

Environmental Law and Governance for the Anthropocene

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• H A R T •
PUBLISHING

OXFORD AND PORTLAND, OREGON

2017

Hart Publishing

An imprint of Bloomsbury Publishing Plc

Hart Publishing Ltd	Bloomsbury Publishing Plc
Kemp House	50 Bedford Square
Chawley Park	London
Cumnor Hill	WC1B 3DP
Oxford OX2 9PH	UK
UK	

www.hartpub.co.uk
www.bloomsbury.com

Published in North America (US and Canada) by
Hart Publishing
c/o International Specialized Book Services
920 NE 58th Avenue, Suite 300
Portland, OR 97213-3786
USA

www.isbs.com

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First published 2017

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British Library Cataloguing-in-Publication Data

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

ISBN:	HB:	978-1-50990-656-7
	ePDF:	978-1-50990-654-3
	ePub:	978-1-50990-655-0

Library of Congress Cataloging-in-Publication Data

Names: Kotzé, Louis J., editor.

Title: Environmental law and governance for the anthropocene / edited by Louis Kotzé.

Description: Oxford [UK] ; Portland, Oregon : Hart Publishing, 2017. | Includes bibliographical
references and index.

Identifiers: LCCN 2017004607 (print) | LCCN 2017004792 (ebook) | ISBN 9781509906567
(hardback : alk. paper) | ISBN 9781509906550 (Epub)

Subjects: LCSH: Environmental law, International. | Climatic changes—Effect of human beings on. |
Climatic changes—Law and legislation. | Sustainable development—Law and legislation. |
Philosophical anthropology. | Geology, Stratigraphic—Anthropocene.

Classification: LCC K3585.5 . E58 2017 (print) | LCC K3585.5 (ebook) | DDC 344.04/6—dc23

LC record available at <https://lccn.loc.gov/2017004607>

Typeset by Compuscript Ltd, Shannon

Printed and bound in Great Britain by TJ International Ltd, Padstow, Cornwall

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author information, details of forthcoming events and the option to sign up for our newsletters.

PREFACE: DISCOMFORTING CONVERSATIONS IN THE ANTHROPOCENE*

There is persuasive evidence suggesting that planetary systems are on the brink of human-induced ecological disaster that could change life on Earth as we know it. This evidence underlies scientists' recent suggestion that the Earth system has entered a period in which humanity has emerged as a geological force triggering an epoch called the Anthropocene. The term 'Anthropocene' was first introduced in a publication by Eugene Stoermer and Paul Crutzen as a term of art expressing the geological significance of anthropogenic change.¹ The use of the term 'Anthropocene' suggests that the Earth is rapidly moving into a critically unstable state, with the Earth system gradually becoming less predictable, non-stationary and less harmonious as a result of the growing global human imprint on the biosphere. In the geo-ecological context, the term 'Anthropocene' therefore denotes a new period when human beings dominate the Earth by acting as the major driving force in modifying the biosphere.

A proposal to formalise the Anthropocene as an epoch of the geological timescale is currently being prepared by the Anthropocene Working Group, for consideration by the International Commission on Stratigraphy. With its formal acceptance pending, the Anthropocene trope has meanwhile managed to grab the attention of a growing trans-disciplinary cohort of scholars and has become a major academic enterprise. The growing trans-disciplinary and global interest that the Anthropocene is attracting suggests that it is steadily becoming a popular lens through which to consider the scientific and increasingly the social aspects of past, present and future global environmental change. In tandem with its instigating this trans-disciplinary scientific confluence, the term 'Anthropocene' is rapidly transcending its initial use as a mere rhetorical device, permitting deeper epistemological and ontological enquiries into regulatory interventions that govern human behaviour on Earth. The notion of the Anthropocene is thus increasingly deployed to assist the broader scientific community and could serve a future-facing role in, among other things: solidifying the idea of humanity as an Earth system driver; aiding understanding of anthropogenic Earth system processes; fostering deeper

* This preface is based on chapter abstracts submitted by the authors. Their contributions are acknowledged with thanks.

¹ P Crutzen and E Stoermer "The "Anthropocene"" 2000 (41) *IGBP Newsletter* 17–18.

political, social and cultural awareness of human-induced environmental change; and—the subject of this volume—instigating highly critical interrogations of the (mostly unsuccessful and ineffective) regulatory interventions used thus far to mediate the human-environment interface.

To this end, the idea of the Anthropocene is noticeably beginning to infiltrate contemporary legal and governance discourse, potentially providing a new perspective from which scholars can consider the role of law and governance in mediating the human-environment interface. In particular, realising that environmental law and governance are deeply implicated in the systems that have caused the Anthropocene allows an opening up, as it were, of hitherto prohibitive closures in the law, and of legal and regulatory discourse more generally. It invites fresh critical engagement with the world order that the law operatively maintains, and movement towards other understandings of global environmental change and ways to mediate this change through law and governance structures that will be more attuned to the challenges of the Anthropocene.

There is a steady realisation that existing legal and governance systems cannot continue to rely on the assumption, never adequately questioned owing to our experience so far, that the present relatively stable conditions of the Holocene will last indefinitely. To be sure, environmental law and governance cannot continue to rest comfortably on foundations that evolved under the Holocene, simply because under the emerging biospheric conditions of the Anthropocene traditional notions of environmental law and governance will be unable to maintain the type of societal ordering it would typically have sought to achieve under ‘normal’ Holocene conditions. The Anthropocene is therefore not only a possible new formal geological epoch: for environmental law and governance scholars specifically, the Anthropocene provides a unique opportunity to converse about the type of law and governance interventions capable of responding to the exigencies and complexities of a new and increasingly urgent socio-ecological reality. These conversations will be discomfiting, as they go to the core of humans’ place in the Earth and its systems, human responsibility for causing the socio-ecological crisis and human responsibility to address this crisis.

Accepting that the Anthropocene could be formally declared a new geological epoch in the near future (and even if it were not, it will likely remain an increasingly powerful discursive category), this volume seeks to provide the first collective, critical, and most importantly, *radical* exploration of future visions of law and governance for the Anthropocene. It endeavours to begin to trace out questions, issues and future-facing dilemmas fundamental to the search for an answer to the question: *how could environmental law and governance be reimagined to better mediate the human-environment interface in the Anthropocene?* In answering this question, this volume endeavours to provide a consolidated point of departure for the architects of future environmental law and governance.

Contributors to the volume were requested to be as critical of the regulatory status quo as they needed to be; to be as radical as they wished to be in their critique and proposals; to be unrestrained in their explorations of future projections and visions of what they see as an ideal vision for environmental law and

governance for the Anthropocene; to be as imaginative as possible in doing so; and to prise open the existing closures of a hegemonic world and regulatory order that produces limits and a stifling sense of monolithic ideology closing down the space for other modes of being and thinking. The contributions in this volume therefore neither seek to uncritically restate the regulatory status quo, nor do they present an opportunity to embark on unimaginatively positivistic black-letter law analysis. Instead, the point of departure is that a wholesale regulatory change is required as a result of the Anthropocene and that a different mode of thinking about environmental law and governance is urgently needed; in short, a different way of thinking about the entire human-environment interface, which centrally includes a reorientation and/or redesign of environmental law and its concomitant governance arrangements.

The volume is divided into four parts that are centred on distinct but related themes. The chapters in Part 1 focus on the limits and potential of law and governance in the Anthropocene. The authors of the three chapters in this part take us back to basics, as it were, by critiquing some of the foundational aspects upon which much of environmental law and governance have been fashioned for decades. Taking the Earth system governance metaphor and the planetary boundaries paradigm as a point of departure, in Chapter 1 Jonathan Verschuuren discusses the question: 'What is the current and future role of sustainable development and the associated principles of environmental law in the Anthropocene?' He critically interrogates the current impact of the principles of environmental law (such as the no harm principle, the cooperation principle, the integration principle and the precautionary principle), and then reflects on what might be required for the future. A major insight is that although the concept of sustainable development and the principles of environmental law are having a growing impact, their role remains weak. In theory, these existing principles could steer governance alongside the evolving Earth system approach by focusing on remaining within planetary boundaries, provided that a radically stronger normative and legal force with respect to the principles is established, and that they are safeguarded by all legal institutions at all levels of governance across the planet. Importantly, new principles, such as the principles of resilience and enhancement, are urgently needed in the light of the realisation that we are crossing critical planetary boundaries at an alarming pace.

Tim Stephens argues in Chapter 2 that the Anthropocene's new geological terminology is primarily descriptive, but that it nonetheless invites profound normative questions, among them being what purpose international environmental law should serve in an era in which human and natural forces are intermixed and inseparable. Like Verschuuren, he notes that researchers have begun to consider the implications of the Anthropocene and sought to identify principles and institutions of Earth system governance that can maintain the long-term stability of geobiophysical systems. Earth system governance literature has been strongly influenced by the work of Earth systems scientists who have proposed nine planetary boundaries that define the 'safe operating space' for human development. However, with some exceptions there has been limited analysis of the implications

of the Anthropocene for international environmental law, the body of international law devoted to addressing environmental challenges having transboundary or global dimensions. In an initial effort to address this gap, his analysis seeks to highlight the strengths and weaknesses of international environmental regimes in preventing the transgression of planetary boundaries. The chapter also offers reflections on how international environmental law demands fundamental reimagining if it is to maintain its role and relevance in the Anthropocene.

Benjamin Richardson concludes Part 1 by reflecting in Chapter 3 on the temporalities of environmental law. He argues that environmental degradation is associated with misalignments between humankind's contrived social time and the Earth's timescales. The time frame and tempo of the modern economy reflect a mechanistic, invariant, industrial clock time that has commodified and accelerated time, thereby distancing human society from the temporalities found in nature, such as those associated with biological, ecological, evolutionary and climatic processes. He indicates how the law is complicit in these trends, accelerating the depletion of natural resources such as through fast-track development legislation and resource governance regimes premised on unsustainable time frames of exploitation. Furthermore, the law habitually embeds temporal inertia in environmental regulation, such as the limited scope for relicensing development, which limits its capacity to respond flexibly to changing circumstances. An equally serious temporal failure of environmental law is its insouciance about past ecological damage and the importance of its repair and restoration. Without the restoration of former ecological characteristics, sustainable development may be unattainable, because prevailing conditions are already too degraded. Taking a multi-jurisdictional approach, Richardson's analysis advances a more holistic view of time into environmental law.

Authors in Part 2 of the volume convene around ontological and epistemological questions confronting law and governance in the Anthropocene. Anna Grear commences this predominantly theoretical part by bringing together, in Chapter 4, critical scholarship concerning environmental law and its subject with Donna Haraway's reflections on the Anthropocene, as well as insights from New Materialism, in order to trouble some counter-productive and eco-destructive assumptions haunting the 'Anthropos' of the Anthropocene. She uses these reflections to suggest potential lines of thought for the re-imagining of environmental law's 'subjects' and for moving beyond the trajectories and tropes underlying environmental law in its manifestation as an intensifying form of neoliberal governmentality.

Vito De Lucia argues in Chapter 5 that science has arguably entered a post-normal state, where a plurality of 'knowledges' co-exists and makes competing claims to truth. Environmental law, closely intertwined with epistemological, axiological and material problematics, is itself an increasingly complex and contested field of law and its traditional reference categories no longer seem to offer critical purchase. Against this background De Lucia explores what he terms the 'double

register' of the Anthropocene, in the light of which he offers a biopolitical reading of environmental law, with a view to further advancing the project tentatively called 'critical environmental law'.

Firmly embedded within the idea of 'critical environmental law', Andreas Philippopoulos-Mihalopoulos argues in Chapter 6 that it is important to embrace the responsibility that comes with the Anthropocene, which, in terms of environmental law, requires nothing less than a radical revisiting of its basic tenets. He examines 'critical environmental law' from three angles: grammar, theoretical perspective and methodology. Grammar refers to the need for a new, anthropocenic vocabulary that will deal with the challenges of the Anthropocene. To this effect, he suggests some terms, such as continuum/rupture, human/nonhuman/inhuman, as well as geologic immersion and planetary withdrawal. Theoretical perspective refers to the way current thinking changes or at least is affected by the Anthropocene—indeed, how current environmental legal thinking is *turning* in order to accommodate the needs of the new epoch. Finally, methodology refers to the way the Anthropocene changes the way we seek knowledge and the epistemological presuppositions of the limits of such knowledge. The chapter finally offers four theses in the form of suggestions on how 'critical environmental law' needs to adapt methodologically in order to integrate the anthropocenic grammar and perspective.

Saskia Vermeulen concludes Part 2 by offering critical perspectives on materiality and the ontological turn in the Anthropocene in Chapter 7. In an attempt to establish a dialogue between law, anthropology and eco-philosophy, she demonstrates how law is perceived as being deeply anthropocentric. The central position of the human subject in the juridical order as both agent and beneficiary on the one hand, and on the other the natural world, which has gradually been reduced to an object, may no longer be tenable. Such a realisation asks us to think about the ecology of the Anthropocene. In pursuit of such an endeavour, she explores the challenges and opportunities of the Anthropocene for environmental law. Through a closer reading of anthropology and eco-philosophy, a new legal terrain is (re)discovered wherein the laws of nature dictate a new contract between living and non-living entities in the universe as an 'ultimate' attempt to save the Earth and all its living and non-living inhabitants.

The penultimate part of the volume focuses on ways to reimagine selected issues surrounding planetary stewardship and global justice; both critical considerations in the Anthropocene. Maria Ivanova and Natalia Escobar-Pemberthy reflect in Chapter 8 on the role of global goals as a strategic global policy framework in global environmental governance in the Anthropocene. They indicate that the United Nations, as the main global governance institution, has for many years delivered along three main dimensions: peace and security, economic and social affairs and, more recently, environmental concerns. Predominantly driven by the United Nations, the Millennium Development Goals and the recently proclaimed Sustainable Development Goals, have expressed expectations and

committed countries to policies and targets to enhance development while promoting sustainability. The authors specifically analyse these global goals, and their two dimensions, articulation and implementation, as a key global governance instrument in the Anthropocene. To this end, they argue that the Anthropocene demands both action and accountability and requires that we approach the implementation of the new Sustainable Development Goals based on those lessons we have learned from the past.

In Chapter 9 I offer views on what a constitutionalised global environmental law and governance order could look like. Departing from the idea that constitutionalism offers a potentially powerful narrative and, more importantly, normative order, I attempt to understand and describe the potential of constitutionalism as an apex regulatory institution for mediating the human-environment interface in the Anthropocene. These insights are then transplanted to the global regulatory domain where I seek traces of global constitutionalism in the current (mostly defunct) global environmental law and governance space. I focus for this purpose on determining if, and the extent to which, global environmental constitutionalism exists in the form of a global environmental constitution, the global rule of environmental law, the separation of global environmental powers, the global environmental judiciary, global environmental constitutional supremacy, global environmental democracy and, finally, global environmental rights.

Carmen Gonzales focuses on the critical aspect of global justice in Chapter 10. Her premise is that the failure of international law and institutions to address global environmental degradation has significant implications for law and society as the planet's ecosystems approach irreversible tipping points. She shows how the environmental problems of the Anthropocene are inextricably intertwined with patterns of trade, finance, investment and production that have created an enormous and growing economic gap between and within affluent and poor countries; the Global North and the Global South. Grounded in colonialism, these North-South divisions have often paralysed international lawmaking, resulting in deadlocks in environmental treaty negotiations and agreements characterised by ambiguity, lack of ambition and inadequate compliance and enforcement mechanisms. International environmental law is a field in crisis because the problems it currently confronts are deeply embedded in the existing economic order and cannot be adequately addressed by simply tinkering on the margins. By interrogating the North-South divide in international environmental law, Gonzales offers several strategies to bridge the divide and create a more just and sustainable economic order grounded in a robust conception of environmental justice for the Anthropocene.

Klaus Bosselmann concludes Part 3 with Chapter 11 where he argues that ecological integrity must be a fundamental legal norm for a new 'world system' in the Anthropocene. He indicates that while the Anthropocene presents us with great challenges and uncertainties, it will possibly also prompt a significant reconfiguration of values in relation to the current status quo. In the Anthropocene, the Earth

appears as a single system with socio-economic systems and ecological systems jointly determining its dynamics. To stay within planetary boundaries, humanity's socio-economic systems must ideally be governed in a way that preserves the integrity of ecological systems. He examines possibilities of conceptualising ecological integrity jurisprudentially as a fundamental norm, or *Grundnorm*, to function as a 'universal acid' affecting all areas of law and governance, beyond traditional environmental tools and policies. Fundamentally, once embedded, ecological integrity could guide governance systems of successful communities; failure to do so will be a counter survival tactic.

The final part of the volume explores possible futures in critical regulatory, geographical and institutional 'spaces', notably those related to the human-nature space through the lens of the ecosystem approach; the corporation and corporate governance space; the adjudication space; the emerging normative space of transnational environmental law; and the regional European environmental law and governance space. Karen Morrow offers a critical examination in Chapter 12 of human responsibility in the context of the human-environment relationship and ecosystems in the Anthropocene. She indicates that the Anthropocene has not emerged from the ether. Rather, it is both the fledging product of an exploitative conception of the relationship between humanity and the environment, and ultimately the signal of the end to the illusion of control that is integral to the paradigm of mastery that informs it. Morrow examines the urgent need for and possibility of fundamental change in the human-environment relationship, employing transformational ecological thinking, and considers the treatment of ecosystems as a case in point. Having discussed the emergence of ecosystems approaches to environmental governance as currently realised, and their limitations, she then reflects on the potential contribution of other approaches to refashioning the human-ecosystem relationship. She contemplates the role that various notions of rights might play in this regard: individual rights, and (more radically) collective rights, and (more ambitiously still) rights for nature; and argues the crucial potential of the concomitant yet relatively neglected concept of human responsibility. Morrow concludes by urging an environmental enlightenment, in which the true position of humanity as both enmeshed in the environment and in a unique position to shape its future is recognised and acted upon.

Sally Wheeler offers a particularly critical account in Chapter 13 of the corporation in the Anthropocene. She shows how the corporation, with its own heritage of anthropomorphic descriptions, is one of the key creations of the Anthropocene epoch. The analysis sets the rise of the corporate form as the primary method for wealth accumulation in the Anthropocene epoch. Wheeler suggests that the corporate form, as it is currently constituted, is not capable of addressing the acute environmental challenges so vividly evident in the Anthropocene, despite the activities of corporations being largely responsible for these challenges. Corporate social responsibility and stakeholding are examined as two possible ways of

ameliorating corporate activities, but ultimately they are rejected in favour of an ethics for the corporation based on the work of Emmanuel Levinas.

In Chapter 14 Lynda Collins turns the focus towards the judiciary and critically reflects on the issue of transformative adjudication in the Anthropocene. She argues that to meet the daunting challenges of our current era, human communities will arguably need to transform at every level. This will require engagement and mobilisation by all actors in society, but some enjoy a unique power to catalyse the necessary shift away from environmentally destructive modes of living and towards long-term sustainability. She argues that the judiciary has a crucial role to play in transforming systems and societies around the world to secure our common future. Judges can both improve and transcend inadequate environmental legislation, acting as a life-saving safety net to protect people and ecosystems from regulatory failure. In particular, judges can reinvent environmental law for the Anthropocene through progressive adjudication in civil actions for damages, the public trust doctrine, constitutional environmental rights and indigenous environmental law.

Jolene Lin argues in Chapter 15 that the concept of the Anthropocene invites us to think more critically about law and environmental governance and whether environmental law is sufficiently equipped to respond to the challenges of the Anthropocene. In the exploration for alternative forms of governance to supplement traditional inter-state lawmaking, the concept of the ‘transnational’ has gained traction in environmental law scholarship. She explores how a shift from international environmental law to transnational environmental law may provide us with a more nuanced approach as we consider how we should deal with the effects of global human-induced environmental change. To explore the potential of transnational environmental law to provide a more appropriate response to the complex challenges of the Anthropocene, she employs the European Union’s sustainable biofuels regulatory regime as a case study to illustrate how transnational environmental law works in practice and what its regulatory potential could be in the Anthropocene.

Finally, and staying with the focus on European Union environmental law, Han Somsen argues in Chapter 16 that measured against the challenges posed by the Anthropocene, European Union environmental law is dysfunctional and is set to remain so unless comprehensively reformed. Like Bosselmann, he believes that reform must target the absence of a high-order ecological *Grundnorm* capable of fettering the Union’s institutions’ boundless discretion and of redressing an exclusive focus on human dignity that legitimates the systematic collateralisation of ecological imperatives. He suggests that such a foundational reordering must also come to discipline environmental enhancement initiatives that are qualitatively fundamentally different from conventional environmental improvement measures.

While these contributions do not and cannot offer the final word on any ideal vision for law and governance in the Anthropocene, individually and collectively

they attempt to open up existing systemic closures, and to critically revisit the epistemic assumptions and normative and regulatory limits and deficiencies of the law and its regulatory domain as they relate to the human-environment interface. At the same time, the volume serves as an invitation to fellow epistemic travellers to contribute to this critically important and growing area of scholarly interrogation.

Louis J Kotzé