Locating Nature

Making and Unmaking International Law

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1.1 Introduction

The cumulative impacts of climate change, biodiversity loss, water contamination, land degradation and air pollution are disrupting our planet's ecosystems.* The last time atmospheric carbon dioxide levels were this high was three million years ago, while biodiversity loss is at a pace that indicates we have entered the sixth mass extinction. Such disruptions hold disproportionate risks for communities least responsible for environmental degradation. The wealthiest 20 per cent of the world consumes 80 per cent of all natural resources and produces 90 per cent of all waste. Climate change is but one example of this phenomenon. It is predicted to push 120 million additional people into poverty by 2030, the majority of whom are in the Global South, leading to what is

^{*} The views expressed here are those of the authors and do not represent the opinions of the United Nations, UNDP or its Member States.

¹ E. S. Brondizio et al. (eds.), Global Assessment Report on Biodiversity and Ecosystem Services (Bonn: IPBES, 2019).

² M. Willeit et al., 'Mid-Pleistocene transition in glacial cycles explained by declining CO₂ and regolith removal' (2019) 5(4) Science Advances, DOI:10.1126/sciadv.aav7337; T. Pievani, 'The sixth mass extinction: Anthropocene and the human impact on biodiversity' (2014) 25(1) Rendiconti Lincei, pp. 85–93.

³ UNDP, Human Development Report 2019 (New York: UNDP, 2019); UNDP, Human Development Report 2007–2008 (New York: Palgrave Macmillan, 2007); UNDP, Human Development Report 1998 (Oxford: Oxford University Press, 1998).

⁴ The term Global South is used throughout this chapter interchangeably with 'less-developed', 'developing', 'underdeveloped' and 'Third World' to refer to states and peoples marginalised in international society – lagging behind in terms of prosperity and power. Our use of this terminology is further explained in U. Natarajan, 'Environmental justice and the Global South', in S. Atapattu et al. (eds.), *Cambridge Handbook of Environmental Justice and Sustainable Development* (Cambridge: Cambridge University Press, 2020), pp. 40–44.

increasingly described as climate apartheid.⁵ Climate change not only adds to the existing challenges facing vulnerable communities but also jeopardises hard-won gains in poverty reduction and empowerment. To counteract such eventualities, societies around the world are seeking transformational solutions and structural change to the nature of economic growth and development. One of the tools to which they turn for these solutions is international law as a corrective force for harmful transnational and international trends and as a means to forge global compacts for action.

A series of multilateral environmental agreements have emerged in recent decades for combatting climate change, protecting the ozone layer, conserving biodiversity and reducing desertification, among other things. Despite increasing attention to environmental issues, including new instruments such as the Paris Agreement on Climate Change, improvements have been either limited or non-existent. Carbon emissions have reached an all-time high, and communities on the frontline of environmental change face mounting challenges to their everyday well-being as access to clean air, water, food and livelihoods becomes increasingly precarious. International environmental lawyers focus on increasing the effectiveness of international agreements through enhanced financing, market-based instruments and technology transfer. Well intentioned as such efforts may be, they have been incapable of creating the transformational change needed to ensure equity and sustainability.

⁵ UN Special Rapporteur on Extreme Poverty, Climate Change and Poverty (2019), UN Doc. A/HRC/41/39, www.ohchr.org/Documents/Issues/Poverty/A_HRC_41_39.pdf.

⁶ A. Vaughan, 'Global carbon emissions from energy hit a record high', *New Scientist*, 26 March 2019, www.newscientist.com/article/2197643-global-carbon-emissions-from-energy-hit-a-record-high-in-2018/#ixzz62sPsy9X0.

⁷ Brondizio, Global Assessment Report on Biodiversity and Ecosystem Services.

See for example Paris Agreement to the United Nations Framework Convention on Climate Change, Paris, 12 December 2015, in force 4 November 2016, TIAS 16-1104, UN Doc. FCCC/CP/2015/L.9/Rev/1, Article 6 on carbon markets; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 10 December 1997, in force 16 February 2005, 2303 UNTS 148, UN Doc. FCCC/CP/1997/7/Add.1 has three market-based instruments (joint implementation, clean development mechanism and emissions trading); Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010, in force 12 October 2014, UNEP/CBD/COP/DEC/X/1 regulates access to genetic resources for multinationals; and the pursuit of 'sustainable growth' and 'green economy' objectives via Goal 8 of the Sustainable Development Goals.

This edited collection identifies structures in international law, including international environmental law (IEL), that maintain harmful patterns in humanity's relationship with nature. The authors argue for an equitable and sustainable remaking of these legal structures and explore diverse efforts to create a healthier relationship between law and nature. As the first chapter in this endeavour, this chapter provides the reasons and underlying logic for such a journey and takes initial steps down this path.

Many of international law's basic concepts such as sovereignty, jurisdiction, territory, development and human rights have evolved in trajectories unsuited to perceiving or respecting ecological limits. For the most part, international law explicitly or implicitly treats nature as a resource for wealth generation that societies can continually exploit, and environmental degradation is dealt with as an economic externality to be managed by special regimes of technology and finance. This chapter traces the co-evolution of such assumptions about nature alongside formative disciplinary concepts, arguing that such understandings have been central to making international law, and that the discipline helps universalise and normalise them. Thus, to engage with environmental challenges, disciplinary tenets would have to evolve in directions that radically transform the nature of law.

That is to say, in endeavouring to locate the role of nature within international law,⁹ it becomes evident that certain harmful understandings of nature were central to shaping the discipline, and an unmaking is therefore required for international lawyers to adequately respond to the ecological crises. Such an unmaking need not end in nihilist abandonment of the discipline as irredeemable. Just as international law has helped create and maintain environmental destruction, it can play a part

This chapter uses 'nature', 'environment' and 'natural environment' interchangeably as, while the terminological distinctions between them are interesting, they are unnecessary for the purposes of this chapter. We adopt the mainstream usage to reference our physical surrounds in a general sense. The term 'environmental law' assumes that the environment can be identified and that problems in the environment 'out there' can be addressed by applying law to human activity. This chapter argues for the impossibility of such an endeavour, as law is itself situated within the broader constitutive context of how humans collectively self-organise their relationship with their physical surrounds. See further U. Natarajan and J. Dehm, 'Where is the environment? Locating nature in international law' (2019) 3 TWAILR Reflections, https://twailr.com/where-is-the-environment-locat ing-nature-in-international-law/.

in solving such problems. This belief drives our endeavour, and we see the deconstructive move as a necessary precursor to a reconstructive one.

We commence Section 1.2 by examining the discipline's most overt engagement with the natural environment - IEL. We identify why, despite the prolific growth of this specialisation, it has failed to deliver on its promise to stem ecological harm, often serving as a barrier to rather than a driver of change. We offer a two-part critique of IEL. First, we consider the persistent narrative in the Global South that IEL is manifestly unfair to developing states and peoples. We are sympathetic to this view, albeit advocating for a nuanced understanding of North and South. The politics of IEL go some way towards explaining its failures, but critique on a theoretical level uncovers more fundamental impediments to success. Thus, second, we deconstruct the mainstream disciplinary narrative that IEL evolved as a rational response to humanity's increasing knowledge of the complexities of nature. We trace this characterisation to the modern philosophical underpinnings and cultural milieu from which IEL emerged, arguing that modernity has produced an impoverished international law conceptualisation of the 'environment' - one incapable of responding adequately to ecological crises.

On both political and philosophical planes, the sociocultural context from which IEL emerged has shaped knowledge about the correlation between nature and international law in misleading ways. It systemically emphasises the discipline's protective potential while concealing its destructive role. To uncover the latter, Section 1.3 advocates escaping the confines of IEL to explore the role of nature in shaping some of international law's foundational concepts. Deep analysis of such concepts is undertaken in subsequent chapters, so here we merely posit why such research is necessary and touch upon two areas that reward further inquiry. 10 First, we explore the notions of control and productive use of nature that underpin the idea of sovereignty, and the ecological consequences of this exploitation of nature. Second, we consider the formative role of the concept of development in international law. In its modern manifestation, development transforms nature into natural resources through limitless commodification. It weds international law to a faith in infinite economic growth and technocratic and market-based solutions

These concepts are explored in greater depth later in this collection by T. McCreary and V. Lamb, 'Reflections on a political ecology of sovereignty: Engaging international law and the "map", Chapter 5, and I. Porras, 'Appropriating nature: Commerce, property and the commodification of nature in the law of nations', Chapter 4.

to ecological problems, with IEL developing squarely within these confines rather than challenging them.

In Section 1.4, we conclude that the natural environment is not incidental to international law. It did not emerge as a new concern in the 1970s as humanity became increasingly ecologically aware. Rather, nature has always driven the disciplinary evolution of law, shaping legal concepts in formative ways. As such, understandings of nature underpin the generalist discipline and indeed all of its specialisations. We broaden the narrative about the relationship between international law and nature beyond the purview of international environmental lawyers to consider the role that all international lawyers play in augmenting or mitigating ecological crises. International law is not a corrective tool for environmental harm; rather, it persistently drives ecological degradation. In this light, not only is sequestering environmental issues to the ambit of IEL misleading, but the specialisation's inability to stem environmental harm is explicable and inevitable.

1.2 Why Has International Environmental Law Failed?

IEL is the intuitive place to start when exploring the relationship between nature and international law. IEL emerged as a result of changes within Western states, particularly the United States, in the 1960s. 11 Communities became concerned about the negative consequences of post-war industrialisation and the risks to social well-being posed by toxic pollution, leading to domestic environmental legislation, which was followed by the first international agreements in the 1970s. 12 Increased

While IEL arose in the 1970s, transnational public concern over and regulation of the environment predates this and includes, among other things, ancient forms of nature reserves and colonial-era regimes of control. See for example M. Cioc, *The Game of Conservation* (Cincinnati: Ohio University Press, 2009).

In the United States, see for example 1963 Clean Air Act, 42 USC 7401; 1972 Clean Water Act, 33 USC 1251; and the Environmental Protection Authority established in 1970. Internationally, this decade saw the 1972 Stockholm Declaration on the Human Environment, UN Doc. A/Conf48/14/Rev 1 (1973); 1971 Ramsar Convention on the Protection of Wetlands, Ramsar, 2 February 1971, in force 21 December 1975 (1972) 11 ILM 963; 1972 World Heritage Convention, Paris, 16 November 1972, in force 17 December 1975 (1972) 11 ILM 1358; 1973 Convention on International Trade in Endangered Species, Geneva, 3 March 1973, in force 1 July 1975 (1973) 12 ILM 1088; 1979 Bonn Convention on the Protection of Migratory Species, Bonn, 6 November 1979, in force 1 November 1983 (1980) 19 ILM; and 1979 Bern Convention on Protection of Species and Habitats in Europe, Bern, 19 September 1979, in force 1 June 1982 (1979) 1 SMTE 509.

environmental concern in Western states at this time was attributed not only to the effects of mass industrialisation but also to advances in science that offered a new worldview of the planetary whole and a greater appreciation of environmental risk. Science was credited with increasing awareness about the complexity, interconnectedness, uniqueness and fragility of the planet, while the first pictures of Earth from space that emerged in the 1960s became symbolic of this new-found knowledge. 14

New perspectives on the relationship between humans and nature in Western societies translated into international laws. Seeing the planet as a unitary whole and a shared home led to visions of common responsibility for and cooperation on global environmental problems, as reflected in the 1972 Stockholm Declaration on the Human Environment that is conventionally cited as the beginning of modern IEL.¹⁵ From the 1972 Stockholm Conference to the 1992 UN Conference on Environment and Development (Rio Earth Summit), followed by the 2002 World Summit on Sustainable Development and most recently the 2012 UN Conference on Sustainable Development (Rio+20), the history of IEL has been a gradual evolution of regimes intended to govern issues such as climate change, ozone layer depletion, biodiversity loss, desertification, pollution and deforestation, among others. 16 IEL gradually constituted itself as a specialisation through these and other summits, with state and non-state actors and stakeholders building up a body of treaties, legal principles and concepts to guide international action.17

This narrative is put forward in standard IEL texts. See for example P. Sands and J. Peel, Principles of International Environmental Law (Cambridge: Cambridge University Press, 2012), ch. 2; D. Hunter et al., International Environmental Law and Policy (London: Foundation Press, 2007), ch. 6; P. Birnie et al., International Law and the Environment (Oxford: Oxford University Press, 2009), ch. 1. We unpack this narrative in Section 1.2.2.

The significance of such imagery is considered in Section 1.2.2. See S. Jasanoff, 'Heaven and earth: The politics of environmental images', in S. Jasanoff and M. Martello (eds.), Earthly Politics: Local and Global in Environmental Governance (Princeton, NJ: MIT Press, 2004), p. 31; V. Argyrou, The Logic of Environmentalism: Anthropology, Ecology and Postcoloniality (Oxford: Berghahn, 2005), p. 102.

¹⁵ Sands and Peel, Principles of International Environmental Law; Hunter et al., International Environmental Law and Policy; Birnie et al., International Law and the Environment.

International Environmental Agreement Database Project hosts a catalogue of relevant laws, https://iea.uoregon.edu/.

¹⁷ IEL relies on general principles of law including the precautionary principle, the polluter pays principle, the common heritage of humankind, intergenerational equity, common but differentiated responsibilities and the principle of sustainable development.

One such guiding principle is sustainable development, which has been canonical for IEL since the 1992 Rio Earth Summit, at which states reached a strong consensus in its favour. 18 Calling for development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs, ¹⁹ sustainable development asks for development that remains within the absorptive and carrying capacity of natural ecosystems. It asks for intergenerational and intragenerational equity, cognisant of the inextricability of social, economic and environmental justice.²⁰ However, while global consciousness of environmental issues has grown over the years, the problems IEL aims to address have worsened. Most noticeable in this regard are biodiversity loss and climate change, as regular high-level global summits fail to stem accelerating extinctions and rising emissions. What are the reasons for IEL's failure? Media, scholars and practitioners often call attention to the North-South divide, focussing particularly on divisions between the long-standing developed economies of the North and the so-called emerging economies of the South.

The North–South divide has been identified as the primary barrier to global cooperation since IEL's early days,²¹ making this the de rigueur place to commence our critique in Subsection 1.2.1. Subsection 1.2.2 moves from the political to the theoretical, as we situate IEL in the context of the broader modern project of international law and argue that IEL puts forth a vision of an all-encompassing universal system of governance – a particular type of 'environmentality'. We posit that such an understanding of the environment precludes the discipline from stemming ecological crises and condemns us to reproducing them.

1.2.1 The Politics of International Environmental Law and the North-South Divide

IEL owes its origins to the scientific assessment of global ecological risk. Hence, international environmental lawyers have responded largely

¹⁸ Rio Declaration on Environment and Development, UN Doc. A/Conf151/26 (1992).

¹⁹ In 1987, the UN released the Brundtland Report, Our Common Future, which propounded the most widely recognised definition of sustainable development.

²⁰ See Agenda 21, UN Doc. A/Conf151/26 (1992).

²¹ Sands and Peel, Principles of International Environmental Law; Hunter et al., International Environmental Law and Policy; Birnie et al., International Law and the Environment.

through technocratic responses and engineered solutions.²² Yet, as Argyrou states,²³

the science of global environmental change can only point to facts, but facts themselves are not enough to explain effective engagement with the world. What is needed above science is something that captivates people's full being – a system of values, a moral story, an ontological master narrative within which the ecological crisis becomes not only visible but also relevant and meaningful.

The path from the 1972 Stockholm Conference through the 1992 Rio Earth Summit and the 2012 Rio+20 Conference to date tells a grand narrative about global environmental threats, humanity's common concern and the need for a concerted response. The implications of such a narrative are considered in Subsection 1.2.2. The focus of this subsection is on another IEL narrative that coexists in much of the Global South, where the rise of IEL is placed in the context of the developing world's struggle to transition from the colonial era to the postcolonial era towards equality, prosperity and justice.

Following independence, postcolonial states sought development in the Western sense, perceiving this to be their only path out of the poverty, dependency and disempowerment of colonisation. In parallel, developed states came to realise that their development model was unsustainable, posing existential risks on a planetary scale. IEL thus emerged amid this tension between experts from the affluent North urgently calling for global environmental protection and advocates from the South prioritising poverty reduction and asking the North to take responsibility for the environmental problems it caused in the wake of its path to continuing affluence. Even today, at global environmental summits, experts from the North preach scientific truths and the necessity of compliance, while the South is 'expected, cajoled, encouraged, assisted, threatened to take a stance . . . It acts suspiciously . . . doubts, questions, rejects, negotiates . . . co-opts, recognizes, endorses'. ²⁴

Injustice and accountability for environmental harms have been at the heart of IEL since its onset, shaping its legal principles. The principles of common but differentiated responsibilities as well as sustainable development are intended to address developing world concerns by insisting

²⁴ Ibid., p. xi.

²² Paris Agreement, Kyoto Protocol, Nagoya Protocol, Sustainable Development Goal 8.

²³ Argyrou, *Logic of Environmentalism*, p. 48.

that (i) environment and development concerns are inextricably intertwined, (ii) states that cause environmental harm should bear the responsibility for solutions and (iii) richer states should take the lead and bear a greater burden because of their greater economic and technological capacity. These principles describe what is needed to stem environmental degradation, but rich states have not abided by them. Hence, on a diversity of environmental issues, from climate change to biodiversity, IEL continues to fail to ensure the accountability and responsibility of those who cause the most harm. Rather than endeavouring to address long-standing demands for fairness, justice and equity, IEL attempts to circumvent these issues by seeking refuge in market mechanisms, technology transfer and green finance.

In the 1960s and 1970s, alongside the rise of environmentalism in the developed world and the move towards IEL, international lawyers in the developing world put forward legal frameworks to provide the people of developing countries with access to and benefits from their own natural resources and resources in the global commons. The doctrine of permanent sovereignty over natural resources (PSNR) and the principle of the common heritage of humankind were at the heart of such postcolonial law reform efforts. These legal concepts were crafted in the context of a broader political movement to inaugurate a New International Economic Order (NIEO) to enable the developing world to gain a more equal footing in the global economy after centuries of colonial exploitation.

Schrijver describes the important role of natural resource sovereignty in struggles for independence, through which peoples equated sovereign statehood with the ability to stop the longstanding plundering of the South's natural assets. ²⁶ PSNR was meant to provide the South with a 'legal shield against infringement of their economic sovereignty' and thereby counter past inequity and exploitation at the hands of colonial powers. ²⁷ Bedjaoui stated that PSNR was driven by the fact that, in the postcolonial era, many developing countries continued to be 'dispossessed of their sovereignty for the benefit of foreign economic coteries', ²⁸

M. Prost and A. T. Camprubî, 'Against fairness? International environmental law, disciplinary bias, and Pareto justice' (2012) 25 Leiden Journal of International Law 379, 386–88.

N. Schrijver, Sovereignty over Natural Resources: Balancing Rights and Duties (Cambridge: Cambridge University Press, 1997), pp. 21–22.

^{2&#}x27; Ibid., p. 1

M. Bedjaoui, Towards a New International Economic Order (New York: Holmes & Meier, 1979), p. 99.

and he believed that PSNR could serve as a defence against the 'violent reaction of the imperialists to counter their [the developing world's] demands for a new international economic order'.²⁹

Local experiences with natural resource exploitation vary based on numerous factors, including geography, resource sector and social class. Nevertheless, it is possible to identify some shared patterns across the Global South, across the Global North, and in their relationships with each other through history. As Mitchell points out, 'the switch in one part of the world to modes of life that consumed energy at a geometric rate of growth required changes in ways of living in many other places'. 30 The path towards cultures of industrialism and mass consumption in Western imperial centres was built on colonialism, slavery, genocide, apartheid and racial discrimination, forever transforming all aspects of daily life in the colonies. Similarly, resource- and energy-intensive lifestyles in the Global North are today intimately linked with and fuelled by economies in the Global South through transnational chains of labour, production and waste. In the 1960s and 1970s, attempts by international lawyers from the Global South to bring about just outcomes for postcolonial states by inaugurating a NIEO ultimately failed despite being based on equality and the rule of law. As the NIEO's failure occurred alongside the gradual evolution of a young IEL, this augmented the South's suspicions about IEL.

Despite IEL's unpropitious aspects and an undeniable North-South impasse, many scholars and activists in the South remained dedicated to stemming environmental harm as part of their continuing battle for reparations, justice and equality. Just as the Global North derives disproportionate benefit from natural resources, the Global South continues to bear a disproportionate burden for climate change, species extinction, resource insecurity and toxic pollution. Thus, environmental concerns are an increasingly strategic position from which vulnerable peoples – and the movements, scholars and states that care about them – can articulate their views and contest, negotiate and resist the status quo. Grassroots social movements across the South and North are harnessing

²⁹ Ibid., p. 153

T. Mitchell, Carbon Democracy: Political Power in the Age of Oil (London: Verso, 2011), p. 16.

environmental concerns as a means of challenging the fundamental assumptions that underpin the global economy.³¹

In the wake of continued IEL failures and frustrations, it is worth counteracting the misleading narrative that the Global South is a disinterested and reluctant participant in sustainable development, always prioritising development over environment, and dragging its feet behind more progressive actors from the North. Prost and Camprubi identify references to the Global South 'not merely as a reluctant and hesitant participant in multilateral negotiations, but one that is *perverting* environmental diplomacy'. In actuality, the environmental strategies of different developing countries and peoples have been complex, nuanced and variable. Many states in the South have made more progress than those in the North, necessitated by being on the frontlines of climate change, deforestation, desertification and other environmental crises.

The so-called emerging economies of the South, for example, are increasingly attentive to environmental problems which, if ignored, undermine their hard-won economic gains. While the ecological challenges posed by the economic re-emergence of the South receive regular attention at global environmental summits, less emphasis is placed on the potential for the Global South to reshape international law to produce a more effective response to such challenges. In a multipolar world, the Global South has the potential to infuse the discipline with environmentally sustainable values, experiences and solutions. By more fully engaging with the mosaic of different environmental ethics across the world, international law could synthesise sustainable local norms for global benefit.³⁴

The politics of IEL reveal different narratives about environmentalism in the Global North and South, and that environmental justice is a necessary part of any solution to environmental problems.

³¹ U. Natarajan, 'TWAIL and the environment: The state of nature, the nature of the state and the Arab Spring' (2012) 14 Oregon Review of International Law 177.

³² Prost and Camprubi, 'Against fairness?', 385.

³³ Ibid. See also K. Mickelson, 'South, North, international environmental law, and international environmental lawyers' (2000) 11 Yearbook of International Environmental Law 52; A. Najam, 'Developing countries and global environmental governance: From contestation to participation to engagement' (2005) 5 International Environmental Agreements 303.

³⁴ K. Khoday and U. Natarajan, 'Fairness and international environmental law from below: Social movements and legal transformation in India' (2012) 25 Leiden Journal of International Law 415.

International negotiations on the environment often do result in developed and developing states taking opposing sides, but in actuality chains of resource extraction, production, consumption and waste stretch between and across regions in the North and South in a complex network of mutually reinforcing interests. That is to say, in a purely geographical sense, the seemingly intractable North–South divide is more porous than it seems because solid and mutually beneficial alliances exist among transnational capitalist elites. In this sense, the Global North and the Global South are divided largely along the lines of a transnational capitalist class and a transnational capitalist underclass that do not neatly map onto the geographical North and South. While global environmental politics contribute to the failures of IEL, they provide an incomplete explanation. Subsection 1.2.2 considers whether there may also be more fundamental reasons for IEL's lack of success through examining the philosophical underpinnings of IEL.

1.2.2 The Philosophy of International Environmental Law: Constructing 'the Environment'

The conventional international law narrative tells of the discipline's encounter with 'the environment' in the 1960s and 1970s, which emerged from the stirrings of environmental consciousness in the West when the middle classes began to experience the impacts of industrial pollution, oil spills and so on. Scientific advances and space travel were credited with increasing public awareness of the uniqueness and fragility of our planet. Previously, states and peoples everywhere were exhorted to efficiently exploit nature to industrialise, modernise and develop. In contrast, the 1972 Stockholm Declaration proclaimed that '[f]or the purpose of attaining freedom in the world of nature, man must use knowledge to build, in collaboration with nature, a better environment'. Rather than being subjected to our mastery, nature became something to be protected and cherished. The Earth was no longer a storehouse to meet human desires, but a fragile web to be protected. Mainstream accounts describe a major transformation in humanity's understanding of nature and of

³⁵ B. S. Chimni, 'Prolegomena to a class approach to international law' (2010) 21 European Journal of International Law 57.

³⁶ Stockholm Declaration, paragraph 6.

itself.³⁷ We interrogate this shift to understand how international law created 'the environment'.

IEL is comparatively under-theorised, and this edited collection attempts to address this gap in international law. In the domestic context, while a few scholars have provided theoretical critiques,³⁸ most legal theory and critical legal research has ignored environmental law.³⁹ Indeed, political economist James O'Connor once called environmentalists 'sub-theoretical'.⁴⁰ However, this is no longer the case, with many disciplines making considerable strides, including environmental ethics,⁴¹ critical geography,⁴² political ecology⁴³ and environmental history, which includes the origins of environmentalism.⁴⁴ From

³⁷ Sands and Peel, Principles of International Environmental Law; Hunter, International Environmental Law and Policy; Birnie et al., International Law and the Environment.

³⁸ See for example A. Philippopoulos-Mihalopoulos (ed.), Law and Ecology: New Environmental Foundations (London: Routledge, 2011); M. M'Gonigle and P. Ramsay, 'Greening environmental law: From sectoral reform to systemic re-formation' (2004) 14 Journal of Environmental Law and Practice 333; S. Coyle and K. Morrow, Philosophical Foundations of Environmental Law (London: Hart Publishing, 2004); and J. Holder, 'New age: Rediscovering natural law' (2000) 53 Current Legal Problems 151.

39 See for example R. W. Bauman, Critical Legal Studies: A Guide to the Literature (London: Routledge, 1996), p. 125, which included one page on environmental law. See further K. Hirokawa, 'Some pragmatic observations about radical critique in environmental law'

(2002) 21 Stanford Environmental Law Journal 225.

⁴⁰ J. O'Connor, 'Capitalism, nature, socialism: A theoretical introduction' (1988) 1 Capitalism, Nature and Socialism 11, argues that, by failing to consider how capitalism operates, US environmental lawyers in the 1970s and 1980s drove polluting industries to the developing world, where the damage they caused was more severe locally and globally.

⁴¹ See for example B. Swimme and M. Tucker, *Journey of the Universe* (New Haven, CT: Yale University Press, 2011); M. Smith, *Against Ecological Sovereignty* (Minneapolis, MN: University of Minnesota Press, 2011); and T. Morton, *Ecology without Nature*

(Cambridge, MA: Harvard University Press, 2007).

⁴² See for example N. Castree, Making Sense of Nature (London: Routledge, 2014); D. Harvey, Justice, Nature, and the Geography of Difference (Toronto: Wiley-Blackwell 1996); and N. Blomley, Law, Space, and the Geographies of Power (New York: The Guilford Press 1994).

- ⁴³ See for example J. Bennett, Vibrant Matter: A Political Ecology of Things (Durham, NC: Duke University Press, 2010); J. Foster, Ecological Revolution (New York: Monthly Review Press, 2009); and R. Peet and M. Watts, Liberation Ecologies (London: Routledge, 2002).
- ⁴⁴ See for example R. Marks, Origins of the Modern World (Lanham: Rowman and Littlefield, 2007); W. Beinart and L. Hughes (eds.), Environment and Empire (Oxford: Oxford University Press, 2007); R. Guha, How Much Should a Person Consume? (Oakland: University of California Press, 2006); R. Grove, Green Imperialism (Cambridge: Cambridge University Press, 1995); A. Crosby, Ecological Imperialism (Cambridge: Cambridge University Press, 1986); Argyrou, Logic of Environmentalism;

environmental history we draw on Argyrou's insightful counter-narrative to disrupt the conventional IEL account. Argyrou challenges the conventional assumption that environmentalism reflects a departure from modernity. He argues that while our perception of nature may have changed with the advent of environmentalism, environmentalism remains at heart a modern project. Indeed, in some ways it is the ultimate modern project. Of modernity, Argyrou observes that He

inherent in the modernist paradigm is a tendency for metaphysical totalisations of an *epistemic* nature – a tendency imposed by the need to make a decision about what exists in its entirety. The modernist subjectivity ventures beyond the world because it is only from such an external position that the boundaries of the world can be drawn and knowledge of what exists guaranteed. Once 'there', it visualizes the world synoptically, as a unity of different beings with the same substance.

By this measure, international law is a modern discipline par excellence as it continually adopts such postures. To exist, international law depends on an assertion of unity based on a fundamental sameness between all states and between all people. The effect of this position is to negate any differences between states and between people that may otherwise be apparent, given their diversity of experience. Argyrou observes that, although many cultures imagine the idea of human unity, it is only Western modernity that valorises the human being by according it the status of the ultimate universal subject and object. Before such an understanding of the human being, particularities of sex, race, class and culture dissolve. Argyrou states, ⁴⁷

the modernist subjectivity does not deny that these divisions exist in practice. On the contrary, it constantly draws attention to them. What it does deny is that they are intrinsic to social reality, an inevitable part of the human condition.

Thus, modernity and modern disciplines of knowledge make every effort to assimilate and reform those who are ignorant enough to assert difference, as it is assumed that such reform is both possible and necessary. As Fitzpatrick and Anghie observe, international law is justified and

G. Garrard, Ecocriticism (London: Routledge, 2012); G. Barton, Empire, Forestry and the Origins of Environmentalism (Cambridge: Cambridge University Press, 2002); and R. Guha, Environmentalism: A Global History (London: Pearson, 2000)

⁴⁵ Argyrou, Logic of Environmentalism.

⁴⁶ Ibid., p. 102 (emphasis in original).

⁴⁷ Ibid., p. 115.

dynamised by the continuous assertion of universal values, followed by the identification of those cultures and people that remain unaware of such values, thus necessitating the creation of international laws to enlighten them.⁴⁸

Mainstream environmentalism also reproduces the cultural logic of modernity, which finds meaning in unity and is compelled to efface difference. Indeed, Argyrou argues that environmentalism takes the logic of modernity to its ontological extreme:⁴⁹

In a social universe whose cultural logic is to strive constantly for ultimate universalisms ... the last grand division of the Whole – the division between humanity and nature – has finally been brought 'into the focus of European thought' and serious efforts are being made to efface it.

Modern environmentalism as it arose in the West in the 1960s and 1970s assumed a specific cultural form. It took a conceptual posture external to the Earth, allowing it sufficient distance to look back and see a single globe, culminating in an assertion that there is 'the environment'. The first images of the Earth from space were apt symbols of the Western environmental movement, as they denoted the making of this ultimate modern creation. The construction of a new field for international regulation asserts an intellectual comprehension and conceptual capture of the planet in its totality. As Argyrou observes, this position of externality 'is to say, in effect, that it is we who surround the environment, not the other way round [sic]'. 50

The creation of the global environment as a regulatory sphere brought with it the creation of new subject identities. Agrawal identifies the ways in which technologies of environmental governance produce new identities for people, places and things, and new relationships between localities and states. He calls this 'environmentality', in a gesture to Foucault's work on governmentality, as it aims to 'understand and describe how modern forms of power and regulation achieve their full effects not by forcing people toward state-mandated goals but by turning them into accomplices'. ⁵¹

⁴⁸ P. Fitzpatrick, Modernism and the Grounds of Law (Cambridge: Cambridge University Press, 2001), A. Anghie, Imperialism, Sovereignty and the Making of International Law (Cambridge: Cambridge University Press, 2003).

⁴⁹ Argyrou, *Logic of Environmentalism*, p. 50.

⁵⁰ Ibid., p. 95.

⁵¹ A. Agrawal, Environmentality: Technologies of Government and the Making of Subjects (Durham, NC: Duke University Press, 2005), p. 217.

Western culture in the 1960s produced a modern environmentalism with mechanisms of environmentality such as IEL to universalise this worldview and obscure alternatives. This process is even more troubling given the problems IEL aims to tackle. As examined further in Section 1.3, modern understandings of nature and progress drive ecological degradation. As such, the same mentality may be incapable of thinking its way out of ecological crises. The logic of environmentalism as it exists today ensures that the power to define meaning remains in the same hands that degrade global ecosystems. IEL reconfirms the position of the Global North as the source of meaning and authority, giving it the ability to construct the environment and environmentality. However, there are more accurate and sustainable philosophies of the environment, environmentalism and environmentality, including those where the world is properly understood as something that surrounds us - our literal environs - rather than something that we are capable of subjecting to capture, construction and control.

IEL asserts that international lawyers can help protect the environment, that we can adapt and enhance legal instruments to solve global environmental crises. Yet, despite the proliferation of IEL instruments over the past five decades, IEL has been unable to stem ecological harm. Whether because of its politics or because of its philosophical underpinnings – or, as we argue, for both of these reasons – IEL in its current form has set itself up for failure. Section 1.3 argues that, in order to think our way out of ecological crises, we need to go beyond IEL and understand the role of the natural environment in the construction of core disciplinary concepts.

1.3 Nature as the Foundation of Law

IEL asserts disciplinary commitment to safeguarding the environment, but this promise of protection is a comparatively recent phenomenon. On the other hand, over many centuries, international law has played an important role in universalising destructive dogmas that are barriers to sustainable ways of life. Through particular conceptualisations of sovereignty, jurisdiction, territory, development, human rights and other central disciplinary tenets, international law has helped to normalise a worldview in which nature is seen only as a natural resource, humanity is conceptually isolated from and privileged above the environment, progress is defined by how much we exploit nature, and our capacity to control nature is assumed to be limitless. Identifying disciplinary

assumptions about nature is a large undertaking, and this edited collection makes some initial inroads. This chapter lays the groundwork for what follows in the rest of this collection by introducing two key international law concepts, sovereignty and development, which are the subject of deeper analysis in subsequent chapters.

1.3.1 The State of Nature and the Nature of the State

Sovereignty is the constituent element of international law, the building block of the evolution of the discipline. Understandings of nature have an important role in giving sovereignty meaning.⁵² During the European Enlightenment, 'the transformation of nature came to be seen as a primordial act, transforming chaos into order, imbuing the environment with human form - a divine-like act to craft a new world and a new reality'.53 The capacity of societies to shape and control their environment was understood to indicate their level of progress, distinguishing between the civilised and those close to 'a state of nature'. 54 As international law is of European origin, its foundational concept of sovereignty has evolved in ways that mirror these Enlightenment understandings of nature.⁵⁵ European sovereigns denied sovereignty to the non-European world for centuries and conditioned their eventual entry into sovereignty in particular ways. As Anghie describes, sovereignty only came to acquire clear meaning and definition when the first sovereigns began to give their reasons for denying others entry into their club. 56 Sovereignty was conditioned, among other things, on a society's capacity to make productive use of nature to fulfil an increasing variety of human desires.⁵⁷

Non-European societies were categorised in terms of their differing degrees of control over nature. Nomadic societies were seen as the furthest from sovereignty as they did not utilise nature's productive

The ideas in this subsection are explored more extensively in Natarajan, 'TWAIL and the environment', pp. 177–78, 190–201.

⁵³ M. Eliade, *The Myth of the Eternal Return, or Cosmos and History* (Princeton, NJ: Princeton University Press, 1965), pp. 10–11.

⁵⁴ Argyrou, *Logic of Environmentalism*, pp. 7–16.

⁵⁵ P. Hulme, 'The spontaneous hand of nature: Savagery, colonialism and the enlightenment', in P. Hulme and L. Jordanova (eds.), *The Enlightenment and its Shadows* (London: Routledge, 1990), p. 30.

⁵⁶ See generally Anghie, Imperialism, Sovereignty and the Making of International Law.

⁵⁷ Argyrou, Logic of Environmentalism, pp. 7-16.

capacity adequately, since they lacked permanent settlements with consistent agriculture and fisheries. Such societies were denied the capacity to assert ownership, with international laws of title to territory designating their homelands as *terra nullius* – land that belonged to no one.⁵⁸ Non-European societies with forms of agriculture and industry were perceived to be more civilised due to their greater productive capacity and ability to harness nature to their will. This is reflected, for instance, in the League of Nations Mandate System's classification into A, B and C mandates. The system oversaw a process of tutelage whereby certain European states would assist non-European territories to evolve towards sovereignty. Class A mandates had the shortest evolutionary leap, whereas Class C mandates had to undertake significant societal transformation to qualify as sovereign. An indispensable part of this transformation constituted taking steps towards a more productive use of nature.

Understanding sovereignty through, among other things, a culture's relationship with nature allowed European empires to justify colonisation.⁵⁹ The imperial centres of industry claimed to benefit the colonies by instructing them to make optimal use of their ecology. At the same time, industrialisation of the imperial heartlands could be fuelled by natural assets from colonial possessions. Indeed, the quest for these resources was a driving force of colonisation and indispensable to the rise of Western industrial states.⁶⁰ The assumptions about nature that shaped sovereignty in the colonial era continued to shape not only the League of Nations Mandate System but also the decolonisation process more generally. In their quest to gain equal footing under international law, non-European states had to considerably transform their domestic spheres to enable the increasingly efficient exploitation of nature through

⁵⁸ See K. Mickelson, 'The maps of international law: Perceptions of nature in the classifications of territory' in this collection for the Eurocentric and anthropocentric aspects of terra nullius and other doctrines of title to territory, Chapter 6.

We do not argue that a society's productive capacity was the sole factor determining its sovereign status but that it was a primary factor, alongside factors such as race, religion, language and forms of social organisation.

⁶⁰ I. Porras, 'Appropriating nature: Commerce, property and the commodification of nature in the law of nations', in this collection, observes that nature, in the work of early international law scholars, was primarily visible through the desire to increase commerce and property, Chapter 4.

instituting European systems of land tenure, private property, contracts, torts, and so on.⁶¹

In the processes of colonisation and then decolonisation, all the continental land masses and some of the oceans came under sovereign control, with the utilitarian ethos thoroughly permeating domestic and international laws. Some international laws, such as those for fisheries, explicitly require states to exploit the ocean's maximum sustainable yield in the areas they control. If unable or unwilling to do so, a state must allow others to fish these areas to achieve such yields. The inevitable outcome is overfishing and the depletion of fish stocks. Similar outcomes are replicated in other domestic and international resource governance regimes because, in order to be modern, sovereign and independent, a society must, among other things, demonstrate its ability to exploit its environment. The modern state is thus a mechanism for converting nature into commodities because, as discussed in Subsection 1.3.2, a sovereign state is inescapably also a developmental state.

1.3.2 Sustaining Development

The idea of development has been central to the evolution of international law,⁶⁴ and is today the ubiquitous goal of all states and peoples. While the pursuit of development seems natural and inevitable now, it was not always so. Rist points out that the idea that 'growth or progress should be able to continue indefinitely – that is an idea that radically distinguishes western culture from all others'.⁶⁵ He observes that, even in Western societies, a faith in the infinite capacity for economic, scientific

⁶² 1982 United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982, in force 16 November 1994, (1982) 1833 UNTS 3, Articles 61–72. For the regulation of fishing on the high seas or fishing stocks that cover more than one territory or that migrate, see Mickelson, 'Maps of international law'.

⁶³ The term 'developmental state' is also used to refer to states that heavily intervene in their economies through planning and regulation, and in international political economy that frequently refers to East Asian economies in the late twentieth century. We use the term in a broader sense to refer to states that prioritise economic development and make policy on this basis.

⁶⁴ Porras, 'Appropriating nature'; S. Pahuja, *Decolonising International Law* (Cambridge: Cambridge University Press, 2011).

⁶⁵ G. Rist, The History of Development: From Western Origins to Global Faith (London: Zed, 2002), p. 238.

⁶¹ See Section 3.2. See also J. Holder, 'New age', pp. 159–65, mapping the relationship between classical science and the development of law, and showing that, just as the scientific method separates humans from nature, so too does the legal system.

and cultural progress originated only during the European Enlightenment.⁶⁶ Before this, Western philosophies understood societal evolution to be cyclical, with advances followed by periods of stabilisation and eventual decline.⁶⁷

The contemporary understanding of development – that everyone everywhere, rich and poor, can increase their economic standing without limits – is challenged by the concept of sustainable development, which raises finite natural limits. Ecological crisis 'calls into question the Enlightenment principle that human progress will make the future look better than the past.'68 Yet international reports on sustainable development seldom dare to call for less development anywhere, environmental treaties are loath to hint at economic limits, and international organisations continue to make policy as though development is possible everywhere, all the time. Such behaviour renders the concept of sustainable development a mere 'hope that the necessary will become possible'. 69

Why is it so difficult to acknowledge and address the limits to growth but so easy to pontificate on the infinite potential of the 'green economy'? Rist observes that the most developed societies are the real beneficiaries of development and thus have an interest in ensuring that the concept remains desirable. The concept of development helps naturalise and obfuscate the process whereby some people systemically underdevelop others. As discussed in the Subsection 1.3.1, during European colonisation, societal progress was assumed to move from nomadic through pastoral ways of life towards agriculture and culminate in industrial and post-industrial production. Such ideas of social evolution legitimised the European conquest of non-European societies as the practice of empire ostensibly developed the imperial centre and the colonies: the former through exploiting colonial labour and resources, the latter by learning to aspire to European levels of progress. In the postcolonial era, with the acquisition of sovereign statehood came the idea of the developmental state. Non-Western sovereigns entered the family of nations by taking their allotted place in the spectrum from least developed through developing and then emerging to developed states. In mimicry of colonial dogma, development is ostensibly good for both the

⁶⁶ Ibid., pp. 35-40.

⁶⁷ Ibid., pp. 24–34.

⁶⁸ UNDP, Human Development Report 2007–2008, p. 1.

⁶⁹ Rist, History of Development, p. 183.

⁷⁰ See footnote 63 for definition.

developed and developing worlds, giving the former access to resources and markets and the latter access to knowledge and capital.

The legal, political, economic and social transformation that developing states undergo enables powerful interests and ideas to penetrate postcolonial societies in ways that ensure that the gap between rich and poor within and between states continues to widen. International law and organisations have advocated the pursuit of development for more than seven decades. In these decades, some postcolonial states have 'emerged' and others have 'developed', but the inequalities of wealth between and within states have astronomically widened.⁷¹ Yet this increasing inequality is not understood as invalidating the development quest, nor is it perceived to be an inevitable result of such a quest. Instead, inequality acts as a spur for a more vigorous pursuit of development.

One of the ways that development survives its contradictions is through its ability to periodically reinvent itself.⁷² In the 1970s, development aimed to provide everyone with their basic needs. When this proved out of reach, the concept of human development was put forward in the 1990s to promote a more holistic measure of progress as more than just economic growth.⁷³ This eventually led to the setting of eight Millennium Development Goals. When these goals went unmet, in 2015 the Sustainable Development Goals were posited as the latest reinvention, promising to rectify past mistakes with an improved set of goalposts and indicators to achieve sustainable development.

What is troubling about this pattern is that the reasons for past failure are consistently identified in ways that justify the further pursuit of economic growth everywhere. The development practitioner's refrain is the incontrovertible assertion that the poor need economic growth, but this mantra distracts from the fact that the principal beneficiaries of current patterns of economic growth are the rich. Each reconfiguration of development serves to obfuscate the link between such growth, increasing inequality and environmental degradation. Rist situates sustainable development as a recent reincarnation in the conceptual evolution of development.⁷⁴ From this perspective, it is unsurprising that,

VIN Women and UNICEF, Addressing Inequalities: Synthesis Report of Global Consultation (New York: UNICEF, 2013), pp. 15–17, www.worldwewant2015.org/ inequalities.

⁷² Rist, History of Development, p. 5.

⁷³ Ibid., pp. 162–92.

⁷⁴ Ibid., pp. 178–92.

rather than a legal concept that asserts the natural limits to growth, sustainable development has instead resulted in both rich and poor engaging in an ever more sustained pursuit of development, with international lawyers lauding the economic growth potential provided by investing in green technology and innovating financial instruments that enable emissions trading, carbon offsetting and so on.

In theory, modifiers such as 'human' and 'sustainable' qualify the meaning of development in valuable ways. In actuality, the dominance of economic development nullifies any such transformative potential. To some extent, this is because the economy is not a concept conducive to creative solutions to environmental crises. In the contemporary world, nature is primarily understood through scientific measuring devices and tools of calculation, which in turn function with reference to the state.⁷⁵ It is therefore unsurprising that our solutions to environmental problems are limited by the same frame and tend to be technocratic and economic: carbon markets and emissions trading schemes, technology transfer and clean development mechanisms, and so on. 76 Indeed, the expenditure of dealing with environmental damage is seen as a spur rather than an impediment to growth.⁷⁷ Such a growth-based approach to ecological crises ensures that the structures of economic privilege and subordination that created environmental problems in the first place are systemically reinforced in circumscribing potential solutions. Rather than being the means of breaking down the conceptual separation between the economy (oikos nomos) and the ecology (oikos logos), 78 international law reinforces this divide.

The idea of development is appealing because it encompasses the legitimate aspirations of poor peoples to have better lives, and poverty eradication remains the main goal of contemporary development work. But a fixation on poverty takes attention away from the rich: hyperbolic wealth and limitless greed is the real outrage as they wreak environmental and economic injustice. What would development mean if we devoted less attention to the poor and more to the rich? Such a framing may entail setting goals and timelines for the rich to

⁷⁵ Mitchell, Carbon Democracy, p. 233.

Paris Agreement, Kyoto Protocol, Nagoya Protocol, Sustainable Development Goal 8.

⁷⁷ Mitchell, Carbon Democracy, p. 140.

⁷⁸ Philippopoulos-Mihalopoulos, *Law and Ecology*, p. 3; R. Williams, 'Ideas of nature', in R. Williams (ed.), *Problems in Materialism and Culture* (London: Verso, 1980).

⁷⁹ Rist, *History of Development*, pp. 249–58.

transform practices of systemic underdevelopment and ecological destruction, instead of for the poor to develop. The people and places that are classified, measured and scrutinised, as well as those who possess expertise, may be different. The link between increasing wealth, increasing inequality and patterns of ecological harm may be rendered more apparent. The meaning of development, its directionality (if any), and the identity of those who have attained it would come undone and become open for reinvention.

1.4 Conclusion

International law evidences a disciplinary double-mindedness when it comes to the natural environment. IEL strives unsuccessfully to protect us from serious environmental harm while other areas of international law remain committed to economic expansion at the expense of ecological wellbeing. International environmental lawyers desperately attempt to improve environmental protection regimes alongside the proliferation of parallel international regimes in trade, investment, commodities, labour and so on that inevitably generate or contribute to ecological crises. The regulation of natural resources, whether wealth-creating fuels and minerals or essentials such as clean water and food, remains outside the purview of IEL, as these resources are governed through other areas of public and more often private international law. IEL is thus not only incapable of deterring the momentum of the international system but also serves to obfuscate the correlation between international law and environmental harm.

De Sousa Santos observes that as 'disciplines became institutionalized and professionalized, the problems they dealt with were only the problems they themselves could formulate. The result was academic answers for academic problems that were increasingly more distant and reductive vis-à-vis the existential problems at their origin'. Therefore, ironically, the more serious and relevant a problem is, the harder it is to talk about it and remain credible among one's peers. This process aptly describes international law's engagement with environmental crises. While IEL proffers a panoply of technical solutions, it will inevitably fail because the problem is not amenable to a technical solution. Hence, in this chapter we insist that ecological harm challenges the fundamental tenets

⁸⁰ B. de Sousa Santos, 'A non-occidentalist west? Learned ignorance and the ecology of knowledge' (2009) 26 Theory, Culture and Society, pp. 103, 110.

of international law, and that debates that fail to acknowledge this will remain unprofitable. Enabling fruitful dialogue necessitates, in the words of Jasanoff, 'unpick[ing] the perverse analytic mantras ... taught to generations of legal and policy analysts so that they *cannot* think in other terms, even when ethics and morality call for different ways of thinking'. She observes that '[t]he blocking routines of technical expertise are embedded in a variety of institutional practices', and it is these routines that we endeavour to identify and dismantle.

Our disciplinary creeds tie us in overt and subtle ways to particular relationships with the natural environment. The constituent doctrine of sovereignty creates finite boundaries within nature as a basis for efficient division, commodification and consumption. International law also plays an important part in making the Western lifestyle seem possible everywhere, engendering the global pursuit of development as an article of faith in the religion of modernity. The ostensibly commonsensical notion of the economy and what it counts, and the dividing up of the common world into areas of public and private concern and their corresponding legal regimes, severely circumscribes our options for what and where we understand nature to be.

Locating nature within our discipline is an endeavour useful to all international lawyers, not just international environmental lawyers. For the latter, perceiving how the discipline engenders and maintains environmentally harmful practices helps to explain IEL's inability to protect the environment. For the former, such an analysis offers an understanding of how law and 'the environment' produce each other. Our understandings of nature shape disciplinary concepts, specialisations, institutions and blind spots. These understandings also predispose international law towards producing harmful and unjust consequences. Resistance demands an unmaking of the core disciplinary assumptions about what it means to be sovereign, to be human, and to be an international lawyer in an age of ecological crises and how we measure the progress of our discipline and our world.

S. Jasanoff, 'A world of experts: science and global environmental constitutionalism' (2013) 40 Environmental Affairs, pp. 439, 444 (emphasis in original).
Ibid.