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Published in:
Environmental Politics and Governance in the Anthropocene

2016

Document Version:
Peer reviewed version (aka post-print)

[Link to publication](#)

Citation for published version (APA):
Zelli, F., & Pattberg, P. H. (2016). Conclusions: Complexity, Responsibility and Urgency in the Anthropocene. In P. H. Pattberg, & F. Zelli (Eds.), *Environmental Politics and Governance in the Anthropocene: Institutions and Legitimacy in a Complex World* (pp. 231-242). Routledge.

Total number of authors:
2

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14. Conclusions: Complexity, responsibility and urgency in the Anthropocene

Fariborz Zelli and Philipp Pattberg

Back to the beginning

In our introduction (Pattberg and Zelli, this volume) we established the Anthropocene as a contested concept – welcomed by some, critically discussed by others – that assumes an emerging epoch in planetary history with an unprecedented and ubiquitous human imprint. We also stressed that, unlike natural sciences, social sciences are still lagging behind when it comes to capturing the reasons, processes and implications of this new epoch in greater detail.

As a result of this imbalance, crucial and ardent political and social questions have not been put under sufficient scrutiny. The question that we asked in our introduction is whether the Anthropocene can help (re-)invigorate respective research or whether it is just one more buzzword. Political scientists, sociologists, psychologists, human geographers and scholars of other social science disciplines need to give us more insights into the changes that the Anthropocene hypothesis implies for key issues of their fields of research, such as the fit and effectiveness of governance institutions, the

participatory and distributive justice of political and social processes, and shifts in the relation between humans and their environment.

These implications are not trivial, since the Anthropocene hypothesis goes beyond all possible boundaries, both spatial and temporal. Our actions affect nature with everything and everyone that is part of it, here and somewhere else, now and tomorrow. This blurring of boundaries presents a growing and novel challenge to governance, which represents a major intentional and collective aspect of human action. What could we have done better? How quickly and how adequate can and should we act and react in our governance efforts? Where can we induce meaningful change?

Against the backdrop of this changing context of human action, and of governance in particular, we unpacked the Anthropocene into three key challenges. First, *urgency*, asking how quickly we need to act and how we can make a difference by deriving meaningful recommendations from our analyses; second, *responsibility*, addressing, for instance, variations of responsibility across different groups of actors and respective changes over time; and third, *complexity*, looking inter alia at different forms of intricacy and diversity – material, ethical, institutional, spatial – and the relations between them.

None of these three aspects is new to the scholarly debate on governance, but in their combination and intensity they mirror the unprecedented challenge that the Anthropocene implies for political processes. All contributors to this volume addressed these three challenges in their analyses. They had no other choice: understanding and examining governance challenges in the Anthropocene necessarily leads us to questions of urgency, responsibility and complexity.

Apart from these three cross-cutting key challenges, this volume was structured around different scholarly approaches towards the Anthropocene: understanding, analysing and addressing. Contributions to the first part informed the reader about different understandings of the Anthropocene, their limits, and their conflicts about the adequacy of the concept. This part followed up on contested nature of the concept to which we referred at the very beginning of our introductory chapter. In the second part, authors analysed the challenges to and changes of governance processes in the emerging Anthropocene, with a particular focus on the role of political institutions. And thirdly, contributors looked at the implications of the Anthropocene for questions of legitimacy and accountability, discussing options to address emerging shortcomings.

In the next section, we present key findings of these contributions along the book's three parts, i.e. in terms of crucial conceptual, institutional and accountability-related arguments. Following this, we will highlight some of the major results through the

lenses of urgency, responsibility and complexity. We conclude with an outlook on requirements for further research.

Key findings of the volume

In *part I* experts tried to make sense of the Anthropocene, engaging in a virtual critical discussion across their chapters. They stressed advantages and disadvantages of the term, and they came forward with suggestions for making the concept more useful as a normative guidance towards a just society and meaningful political change.

For Arias-Maldonado (chapter 3) the concept reminds us that a separation between humanity and nature is ontologically no longer tenable. While the Anthropocene marks the end of nature as a sphere unaffected by humans, there is also the chance for a new beginning. We can now develop a hybridized understanding of our natural environment, by accepting intricate overlaps between society and nature.

Wissenburg (chapter 2), by contrast, started from a fundamental critique of what he calls the narrative of the Anthropocene, stressing three main weaknesses. Firstly, he pointed to the lack of a certain natural scientific basis. Secondly, the social implications of the Anthropocene need much more attention. Thirdly, and most

importantly for Wissenburg, the narrative is not normatively loaded, leaving it open which type of society and society-nature relationship we should ultimately aspire (cf. Beck 1986).

Hailwood, in chapter 4, shared Wissenburg's scepticism and went even further by rejecting the concept altogether. Unlike Arias-Maldonado, he interpreted the argument of an end of nature as inherently flawed. For Hailwood, it repeats the very same motivations for human intervention that caused environmental deterioration in the first place. Even humble perspectives and ethics of anti-domination may fall into this trap. Ultimately, he sees no a real chance for a fundamental change if human action remains at the centre of our causal and ethical reasoning.

Where do these different interpretations leave us? Or, rather, how can we alter the concept, or narrative, of the Anthropocene to address some of the critical observations? Arias-Maldonado, following his relatively positive assessment, refrained from radical suggestions of de-growth and instead advocated what he sees as a more realistic endeavour: an enlightened rearrangement of socio-natural relations that allows for the protection of remaining natural forms and processes.

Wissenburg and also Meisch (chapter 5), on the other hand, called for more fundamental philosophical changes. Following medieval political philosophy, Wissenburg suggested the ideal of the Body Ecologic, a theory of good planetary

citizenship that guides humans in dealing with alternative and contradictory futures. Such theory not only needs to define a good society, but also a good nature for that society. For Wissenburg, this is a revolutionary theoretical step, since so far, only few ecological political thinkers (e.g. Eckersley 2004, 2007; Dobson 2007) have challenged the social compatibility of green ideas in their writings on deep ecology or the green state.

In a similar vein, Meisch argued that a normative theory is more important than creating grand political designs. He identified sustainable development as the conceptual core of the Anthropocene, requesting justice for present and future humans in the face of a deteriorating natural environment. But this abstract conceptual core needs further theoretical justification. To develop a suitable theory that further specifies rights and duties, Meisch built on Martha Nussbaum's capability approach (Nussbaum 2006) and Alan Gewirth's principle of generic consistency (Gewirth 1978; 1996). Both approaches conceptualize justice in terms of human dignity and related rights that allow for determining claims of access and allocation. For Meisch, respect for people's freedoms and rights finds its institutional equivalent in a diversified governance landscape that reflects ethical and legal pluralism, rather than a unitarian governance structure.

This suggestion leads us to *part II* on the role of institutions in the Anthropocene. For global climate governance Widerberg (chapter 6) found such diversified governance architecture. This assessment is in line with earlier observations that institutional

complexity and fragmentation have become structural characteristics of global environmental governance today (Biermann et al. 2009; Zelli 2011; Zelli and van Asselt 2013). But while previous assessments characterized global climate governance as only loosely coupled (Keohane and Victor 2011), Widerberg's social network analysis yielded different results: institutions at different levels are linked through hybrid institutions, thus creating a relative dense network. Moreover, a few actors, such as country or city governments, play the role of orchestrators (Abbott et al. 2015) in the emerging regime complex on climate change. They provide coherence and consistency through frequent activities in a series of institutions, thereby intensifying the network as a whole.

Also the institutional landscape on sustainable biofuels has gained in complexity over the last years, as Moser and Bailis found in their analysis in chapter 7. Biofuels governance has significantly changed due to a massive ramp-up of production. The EU seeks to orchestrate a complex of diverse sustainability standards and certification criteria, by taking a hybrid transnational governance approach with its Renewable Energy Directive (EU-RED). However, in contrast to climate governance, Moser and Bailis found that the EU approach does not live up to this orchestrating goal, since it does not conform to existing institutional scripts on standards and certification. The result is a conflictive institutional architecture, with tensions between different standards and understandings that go back to conflicts between knowledge and value systems.

While Widerberg as well as Moser and Bailis focused on the implications of institutional complexity in the Anthropocene, van Leeuwen and Prokopf looked into the potential causes of institutional change in two other fields of environmental governance. For Arctic shipping governance, van Leeuwen found in chapter 8 that ship owners lack significant regulatory and economic motivations to participate in non-state market-driven initiatives. As a result, the institutional landscape in this issue area remains rather state-led in nature, with the International Maritime Organization (IMO) at its centre. Arctic shipping governance thus shows a very different type of institutional design than climate governance, with the latter characterized by a boom of transnational institutions in recent years.

Prokopf (chapter 9) equally argued that institutional change needs motivational and attitudinal change as a prerequisite. In fact, for the case of Rhine river governance such a shift of motivations has eventually taken place. This, however, came at a price. It took a sequence of accidents and floods to redefine relationships among riparian states and between riparians and the river. These discursive and ideational changes ultimately induced institutional change, providing the International Commission for the Protection of the Rhine (ICPR) with an extended mandate.

Contributors to *part III* geared their chapters towards the implications of the Anthropocene for questions of legitimacy and accountability. Baber and Bartlett (chapter 10) heeded Meisch's and Wissenburg's calls for an ethical foundation of the Anthropocene, translating them into concrete suggestions for democratically

legitimate institutions. They cautioned however that, at the international level, such institutions should not take the shape of an overarching, unitarian structure. Instead, and similar to Meisch, Baber and Bartlett embraced institutional diversity as an appropriate and flexible governance landscape for a legally pluralist society. They further recommended new democratic principles and deliberative techniques for norm-building, policy-making and implementation processes across levels.

In chapter 11, Kühner's analysis of the compliance system of the United Nations climate regime showed how such a flexible mix of principles, procedures and institutions can work in practice. In particular, she found that soft instruments, like the processes for measurement, reporting and verification play a crucial role. The structure of the exercises and the facilitation by experts helped most regime members to comply with their commitments. In other words, incentives through soft instruments prevented hard actions from the enforcement side of the climate regime's compliance mechanism. Kühner also held that there is much more potential of soft instruments that needs to be exploited further.

In another study on global climate governance, Isailovic (chapter 12) discussed how changing patterns of authority in the Anthropocene entail changing legitimacy concerns for the global South. More concretely, the arrival of new private and hybrid governance arrangements has altered two traditional divides: North-South and private-public. The transformation of world politics in the Anthropocene hence draws

new fault lines and blurs old ones, creating new winners and losers when it comes to participation, distributive justice and exposure to environmental change.

Finally, and similar to Meisch or Hailwood, Wallbott (chapter 13) advocated a broadened understanding of the Anthropocene that goes beyond Western, anthropocentric knowledge forms and practices. She developed a relational sociology of space approach to analyse political processes in the Anthropocene. She illustrated her approach for the case of strategic practices of indigenous peoples in international climate negotiations on forests. Wallbott was able to show that these practices take place in more than one space. On the one hand, they are defined by the physical boundaries of indigenous actors, but at the same time these strategies are also shaped by institutional mandates, social asymmetries and normative imprints. In other words, when we analyse the political implications of the Anthropocene we should not only look at the complexity of political institutions and processes, but also at the co-existence and interrelation of different spaces for political action.

Complexity, responsibility and urgency

As the above summary has already suggested, *complexity* plays a major role in the concepts, analyses and recommendations of our contributors. All of them agree that there are several types of growing complexities in the Anthropocene that cannot be reduced. Wissenburg, for instance, distinguished three of them: the natural complexity

of the planet's ecology, the psycho-social complexity of humans and their institutions; and the political or moral complexity of bringing both together in a meaningful way. Wallbott added further dimensions by referring to the increasing complexity of both actors and spaces. Previously excluded collectivities like indigenous communities are brought into the politics of the Anthropocene. By going beyond their original life-world and space of social action, these actors blur certain boundaries across societal levels while, at the same time, creating new fault lines.

But how much do we know and can we know about these different complexities in the Anthropocene? On this question our authors clearly disagree. Arias-Maldonado optimistically argued that, eventually, we might gain proper insights into the intended and non-intended causal impacts of human behaviour. Likewise, Widerberg predicted that new tools like network analysis will enable us to visualize or even untangle complex relations between global governance institutions.

By contrast, Hailwood claimed that the very concept of the Anthropocene deprives us of this possibility, as it is too simplistic and does not do justice to the normative complexity of our environmental situation. Baber and Bartlett turned this argument on its head, holding that the Anthropocene is not a narrowing, but a flexible concept: it helps us to make sense of the immense complexity of the physical and cultural worlds, including the limited human understanding of them.

The contributors also differ in their approval of institutional complexity. Some, like Kühner, Meisch, Baber and Bartlett, welcomed a diversity of institutions and instruments from an ontological point of view, inasmuch as it reflects ethical and legal pluralism and the need for flexible responses in the Anthropocene. However, as Meisch and Wissenburg cautioned, this diversity needs to be grounded in certain overarching principles like human dignity or ideas of the good society and the good environment.

Others, like Moser and Bailis, voiced concerns from an empirical perspective. To a certain extent, institutional complexity may mirror the material complexity of an issue area, e.g. in the case of sustainable biofuels (Bailis and Baka 2011). This, however, does not mean that the emerging institutional landscape provides the best fit for addressing this material complexity. As shown in their case study on EU-RED, the current governance architecture, with the new EU directive at its centre, left several urgent environmental and socio-economic issues unaddressed. In a similar vein, Prokopf argued that, although the complexity of a policy issue may eventually be mirrored in the respective governance landscape, this evolution does not proceed in a continuous manner. The institutional development of Rhine river governance, for example, was a rather bumpy, two-step realisation that was also shaped by longstanding value systems.

Another insight is that institutional complexity differs considerably across levels and issue areas. While, as Widerberg and Isailovic showed, climate governance is marked

by an ever increasing number of public and transnational institutions, van Leeuwen qualified the general impression of increasing institutional complexity in global environmental governance. For Arctic shipping she does not expect a stronger institutionalization of private governance in the coming years, due to both strategic interests and public perceptions of the shipping industry.

With regard to *responsibility*, all authors share a certain degree of scepticism. Arias-Maldonado summarized this consensus: while the Anthropocene clearly attributes responsibility to all of us, this has so far not translated into major changes of behaviour. More fundamentally even, Baber and Bartlett, echoing similar concerns by Meisch, Hailwood and Wissenburg, cautioned that the Anthropocene concept might perpetuate a flawed understanding, namely one of human responsibility for controlling the environment and our ill-understood relationship with it.

In addition, Meisch criticized the vague and ambiguous moral basis of the Anthropocene concept that makes it difficult to specify responsibilities of and for certain actors. To address this vagueness, Meisch's theory of justice seeks to determine the responsibility of collective and state actors in the Anthropocene: these actors have a duty to protect the generic rights of other humans and to enhance their capabilities respectively.

Other authors welcomed the increasing set of analytical tools and policy instruments to establish or exercise responsibility. Kühner examined a flexible compliance system that combines soft and hard instruments for actors to take on responsibility and to be held accountable for their environmental actions. And for Widerberg, network analysis can help us to identify central players and fora within an increasingly complex governance network. These players gain responsibility through their position in the network and can be important addressees for policy recommendations.

This brings us to another argument, namely that the Anthropocene re-defines subjects and objects of responsibility. Isailovic emphasized that shifts of authority in global climate governance also imply changes of responsibility within the global South and between North and South. On the other hand, Wallbott reminded us that the new quality of responsibility in the Anthropocene also brings about new types of addressees like indigenous peoples. This shift in responsibility, she further argued, leaves us with a discursive challenge: a meaningful engagement with indigenous actors depends on the recognition of traditional knowledge patterns and authorities. In this sense, and in contrast to Hailwood's argument, the Anthropocene might eventually see the erosion of dominant Western paradigms of anthropogenic governance arrangements.

Finally, some contributors highlighted that ultimately all of us have responsibility in the Anthropocene, for instance, to hold both state and non-state actors accountable. As Kühner suggested, we can serve as external triggers for the behaviour change of

these actors. For Prokopf, awareness is key for a general sense of responsibility to evolve. The open question is where this awareness will come from: through social learning or, as so often with environmental issues in the past, through external shocks like natural disasters. Prokopf concluded that the slow realization of responsibility in the public might render the role of the state even more important as an orchestrator or even initiator of learning processes.

Coming to *urgency*, all our authors confirmed, not surprisingly, the growing need to act through flexible governance solutions – and to do so differently for different contexts, across regions and spaces (Isailovic; Wallbott) as well as across issue areas such as climate change (Widerberg; Isailovic), forestry (Wallbott), rivers (Prokopf), high seas and shipping (van Leeuwen), biodiversity or biofuels (Moser and Bailis).

However, our contributors disagreed to what extent the notion or narrative of the Anthropocene can help to alert us. For Arias-Maldonado the concept stresses the urgency of various transformations that humans have to induce to ensure equitable prosperity for future generations. Baber and Bartlett named a series of challenges that transformations, and emerging governance architectures in particular, need to address: knowledge generation and dissemination, ubiquity of action, effectiveness of implementation, and openness to learning and adaptation. Meisch added that urgency is not a topic of the future, but about here and now, e.g. regarding sea level rise, loss of biodiversity, or a growing environmental refugee crisis.

Hailwood was more sceptical on this issue. He conceded that the Anthropocene expresses urgency in a dramatic and eye-catching way, but he did not read the dimensions into the concept that other authors derived from it. He maintained that the Anthropocene in its current framing leads to a simplified and homogenising view of the problem, thereby repeating earlier mistakes. Prokopf shared this scepticism in her analysis of Rhine river governance. She found that, more often than not, we only sense the urgency to act in light of repeated disasters and accidents, not due to new concepts or buzzwords. The challenge then remains how humanity can be convinced to take action before experiencing disasters and reaching critical tipping points.

Given the openness or contestation of the Anthropocene concept, what should we actually do? And what should we do first? Building on his ethical theory, Meisch provided a straightforward criterion: we should provide every human being with the means to live a life in dignity. He held that such an altruistic approach might lead the Anthropocene concept away from technological fatalism and a focus on Western lifestyle. Coping with urgency then means to concentrate first on those who cannot exercise their generic rights. Hailwood, on the other hand, cautioned against an ethical foundation that reiterates the anthropocentric focus of the past. Instead, acting urgently should mean to move, as quickly as possible, towards a more humble human approach with nature and for nature.

Besides conceptual and ethical foundations, the urgency to act also depends on practical matters, such as the appropriateness of governance institution, i.e. the question of institutional fit (cf. Young 2002). Isailovic stressed that in our future analyses we have to observe whether the shifting patterns of authority and responsibility in the Anthropocene will ultimately deliver: Does the involvement of new actors and institutions help us to address new challenges and complexities? And is the evolving institutional landscape more adequate and fit to address social and ecological questions than previous governance arrangements?

Notwithstanding these critical views and words of caution, our authors also saw reasons for optimism, i.e. for a timely reaction to some of the challenges that the Anthropocene implies. Arias-Maldonado referred to the general capacity of humans to adapt to new circumstances relatively well. But he also cautioned against any technological fatalism. We cannot rely on systemic adaptation, but have to actively deal with the growing complexities that will set lasting challenges to our governance efforts for decades to come.

Some of the case studies showed how such intentional and successful adaptation of governance mechanisms can look like – namely by providing flexible mixes of processes and institutions. Moser and Bailis welcomed EU-RED as a timely approach to deal with urgent sustainability challenges of global biofuel foodstock production. In spite of some shortcomings, the directive with its hybrid governance approach has helped embedding trans-territorial biofuel production in a relatively fast way.

Similarly, Kühner praised the mix of hard and soft instruments in the compliance system of the United Nations climate regime. This pragmatic approach has proved more acceptable to a larger group of actors and helped trigger quick and important behavioural changes.

Where do we go from here?

One purpose of this book was to explore to what extent the emerging Anthropocene poses new challenges to the development, processes, fairness and effectiveness of environmental governance today. In the same vein, our authors discussed how these challenges alter the questions we should ask as governance researchers.

While our edited volume, with its selection of case studies and themes, could not provide an exhaustive overview, the above summary documents an impressive amount of insights that the distinct contributors to this book gathered on environmental governance in the Anthropocene. These insights make clear that many of the specific questions we need to ask as researchers – about complexity, responsibility and urgency as well as other dimensions – may not be new as such. What is new though are the combinations and interlinkages of such questions. By tying society and nature more closely together than ever before, the Anthropocene confronts us with an unprecedented intensity and contingency of our actions and their consequences – and of how we should do research about them.

Against this backdrop, our authors identified key research gaps that merit further investigation by scholars from different backgrounds. We can only list a few of these in the following. One key challenge will be a further conceptualization of the Anthropocene. While a conceptual consensus is neither feasible nor desirable the normative openness of the term leaves considerable space for a fruitful ethical debate. The controversial interpretations in this volume and the different ideas for fleshing out the concept normatively reflect this potential. How can we derive guidance for social and political action from the Anthropocene and its re-definition of the human-nature nexus? Can we get a stronger moral motivation from principles of human dignity, a good society and a good nature – as Arias-Maldonado, Baber and Bartlett, Meisch and Wissenburg suggested? Or do we need to be more radical and can we leave anthropocentrism behind as Hailwood insinuated? Can we move away from fatalist attitudes that often make us wait too long, as Prokopf found? To put it shortly: what makes us take action?

A related research challenge is the further identification and mapping of different complexities. As mentioned, our authors pointed to a series of them: natural, psychosocial, spatial, moral and institutional ones. Which methods can help us assess these complexities, the relations between them and their implications for political action in the Anthropocene? To this question, authors like Kühner, van Leeuwen, Moser and Bailis, Prokopf, Wallbott, Widerberg gave seminal answers, showing the potential of

approaches such as social network analysis, discourse analysis and a polycentric perspective.

A whole comparative research programme could evolve around such questions, as Widerberg insinuated. Such programme may uncover crucial commonalities across different issue areas, e.g. about the relationship between complex actor networks, institutional settings, political effectiveness and fairness. As Widerberg further suggested, such insights could help build theories on how complexity and responsibility in the Anthropocene emerge and change over time.

Furthermore, and following Isailovic's suggestion, such research agenda can help us to assess the suitability of our institutional architectures for dealing with the new challenges of an intensified society-nature nexus. Will the emerging patterns of authority deliver, or do we need further or different types of institutional change? Is a concentrated or fragmented institutional architecture better equipped to deal with specific problems in the Anthropocene? Which mixes of institutions and instruments are the best fit for which issue area, level, process and human context?

Finally, Kühner's study reminds us of the importance of policy evaluation in an era marked by growing complexity and uncertainty. The intricacy of environmental governance today puts an unprecedented burden on on-the-ground processes of complying, measuring, verifying and reporting. We need flexible tools for

practitioners to adapt governance processes to these realities – but also for researchers to provide an adequate assessment of these processes, which can ultimately help to further enhance them.

Coming to a final outlook, we like to point out an aspect that surprised us. When making their policy recommendations, almost all contributors to this volume stressed the notion of agency: they firmly believe that we as humans can still make intentional changes for the better. These recommendations, however, contrast with insights the very same authors give us into systemic dynamics, unintended consequences and growing complexities.

Their carefully optimistic and agent-based perspectives may have been unavoidable since the book's key concept, the Anthropocene, highlights the ubiquity of human action and consequences thereof. Their perspectives may also go back to the other theme of the book, governance, and to some of the governance challenges we identified: urgency and responsibility relate directly to the needs and conditions for human action.

But is optimism a good advisor for the suggestions we derive from political analyses? Whatever makes our authors, and us humans in general, believe in the potential of our actions, the question remains to what extent meaningful interventions can be crafted in an ever more complex world. This brings us back to one of the key meta-theoretical

debates in social sciences: the relationship between agency and structure (cf. Archer 1995; Bourdieu 1977, 1990; Giddens 1984). If we want to leave our readers with some optimism at the end of this book, we have to assume a mutual constitution of the two. There are options for agency to shape structures, but there are also structural limits and contexts to our actions.

Thirty years ago, asking ‘how do we want to live?’ seemed a suitable question when Ulrich Beck (1986) announced the beginning of the second modernity. But today, well into the Anthropocene, we should also ask ‘how *can* we live?’ What are our options, but also our limits for governance in an ever more intricate connection of our social and natural worlds?

One key realization that many still need to come to is that certain consequences cannot be prevented. We are beyond the point of avoiding dangerous climate change altogether, as we are incapable of stopping species loss and irreversible damage to ecosystems today or tomorrow. The Anthropocene also warns us that things have happened already that no governance effort can turn around. It took time to get the level of human imprint on nature that we are witnessing today. And the steps that brought us here have already taken their toll.

To be clear, this is not a call for complacency, but for a socio-ecological realism of acting within limits and complex contexts. The systems theorist Niklas Luhmann

(1986a; 1986b) once recommended that, in the face of natural disasters, mankind should carry on its lifestyle in a normal and unimpressed manner, since we can never save our natural environment in a targeted and intentional way. This book and its contributors could not be further away from this message. Our social and political behaviour matters more than ever. Knowing our limits can guide our behavioural change and help us make informed decisions about how to make the most of that change. And it can prepare us better for some unintended and unavoidable consequences.

Thus, notwithstanding its shortcomings discussed in this book, the Anthropocene concept reminds us that both outright optimism and outright pessimism are misplaced. We have entered an epoch where there are no optimal solutions, quick fixes or silver bullets. In this sense – and coming back to one of the questions in our introductory chapter – the Anthropocene can indeed be a constructive, reinvigorating challenge for our research and actions, not just a buzzword. We have to do our best, in continuous smart, flexible and embedded steps, to make society, nature and their nexus as equitable and sustainable as possible. We hope that the conceptual, theoretical and empirical insights of this volume could inform our readers about a few such steps – and give them inspiration to explore their own options and limits of acting and governing in the Anthropocene.

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