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Introduction

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Thirty years have passed since the World Commission on Environment and Development released its landmark report *Our Common Future*, which brought the concept of sustainable development to international attention. Defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED 1987, p. 43), the idea was endorsed by world leaders at the 1992 Rio Conference, and it has structured international debate about environment and development since that time (Bernstein 2013; Lafferty and Meadowcroft 2000). Most recently, the United Nations (UN) General Assembly has adopted the Sustainable Development Goals to guide international efforts until 2030 (UN 2015). As it has become embedded in international discourse, sustainable development links a series of critical normative concerns related to improving human welfare, protecting the environment (especially global life support systems), equity within and between generations, and public participation in environment and development decision making (Holden et al. 2017; Langhelle 1999). Although sustainable development has been subject to countless critiques and disappointments, the idea endures because it captures something essential about the problems of environment and development confronting the modern world.

Sustainable development is a broad concept and *Our Common Future* ranges widely over problems confronting humanity from environment and economic growth, through energy and resource management, to poverty (particularly in the Global South), food security and peace. Over the past decades a number of major international conferences have offered periodic assessments of progress made in implementing sustainable development. And the scholarly literature on sustainable development has continued to expand.

The purpose of this volume is not to repeat such exercises, but to make a distinctive contribution structured around three critical themes raised by the societal debate over *Our Common Future* and the practical experience with sustainable development over the past three decades: (a) negotiating environmental limits (b) equity, needs and development and (c) transitions and transformation. A cross-cutting issue that makes these themes concrete, and appears in virtually every chapter, is the challenge of responding to climate change. This is in many ways the paradigmatic sustainable development problem, and *Our*

Common Future was the first major international report to place climate change at the core of its concerns.

Thus, at the close of the second decade of the twenty-first century, we offer a series of critical reflections on these enduring themes. Although this discussion is grounded in history, the overriding concern is with the present and with the future as we seek to explore the question: What next for sustainable development?

1.1 A Challenging Conjunction

Sustainable development emerged from a critical encounter between international discourses over environment and development. By the mid-1980s the full reach of the environmental challenge was becoming increasingly evident. Even though major initiatives had been taken in the industrialized states from the 1960s with the creation of the modern institutions of environmental governance, such as the establishment of environment ministries and agencies, the passage of national air and water pollution laws, and the formation of expert advisory bodies, problems continued to accumulate. Meanwhile the traditional development model seemed to have stalled for many poorer countries that remained mired in debt and dependence. Sustainable development was intended to bridge the divides between rich and poor, and between East and West, opening up a new trajectory that would enhance opportunities for all, while protecting the environment and paying particular attention to the needs of the world's poor.

At its core, sustainable development was about progress, and the common future of humankind on a bounded planet. Ultimately, what is to be sustained in sustainable development is the process of 'development': the advance in social conditions that includes not just material prosperity but also health, education, science, the arts, and so on. But such development can only be sustained if societies pay attention to preserving the environmental conditions for human flourishing.

Considered as a *conceptual innovation*, sustainable development has had a remarkably successful (if still brief) career. Within a decade of the publication of *Our Common Future* it had been embedded in the mechanisms of international governance and integrated into the politics of many countries. Like other normative ideas invoked in political life (think 'freedom', 'justice' or 'democracy') sustainable development frames discussion, but is subject to continuous argument over its true meaning and practical implications. Yet the more such ideas command general allegiance, the more they are subject to distortion and dilution.

With respect to achieving a *substantive transformation* of the development trajectory, the sustainable development story is less sanguine. Over the past three decades hundreds of millions of people have been lifted from poverty, but hundreds of millions of others have been born into squalor (World Bank 2016). Even as more people have benefited from integration into the global economy, inequality has in certain contexts become more deeply entrenched. In many countries environmental protection has been incorporated more closely into everyday practices of governments, firms and citizens. And there have been

international successes, such as action to control ozone depleting substances. Yet these accomplishments are uneven or fragile. A change of government or economic reversal can lead to a rapid unravelling of previous gains. Even countries with relatively elaborate systems of environmental governance fail to address basic issues. Examples here include the ‘diesel-gate’ emissions scandal which has had dramatic consequences for urban air quality across Europe, or the lead contamination of drinking water in Flint, Michigan. Above all, over the past 30 years there has been no fundamental inflection point in the ever-expanding scale of human impacts on the biosphere.

In many respects, the conjuncture now facing those who would advance sustainable development is more challenging than ever. Political and economic circumstances differ widely from country to country, but perceptions of instability, dislocation, polarization and alienation are widespread. The rise of right-wing populist and authoritarian movements in many jurisdictions threatens social advances secured over previous decades. Negative social and economic impacts from the pattern of globalization pursued since the 1980s, deregulation and privatization, increased monopolization in key economic sectors, and the politics of austerity pursued in many countries since the 2008 economic crisis, have taken their toll. International institutions and norms, and the world trade system, are under pressure. Geostrategic tensions between China and the United States are growing.

Meanwhile, the environmental consequences of the established development trajectory, especially the impacts of climate change, are becoming more evident, and new elements to the debate have become more important. Included here are the issues of biodiversity loss, plastics and other waste, pandemics, religious fundamentalism, and cyber security, none of which were mentioned in *Our Common Future*. In addition, the involvement of businesses and firms, as well as governments at all levels, and the individual responsibilities of all global citizens are now all seen to be essential players in achieving sustainable development. Such a changing picture provides the context for this book and the means to review what has, and what has not, been accomplished, and to return to some of the most important issues initially discussed in *Our Common Future*.

1.2 Critical Challenges for the Future

The chapters in this volume range widely over the problems confronting contemporary societies and the promise of sustainable development. The issues covered range from the broadest geostrategic level to more intimate questions concerning individual conduct and transformation. Material flows, economic circumstances, technological innovation, governance practices, and norms and values all enter the discussion. Moreover, the authors adopt varied approaches and sometimes draw rather different conclusions about particular developments or the key priorities looking forward. Rather than seeing this diversity as a shortcoming, we consider it to be a feature of the volume, which goes some way to capturing the complex and contradictory state of the real world, and to reflecting the plurality of voices that must be accommodated to deal with such complex

issues. That said, sooner or later all the chapters engage with critical themes related to limits, equity and transformation.

The first of our critical themes, ‘negotiating environmental limits’, is the subject of Part B of this book. Environmental limits play a critical role in the vision of sustainable development articulated in *Our Common Future*. Indeed, it emphasizes ‘the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs’, and this represents one of the ‘key concepts’ contained within the idea of sustainable development (WCED 1987, p. 43). Various understandings of limits lie at the heart of contemporary environmental controversy including, for example, recent debates about ‘planetary boundaries’, biodiversity loss, carbon budgeting and the 1.5°C climate target (Biermann 2012; Eastin et al. 2011; Meadowcroft 2013; Morseletto et al. 2017; UN 2015). More generally, reconciling the rapid expansion of human civilization (population growth, rise in material throughput, and the increasing reach of our technologies) with a bounded biosphere remains a critical problem for the coming century. If sustainable development is to mean anything, it must point to some way of reconciling human flourishing with physically bounded ecosystems. And so, arguments about economic growth, environmental limits, decoupling, steady-state economics, green growth, and de-growth must be confronted.

Our second theme, ‘equity, needs and development’, is explored in Part C. Another critical dimension of *Our Common Future* was the emphasis on equity: inter-generational equity related primarily to protecting the global ecosphere for future generations; and intra-generational equity focused on the North/South issue and the ‘overriding priority’ which should be assigned to ‘meeting the needs of the world’s poor’ (WCED 1987, p. 43). The critical insight here was that problems of environment and development were intertwined. The development needs of the world’s poor were undeniable; but the industrialization of the developing world would place further pressures on an already strained global ecosphere. Countries of both North and South should embrace new pathways that dramatically decreased burdens imposed on the Earth’s resources. In recent decades equity issues have acquired increased salience within developed countries, as economic gains have often been monopolized by the more affluent (Piketty 2014), and the post-war welfare state model has come under increasing strain (Atkinson 2015). But to recognize that equity is important, does not tell us what forms of equity matter most, how it is to be advanced or reconciled with other social goals. And clarifying such issues seems essential to the future of sustainable development from the spheres of international or national politics down to the level of local communities.

Part D of this book is devoted to ‘transitions and transformation’, and in particular to an issue which has increasingly occupied environmental scholars and practitioners over the past decade, namely pathways to social change. *Our Common Future* contains farsighted recommendations, for example, on the importance of integrating environment and economic decision making, and calls for enhanced international cooperation. However, it is relatively silent on exactly how change is to be achieved. More recent work on socio-technical

transitions (Smith et al. 2005) and transformative movements (Scoones et al. 2015) point to the difficulty of mobilizing societal forces to break entrenched institutional arrangements in order to move more decisively towards sustainability. From the outset, environmental movements have wrestled with how to bring about societal change, with the organization of efforts to change individual hearts and minds as well as to address structural or systemic issues. So transitions and transformations from the personal (or inner) level to the broader systems-level are critical to the future of sustainable development.

1.3 Organization of This Book

This book is composed of fourteen chapters by international sustainability scholars that offer reflections about the current predicament. Each author was briefed to reflect about the past, present and future of sustainable development, to reflect on the achievements and shortcomings of *Our Common Future*, and to highlight key priorities for policy and/or research which flow from their analysis. In the final chapter the editors present their own reflections through a discussion of the achievements of *Our Common Future* and comment on future directions.

First come two chapters setting out the broad context (Part A). Simon Dalby reflects on the light which the growth of Earth System Science and current discussion of the Anthropocene shed on *Our Common Future*. He considers the significance of the UN Sustainable Development Goals, and the importance of the societal response to climate change, arguing that the environment can no longer be seen as a backdrop against which human history plays out. Instead we should understand we are part of a biosphere that is 'being rapidly transformed by carbon fuelled capitalism'.

In the next chapter, Kristin Linnerud, Erling Holden, Geoffrey Gilpin and Morten Simonsen derive a normative model for sustainable development based on three equally important moral imperatives: satisfying human needs, ensuring social justice, and respecting environmental limits. A sustainable development space is defined by linking the imperatives to six themes, selecting indicators and assigning thresholds that must be met. In their analysis of country data the authors focus on identifying countries that have managed to reconcile trade-offs between the three imperatives in a positive way.

The second section of the volume (Part B) includes three contributions related to *negotiating environmental limits*. Harald Sverdrup presents the results of novel modelling exercises to explore the planet's future, focusing particularly on resource availability, climate impacts and inequality. The chapter offers a sweeping overview of current trends, illustrating the interdependence of problems confronting the global community. Phasing out fossil fuels, accelerating industrialization of poorer countries, addressing unemployment and inequality, and managing population growth emerge as critical elements if we are to avoid a much 'greyer world' by 2050.

Sabine Fuss discusses potential tensions between the deep decarbonization imperative and the development aspirations embedded in the concept of sustainable development. She argues that potential conflicts between a changing

climate and necessary mitigation efforts on the one hand, and the achievement of development goals, on the other, are now more acute than they appeared 30 years ago. And yet, there are also multiple synergies among these societal objectives. How these tensions and complementarities play out over coming decades will say much about the future of sustainable development.

In the final contribution to this section, Paul Ekins and Arkaitz Usubiaga comment on the difficulty of developing a plausible and widely accepted measure of environmental sustainability to match the commonly used gross domestic product (GDP) measure. The authors argue that the achievement of such a measure nevertheless remains central to promoting sustainability objectives. They then go on to lay out the conceptual foundations for a national ‘index of environmental sustainability’, and provide an example of how this might be applied to help guide policy formation and implementation.

The third section of the volume (Part C) addresses interactions among *equity, needs and development*. Iris Borowy argues that tension between the demand for more growth (to meet the economic needs of the world’s poor) and the need to limit growth (because of the planet’s limited carrying capacity) means that redistribution is inevitably propelled onto the international agenda. The chapter reviews what is known about international income and wealth inequalities, and surveys a number of policy strategies to help mitigate these global inequities.

Ian Gough discusses what we mean by human needs and shows its importance for discussion of the UN Sustainable Development Goals. He explores the relationship between inequality and sustainability, considering the necessary transformation of national social policies into ‘eco-social policies’. Then, focusing on circumstances in the rich countries, he explores the challenge of ‘fairly recomposing consumption’, using a distinction between ‘necessities’ and ‘luxuries’ to define a fair ‘consumption corridor bounded by minimum and maximum incomes or consumption bundles’.

In the last contribution to this section, Sonja Klinsky and Aarti Gupta analyse the evolving approach to equity in international climate governance. They argue that equity has gradually been shifted from a substantive issue to a narrative about capacity building. And they wonder whether this marginalization of equity concerns of poorer countries, which are likely to be hardest hit by the impacts of climate change, will prove to be viable in the long run.

Next come four chapters on *transitions and transformation* (Part D) which engage with the critical question of how change is to be secured. Felix Rauschmayer combines social/philosophical discussion of the nature of the self with a highly personal reflection of the author’s lived experience as an environmental scholar and activist. This moving chapter explores the contradictions many of us experience when trying to live sustainably, relating these to broader questions about societal transformation.

Karen O’Brien contrasts an approach to change focused on technical innovation, which risks ignoring power and politics and leaving the root causes of environmental problems untouched, with one that embraces a more transformative logic. She draws on examples from Norway to illustrate the contrast between ‘innovative’ and ‘generative’ approaches to sustainability.

Andy Stirling offers a sweeping critique of contemporary practices of sustainability. He argues that modernist imaginaries of control continue to dominate official attempts to engage with the sustainability problematic. Only by emphasizing an ethic of care that addresses the ‘neglected harms to people, societies, nature, and their implications for the future world’ can sustainability achieve its potential.

In the final chapter in this section, Oluf Langhelle, James Meadowcroft and Daniel Rosenbloom link together the acceleration of transitions and the critical role of the state, activated by changes in parties and the political sphere, in speeding up that change. Building on a multi-level perspective, this chapter takes examples from the phase-out of coal-fired electricity generation and the electrification of the transport system to explore the conditions under which politics and technology can work together to achieve sustainable development goals.

The final section of this volume (Part E) is concerned with drawing together the threads of the argument and considering the future. Eva Lövbrand’s chapter considers the implications of the arrival of the Anthropocene for the future of the sustainable development project. Reviewing the structure and impact of recent arguments about the Anthropocene, she argues that the emerging discourse lacks ‘the reassurance offered by *Our Common Future*’ placing us in an ‘uncomfortable juncture where irreversible loss and damage has already occurred’.

In the final contribution to this section, David Banister approaches the future from another vantage point through a broad synoptic view of what has been accomplished and what remains to be done if sustainable development is to be taken seriously. Looking to the future he discusses four normative future oriented issues that will be of instrumental importance in the coming decades, and all of which need to be seen as integral parts of the future debates over sustainable development.

The last chapter in the book, co-authored by the editors, offers concluding reflections on the significance of sustainable development, the different interpretations of its components, and key debates for the future. It provides a summary of diverse themes and debates presented throughout the volume, points to unresolved tensions, and looks towards the challenges that must be addressed over the next 30 years. It suggests that there are some grounds for optimism, but stronger grounds for pessimism, as the scale and complexity of the issues become more evident, and as the difficulties of taking effective global and local actions become more apparent. And it expresses the hope that in thirty years’ time a similar set of chapters will have a more positive story to tell.

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