



SPECIAL ISSUE ARTICLE

Law and governance in the Anthropocene

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Abstract

This special issue on 'Law and Governance in the Anthropocene' brings together scholars from the disciplines of law and international relations to examine the ramifications of the Anthropocene for global governance and international law. The predominant focus of the literature to date has been understandably on defining the Anthropocene and on assessing what it means for the validity of longstanding viewpoints. However, more attention must be given to the specific changes needed in international relations and law in practice and as disciplines to adjust to the reality of human-driven planetary change. Thus, it aims to build upon existing scholarship by developing specific governance responses to the challenges of the Anthropocene. This introductory article provides a brief outline of the larger workshop project which led to this special issue and offers a synopsis of the included articles. It concludes with some comments on the possible future directions for both scholarship and for legal and political practice.

1 | INTRODUCTION

The Anthropocene's advent raises questions over the suitability of current arrangements for governing human activities including through law. How to answer those questions is a major focus of enquiry in International Relations (IR) and Law, the two academic disciplines most closely concerned with increasing knowledge and understanding of global governance and analysing its effectiveness for achieving desired outcomes (Holley et al., 2018). This special issue of *Global Policy* advances assessment of how the Anthropocene impacts international relations and law in practice and as academic disciplines. We are the editors of the special issue and the organisers of a preceding workshop concerning Law and Governance in the Anthropocene which brought contributing authors together. We explain in the following section the evolving understanding of the Anthropocene and of the challenges it may present for established modes of thought and action, which motivated us to bring together leading scholars working in this area across the IR and Law disciplines. In Section 3 we provide an account of the workshop that took place in September 2021, hosted by Durham

University's School of Government and International Affairs, and supported by the Global Policy Institute, Durham University. In this section we set out the questions which we asked participants to consider in their contributions to the workshop and to this issue. Section 4 offers an overview of the articles included in the special issue, providing summaries of their subject matter and explanations of how they contribute to answering the workshop's questions. Section 5 presents our concluding thoughts inspired by the workshop and special issue, including on possible future directions for Anthropocene scholarship.

2 | UNDERSTANDING THE ANTHROPOCENE IN INTERNATIONAL RELATIONS AND LAW

The cumulative extent and effects of human living have increased exponentially in the eight decades since the end of the Second World War in 1945 (Steffen et al., 2015). They have grown to such a degree that humanity has become an agent of change in planetary

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conditions (Steffen et al., 2011). Anthropogenic greenhouse gas emissions are altering the Earth's climate system with knock-on effects for all other systems operating at the planetary scale. Land conversion, plastic pollution, biodiversity loss and the introduction, primarily through fertiliser use, of additional phosphorus and nitrogen to natural systems are similarly changing the conditions experienced by life on Earth. This change in the human/planetary relationship would be noteworthy in itself, but is made much more concerning by the already negative and rapidly worsening effects it is having on the Earth's capacity to support life (Bowman et al., 2017). This alarming situation demands radical responses to address related threats. It also serves to highlight historic, present, and potentially future inequalities and unfairness in the distribution of benefits and harms among humans from activities giving rise to the Anthropocene and from its consequences, with those contributing least to planetary change being likely to suffer most from its occurrence (Gear, 2020).

In 2000 Crutzen and Stoermer coined the term Anthropocene to denote the emergence of an epoch in which humans have become responsible for changing the Earth System (Crutzen & Stoermer, 2000). It has since been employed widely by academics working in multiple disciplines in Natural Sciences. Social Sciences and Arts and Humanities alike to signify, shape and provoke dialogue about how, if at all, movement from benign Holocene conditions into a less predictable and more hazardous human-dominated phase challenges the status quo ante (Lorimer, 2017). Do assumptions about the world humanity inhabits and the appropriateness or otherwise of its behaviours and of means employed for controlling them remain valid? Are longstanding positions in academic disciplines including those on which disciplinary parameters are drawn still well-founded? The IR literature often considers how the Anthropocene affects existing political institutions and practices (Biermann & Lövbrand, 2019; Dryzek & Pickering, 2019). Its dawn is seen as calling 'taken-for-granted assumptions, categories and concepts into question' (Biermann & Lövbrand, 2019, 19). Similarly, humanity's unsought and unwelcome responsibility for the Earth's life support mechanisms has led to calls for the reappraisal of law as a body of social practices and as a field of academic study (Kotzé, 2020; Viñuales; Burdon, 2020). The failure of existing laws for environmental protection to prevent emergence of the Anthropocene's existential threats prompts analysis of current legal weaknesses and thought on new legal approaches required to address them (Kotzé, 2020; Webster & Mai, 2020). Critiques of law are also informed by the viewpoint that it was used to establish and continues to endorse systems and practices, namely, capitalism and colonialism, that bear significant responsibility for the emergence of today's parlous circumstances (Gear, 2020; Viñuales, 2020).

From this perspective, legal reform is needed not only to address environmental threats but also to tackle the major inequities in wealth, development, living standards, exposure to environmental threats and access to resources that current laws tolerate.

Anthropocene literature in IR and Law is already substantial, but much remains to be explored by scholars working in these disciplines. Major changes in the conditions that have enabled human societies to evolve and flourish cannot help but raise myriad questions about the continued validity of well-established assumptions and understandings. The predominant focus of literature to date has also been understandably on defining the Anthropocene and on assessing what it means for the validity of longstanding viewpoints. However, more attention must be given to the changes needed in international relations and law in practice and as disciplines to adjust to the reality of human-driven planetary change. This state of affairs led us to formulate the questions set out in the following section, and to invite Anthropocene scholars in IR and Law to assist us with answering them.

3 | ANTHROPOCENE QUESTIONS IN INTERNATIONAL RELATIONS AND LAW

We are staff members respectively of Durham University's Schools of Governance and International Affairs and Law. Our respective research interests lie in developing critical approaches to environmental security and in reappraising law's role in restoring ecosystem resilience. We first discussed our mutual interests in exploring Anthropocene issues in IR and Law and their interaction in Spring 2021. We agreed on questions that we would like to explore, and agreed that a gathering bringing together scholars who we knew to have interesting ideas on Anthropocene challenges in IR and Law from their published work would be a good way of progressing our common research interests. We followed this by drafting an invitation to a workshop setting out the questions that we would like participants to consider and identifying persons we would like to invite.

The workshop on Law and Governance in the Anthropocene took place at the end of September 2021. Participants gave ten presentations grouped in five sessions over two days. The sessions were titled: Rethinking Governance for the Anthropocene (Peter Burdon University of Adelaide, Sarah Clement, University of Liverpool); the Horizons and Law of Governance (Anthony Burke, University of New South Wales, Emily Webster, University of Cambridge); The Limits and Possibilities for Law in the Anthropocene (Elizabeth Kirk, University of Lincoln, Laura Mai, King's College, London); Governing the Anthropocene: Oceans and Rainforest Governance (Joana Castro

Pereira, IPRI-NOVA, João Terrenas, ISCTE-IUL, Tim Stephens, University of Sydney); and *New Forms of Law and Governance in the Anthropocene* (Louis Kotzé, North-West University, Ayşem Mert and Larissa Basso, University of Stockholm).

The workshop, premised on the Anthropocene challenges considered in Section 2, concerned the adequacy and durability of established modes of theory and practice in IR and Law and how they might evolve to match the pace of human-driven change at the planetary level. As the invitation explained, the organisers' purpose in running the workshop was to enable dialogue between leading Anthropocene researchers on future research directions for Anthropocene scholarship in international law and global governance. Participating scholars were encouraged to build on Anthropocene scholarship to date by exploring how practical responses to weaknesses in existing governance and law for meeting Anthropocene challenges might be developed. They were also requested to consider the following four groups of questions when preparing their papers and presentations:

1. How is your discipline challenged by the Anthropocene's advent? How important are ideas of disciplinary identity and disciplinary boundaries in formulating forms of thinking and acting in the Anthropocene? To what extent does engagement with the Anthropocene call for new disciplines, a trans-disciplinary perspective, an anti-disciplinary posture (that is, a posture hostile to the notion that thinking and practice ought to be divided into specialised disciplines), or even a meta-discipline (that is, an entirely new perspective on all aspects of thinking and acting in the Anthropocene)?
2. How can ideas of law and governance – grounded, as they are, in a faith that humans have the capacity to control individuals, societies, and collective life on Earth – be reinvented or rediscovered in the context of the Anthropocene? While the Anthropocene demonstrates that human control has profoundly damaged the planet, the concept also challenges rational decision-making paradigms. In that context, how do notions of complexity, entanglement, and radical uncertainty affect perspectives on law and governance?
3. How could new thinking on the types of laws and governance arrangements required to cope with the Anthropocene's challenges be applied in practice? Could existing governance arrangements and legal regimes provide opportunities for their application without radical alteration?
4. What in your view are or should be the key future research directions for Anthropocene scholarship in international law and global governance?

Workshop participants were subsequently invited to submit pieces based on their papers or inspired by

workshop discussions for inclusion, subject to editorial acceptance following positive peer reviews, in a special issue of the journal *Global Policy*. The seven articles presented in this special issue and introduced in the following section were received in response to that invitation.

4 | STRUCTURE OF THE SPECIAL ISSUE

The contributions to this issue of *Global Policy* are all original research articles. They draw from a range of concepts, disciplinary backgrounds, and topics to fill important gaps in the academic literature on Anthropocene law and governance. Specifically, they advance insights on a range of potential pathways that legal and governing regimes might take to address the socio-ecological crises of the Anthropocene. They are, by and large, policy-driven interventions that are meant to offer constructive critiques of existing and imagined legal and governance arrangements while also presenting alternative, productive pathways in both thought and action.

Sarah Clement's article, 'Knowledge governance for the Anthropocene: Pluralism, populism, and decision-making', responds to one of the orienting questions of the special issue: How can new thoughts and practices of governance in the Anthropocene be more effectively applied in practice? Clement focuses on the complex problem of knowledge governance in the Anthropocene. Often present as a common thread in environmental governance in the Anthropocene literature, knowledge governance refers to the ways that knowledge about complex problems is created, shared, and deployed, and who uses that knowledge. Clement builds an in-depth case study on the co-production of knowledge in relation to wildfire governance in Australia. She concludes that in the context of Australian wildfire governance, knowledge co-production has been deployed in problematic ways that inhibit effective action. Though seemingly committed to values of pluralism, practices of knowledge co-production often mask important power imbalances, entrench dominant definitions of credible knowledge and obscure underlying conflicts. It may be that the principles of knowledge co-production simply cannot meet the governance challenges of the Anthropocene. Clement concludes that, overall, future research on Anthropocene governance should pay attention to *how* we reform knowledge governance.

Anthony Burke's article, 'An architecture for a net zero world: Global climate governance beyond the epoch of failure', presents a critique of the existing global governance architecture for addressing climate change. He suggests that as currently constructed, the climate regime and specifically the UN Framework Convention on Climate Change blocks

effective action and is pushing states to pursue voluntary and nonbinding initiatives on deforestation and the reduction of coal, oil, and gas use. The continued failure to arrest fossil fuel use and biodiversity loss proves that global climate and environmental law is a construct of the Anthropocene but is not built for it. In response, Burke presents a sweeping and provocative design for a new, binding, and enforceable legal architecture – ‘A Greenhouse Convention’ – that could effectively deal with the climate crisis on the scale and with the speed necessary. This Greenhouse Convention can draw inspiration from the Nuclear Weapons Convention and other arms control initiatives to build a global political-legal regime that would offer necessary reforms to transparency, information gathering, verification and resource control.

Emily Webster's article focuses on Transnational Environmental Law (TEL), a sub-discipline of Environmental Law scholarship. Transnational Environmental Law also emerged in response to challenges presented to law by changes with worldwide impacts (those due to globalisation), but is itself disrupted by the Anthropocene. The article explores two respects in which TEL research must evolve to respond to Anthropocene challenges. First, the Anthropocene throws into sharp relief the gross inequities between those who have contributed most to global environmental deterioration and those who have contributed least to it. It highlights the need for TEL scholars to be wary of omitting less powerful communities when assessing roles in governance and contributions to norm and law formation and with privileging dominant actors and ideologies in governance at the expense of more marginal actors. Second, the life-supporting capacities of Earth and its ecosystems are deteriorating due to human-driven change in planetary conditions. TEL scholars must therefore engage with scientific understandings of Earth System and ecosystem functioning and of how they are being altered when seeking to draw valid conclusions about addressing this perilous situation.

Laura Mai, in her article, ‘The “question of possibilities” as a leitmotif for re-imagining law for the “Anthropocene”’, views the Anthropocene as a disruptive heuristic which unsettles disciplinary truths. It invites consideration of whether core concepts, theories, methodologies, and disciplinary parameters are robust. It is necessary therefore for scholars working in law to assess how it and its sub-disciplines are affected by the Anthropocene. Mai's article presents thoughts on how the assessment should be conducted. Difficulties with using long-standing methodologies that may have been rendered unreliable are bypassed by reimagining law for the Anthropocene. The approach invites questions not of what law should be but of how it could more meaningfully respond to Anthropocene realities. It involves allowing new thinking to emerge by letting go of old assumptions. The question of possibilities is

proposed as an approach that enables progress beyond limits imposed by self-referential modes of legal theory and practice. Mai also addresses risks that resulting outputs might be dismissed when viewed from traditional disciplinary perspectives.

In ‘Towards a transformative governance of the Amazon’, Joana Castro Pereira and João Terrenas investigate the potential for transformative governance approaches to redress structural inequalities, reduce environmental destruction, and cultivate sustainable societal transformations. They focus on the Amazon region, which is the planet's largest contiguous tropical forest and river system, and home to one in ten species. It is also one of the world's most vulnerable places, with evidence emerging that the combined and interacting effects of structural forces that contribute to climate change, urbanisation, deforestation and biodiversity loss, among others, may be leading to an ecological ‘tipping point’ whereby large parts of the rainforest transform into savannah. The societal effects are predictably severe. In response to this challenge, Pereira and Terrenas focus on the Andes–Amazon–Atlantic (AAA Corridor), also known as ‘The Path of the Anacondas’, a transnational, regional governance project that may offer a pathway for sustainable Amazonian development. Drawing upon original interviews and document analysis, Pereira and Terrenas argue that the AAA Corridor initiative, by virtue of its horizontal, pluralist, and adaptive approach, is a transformative governance model that can guide just, effective, and sustainable policy practice.

Tim Stephens' article, ‘Global ocean governance in the Anthropocene: From extractive imaginaries to planetary boundaries?’ focuses on the law of the sea. Particular attention is given to the United Nations Convention on the Law of the Sea 1982 (UNCLOS). Stephens seeks to understand their fitness for the Anthropocene by examining the wellsprings from which attitudes towards the world's seas that they capture derive. He finds that the law as it stands is rooted in longstanding perception of oceans primarily as repositories of resources to be enjoyed by those whom the law confers rights of exploitation on. Reluctance to depart from this anachronistic understanding in ongoing negotiations for a new treaty concerning Biodiversity in Areas beyond National Jurisdiction and fragmentary responses to the effects of climate change on oceans evidence international marine governance's current weaknesses for addressing human-driven planetary change. Stephens' article draws inspiration from research that seeks to identify planetary level boundaries for Holocene conditions when considering how the law of the sea might be re-equipped for the Anthropocene. He argues that the safe parameters for life on Earth which this literature proposes could provide transcendent focal points for addressing the consequences of human-driven planetary changes in policy and in law.

Louis J. Kotzé and Rakhyun E. Kim article, 'Towards planetary nexus governance in the Anthropocene: An earth system law perspective' concludes our special issue. They argue that international environmental law remains detached from the realities of the Anthropocene and its governance challenges. They suggest that international environmental law would benefit from adopting a unifying *grundnorm* such as planetary integrity and repositioning itself as earth system law. This would provide a useful legal imaginary that can inform innovative reconstructions of law that respond to complex, integrated, Anthropocene challenges. Specifically, earth system law can help inform and operationalise nexus governance approaches, which, through an integrated approach to complex and interlinked governance challenges, would overcome the deleterious effects from the existing fragmented legal and governance regimes that cover water, energy, and food systems.

5 | CONCLUDING REMARKS

Across both Law and IR scholarship there is no shortage of literature on the Anthropocene and the evident challenges that accompany it. Readers may be forgiven if they have reached Anthropocene saturation. However, we hope that this special issue contributes productively to these vibrant ongoing discussions by focusing squarely on the character of existing global governance regimes, their suitability for dealing with complex Anthropocene challenges, and what legal and political structures might be (re)formed in response. By organising this special issue and its associated workshop in this way, our aim has been to bring Law and IR scholars together to discuss, in concrete terms, what Anthropocene law and governance might look like. While differences exist across the authors' perspectives and policy prescriptions, a clear consensus is evident that the prevailing structures of law and governance appear antiquated and are increasingly outmatched by the speed and scale of ecological breakdown. As many scholars have previously explained, there are multiple explanations for this mismatch including the persistence of structures that produce 'lock-in' (Unruh, 2000) or 'gridlock' (Hale et al., 2013), preventing the emergence of effective, just, and sustainable responses. Compounding these challenges is the fact that the Anthropocene concept challenges the core identities and imaginaries that comprise the disciplines of IR and Law (Birrell & Matthews, 2020; Grear, 2020; Harrington, 2016). This further impedes the creation and establishment of innovative policy responses.

Despite these ongoing challenges, the articles in this issue indicate a number of promising trends that are emerging, and which might generate new momentum and evolve in creative directions. We identify three main directions for future research. The first directs

future research towards the rescaling and subsequent reformation of existing law and governance regimes. Anthony Burke's proposed 'architecture for a net zero world' and Louis Kotzé and Rakhyun Kim's use of earth system law for 'planetary nexus governance' offer innovative frameworks for building more indicative and responsive governance and law regimes. More concretely, Tim Stephens' adaptation of the Planetary Boundaries framework suggests that a direct re-scaling of ocean governance is both necessary and possible. The second direction that Anthropocene research might take is to emphasise ongoing projects across the world that attempt to reimagine and restructure human-planet relations and how they are governed. Here, Joana Castro Pereira and João Terrenas' article on the transformative governance potential of the AAA corridor, as well as Sarah Clement's article on the contestation over knowledge at the heart of wildfire governance in Australia, show both the promise and the substantial challenges of new governance initiatives. The third direction that future research might take is to critically reimagine legal and political thought itself. Emily Webster's article suggests that the Anthropocene presents Transnational Environmental Law with a new challenge as great as the one it previously faced with the acceleration of globalisation. For her, future research in Anthropocene law and governance must contend with the legacies of coloniality while building upon new foundations of earth system law. Finally, Laura Mai takes the Anthropocene concept as a challenge to produce 'possibilities'. That is, what new concrete practices, attitudes, and strategies can we use to (re)imagine what law can become?

It is hoped therefore that the articles in this special issue push both scholars and practitioners to take seriously the challenge of the Anthropocene and avoid seeing it as a passing intellectual fad.¹ Instead, as the articles make clear, to truly confront the reality of the Anthropocene requires a long-term and sustained commitment to building alternative conceptions of what mainstream legal and political thought and practice can look like. All this, without losing sight of the need to respond to the accelerating climate breakdown with speed and commitment. The task remains in front of us.

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ENDNOTE

¹ It is also important to critically question the Anthropocene concept itself. As many point out, the uncritical reification of the Anthropocene can lead to important contradictions, omissions and the continuation of longstanding harms against marginalised and oppressed groups (Davis & Todd, 2017; Yusoff, 2018)

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