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IR and the Earth

Societal multiplicity and planetary singularity

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If the basic problem of the international is *societal multiplicity* – the simple but surprisingly consequential fact that the world is divided into distinct societies (Rosenberg 2006) – the basic problem of the global environment could be said to be *planetary singularity*; that we all inhabit, in the end, one finite interconnected space. Together these two starting points make for the basic conundrum of International Relations and the Earth: how does a divided world live on a single globe?

The discipline of International Relations (IR) has not always been considered the appropriate place to take up the challenge of providing answers to this question. To some, ‘the environment’ was a subject on the periphery of the practice and discipline of International Relations. Being ‘just another issue’ like race it would demand a reaction but not ‘alter the mechanisms of international politics’ (Smith 1993: 32). The trans-border or global nature of many environmental problems sits awkwardly alongside concepts such as the national interest, sovereignty and territoriality. Likewise the normative dimensions of some conceptions of environmentalism arguably go against more materialist and interest-based approaches to IR. For example, why should the basic idea of sustainable development – ensuring that meeting the needs of the current generation does not compromise the needs of future generations – have traction in a world plagued by competition even within the current generation?

Yet, IR is in a sense the obvious home for considering how humanity (divided as it is) deals with the challenge of sharing a singular and finite space. The *raison d’être* of International Relations as a subject is to grapple with problems of coexistence: societal multiplicity is a challenge precisely because multiple polities have to share the same spaces. For Hedley Bull the international system was a ‘system’ only in so far as the individual units interacted enough to have to take each other into account (Bull 1977). The environment is now a major sphere in which the many different actors of the world have to take each other into account.

This book takes stock of and explores the ways in which International Relations has confronted and contributed to understanding how a divided world deals with and manages the environment; but it also aims to provide an overview of how IR as a discipline has itself changed and developed as a result of doing so, particularly over the past two decades. Which perspectives have

been conceived and/or shaped through analysis of environmental problems? Which actors, processes and images have become part of the IR tapestry as a result of environmental political analysis? Which approaches, theories and concepts have, due to environmental themes, been imported from other disciplines and to what effect, tugging the focus and perhaps even the identity of the discipline itself in various directions? The broad argument is that IR has impacted on the politics of the environment, but the reverse is also true: IR is not what it hypothetically would have been without the international politics of the environment.

This introduction first provides an overview of the recent rise of ‘the environment’ in international politics and offers an account of how this builds on older ways in which the natural world has made up part of the stuff of international politics. Second, it surveys the main traditions and approaches to studying International Relations of the environment, painting a picture of diversification in two senses: from the study of ‘environmental multilateralism’ towards a broader ‘global environmental politics’, and from ‘problem-solving’ to a greater diversity of ‘critical’ approaches, some of which originate in disciplines outside core IR territory. While the traditional problem-solving approaches have tended to treat the environment as just another issue for International-Relations-as-usual, critical approaches have begun reflecting on the theoretical implications of taking environmentalism seriously (see also Eckersley 2013). Third, the direction of enquiry is therefore reversed to ask, in effect, ‘what has the environment ever done for IR?’, before the plan for the rest of the book sketches the content and direction of the ensuing chapters that explore the *problematique* of International Relations and the Earth.

The short and long history of international environmental politics

The politics of the environment is in some ways considered a somewhat marginal theme in International Relations – one issue area among many, and of relatively recent import. At the same time, the natural world is part of the foundations and deep history of International Relations. Recently, the two perspectives – the environment as an ‘issue’ on the one hand and nature as a fundamental condition for the international system on the other – have gradually begun to align. But first it is worth considering each in turn.

As a recognisable concept and political issue, ‘the environment’ is thought to have emerged onto the international scene as a result of what is now sometimes called the Great Acceleration: the dramatic post–Second World War surge in human impact on the Earth in terms of population, resource use, pollution, energy use and the spread of technology (Costanza et al. 2007). Environmental change caused by human activity is as old as hunting and agriculture, but it became visible, eventually on an international and later planetary scale, when

the sheer scale and velocity of human activity rose with the expansion of fossil fuel power and the spread of industrialisation. The post-war boom continued and accentuated earlier local and regional politics of pollution and/or resource management, lifting it to a new level of prominence. Sometime around the 1960s the concept of 'the environment' itself emerged (Vogler 1996: 7). In its simplest terms, 'environment' refers to whatever is around or next to something of more central concern. In anthropocentric terms, the environment referred to whatever is around humans and human societies. Key ideational landmarks such as Rachel Carson's *Silent Spring* (1962), the 1972 Club of Rome report on population and scarcity, and the rise of global environmental popular culture, fed by images of planet Earth taken from space in the late 1960s, all pushed 'the environment' gradually up the political agenda. In contrast to earlier elite notions of environmentalism (such as Manifest Destiny, wildlife management, and conservationism) (Brulle 2000), modern environmentalism was more of a popular movement, and more global. In particular it also became centrally concerned with human development (see Falkner 2012).

By 1972, the idea of an environmental crisis had gained sufficient momentum to prompt the United Nations Conference on the Human Environment (UNCHE) held in Stockholm. This saw environment put explicitly onto the agenda of the world's central international institution and established 26 principles of environmental protection within a framework of human rights and development. The foundations of much of the world's subsequent legal and political infrastructure for conducting global environmental politics can be traced back to Stockholm and the processes leading up to it. Multilateralism, international law and scientific guidance were established as the cornerstones of international environmental negotiation and governance. The UNCHE conference, the Club of Rome publication *Limits to Growth* in 1972 (Meadows et al. 1972) and the global oil shock of 1973 meant that debates about global resources, population and pollution filled out the environmental agenda for at least a decade. The 1972 Stockholm conference had kicked off a flurry of negotiations on issues ranging from the protection of birds and the control of desert locusts to the prevention of marine pollution and the regulation of whaling (IEA database, Version 2014.3). As a result, some 142 multilateral environmental agreements were signed by the end of that decade. These were designed to address problems of a trans-border or beyond-border nature and their geographical scope was largely limited to specific regions rather than the entire globe.

The ensuing global recession in the 1970s and then the debt and development crises of the 1980s, saw environmental concerns dampened somewhat, partially predicted by issue attention-cycle theory (Downs 1972). But around the mid-1980s, after the Chernobyl nuclear accident, and the beginning emergence of

public concern about global warming and ozone depletion, the environment again rose up the political agenda. Even many Eastern-bloc protest movements and the subsequent revolutions of 1989–1991 began life as environmental or conservation organisations and dissidents such as Václav Havel in Czechoslovakia and Rudolf Bahro in East Germany fashioned themselves as ‘third way’ critics of unsustainable capitalist and state socialist systems (Corry 2014a). Meanwhile the rise of green parties and environmental non-governmental organisations (NGOs) in the West also gained traction while at the top, leaders as different as Mikhail Gorbachev and Margaret Thatcher put global environmental concerns on the geopolitical map. Within the United Nations (UN) system, the 1987 World Commission on Environment and Development produced the Brundtland Report linking development and sustainability formulaically in the term ‘sustainable development’ (Brundtland Commission 1987).

The last decade of the twentieth century can in many ways be viewed as the golden age of environmental multilateralism. During this time, the international community negotiated hundreds of new agreements, amendments to agreements, and new protocols with global and regional scope (IEA database, Version 2014.3). The 1992 Rio Conference on Environment and Development (UNCED) brought the countries of the world together around ‘sustainable development’ and Agenda 21. Another mega-conference was arranged for 2002 in Johannesburg, continuing the globalising and institutionalisation of sustainable development ideas, tying environmental and social issues together within an international legal framework. In addition, single issues such as ozone depletion and climate change were tackled in separate processes and summits: the Montreal Protocol was agreed in 1987 and the Kyoto Protocol in 1997. More recently climate change has taken a central and leading role in global environment politics, and the 2009 Copenhagen COP15 summit and COP21 in Paris represent high watermarks of expectations and environmental regime-building activity. In this sense, as a discrete issue, the environment has a relatively short history behind it, albeit with a sharply rising profile in international politics.

If, however, ‘nature’ rather than ‘environment’ is taken as the central concept, international politics was already long ago deeply concerned with it: geopolitics is embedded in the distribution, exploitation and management of natural resources – what today might be termed ‘ecosystem services’. Since Thomas Malthus’ ideas about scarcity met with Charles Darwin’s theory of competitive selection, population, territory, soil and other resources were thought to be central to politics between nations and indeed to the cardinal issue of war and peace (Bashford 2014). The idea of *Lebensraum* is most infamous for its use by Nazis to legitimate Eastern European expansion, but the

idea is considered an early contribution to geopolitics, and originated from a German geographer, Friedrich Ratzel, interested in human migration and the impact of the physical environment on societies. The idea that war was caused by population pressures and the requirement of ‘dynamic’ peoples to have access to resources became a common theme in imperial capitals and at international conferences and institution-building efforts from the nineteenth century onwards.

Even further back in history, geography and the climate itself was considered the starting point for explanations of international politics. As Daniel Deudney has pointed out, whereas ‘recent literature typically casts nature as a new factor in politics, the idea that nature is a powerful force shaping human political institutions is extremely old’ (Deudney 1999: 25–26). For Aristotle, climate and agricultural aspects of territory were behind the rise and spread of empires and modern writers such as Robert Kaplan or Jared Diamond have taken up similar themes, exploring the importance of topography, oceans, land fertility and technological innovation (Kaplan 2009; Diamond 1997). For Marxist thinkers, ‘material’ factors have always been central to the trajectory of the capitalist system within which the modern international system developed. Nature was not simply a factor of production acquiring value when mixed with labour. It is fundamental to a historical materialist view of human history (see Foster 2000). Even in the abstract world of game theory during the Cold War, John von Neumann (1955) warned: “‘The great globe itself’ is in a rapidly maturing crisis – a crisis attributable to the fact that the environment in which technological progress must occur has become both undersized and underorganized.’ Whereas the spread of industrialism and world political integration had provided the expansion of technology with a ‘geographical and political Lebensraum’, the limits and finite nature of the Earth were now being felt, von Neumann wrote.

Nevertheless, contemporary ideas about global environmental politics cannot be understood simply as a continuation of earlier ones. They differ in part because natural factors are no longer considered purely natural. That geography might be a variable rather than a constant condition of geopolitics is one example of an increasing awareness of an accelerated rate of change in Earth systems. With the advent of climate change and the prospect that not only climatic conditions but even territorial borders themselves may change as a result of human-induced sea level rises, the variability of geophysical conditions has become an emerging theme in global politics itself (Dalby 2014). Climate was once simply average weather, but with the growth of a ‘vast machine’ of globalist infrastructures including satellites, measuring stations, masses of data and models to process it (Edwards 2010), ‘the climate’ has been rendered governable – it has become a global governance-object with

a potentially major structuring effect on the dynamics of the international system (Corry 2013). President François Hollande of France declared that the COP21 Paris Summit on climate change would ‘change the world’, either by securing an agreement and transforming energy and climate technological economics, or by failing and leaving the world open to radical climatic changes. It could be added that the politics of the climate have already changed international relations as such, with the Paris United Nations Framework Convention on Climate Change (UNFCCC) summit in 2015 being the biggest gathering of state leaders in history.

Studying international environmental politics

IR has tackled environmental politics in a number of ways. If classical scholars studied the impact of nature on humans, contemporary international environmental scholarship began first with realist examinations of anarchy and environmental security, and then with liberal examinations of environmental multilateralism. More recently scholars have expanded their analysis to multilevel global environmental governance and sought insights in a more diverse set of theoretical traditions.

Anarchy and environment

While international institutions and cooperation became core themes of post-Cold War International Relations, for many ‘realist’ scholars the bread-and-butter of the discipline throughout the 1990s and beyond continued to be power, conflict and national security. Realist examinations of international environmental politics have fallen largely into two camps: those focusing on environmental conflict, and those exploring institutional environmental regimes established through hegemonic power.

In the first camp, realist scholars analyse the potential for violent conflict over natural resources, and observe environmental factors in existing inter-state conflict. Realists assume that environmental change is more likely to lead to conflict because states are driven to compete for scarce resources while maximising their relative power and security. Notable early environmental realists include Robert Kaplan, David Wirth and Thomas Homer-Dixon. Kaplan (1994) invoked a dystopian vision of a ‘coming anarchy’ in which ‘surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and, possibly, rising sea levels’ would incite violent conflict and mass migration. Kaplan’s broadly impressionistic argument was later partly supported by extensive empirical studies carried out by Homer-Dixon and his teams of researchers (Homer-Dixon 1999). Fresh water has attracted more interest from environmental realists than any other natural resource. Considerable attention has been devoted to establishing causal links

between scarcities of fresh water and violent conflict. There is a very obvious discrepancy between sovereign borders and fresh water resources, and the observation that some 145 states have territory within international water basins underlies the assumption that water would increasingly become an object and instrument of military strategy (Wolf 2007; Gleick 1993). However, despite the ubiquitous rhetoric of 'water wars', empirical research shows cooperation over shared water to be far more common than conflict (Wolf et al. 2003). Over the past decade, the prospect of climate change conflict has attracted the attention of political scientists working within a positivist framework (Hsiang et al. 2011). Drawing on the findings of large-N studies using dozens of historical quantitative datasets, these scholars are increasingly confident that there is a causal relationship between climate change and conflict. However, others question such links and criticise this research agenda as resting on 'arbitrary and sometimes even untenable' premises that ignore the historical specificity of conflict and overlook the contingency of social structures and forces (Selby 2014: 848). Jan Selby dismisses the assumption that quantitative coding and correlational studies (methods that define the positivist toolbox) can be used to explain or make predictions about conflict. Such blunt tools, he argues, have no way of capturing 'the wide-ranging political and conflict implications of humankind's transformation of the global climate' (ibid: 850).

Limitations in realist theory can also be observed in scholarship informed by hegemonic stability theory. Hegemonic stability theory is associated with Robert Keohane's examination of its central claim that institutions dominated by a hegemonic state are most likely to command the durable compliance of other states. 'Hegemonic leadership', he explains, 'builds on the interests of states. The hegemon seeks to persuade others to conform to its vision of world order and to defer to its leadership' (Keohane 1984: 137). Scholars have explored whether these insights have any explanatory purchase for international environmental politics, and have by and large concluded that the theory is of limited use (e.g., Young and Osherenko 1993). In theory, hegemonic stability would explain advances and obstructions in international cooperation on environmental problems by tracing how a hegemon promotes or obstructs environmental agenda-setting and regime formation. The emergence of the US as a sole superpower in the early 1990s can be seen to coincide with a shift in its environmental foreign policy. Yet unlike in the 1970s and 1980s when the US arguably played a leadership role in introducing domestic environmental regulation, after 1992 its role in environmental multilateralism oscillated between disinterest, hostility and obstruction (see Falkner 2005). Hegemonic stability theory would assume that both US environmental foreign policy and developments in environmental multilateralism could be explained by the broader structural context of unipolarity. But Falkner has argued that structural

theory has significant limitations and any simple and straightforward connections that are drawn between global environmentalism, US foreign policy, and unipolarity are misleading (ibid). The persistence of the Kyoto Protocol following US withdrawal also presented a challenge to hegemonic stability theory. The US was not only the world's economic and political hegemon, but also one of the largest greenhouse gas (GHG) emitters at the time. A realist perspective would assume the collapse of the agreement, but as Depledge (2005: 21) observed, 'a critical mass of supportive countries was able to sustain, and indeed advance, the process'.

Environmental multilateralism

The environment made its way onto the international agenda at a time of renewed optimism about multilateral cooperation. Given the context of UN conferences and high-profile reports, it is unsurprising that international negotiations and institutions captured the attention of IR scholars and dominated the study of international environmental politics during the 1990s and into the new century. The overarching line of enquiry that emerged focused on which institutional features and modalities would facilitate cooperation among almost 200 sovereign states and increase their compliance with agreements (e.g., Hurrell and Kingsbury 1992; Young 1999a, 1999b; Porter and Welsh-Brown 1991; Haas et al. 1993; Chasek 1999; Speth and Haas 2006). Theoretically, scholars tended to be guided by 'liberal institutionalism' with its assumptions about absolute gains and international co-operation. From this perspective, effective cooperation is possible because states are primarily concerned not with improving their position vis-à-vis other states, but rather with overall improvements in their economic wealth and national security. Even in situations where states are guided by relative gains, institutions could facilitate cooperation by providing transparency and side-payments to relative losers. The key to success is therefore understood to lie in the optimal structuring of incentives to facilitate agreement.

Analytically, this narrowed down global environmental politics to the processes of bargaining through which states negotiate what they will give and what they expect to get from an agreement. Our understanding of this process of regime formation has been shaped most significantly by Oran Young, including his early work on stages of formation (1983), bargaining and leadership (e.g., 1989, 1994, 1999a, 1999b), and the role of power, interests and knowledge (Young and Osherenko 1993). As multilateral environment agreements began to mature, scholars began to complement research on regime formation with research on regime effectiveness. There is no single understanding of what the concept of 'effectiveness' entails; Young and Levy identified no fewer than five conceptualisations: problem-solving (resolving the

problem for which it was intended); legal (domestic compliance with agreements); economic (efficient); normative (fair and just); and political (affecting interests, behaviour, policies, and performance) (1999: 3–7; also Levy et al. 1995).¹ Early research on effectiveness focused quite heavily on legal compliance (e.g., Mitchell 1994), political effectiveness (e.g., Haas et al. 1993), and addressed methodological questions of how effectiveness can be measured (Miles et al. 2002; Helm and Sprinz 2000). More recently, an important and growing agenda has developed on the normative effectiveness of regimes, addressing such issues as inclusiveness (of states and non-state actors), and fairness of procedures and outcomes, themes that are taken up below.

Transnational environmental regime complexes

Environmental multilateralism remains a central feature of international efforts to address environmental change. But since the turn of the century, institutionalist scholars have turned their attention to two important shifts in practices of international environmental cooperation.

First, environmental institutions have become more ‘fragmented’. What were once discrete and coherent environmental ‘regimes’ have now morphed into ‘regime complexes’: sets of interrelated and partly overlapping regimes that are formally separate but that cannot be seen as functioning wholly autonomously of one another (Keohane and Victor 2011). This is most evident in the issue of climate change, which has implications for many other aspects of international politics such as trade, human rights, migration, labour, development, food production and other environmental problems. The various regimes and institutions responsible for each of these issues (such as FAO, UNHCR, World Bank, IMO, UNCBD) began to take climate change seriously in the early twenty-first century. The tapestry of climate governance grows as these institutions integrate climate change into their existing rules and practices. A further layer of complexity is added when informal institutions such as the G8 and G20 take up the issue, or when ‘minilateral’ institutions like the Asia Pacific Partnership on Clean Development and Climate are formed. A recent trend in the global climate governance literature has been to analyse the reasons (functional, strategic and organisational) why regimes fragment, the advantages and disadvantages of fragmentation for international problem-solving, and the normative implications of fragmentation (addressing concerns of legitimacy, accountability, etc.) (Keohane and Victor 2011; Karlsson-Vinkhuyzen and McGee 2013; Stevenson and Dryzek 2014; Zelli and van Asselt 2015).

Abbott (2012) has proposed the alternative analytical framework of the ‘transnational regime complex’ to capture a second shift that has taken place alongside the fragmentation of environmental multilateralism. While the

‘regime complex’ captures the fragmentation of state-based institutions, the ‘transnational regime complex’ captures the rise of new sources of authority and new forms of global governance. In the twenty-first century, the importance of environmental multilateralism is being partly eclipsed by the efforts of less formal and hierarchical networks of state and non-state actors. This signals a partial shift from *environmental multilateralism* to *global environmental governance*. Whereas the former focuses on cooperation among states, the latter concerns interactions among a broader range of stakeholders alongside and in partnership with states. These can take a purely *public* form (when states, cities or municipalities cooperate outside inclusive multilateral regimes); a purely *private* form (when business or civil society actors cooperate without the formal inclusion of public actors); or a *hybrid* form (when state and non-state actors enter into cooperative arrangements).

This shift in practice from multilateralism to governance has triggered an analytical shift in the discipline: as fewer and fewer multilateral instruments are negotiated, the attention of scholars increasingly turns to networked environmental governance. This has been particularly evident in studies of climate change politics where scholars increasingly look beyond the UNFCCC. Harriett Bulkeley and Michele Betsill have developed important research agendas focused on the role of cities in creating transnational voluntary schemes for climate change adaptation and mitigation. These have proven particularly important in filling a regulatory vacuum in states lacking national climate change policies (Bulkeley and Betsill 2003; Acuto and Rayner 2016). Matthew Hoffmann (2011) has mapped dozens of ‘experiments’ in climate governance through which networks of actors aim to share knowledge, disclose carbon profiles, increase energy efficiency, reduce GHG emissions, promote adaptation, mobilise finance, establish trading schemes, etc. Other scholars have analysed the relations between these governance experiments and state-based regimes with some suggesting that the UNFCCC ought to evolve into a ‘meta-governance’ institution (Stevenson and Dryzek 2014) or ‘complexity manager’ (Zelli and van Asselt 2015).

Theoretical diversification: from problem-solving to critical analysis

This shift from environmental multilateralism to global environmental governance has been accompanied by a theoretical diversification from problem-solving to critical approaches, particularly from around the late 1990s. Liberal institutionalism has maintained a strong place in the field, but not necessarily a dominant one. Departures from this path are now more diverse and sophisticated. Dissatisfaction with the traditional theoretical approaches and methodological tools of IR has prompted many scholars to seek insights in alternative theories, including constructivism, Marxism, Foucauldian ideas,

feminism and normative political theory. This diversification can be understood, crudely, with references to Cox's well-known distinction between problem-solving theory and critical theory. Whereas problem-solving 'takes the world as it finds it' and aims to make 'institutions work smoothly' within this given context, critical theory questions how certain configurations of interests, identity and power came about and how they might change (Cox 1981: 128–129).

Constructivist scholars stay focused on states but analyse how the interests that actors pursue in environmental political contexts and the very identities of these actors are constructed through a fusion of ideational and material elements. These interests and identities are not fixed prior to political interaction; instead, they are constructed and reconstructed over time. States may oscillate between good international citizens and stubborn defenders of the 'national interest' depending on how their domestic conditions align with the normative structures of global environmental governance. This suggests that the environmental foreign policy of a state cannot be simply predicted on the basis of its energy profile or broader economic interests (Stevenson 2013). Another important concern of constructivist scholars has been to explain changes within the normative structures of global environmental governance, and particularly global climate change governance (Betsill 2000; Cass 2006; Eckersley 2007; Harris 2000; Hoffmann 2005; Pettenger 2007). An influential contribution in this vein is Steven Bernstein's analysis of 'liberal environmentalism', which 'accepts the liberalization of trade and finance as consistent with, and even necessary for, international environmental protection. It also promotes market and other economic mechanisms... over "command-and-control" methods... as the preferred method of environmental management' (Bernstein 2001: 7). Rather than take this normative structure as a given (as liberal institutionalists do), Bernstein is concerned with understanding how and why it became institutionalised.

Another rival approach can be found in Marxist contributions that bring structural causes of environmental problems, including capitalism itself, into focus. Marxism is, of course, a broad church with no single philosophical and political position. A central idea, though, is that social organisation of material production and circulation shapes human experiences. This has inspired two broad lines of recent inquiry. The first draws on Marxist concepts such as 'metabolic rift' to understand how global and local environmental degradation occurs in the first place. Marx argued that industrialisation and capitalism ruptured the 'metabolic interaction' between humans and the earth, leading principally to land degradation. Foster and his colleagues have observed that this 'metabolic rift' has been globalised through colonialism, imperialism and

market forces that all aim to maximise capital accumulation at the core at the expense of environmental degradation in the periphery (Foster et al. 2010).

The second line of inquiry in this tradition is inspired more by Antonio Gramsci's work on historical materialism and hegemonic blocs; it is concerned with how ideological and strategic forms of power shape international environmental politics (Rupert 2007: 40; Levy and Newell 2002, 2005; Paterson 1996, 2000; Newell and Paterson 1998). Newell and Paterson, for example, analysed the climate change negotiations of the 1990s through a neo-Gramscian framework that directs attention to the political-economic dynamics that shape states' negotiating positions. The influence of the fossil fuel industry is shown to be important but not absolute because capital itself is not a 'homogenous bloc' (Newell and Paterson 1998). A similar framework informed Levy and Newell's analysis of corporate strategies in international environmental governance more broadly. This allowed them, together with fellow contributors to the 2005 volume (Levy and Newell 2005), to dissect corporate partnerships between industry and NGOs, private governance schemes (like voluntary standards), and 'wars of position' whereby social groups seek to challenge dominant arrangements for governing biotechnology, climate change, water, and toxic waste (ibid).

One of the more recent innovations in theorising global environmental politics has come from scholars drawing on Foucault, and in particular his concept of governmentality (Death 2010; Methmann 2012; Oels 2005; Paterson and Strippel 2010; Strippel and Bulkeley 2013). *Governmentality* refers to rationalities of government, or 'how we think about governing' (Dean 2009: 24) and how this guides and constrains action by creating or shaping the subjects, objects and techniques that allow power to be exercised. Authors inspired by governmentality aim to examine the actual exercise of climate governance and the myriad techniques through which 'climate' shapes the world; for example, through carbon accounting methods and units such as 'carbon footprints' that allow regulation and self-governance in multiple forms (e.g., Eden 2013). Such studies have drawn attention beyond centralised governing institutions to 'the many diverse sites in which a carbon-constrained world... is represented, categorized and ordered' including 'households, markets, forests, migratory species and displaced persons' (Strippel and Bulkeley 2013: xix). Others use 'governmentality' to analyse climate change governance in terms of its overall advanced liberal rationality, which 'articulates climate change as an economic issue that requires market-based solutions to facilitate cost-effective technological solutions' (Oels 2005: 185). Carl Death has extended this line of thinking in his analysis of 'sustainable development' revealing the 'advanced liberal rationality of government' that it promotes. This form of government relies principally on 'the voluntary and

responsible conduct of self-selecting partners operating at a distance from traditional centres of power' (Death 2010: 9).

Another obvious place to look for critical thinking about international environmental politics is feminism. The feminist tradition has had a lot to say about the environment (e.g., Plumwood 2004; Seager 1993, Shiva 1989). But, surprisingly, feminist analyses of *international* environmental politics are thin on the ground. Nevertheless, a small body of work has sought to sensitise IR to the gender dimensions of global environmental change and global environmental governance (Boyd 2009; Bretherton 1998, 2003; Foster 2011; MacGregor 2009). The feminist agenda encompasses concerns about the representation of women, as well as deeper *masculinisation* of the global environmental governance agenda. Rephrasing Cynthia Enlow, Höne (2013) asks 'where are the women in climate change negotiations?' Equality in representation, she argues, is essential if more gender-sensitive decisions are to be adopted. In recent years, less than one-fifth of UNFCCC heads of delegations have been women, and women have made up only about one-third of entire delegations (ibid). While the UNFCCC has taken steps towards improving gender *balance* (as opposed to *equality*) in negotiations (ibid), Bretherton is less sanguine about the impact this will have, pointing out that the 'patterns of relations between men and women' will not change until 'masculine values' cease to be privileged over 'feminine values' (1998: 85–90). This is echoed by MacGregor who points to the masculinisation of environmentalism in which '[m]en dominate the issue at all levels, as scientific and economic experts, entrepreneurs, policy makers and spokespeople'. The effect is to render women and their concerns invisible (2009: 128).

A final trend in theoretical diversification is the application of international political theory. Theories of justice and democracy (especially deliberative democracy) have provided frameworks for examining how international environmental cooperation produces winners and losers, or responds to the concerns of some people while ignoring the interests of others. Rejecting the realist assumption that IR should concentrate on how the world *is* rather than how it *ought* to be, scholars including Chukwumerije Okereke have shown how theories of justice are already embedded in environmental regimes. Moreover, it is argued that bringing regimes into line with a coherent set of justice principles could make the regimes both fairer and more effective (Okereke 2007). Deliberative democratic theory has been used to diagnose the deficits in representation, participation and accountability in global environmental governance. This scholarship is infused with normative ideas about how the international system should be governed to ensure that global decisions reflect the preferences and interests of potentially affected people (e.g., Stevenson and Dryzek 2014; Bäckstrand et al. 2010).

What has the environment ever done for IR?

While IR has helped shed light on the international politics of the Earth, this has in return left its own imprint on the discipline: grappling with the environment or nature has changed existing IR theories and approaches and has contributed to developing new theories and drawing other theories and approaches from outside the IR discipline itself.

Most obviously, the rise of international environmental problems provided an opportunity for theories of international cooperation and diplomacy to be developed and tested (O'Neill 2009: 13). Current understandings of international institutions and negotiations are to a significant degree forged through studies of environmental regime-building. It is not much of an exaggeration to say that regime theory is a child of IR's analysis of environmental governance. As described above, regime theory developed through analysis of the formation of numerous environmental regimes created by varying numbers and sets of actors engaged in 'institutional bargaining' (Young 1989). Not only that, but subsequently the idea of a 'regime complex' also developed out of analyses of the meshing of international institutions in the environmental sphere (Raustiala and Victor 2004). Furthermore, the recognition of regime complexity in the environmental domain has had a theoretical and analytical impact on IR beyond global environmental politics. IR scholars have drawn on the 'regime complex' idea to analyse the extent and effects of regime fragmentation on other areas of international relations including trade, migration, security and human rights (see Alter and Meunier 2009), while Drezner (2009) has revisited the central institutionalist logic of regime theory in light of the observed proliferation of rules, laws and institutional forms.

Meanwhile realism, while perhaps overshadowed by liberal leadership in environmental analysis, has not gone unchanged either. Realists were initially dismissive of environmental concerns, which did not fit into ideas about distinct national interests and tended to be classed as 'low politics' issues (Paterson 1996). Neorealist abstraction from moral norms and domestic actors increased this tendency (Purdon 2014). However, some realists have been led through the rise of the environment to re-examine the current realist agenda as well as its history. Concerns about environmental security and the likes of Kaplan's dystopian 'coming anarchy' helped re-establish a link between classical realist interests in war and conflict and scarcity and environmental change. 'Environmentalism realism' involves excavating the deeper relationship between geopolitics and geophysical factors and its much longer history (Deudney 1999). Post-war debates about the meaning and implications of the then dawning nuclear age, largely forgotten until recently, include early signs

of concerns about the overall impact of technology on the prospects for survival and planetary security (van Munster and Sylvest 2016).

In addition, theoretical innovations in Security Studies such as Securitisation Theory and some aspects of Critical Security Studies were in part driven by a wish to understand how environmental problems were being understood in security terms (Wæver 1995; Krause and Williams 1997). For the Copenhagen School, focusing on the 'grammar' of security allowed various issues, including the environment, to take the place of foreign enemies as the 'existential threat' in security analyses. Instead of the security of the state, the object to be protected through security practices has in some instances become sustainability, climatic stability or ecosystems (McDonald 2013). In a recent development, climate change has provided an occasion to consider 'macro-securitisations' where universal rather than particular objects or values are securitised, directing attention to security dynamics that transcend political communities (Buzan and Wæver 2009). For the Aberystwyth or 'Welsh' School, environmental harm and resource scarcity was part of the insecurity of crippling poverty and destitution that required rethinking 'security as emancipation' (Booth 1991). Environment is in this sense becoming a 'central battlefield' for normative questions in world politics (Booth 2007: 57) in core issues such as security politics. Such innovations allowed analysts to study how planetary or ecological systems could have become the focus of 'high' security politics, and expanded the security studies repertoire of theories and concepts as they did so.

Another of the most fundamental debates in contemporary IR, namely the one concerning globality, also has green fingerprints on it. Early debates about globalisation in the late 1980s and 1990s were primarily driven by awareness of the expanding and accelerating economic and technological flows and networks (Held et al. 1999). But environmental problems and planetary issues also played a role in stimulating interest in global politics, and questioning the paradigmatic idea of a system of states locked in a structure of anarchy. The 1960s saw the Cold War-driven space race that delivered images of the planet from space as a solitary and fragile 'Blue Marble', giving added impetus to the emerging popular environmental movement and the wider awareness of being on a precarious planet or 'spaceship Earth' (Lazier 2011). The new social movements focused on peace and environment drew on this and became part of a rediscovery within IR of a 'global civil society' (Kaldor 2003). Environmentalism played a role in the lead-up to and ending of the Cold War and beyond (Corry 2014a). Older ideas about world government, otherwise shelved during the partition of the Cold War, re-emerged partly on the back of the environmental question and a growing global consciousness after the Cold War stand-off had ended. Whereas a world state is still mostly deemed off-

limits (although see Wendt 2003), ideas about global state functions or a global polity have been explored and also engage with environmental issues (Shaw 2000; Ougaard and Higgott 2002). Whereas the globalisation debate stalled somewhat on the idea that globality might somehow mean the end of the state system, the emergence of global post-territorial objects such as ‘the climate’ have stimulated an awareness among IR scholars of the constitutive importance of global objects. What was once the weather has been rendered governable as ‘the climate’ and this suggests an emerging global climate polity where carbon has become a new medium of international interaction (Corry 2013; Methmann 2014; Allan 2016).

Meanwhile the sociological theory of Ulrich Beck has also entered the discipline via risk-security analysts exploring, in no small measure, how environmental logics may have spread into the security realm. For example, the precautionary principle developed in environmental governance has been seen to have been applied to terrorism and instability (Williams 2008). For Mikkel Vedby Rasmussen (2006: 25), the precautionary logic of attacking Iraq before Saddam Hussein acquired weapons of mass destruction was a mirror-image of the precautionary principle developed to justify pre-emptory measures to deal with environmental risk. The links between global capitalism and new ways of accounting and capitalising ecosystems has similarly attracted attention in critical International Political Economy circles (Newell and Paterson 2010).

Related to the risk literature, grappling with global environment politics has forced IR to deal seriously and increasingly with the politics of science and knowledge production. This most obviously included work on ‘epistemic communities’ – practice communities of scientists and experts, pioneered though studies of global environmental problems such as acid rain or ozone loss (Haas 1992), biodiversity and lately climate change (Methmann 2014). While epistemic community literature assumed a high degree of consensus among experts, or at least that knowledge production took place exogenously to the policy process, other approaches allow for science to be more conflictual and for policy and science to be more intimately connected and foundational (Weiss 2005). Some have considered how scientists/experts are dependent on, and joined by, other actors, transboundary advocacy people, etc., partly from the environmental movement but also further afield (Mai’A and Cross 2013). International environmental issues have thus brought with them engagement also with Science and Technology Studies, including the work of Bruno Latour and collaborators. The idea of assemblages has entered the discipline in various ways (see Acuto and Curtis 2013). Building on Sheila Jasanoff’s ideas that technical, cultural and political features of order get articulated and reshaped simultaneously, IR scholars point to the role of large-scale technical infrastructure and scientific knowledge in global governance (Mayer and Acuto

2015). IR has similarly drawn on critical geography (e.g., Swyngedouw 2013) and the so-called 'new materialism' critiquing anthropocentrism (e.g., Connolly 2013; Mitchell 2014) has also impacted on IR studies (Cudworth and Hobden 2011) and security; for example, bringing in issues such as extinction (Mitchell 2016).

Related to much of this, environmental concerns have also led IR to begin to take ideas and concepts about complexity and complex adaptive systems on board. The notion of 'system' is of course a very familiar one in IR theory, but in the classical sense it simply referred to situations where units interact sufficiently to have to take each other into account (Bull 1977). Complex adaptive systems theory, on the other hand, suggests that complex systems can have emergent properties themselves, and that they may have internal tipping-points within them, beyond which they switch to new equilibria and ways of functioning (or collapse). Critical security scholars have analysed the spread of such thinking into security politics (Dillon and Reid 2009) and the international politics of critical infrastructure safeguarding (Lundborg and Vaughan-Williams 2011). Linked to this, ideas such as resilience, originating in systems theories, biology and material sciences have made their entry into both security policy and debates about environmental security (Reid 2012; Corry 2014b). A whole approach to policymaking based on complexity, emphasising experimental and non-directed decision-making has been suggested to approach long-term, high-risk issues such as geoengineering the climate (Chris 2015).

Finally, in normative theory, environmental questions have arguably expanded the agenda of international theory in two ways. First, the potential for global environmental problems to impact the lives of innumerable people across the world bolsters the case for 'global democracy' (however understood). 'The environment' generates perhaps more stakeholders and discourse coalitions than any other issue of international concern, and international theorists have begun to reflect on what this means for the 'all affected principle' (Schaffer 2012). As we saw above, some scholars of environmental governance have turned to democratic theory to understand the challenges of producing legitimate and effective agreements. But the direction of influence also runs the other way: consideration of the environment is reshaping how global democratic theorists understand legitimate global governance (Payne and Samhat 2004; Archibugi et al. 2012). Second, environmental questions bring the future and future generations more centrally into moral and ethical debates about rights and responsibilities. Cosmopolitan Simon Caney (2005: 749) suggests that 'an adequate theory of global environmental justice must provide guidance on what duties to future generations those living at present have. It must consider whether future people have rights.'

Outline of this volume

The contributors to this volume reflect on the various ways in which the discipline of International Relations increasingly engages with – and is engaged by – environmental issues. Their contributions provide insight into important themes of institutions and actors, science and values, development and security. Together, these analyses build a picture of how the study and practice of international environmental politics has developed over the past two decades. Each chapter reviews a particular body of work or debate, presents one or more key approaches, and takes up a key issue related to IR and the Earth and the challenge of societal multiplicity in the context of shared ecological space.

The chapters that follow do not provide an exhaustive and complete account of the field of international environmental politics. Our selection of theories and themes highlight important patterns in the field. They cover the significant IR approaches that are engaging with environmental questions (neorealism/neoliberalism, English School/constructivism, non-Western IR, international science and technology studies, post-humanism, securitisation, International Political Economy, and political ecology). Thematically these chapters reflect important shifts in international environmental politics, in particular the strong focus on climate change, the integration of energy into environmental concerns, and linkages to global justice.

Falkner, Vezirgiannidou, and Death and Tobin's chapters engage with debates about the role of the state and international institutions in environmental politics. Their contributions reveal the analytical value that has been – and can continue to be – derived from different theoretical and conceptual frameworks and provide a nuanced picture of the ongoing and changing relationship between global environmental governance and statehood.

Drawing on the English School tradition, Robert Falkner argues in [Chapter 2](#) that the arrival of global environmentalism has gradually but profoundly altered international society, shifting it further from its pluralist Westphalian roots and towards a solidarist future built on shared values of environmental stewardship and international rules. But this shift has been challenged more recently by several counter-trends. Taking the UNFCCC as his case, Falkner argues that great power primacy and national sovereignty have reasserted themselves as primary institutions of international society, with climate politics increasingly based on bilateral deals and voluntary national emissions targets. In addition, a world society beyond the state order has also gained prominence challenging the solidaristic international climate regime from below.

In [Chapter 3](#), Sevasti-Eleni Vezirgiannidou points to a 'domestic turn' in analysis of global climate politics, examining rival realist, liberal and constructivist understandings of the role of the state and domestic politics in the international relations of the Earth. Focusing on the formation of state interests

and drawing on post-classical realism and ‘two-level games’ Vezirgiannidou argues that climate change negotiations best illustrate the inadequacy of structural theories in understanding how states tackle common problems and deal with conflicts of interests in global governance.

In [Chapter 4](#), Carl Death and Paul Tobin consider the implications of transformations in environmental statehood for international politics and question whether Western ideas of a green statehood have obscured a greater variety of environmental development. Like the preceding chapters, Death and Tobin argue that states remain central actors in global environmental politics and show how greener state practices are constitutive of a greener international society. However, they explore alternative theoretical and conceptual tools that problematise the Western-centric character of the ‘green state’ concept and push this literature in a more sophisticated direction. Considering a wider range of states than is usual within the ecological modernisation literature, they show how transboundary formations affect the greening of states and illustrate such non-Western ‘greening’ in the cases of Rwanda and Ethiopia, revealing different assumptions concerning development, ecology, justice and sustainability.

Contributions from Beck and Forsyth, Hobden, and Gillard, Ford and Kütting shed light from various angles on the role of science and other forms of knowledge production and values in international environmental politics. Knowledge and values affect international environmental regimes and practices, just as the production of environmental science itself is affected by international political and social factors. The authors critically re-examine familiar concepts in IR such as epistemic communities but also cover more recent cutting-edge contributions to the discipline including Science and Technology Studies and post-humanism.

In [Chapter 5](#), Silke Beck and Tim Forsyth examine the place of science, values and knowledge-production in global environmental politics. IR was quick to take up the idea of *epistemic communities* as relatively autonomous and cohesive groups of agents feeding important knowledge and policy ideas into global governance. However, through a critique of unrealistically sharp distinctions between knowledge and politics, Beck and Forsyth argue that the influence commanded by science and expertise is not just connected to the research itself, but also to the social and political contexts in which knowledge is generated and communicated. Drawing together recent Science and Technology Studies (STS) literatures and IR they argue that scholars of global environmental politics must acknowledge the diverse ways in which science and politics connect. The case of climate change ‘denialism’ and the Intergovernmental Panel on Climate Change provides a focus for examining these connections, and the possibility of moving beyond the notion that the

value of science depends on it providing unequivocal answers to complex political questions.

Stephen Hobden focuses on the case of scientific and engineering plans for geoengineering (intentional large-scale intervention into the climate system) in [Chapter 6](#) to exemplify how complexity thinking can advance understanding of international environmental politics. His ‘post-human’ approach critiques the implicit anthropocentrism of mainstream (and most heterodox) International Relations theory and emerges from complexity thinking, which, in turn, is predicated on the unpredictable and dynamic nature of interacting adaptive systems. Hobden argues that a post-human approach provides a way of bringing environmental issues to the forefront of discussions of international politics by focusing on the interactions between human and non-human and animate and inanimate systems. He illustrates how this can help us work through the practical and political questions raised by geoengineering, which involves potentially taking control of a complex adaptive socio-natural system of epic proportions.

Ross Gillard, Lucy Ford and Gabriela Kütting turn squarely to values and discourses of justice in [Chapter 7](#), arguing the latter have become an increasingly central pillar in global environmental politics. Beyond state-based debates and negotiations about justice, questions of inter- and intra-generational justice have infused global environmental politics. The authors identify multiple discourses of justice (state-centric, structural and ecocentric) and reflect upon how these have developed and influenced global environmental politics. Taking the issue of land rights as illustrative, and with some important cues from critical feminist analysis, they show that it is at the *intersections* of multiple power dynamics and discourses – for example, race, class, gender, place – that the most politicised and potent claims about inequality can be found in environmental politics.

In [Chapter 8](#), Peter Newell and Richard Lane assess the extent to which the study of international environmental politics has engaged – and been engaged by – the subfield of International Political Economy (IPE) over the past two decades. They suggest that there is considerably greater scope for cross-fertilisation between IPE approaches and studies of global environmental politics. The latter often loses sight of the underlying links between socio-economic processes and environmental degradation. Newell and Lane argue that

a critical, ecologically nuanced version of IPE can add to debates about global environmental governance by showing how broader economic structures of trade, production and finance impact upon the generation and distribution of environmental harm and the willingness and ability of states and international institutions to regulate it.

To illustrate their aim of placing social and socio-ecological relations in focus, they analyse the phenomenon of the ‘Anthropocene’, which, devoid of a

strong IPE grounding, risks reinforcing a problematic technocratic and post-political take on the rapid economic and environmental change wrought on the Earth particularly since the ‘Great Acceleration’ after World War II.

Contributions from Hugh Dyer and Jonna Nyman discuss current approaches to and accounts of how international environmental politics and questions of security and insecurity are related. Dyer addresses the relationship between security and climate change in [Chapter 9](#). This builds on questions he began asking about security and the environment in Vogler and Imber’s 1996 volume (Dyer 1996). He considers how the rise of ‘climate security’ may reflect a shift in international norms, a shift in assumptions about the structure of the international system, as well as a shift in the political strategies of actors within that system. Dyer argues that although the idea of climate security reflects the possibility of a shared normative goal, it remains deeply connected to national interests and strategies. The chapter locates the term ‘climate security’ within wider debates about security, and teases out the normative significance of employing this term in national and international discourses.

In [Chapter 10](#), Jonna Nyman examines how energy security has become central to the study and practice of International Relations. She observes how the issue of energy has graduated from ‘low politics’ to ‘high politics’ due to increasing security concerns relating to resource depletion and peak oil. The study of energy security has long been resistant to debates about justice, human security and securitisation, but a critical study of security and the environment is now beginning to emerge. This development, Nyman argues, is important and necessary for challenging mainstream debates that equate energy security with the supply security of energy-importing states and ignore the environmental impact and limits to current energy systems.

We conclude the book in [Chapter 11](#) by summing up the contribution of the volume; drawing attention to additional themes and theories that define the field; summarising what we see as the most prominent shifts in the study and practice of international environmental politics over the past two decades; and reflecting on the challenges that remain for IR to fully appreciate the implications of societal multiplicity and planetary singularity, not least if the Earth has entered a new Anthropocene epoch – the ‘Age of Humans’.

Note

- ¹ Andresen (2013) simplifies this in terms of three criteria: output (rules and regulations), outcome (behavioural change) and impact (problem-solving).

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