

SUSTAINABILITY TRANSFORMATIONS

Societal transformations are needed across the globe in light of pressing environmental issues. This need to transform is increasingly acknowledged in policy, planning, academic debate, and media, whether it is to achieve decarbonisation, resilience, national development plans, or sustainability objectives. This volume provides the first comprehensive comparison of how sustainability transformations are understood across societies. It contains historical analogies and concrete examples from around the world to show how societal transformations could achieve the Paris Agreement and the United Nations Sustainable Development Goals through governance, innovations, lifestyle changes, education, and new narratives. It examines how societal actors in different geographical, political and cultural contexts understand the agents and drivers of societal change towards sustainability, using data from the academic literature, international news media, laypeople's focus groups across five continents, and international politics. This is a valuable resource for academics and policymakers working in environmental governance and sustainability.

BJÖRN-OLA LINNÉR is Professor of Environmental Change at Linköping University, Sweden. He leads international research on transnational climate governance and geopolitics of sustainability transformations. He is experienced as an advisor in international climate governance and sustainable development research policy. He is the author of *The Return of Malthus* and co-author of *The Political Economy of Climate Change Adaptation*.

VICTORIA WIBECK is Professor of Environmental Change at Linköping University, Sweden. Her research focuses on communication studies. She is a recognised authority on sense-making of complex sustainability challenges, social representations of climate change, and communicative aspects of environmental management by objectives. She has internationally unique expertise in methodology for cross-country focus group research.

The **Earth System Governance Project** was established in 2009 as a core project of the International Human Dimensions Programme on Global Environmental Change. Since then, the Project has evolved into the largest social science research network in the area of sustainability and governance. The Earth System Governance Project explores political solutions and novel, more effective governance mechanisms to cope with the current transitions in the socio-ecological systems of our planet. The normative context of this research is sustainable development; earth system governance is not only a question of institutional effectiveness, but also of political legitimacy and social justice.

The **Earth System Governance series** with Cambridge University Press publishes the main research findings and synthesis volumes from the Project's first ten years of operation.

Series Editor

Frank Biermann, Utrecht University, the Netherlands

Titles in print in this series

Biermann and Lövbrand (eds.), *Anthropocene Encounters: New Directions in Green Political Thinking*

van der Heijden, Bulkeley and Certomà (eds.), *Urban Climate Politics: Agency and Empowerment*

Linnér and Wibeck, *Sustainability Transformations: Agents and Drivers across Societies*

SUSTAINABILITY TRANSFORMATIONS

Agents and Drivers across Societies

BJÖRN-OLA LINNÉR

Linköping University, Sweden

VICTORIA WIBECK

Linköping University, Sweden



Cambridge University Press
978-1-108-48747-4 – Sustainability Transformations
Björn-Ola Linnér, Victoria Wibeck
Frontmatter
[More Information](#)

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom
One Liberty Plaza, 20th Floor, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,
New Delhi – 110025, India
79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781108487474

DOI: 10.1017/9781108766975

© Björn-Ola Linnér and Victoria Wibeck 2019

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2019

Printed and bound in Great Britain by Clays Ltd, Elcograf S.p.A.

A catalogue record for this publication is available from the British Library.

ISBN 978-1-108-48747-4 Hardback

ISBN 978-1-108-72037-3 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Cambridge University Press
978-1-108-48747-4 — Sustainability Transformations
Björn-Ola Linnér , Victoria Wibeck
Frontmatter
[More Information](#)

*To our respective children
Alva, Emil, Saga, and Love
Ebba and Isak
and the world that will be theirs*

Cambridge University Press
978-1-108-48747-4 — Sustainability Transformations
Björn-Ola Linnér , Victoria Wibeck
Frontmatter
[More Information](#)

Contents

<i>Preface</i>	page xi
<i>Acknowledgements</i>	xv
<i>List of Abbreviations</i>	xvii
Part I Making Sense of Transformations	1
1 How Do We Change the World?	3
1.1 The Call for Transformation	3
1.2 Transitions and Transformations	5
1.3 Exploring Transformations	7
1.4 Research <i>on</i> and <i>for</i> Sustainability Transformations	8
2 Sense-Making Analysis	10
2.1 A Dialogical Approach to Sense-Making	10
2.2 Sense-Making in Action: Narrative, Framing, Categorisation, and Metaphor	13
2.2.1 Narratives	13
2.2.2 Frames and Framing	14
2.2.3 Categorisation: Analogies and Distinctions	15
2.2.4 Metaphors	16
2.3 Sites for Sense-Making on Societal Transformations	17
2.4 Empirical Foundations of the Study	17
2.4.1 Peer-Reviewed Research Literature	17
2.4.2 Policy Documents	18
2.4.3 International Media	18
2.4.4 Lay Sense-Making	19
2.5 Variations and Commonalities in Sense-Making on Sustainability Transformations	20
2.6 Rationale for the Selection of Empirical Data and Case Studies	21
	vii

viii	<i>Contents</i>	
3	How Societies Change: Theories of Transformation	22
3.1	Historical Transformations	23
3.1.1	Collapse or Amalgamation	23
3.1.2	Scale	25
3.1.3	Drivers of Change	25
3.1.4	Scope: Mega and Particular Transformations	27
3.1.5	Periodisations	27
3.2	The Industrial Revolution	28
3.3	Modernity	32
3.4	The Self-Regulating Market	35
3.5	A Fourth Industrial Revolution or Second Modernity?	36
3.6	Automobilisation	40
3.7	Abolition of Slavery	44
3.7.1	The Unending Struggle for Emancipation	53
3.7.2	The Abolition of Slavery as Analogous to Societal Transformations towards Sustainability	54
3.8	Implications for Sustainability Transformations	56
Part II	Varieties of Transformations to Sustainability	61
4	Global Arenas of Transformations	63
4.1	Societal Transformations in the Research Literature	64
4.2	Societal Transformations in International News Media	66
4.2.1	Transformation Scale, Scope, and Approaches	72
4.2.2	Transformation Goals	74
4.2.3	Actors and Drivers of Change	75
4.3	Transformation Aspirations in Global Sustainability Governance	77
4.3.1	The Transformative 2030 Agenda	77
4.3.2	The Paris Agreement	81
4.3.3	Transformation Scale, Scope, and Approaches	82
4.3.4	Transformation Goals	83
4.3.5	Agents and Drivers of Change	86
4.4	Implications for Sustainability Transformations	91
5	Localising Transformations	94
5.1	Cabo Verde: The Bridge Builder	95
5.1.1	Cabo Verde Focus Groups	98
5.1.2	Varieties of Transformation in Cabo Verde	100
5.2	Guangzhou, Pearl River Delta, China: A Chinese Model	101
5.2.1	Guangzhou Focus Groups	104
5.2.2	Varieties of Transformation in Guangzhou, China	106

<i>Contents</i>		ix
5.3	Fiji: Leadership of the Vulnerable	107
5.3.1	Fiji Focus Groups	110
5.3.2	Varieties of Transformation in Fiji	112
5.4	Sweden: Towards a Fossil Free Welfare State	112
5.4.1	Swedish Focus Groups	113
5.4.2	Varieties of Transformation in Sweden	114
5.5	Boulder, Colorado, USA: A US Frontrunner	115
5.5.1	Boulder Focus Groups	117
5.5.2	Varieties of Transformation in Boulder, Colorado, USA	119
5.6	Implications for Sustainability Transformations	120
6	Transformation Narratives	123
6.1	Transformation as a Journey	124
6.2	Transformation as a Building Process	130
6.3	Transformation as a War	134
6.4	Transformation as Co-creation	136
6.5	Transformation as Recuperation	139
6.6	Implications for Sustainability Transformations	141
Part III	Manoeuvring in a Multi-transformational World	145
7	Governing Transformations	147
7.1	Guiding Change	147
7.2	What Transformation Is Being Governed?	150
7.2.1	Understanding the Target System	151
7.2.2	Understanding the Depth of Transformation	154
7.2.3	Intended Outcomes of Transformation	156
7.3	What Factors Enable and Restrict Transformation?	157
7.3.1	Critical Conditions	157
7.3.2	Just Transformations	159
7.3.3	Incremental Change vs Disruptive Innovation	160
7.3.4	Niche Development vs Integrated Approaches	163
7.3.5	Mechanisms of Governance	163
7.3.6	The Power of Narratives	165
7.3.7	Changing the Way We Change	167
7.4	What Roles Do Different Actors Play?	169
7.4.1	Key Actors in Transformations	169
7.4.2	Narratives of Transformation Pathways	170
7.4.3	Interventions: Co-creation, Transformative Capacity, and Social Innovations	171

x	<i>Contents</i>	
	7.4.4 Agency and Social Structure	174
	7.5 Implications for Sustainability Transformations	176
8	Our Transforming World	180
8.1	The Governability of Transformations	181
8.2	The System Boundaries of Transformations	183
8.3	The Pace of Transformations	183
8.4	Drivers of Change	184
	8.4.1 Technology	185
	8.4.2 Political Economy	186
	8.4.3 Transformative Learning	187
	8.4.4 Narratives	189
	8.4.5 Perspective Change	191
8.5	Dialogues	192
8.6	Transformation as Utopian Thought	194
8.7	Never-Ending Stories of Transformation	196
	<i>References</i>	199
	<i>Index</i>	226

Preface

How do we change the world? Social sciences and humanities have always struggled to understand how the relationship between ideas, human agency, material conditions, and social institutions drives change. In response to the current global sustainability challenges of climate change, poverty, biodiversity loss, growing energy demand, and rapid urbanisation, a particular form of social change is increasingly being accentuated: non-linear systemic changes, also described as *societal transformations*. This book is concerned with such transformative changes: how can we understand what drives them, to what extent can they be governed, and how do actors' understandings of the goals and pathways of transformations differ within and across societies?

Three types of transformation processes jointly affect the world's societies, shaping everything from people's daily lives to the world politics of our time. In response to the fundamental transformations of the *global environment*, we see a growing desire to govern *societal transformations towards sustainability*. The United Nations' Sustainable Development Goals are being pursued under the rubric of 'transforming our world'. The Intergovernmental Panel on Climate Change (IPCC) special report on the prospects of limiting global warming to 1.5° C concluded that doing so will require 'transformative systemic change, integrated with sustainable development' (Masson-Delmotte et al., 2018:16). Governments, international organisations, business, and civil society around the world are slowly beginning to respond to calls for non-linear systemic changes in how we live, do business, and organise our societies. We are also experiencing *socio-technical transformations* – sometimes referred to as 'the fourth industrial revolution' or 'second modernity' – in how we interact digitally, physically, and biologically through, for instance, the Internet of things, artificial intelligence, machine learning, nanotechnology, gene editing, and mobile devices with astonishing processing power that make data fundamentally easier to access and manipulate.

Amid these emergent and deliberate alterations, as people around the world articulate their visions or struggle to understand what sustainable societies will mean for them, we are witnessing the development of new concepts, metaphors, and visions. The concept of transformation is perhaps the most emblematic of these, signalling the complete restructuring of systems. It implies a reconstitution that goes beyond not only incremental change, but also transitioning from one state to another. One illustration of transformation encapsulating a qualitatively different type of change is the caterpillar-to-butterfly image appearing on the back cover of this book. It signals metamorphosis – a complete change in form – thereby illustrating what the concept of transformation, in the broadest sense, refers to: non-linear change that leads to a new form of a system.

This book's front cover image symbolises the numerous germinating initiatives, experiments, movements, and policies addressing transformation in different ways. In working on this book, we have been astonished by the creativity, curiosity, and determination manifest in such initiatives all over the world. The seeds of transformation are found in many places, and the movement for sustainability transformations is surely growing. Where all these seeds of transformation will take root, how they will grow and at what pace, and what shape they will take as they evolve are questions that make these times both fascinating and inspiring. Our intention is that this book will convey the determination to fundamentally address unsustainability around the world, while communicating some of the hopeful insights that spring from exploring transformation initiatives across societies. In addition, the book will explore the many ideas as to what transformation will require in terms of growing conditions. What drivers and agents of transformative change are highlighted in different contexts, and how are the relationships between emergent and deliberate transformations perceived and acted upon?

With this book, we are not introducing a master plan for sustainable development management. As we learn from complex systems theory, attempts to control large-scale socioecological systems will hardly unfold as intended, since we can never fully predict the irregularities and non-linear interactions. Nor are we suggesting that conceptual consensus across societies is either possible or desirable. Rather, one conclusion of our work is that sharing, discussing, and deliberating on the many stories of and perspectives on transformation are essential to profound societal transformation that goes beyond current customary practices. These are certainly not sufficient conditions, although in our view they are necessary transformative conditions. As we will show throughout this book, the scholarly literature on societal transformations as well as our empirical data express a rich range of views and ideas as to how societies are transformed. Our intention is to invite the reader into a world of stories, experiences, research, and governance ideas about how to make this world a more sustainable place.

The book is organised in three parts: ‘Making Sense of Transformations’, ‘Varieties of Transformations to Sustainability’, and ‘Manoeuvring in a Multi-transformational World’. In the first part – ‘Making Sense of Transformations’ – we provide a framework for our analysis.

Chapter 1 – ‘How Do We Change the World?’ – presents the rationale, aim, and scope of the book, introduces key concepts, and outlines the state of research on and for transformations towards sustainability. The chapter highlights different calls for sustainability transformations in the United Nations 2030 Agenda, countries’ contributions to the Paris Agreement, and subsequent negotiations within the United Nations Framework Convention on Climate Change. The chapter further discusses the difference between the concepts of transformation and transition. The chapter argues that greater conceptual clarity on sustainability transformations would facilitate decision-making and planning via democratisation, greater organisational effectiveness, and richer international attentiveness.

Chapter 2 – ‘Sense-Making Analysis’ – discusses the study’s theoretical and methodological foundations from the perspective of dialogical communication theory and the literature on sense-making resources. The chapter depicts the roles of narratives, framing, categorisation, and metaphors in sense-making. The book’s different empirical materials are described: peer-reviewed research literature, policy documents, international media texts, and focus group interviews.

Chapter 3 – ‘How Societies Change’ – presents some key examples of how historians, anthropologists, economists, and other academics have tried to come to grips with the agents and drivers of previous societal transformations, and of contemporary rapid changes in technology, society, and culture. We cite examples of how the great Western transformation between 1500 and 1900 has been framed in different ways. Furthermore, we present two illustrative analogies of transformations: the abolition of slavery, and the replacement of horse transport with automobile transport in cities. This constitutes the basis for a typology of societal transformations based on the system level and pace of transformation.

In the second part of the book – ‘Varieties of Transformation to Sustainability’ – we present the results of our empirical analysis.

Chapter 4 – ‘Global Arenas of Transformation’ – analyses how the transformation concept has been used to describe or advocate change towards sustainable development in international contexts. First, we turn to the development of the research field, and continue with an overview of how sustainability transformations have been approached in the news media in different parts of the world. Finally, we turn to how sustainability transformations have been conceptualised in international politics. In particular, we consider the many visions of transformation outlined in the evolution of the 2030 Agenda and numerous countries’ contributions to the Paris Agreement.

Chapter 5 – ‘Localising Transformations’ – discusses sense-making regarding societal transformations in selected local arenas: 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. Chapter 5 presents the case study contexts, including their social, cultural, economic, and geopolitical circumstances of societal transformation and how transformation has been addressed in policy documents. We also present the stories of transformation emerging from twenty focus groups with citizens of these five countries, including, for example, the goals of transformation, drivers of social change, the role of top-down versus bottom-up initiatives, and the role of values.

Chapter 6 – ‘Transformation Narratives’ – discusses narratives of transformation that recur throughout our data sets. We discuss five major ways of conceptualising transformation processes: as a journey, a building process, a war, co-creation, and recuperation. The chapter argues that it is important to unravel core narratives, as they signal different overarching structures in sense-making, connoting different insights into how to address societal challenges.

Finally, in the third part – ‘Manoeuvring in a Multi-transformational World’ – we discuss the literature on transformation governance and the implications of our findings for elaborating on the agents and drivers of social change.

Chapter 7 – ‘Governing Transformations’ – outlines ideas and approaches for governing various kinds of transformation, ranging from the transformational leverage of technology, market incentives, strengthening state actions, civil society initiatives, enhanced public education, spurring shifts of mindsets, to restructuring the economic world order. We present key concepts in the governance of transformation and discuss the various governance implications of aspirations for sudden, rapid, and profound changes versus proposals for incremental or niche developments.

Chapter 8 – ‘Our Transforming World’ – discusses the general conclusions from the book’s exploration of stories of societal transformation around the world. In particular, it focuses on the governability of transformations, system boundaries, the pace of transformations, and the drivers of change, such as technology, political economy, learning, narratives, and perspective change. Finally, the chapter identifies the interconnectedness of personal, political, and practical transformations.

Acknowledgements

We are indebted to a number of colleagues who took the time to read and provide helpful comments on drafts of various chapters: Kevin M. Adams at the Stockholm Environment Institute; Lena Andersson-Skog at Umeå University; Mark Cioc-Ortega at the University of California, Santa Cruz; Jonas Anshelm, Anna Bohman, Kajsa-Stina Benulic, Mathias Fridahl, Erik Glaas, Anders Hansson, Fredrik Heintz, Mattias Hjerpe, Maria Jernnäs, Anna Kaijser, and Harald Rohrachner at Linköping University; Anna Emmelin at Rosendals' Garden Foundation; Pamela M. Feetham and Franco Vaccarino at Massey University; Giuseppe Feola at Utrecht University; Joel Halldorf at University College Stockholm; Martin Hultman at Chalmers University of Technology; Daniel Karlsson at the Swedish National Board of Health and Welfare; Naghmeh Nasiritousi at Stockholm University; Roger Pielke Jr at University of Colorado Boulder; Henrik Selin at Boston University; Prabhat Upadhyaya at World Wildlife Fund South Africa, and Donald Worster at Renmin University of China.

We also wish to extend our warmest thanks to the colleagues who collaborated in the cross-country focus group study on societal transformations: Melisa Alves, Januario Nascimento, Charles Yvon Rocha, and the rest of the team at Associação para a Defesa do Ambiente e Desenvolvimento (Association for the Defence of the Environment and Development (ADAD)), Cabo Verde; Therese Asplund and Anna Bohman at Linköping University, Sweden; Maxwell T. Boykoff at University of Colorado Boulder and Jessica Rich at Merrimack College, USA; Pamela M. Feetham and Franco Vaccarino at Massey University, New Zealand; and Yi Huang and Shi Xian at Guangzhou University, China.

We are very grateful to all the colleagues who have commented on and contributed to the studies underpinning this book. The responsibility for the conclusions is of course entirely our own.

We thank Lovisa Österlund at Linköping University Library for providing indispensable expertise and support in Chapter 4's analysis of the peer-reviewed literature; Angela Sanseverino for practical support, good company, and Portuguese–English translations during the Cabo Verde case study; and Marianne Kropf, Layla Nunes Lambiasi, Alva Linnér, Ebba Wibeck and Paula Wrona for efficient editorial assistance.

Thanks also go out to the anonymous peer-reviewers as well as the editorial team – commissioning editor Emma Kiddle, senior content manager Zoë Pruce, and editorial assistant Sarah Lambert at Cambridge University Press, Earth System Governance series editor Frank Biermann, and Sunantha Ramamoorthy and Abigail Neale for their work during production – for their insightful guidance and professional help.

We are grateful to Linköping University's vice-chancellor, the dean of the Faculty of Arts and Sciences, and the head of the Department of Thematic Studies for supporting the work reported in this book. We are also thankful to external funders who supported elements of the work: the Swedish Foundation for Strategic Environmental Research, Mistra, for support through the Mistra Geopolitics and Mistra Carbon Exit programmes, and the Swedish Research Council, Formas, for grants for the projects 'A Global Potluck: Cross-National Patterns of State Engagement and Performance in the New Landscape of International Climate Cooperation' (Grant no. 2011–779) and 'Decarbonisation Leadership: Disentangling Swedish Transformation Pathways and Their Exemplary Roles' (grant no. 2016–589). The book also contributes to the research programme 'The Seed Box – A Mistra–Formas Environmental Humanities Collaboratory'.

Our gratitude also goes to our respective families – Monica, Alva, Emil, Saga, and Love as well as Mats, Ebba, and Isak – without whose support, inspiration, and patience we would never have been able to embark on this adventure, much less be able to bring it home.

Abbreviations

COP	Conference of the Parties to the United Nations Framework Convention on Climate Change
GHG	Greenhouse Gas
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
MDG	Millennium Development Goal
NAMA	Nationally Appropriate Mitigation Action
NDC	Nationally Determined Contributions
SDG	Sustainable Development Goal
VNR	Voluntary National Review
UNFCCC	United Nations Framework Convention on Climate Change

Cambridge University Press
978-1-108-48747-4 — Sustainability Transformations
Björn-Ola Linnér , Victoria Wibeck
Frontmatter
[More Information](#)
