually improves the living conditions of all members of the global society as well as the natural world. At its core are respect for human dignity and the integrity of ecosystems (Waddock and Graves 1997; Waddock 2005). Interestingly, a growing number of social scientists are challenging the assumption that human nature is greedy and focused on individual and material benefits (Bowles and Gintis 2011). Neuroscientists too have suggested that human nature seeks goodness, caring, collaboration with others, and

connection to a larger purpose (Barbour 1999; Low 2011; Nucci and Narvaez 2008; O'Connor and Yballe 2007).

The above deliberations show that the transformation toward a more sustainable world requires more than a declaration of global commitment to global goals. Instead, transformation calls for collective action by myriad actors at scales from local to global. This book suggests that *stewarding sustainability transformations* at scale can be supported by a new conception of *collective leadership*, understood as the capacity of different actors who jointly develop strategies and actions that are grounded in a *systems view of life*. For this to happen, there is a need to shift the way leadership is conceptualized in terms of the *who* as well as the *how* and the *what for*.

- The shift in the *what for* places leadership into the context of the world's future sustainability and the vision of a world that works for 100% of humanity and the planet.
- The shift in the *how* emphasizes the cooperative nature as well as the collaborative competency of the human species more than in the past and subsequently builds collaborative leadership approaches.
- The shift in the *who* removes the focus on individual leaders and looks at how distributed collectives lead change.

1.3   The Call for Sustainability Transformations

The call for a profound sustainability transformation can be seen as an invitation to explore new forms of creating change collectively on a broad scale. Current institutional structures, top-down change interventions, and conventional linear planning and control mechanisms cannot be expected to successfully address these challenges (Liening 2013; Waddell 2011). Conscious forms of organizing human local-to-global interaction in networks (Waddell et al., 2015), governance systems (Folke et al. 2005; Pattberg et al. 2012), movements, and emergent organizational structures are likely to be more responsive to the sustainability challenges presented (Kuenkel 2016; Ospina et al. 2012; Waddell 2016a) and must be explicitly explored. However, people, acting individually and collectively, lie at the core of the required changes. Their shift in thinking and behavior is the cornerstone of transformations to sustainability.

What transformation means in the context of sustainability is the subject of an ongoing discourse among academics and practitioners. *Transformation* here refers to change that involves a deeply innovative approach toward thinking and acting and toward power structures and relationships (Waddell et al. 2015; Avelino et al. 2014). Following Avelino et al. (2014) transformation is seen as "fundamental, persistent and irreversible change across society" (p. 17). With reference to social innovation, the authors note that it needs to be understood as "[…] the *process* through which social innovations gain 'durability, scale, and transformative impact' by interlocking

with system innovation, narratives on change, game-changers and societal transformation (Avelino et al. 2014, p. 18)."[2]

However, the current discourse on global transformation (Bai et al. 2016) pays little attention to how actors can collectively steward transformation. Actors with or without official positions of authority include leaders, change agents, committed groups of citizens, multi-stakeholder and cross-institutional initiatives, or global and local action networks (Waddell 2011). The urgency of the necessary transformation calls for replacing isolated actions and silo thinking with leading collectively at scale (Kuenkel 2016; Brown 2011). It requires a paradigm shift in how individuals find their leadership roles in the spirit of collaborative co-creation and contribution to sustainable futures.

Actors who drive change matter, whether they find themselves inside or outside institutional structures and whether they have taken a mandate for change or are given one. Reality is more easily shaped by those who have a voice (Isaacs 1999) or are given one. They act as screens highly visible to others, and their exemplary ways of bringing about change often have an impact beyond the official task. As they are nodes in a network of human agency, their enactment of reality counts. Better understanding their potential for shaping reality together may offer a crucial contribution to the global transformation discourse. This book will therefore attempt to conceptualize the idea of *stewarding sustainability transformations* as a form of *collective leadership*. It requires enhancing the capacity of a collective composed of individuals (persons or institutions) in relational interaction, equipped with collaborative capacity, and with the intention to make their joint contribution to a world in transformation count (Kuenkel 2015; Ospina et al. 2012; Senge et al. 2015). It also views leadership in the context of global sustainability challenges not as a neutral decontextualized act but a conscious decision to contribute – or not contribute – to making the world more sustainable (Ferdig 2007; Kuenkel 2008; Kuenkel 2016; Maak and Pless 2009; Svensson and Wood 2006). In order to *steward transformative change for sustainability* at scale:

- Leaders and change agents, as drivers of the sustainability transformation, need to be aware of the nature of complex adaptive systems (Bernstein and Linsky 2016, Dooley 1997; Lichtenstein et al. 2007; Choi et al. 2001). An understanding of a systemic approach needs to be grounded in a *systems view of life* (Capra and Luisi, 2014) and a *relational conception* (Gergen 2009; Ospina et al. 2012) of how decision-makers, planners, and implementers that have SDG implementation at heart lead global transformative change in institutions across all sectors and levels of the global society.

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[2] The author of this publication follows Avelino et al. (2014) in the understanding that the concept of transformation needs to be distinguished from the concept of "transition." "A transition is defined as radical change that follows a particular nonlinear path, typically over a period of one to two generations. Such societal transition can be considered a type of societal transformation. However, not all societal transformations necessarily follow such a transition path. As such, societal *transformation* as a concept is broader than the concept of societal *transitions*" (Avelino et al. 2014, p. 18).

- A thorough and widespread understanding of the human ability (or inability) to foster *life-enhancing patterns of co-creation* (Capra and Luisi 2014; Goepel 2016; Kuenkel 2016; Gergen 2009) for a more sustainable world must be developed.
- Decision-makers and influential leaders need to have the capability to *leverage the potential of multi-stakeholder collaboration* as a cornerstone for life-enhancing collective action, e.g., in the form of cross-sector and cross-institutional collaboration based on values such as partnership, mutual support, and dialogue (Pattberg and Widerberg 2014; Pattberg et al. 2012; Kuenkel 2016).
- The transformation envisaged needs to be supported by *models*, *frameworks*, *tools*, *and instruments that resemble a holistic systems view of life* and that empowers leaders and change agents to enact and review transformative change in learning and reflection cycles (Finidori 2015, 2016).

These required shifts in conceptualizing and enacting leadership as the capacity of a collective of actors for an accelerated world transformation form the point of departure for this book. However, there is an ongoing dilemma between the widespread and deeply ingrained way institutions and corporations traditionally operate and the need for a more systemic approach to finding solutions to global challenges advanced by many scholars (Finidori 2015; Fullerton 2015; Bai et al. 2016; Jaworski 1996; Senge et al. 2015; Scharmer and Kaufer 2013; Wheatley and Kellner-Rogers 1996). Poverty and inequity, climate change, civil and cross-border war, food security, inadequate health care, education reform, weak governance, and environmental degradation are all examples of large-scale complex system transformation challenges (Waddell 2003, 2011). They are inevitably messy and unpredictable but need to be navigated to ultimately create better conditions for all stakeholders involved. This requires leaders across all levels of the (global) society to develop a joint capacity to shift complex systems from dysfunctional into more functional patterns of human interaction.

Sociopolitical-ecological systems can be described as complex adaptive systems (Waddock et al. 2015; Innes and Booher 1999) fraught with dysfunctional patterns of human-to-human and human-to-nature interaction. They are often stuck in downward spiraling vicious cycles that harm people, human systems, and nature (Gray and Moseley 2005). However, there are many examples of global action networks in areas such as responsible value chains, food systems, finances, energy, or water (Waddell 2011) that contribute to large system change. Human, social, and ecological systems are dynamic and complex by nature, which requires different interventions than those typically found in the results chains or theories of change of governments, corporations, NGOs, and international organizations (Folke et al. 2005; Probst and Bassi 2014; Rotmans and Loorbach 2010). Large systems change (LSC) must be seen as a decidedly nonlinear "organic" process involving multiple pathways and practices (Austin and Bartunek 2003; Hotes 2011; Waddock et al. 2015; Waddell 2016a). There is no "one right way" to bring about the change envisaged. Given the complexity of the systems, multiple efforts, from multiple sources, at multiple levels, with multiple different approaches will be needed.

A growing body of research suggests that current approaches to system change are deeply flawed in assuming that change can be managed and planned and that the change needed is a linear process (Choi et al. 2001; Marion and Uhl-Bien 2001; Stacey 1995; Waddock et al. 2015; Waddell 2016b). These scholars propose that change can at best be *stewarded* toward aspirational goals, because numerous actors will be involved, taking many initiatives toward a wide range of places, issues, and topics. Hence, it is not surprising that multi-stakeholder collaboration is at the center of SDG Goal 17, which focuses on global partnerships and cooperation, and is becoming a common practice in addressing systemic challenges (Camacho 2015; Le Blanc 2015). Multi-stakeholder collaboration is a complex answer to complex challenges (Bäckstrand 2006; Kuenkel and Schaefer 2013; Van Tulder and Pfisterer 2013). It necessarily integrates many different perspectives on problem definition, means to resolution, and what constitutes success.

Complex challenges like the implementation of the SDGs require approaches that empower and engage affected parties in order to enable and nurture emerging adaptable, context-dependent solutions (Burns et al. 2015). Pioneering approaches, broadly based on a systems view of life, invest in collective sensemaking and collective co-creation. They have already begun to address complex systemic challenges (Bernstein and Linsky 2016; Kuenkel 2016; Snowden and Boone 2007; Snowden 2015). While based on different disciplines, they share certain core elements such as multi-stakeholder engagement, multilayered thematic issues, and issue-activity-based networks (Waddell 2011) or complex system visualization and mapping (Snowden 2015). Implicitly or explicitly, these approaches shift the locus of leadership capacity from an individual attribute toward a capacity found within a collective consisting of multiple actors (Kuenkel 2016; Ospina et al. 2012; Gronn 2002; Hausschildt and Kirchmann 2001; Pór 2008; Friedrich et al. 2009; Collier and Esteban 2000; Senge et al. 2015).

1.4   Beyond Linear Approaches

Sustainability transformations require collectives of actors across several institutions in nonhierarchical relationships to become successful at leading the transformation (Kuenkel 2015, 2016). Together, they will have to define aspirational guiding goals that reach into the minds and hearts of the actors involved. They need to understand the organizing principles that inspire many other actors to drive self-organized change. Understanding the potential for the *transformative effectiveness of such a collective* of actors requires a deep dive into a systems view of life. It suggests harvesting insights regarding the conscious creation of life-enhancing patterns of human interaction (Varela 1999; Alexander 2004; Gergen 2015; Kuenkel 2016), leveraging diversity for resilience (Wheatley 1999), invigorating self-organization (Maturana and Varela 1987), and following the cyclical nature of a living earth system (Sahtouris and Lovelock 2000). This view is rarely exhibited in any of the current conceptions of leading transformative change.

Current mainstream practice in leading change around sustainability transformation tends to take up some of these issues but seems to stay attached to a focus on a linear, non-systemic worldview with a projectable and predictable future. In addition, the practical field of leadership still focuses on leadership within organizational settings and on reward for performance measured in linear growth. Some scholars take up the ethical dimension of leadership as an inherent commitment to fostering the common good (Pirson and Lawrence 2015; Greenleaf 1998). However, in order to implement the 17 Sustainable Development Goals, a broad-scale shift in knowledge generation toward a deeper understanding of collectively generated transformation for the common good is needed. In the context of this need, this book aims at contributing to an emerging knowledge stream by providing a new perspective on *collective leadership as a stewarding approach to large-scale transformation* in multi-actor settings. Therefore, it takes as a starting point a practice model for navigating complex change in multi-actor settings, the *Collective Leadership Compass*, which has been developed by the author based on 20 years of practice in supporting international multi-stakeholder collaboration initiatives for sustainability (Kuenkel 2016).

1.5   Chapter Overview

Chapter 2 introduces the practice model for navigating complex change in multi-stakeholder settings and its empirical and conceptual origins. It summarizes research results from 30 interviews with global actors, who have been involved as coordinators, facilitators, or organizers in complex collaborative change processes for sustainability. The *Collective Leadership Compass* is a meta-level framework that guides attention to mutually supportive factors for effectiveness in complex multi-stakeholder collaboration. The compass helps leaders, and groups of leaders, ascertain how a collaboration pattern can successfully emerge and subsequently derive process intervention strategies. The practice model is the starting point for the explorations into new approaches to stewarding sustainability transformations.

Chapter 3 sets the scene for understanding transformative change in the context of sustainability as a stewarding task and a collective leadership challenge. It explores the current leadership discourse with a focus on collectives and reviews the discourse on global transformation. The chapter identifies where these discourses point to leadership as the transformative capacity of a collective of distributed actors across institutions. It argues that a paradigm shift toward a radically new way of seeing reality based on a systems view of life is needed in order to conceptualize stewarding transformative change for sustainability.

Chapter 4 introduces systems thinking with a focus on life-enhancing processes. It does so in a trans- and multidisciplinary way and shows the role of patterns as a relational and constituting element in the co-creative process of life. Drawing on socio-ecological research, it relates such constituting elements to vitality and resilience, as a form of aliveness, in living systems. It argues that transferring and

translating the insights of this approach to understanding how socio-ecological systems function (or fail to function) is key to conceptualizing stewarding transformative change in a new way.

Chapter 5 argues that approaches to navigating complex world-making and transformative change for sustainability are more effective when they are anchored in a profound understanding of life processes. The chapter takes the concept of *systems aliveness* as a quality element of a pattern approach one step further. It advances 13 propositions regarding essential features of life enhancement in systems that can also inform a better understanding of enlivening human co-creation. The propositions lay the basis for the *Patterns of Aliveness Theory*, which shows how six essential organizing principles allow life to emerge, thrive, and re-create itself in natural as well as social systems. The chapter suggests that these principles must be taken into account in the practice of leading collectively and shows how they become the foundation of a *conceptual architecture* for stewarding sustainability transformations.

Chapter 6 takes the *Patterns of Aliveness Theory* into the day-to-day management practice of leading transformative change in multi-actor settings. A short deep dive into the current discourse on multi-stakeholder partnerships emphasizes the importance of collaborative practice for SDG implementation. Arguing that this practice is a pathway to sustainability transformations, the chapter highlights *collaboration enablers* in complex multi-stakeholder change initiatives and relates them to the six dimensions of the *Collective Leadership Compass*. It shows how these match with the six aliveness-enhancing principles elaborated in Chap. 5 and how this forms the next level of an emerging *conceptual architecture* for stewarding sustainability transformations. Two successful examples of collaborative multi-stakeholder change processes illustrate how the strategic design of collaboration leads to tangible results and enhances actors' *collaboration literacy* in navigating complex change.

Chapter 7 takes the emerging conceptual architecture for stewarding sustainability transformations to the next level. It suggests that *collaboration literacy* enhances *transformation literacy*, which is defined as the capability to *steward sustainability transformations collectively*, across the boundaries of institutions, nations, sectors, and cultures. The chapter proposes four shifts in thinking toward a new way of approaching large systems change that consider the *Patterns of Aliveness Theory* with its six aliveness-enhancing principles. It summarizes the insights from 50 semi-structured research interviews with scholars and practitioners in the global sustainability arena and links these insights to the currently most discussed intervention approaches to sustainability transformations. The integration with the aliveness principles and the dimensions of the *Collective Leadership Compass* leads to the final level of the *conceptual architecture for stewarding sustainability transformation*s. How this can be applied to enhance *systems aliveness* is illustrated by an example from the Circular Economy approach.

Chapter 8 suggests that *stewarding sustainability transformations* across and beyond institutional boundaries require the design of transformative processes and systems. It explains that the choreography of complementary interventions in