

Review essay

International environmental law: Status, problems, and reform prospects

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Research Handbook on International Environmental Law, edited by Malgosia Fitzmaurice, David M. Ong, and Panos Merkouris. Cheltenham: Edward Elgar, 2010, 703 pp. (incl. index), ISBN 978-1-84720-124-9.

I. INTRODUCTION

It has become almost a truism to say that we are witnessing environmental change at a rate higher than at any time in human history largely as the unintended and cumulative result of economic activity. With most induced environmental changes occurring faster than international efforts are mobilising to prevent them, there is mounting realization that international efforts appear largely ineffective. Complicating the need to subject such efforts to adequate reform are differences in views on the reasons for their ineffectiveness and on proposed remedies. These differences relate, on the one hand, to the proper *focus* of coordination, given the complex causal nature of the reported problem. On the other hand, they concern the proper normative *terms* of coordination, given the pervasive asymmetries in the causal responsibility for, deleterious consequences from, and adaptive capacity to global environmental changes (GEC).

Resolving the two sets of differences requires, first, that we clarify the proper *context* of coordination, at the heart of which lies international environmental law (IEL). In order to identify elements in need of reform, clarity is required about the scope, status, and content of positive IEL, a requirement that is made more difficult by the fact that IEL itself appears as much a process as an impartial set of rules and principles,¹ is ever-expanding,² and is without the kind

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¹ W. Brandnee Chambers, *Towards an Improved Understanding of Legal Effectiveness of International Environmental Treaties*, 16 Geo. Int'l Envtl. Rev. 501, at 526 (2004).

² Duncan French, *A Reappraisal of Sovereignty in the light of Global Environmental Concerns*, 21 L.S. 376, at 377 (2001).

of coherence found in such bodies of law and institutions as humanitarian law and international trade law.

It is within this context that the *Research Handbook on International Environmental Law* makes a welcome contribution. The *Handbook* has two aims. First, it offers an “in depth analysis of international environmental law, its history, its current structure and its future”.³ To its credit, it does so with reference to general international law, including international trade and human rights law. Second, “cast[ing] a critical eye” on the status of IEL, it assesses the “efficacy” of IEL and the reasons for its inefficacy, and outlines possible “solutions”.⁴ In fulfilment of each aim, the *Handbook* is said to provide an “important research agenda for legal research and reform” for scholars, practitioners, and students of IEL.⁵

This claim presents a useful point of departure for this review. I will firstly present a brief overview of the *Handbook*'s contents. In Part III of the review I identify some thematic limitations of several of the more important contributions to the collection. The limitations mostly concern assessments of the efficacy of IEL. Lastly, I outline ways in which the limitations may be overcome.

II. OVERVIEW

The *Handbook* comprises thirty expert contributions divided into seven parts. Opening with two descriptive pieces on ‘International Environmental Law as a System of Law’, these chapters outline actors and sources of IEL (Drumbl) and identify common institutions, fora, and instruments for collective environmental decision-making (Ulfstein).

Part II, ‘Theories and Concepts of International Environmental Law’, addresses substantive IEL. Three chapters (French; Galizzi and Herklotz; Freestone) directly address sustainable development (SD). Understood as general means of integrating environmental concerns with economic practice, contributors note the prevailing way in which integration is sought by situating environmental protection within the “economic” paradigm, and discuss ambiguities in the status, scope, and influence of SD. Three other chapters address ethical dimensions. Gillespie presents a descriptive account of various sources of justification for positive international environmental protection. In a well-argued account, Cullet traces the development of equity concerns in respect of the resolution of common problems, justification for differential treatment, and notable areas in (and instruments by which) recognition of common but differentiated responsibility finds expression. Brown Weiss accounts for intergenerational equity in positive IEL and outlines ways in which such equity may be more adequately realized. Concluding Part II, de Sadeleer analyses the meanings of the principles of prevention and precaution, details how they may give effect to states’ “due diligence” requirements, and examines controversies concerning the precautionary principle.

³ Panos Merkouris, *Preface*, in *Research Handbook on International Environmental Law*, xxiv, at xxiv (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010).

⁴ Merkouris, *supra* note 3, at xxv.

⁵ *Ibid.*

55 Part III, 'Substantive Principles', continues the discussion of prevention and precaution. Covering
56 similar ground to de Sadeleer, Pyhälä et al. add to the discussion the legal and managerial means
57 by which to operationalize precaution. Elias situates environmental impact assessment within
58 a general preventative approach and outlines its requirements, status, and prevalence in IEL.
59 Addressing the polluter-pays principle, Schwartz discusses its broader sense as an instrument of
60 liability for environmental *harm*, and its common, narrow sense as an economic instrument to
61 internalize the *cost* of previously externalized environmental harm.

62 Part IV, 'Human Rights to a Clean Environment', offers informed contributions from substan-
63 tive and procedural perspectives. Razzaque details the development of procedural rights (to
64 information, participation, and access to justice) in administrative and judicial decision-making
65 processes and explains their current status in international, regional, and domestic law. Shelton's
66 descriptive account of the more salient substantive rights in such law (including minority rights
67 and the right to life, privacy, and property) covers different ways in which rights constrain the
68 outcomes of decision-making processes.

69 Part V, 'Responsibility and Liability for Environmental Harm', contains three well-developed
70 chapters. The first, by Okowa, begins at the usual starting point for discussions of international
71 liability, namely the harms to a state from internationally unlawful acts of another, and how this
72 has shifted toward civil liability (with responsibility imposed directly on private persons) and
73 to more cooperative, collective, action, such as that implied by the principle of SD. The second
74 chapter, by de La Fayette, traces developments of international liability for harms from acts *not*
75 prohibited in international law. It emphasizes the growth of civil-liability mechanisms, notes sig-
76 nificant shifts in these (including that from a focus on damage to persons and property to damage
77 to the environment), and pinpoints the key issues requiring development. Perry-Kessarar's chap-
78 ter on corporate liability locates the source of much environmental harm in the legal structure of
79 the corporation (especially the concepts of limited liability and legal personhood) and outlines
80 the inadequacy of international and domestic legal provisions to prevent harm given, among other
81 things, corporations' influence on state decision-making, such as by threats of capital flight.

82 Part VI, 'Dispute Settlement and Compliance', opens with a chapter by Klein on the set-
83 tlement of IEL disputes that discusses the scope, standard limitations, non-judicial methods,
84 and reform prospects for arbitration and adjudication. Addressing environmental disputes in
85 the WTO, Gomula illustrates through case-law analysis the historically ambiguous manner
86 in which objectives of environmental protection, including precaution, are purportedly recon-
87 ciled with those of the multilateral trade regime. Loibl traces the development of multilateral
88 compliance procedures and mechanisms, identifies elements common to most regimes, and con-
89 sideres relationships between the compliance system and traditional international and domestic
90 remedies. Two further chapters examine compliance concerns in the climate and ozone-layer
91 regimes. In the first, Ong discusses continuing international legal efforts to arrest climate change
92 and offers a brief comment on the comparative utility of employed and contemplated regu-
93 latory approaches. In the second, Lesniewska gives a nuanced account of the record of the
94 ozone regime, including consideration of refinement of non-compliance mechanisms in order

95 to overcome challenges, such as from illegal trade or deleterious interrelations with the climate
96 regime.

97 Parts VII and VIII comprise case studies on biodiversity and other specific environmental pro-
98 tection regimes, respectively. In Part VII, Bowman examines “common concern” and allied
99 concepts as means for bridging the divide between ecological interdependence and the state-
100 based geopolitical nature of environmental protection negotiations. Ong offers a surprisingly
101 comprehensive exposition of the international environmental law governing biological diversity,
102 tracing the development of ever broader (if not always coherent) regimes ostensibly in response
103 to mounting harm to the biosphere. Addressing fisheries and marine biodiversity regimes, Barnes
104 identifies problems such as jurisdiction, political reticence, and uneven treaty interrelations. In
105 Part VIII, Ong continues the theme of marine environmental protection, discussing the 1982
106 UNCLOS and related WTO case law. Considering environmental protection in armed conflict,
107 Hulme discusses governing principles (including proportionality, due regard/care, threshold, and
108 precaution), specific rules, regulation of specific weapons, and how aggravated environmental
109 scarcities often induce social conflict which may in turn aggravate scarcities. Fitzmaurice returns
110 the reader to aquatic issues with a discussion on the application of SD to international water-
111 courses, noting tensions, for example, between watercourse principles of equity and those of SD.
112 Kummer Peiry offers an informed discussion on the background, key provisions, and possible
113 future developments of the main global regimes on chemicals and waste management. Fittingly,
114 at the antipode of the *Handbook*, is a chapter by Scott on the divergent environmental protections
115 of the Arctic and Antarctic.

116 III. CRITICISM

117 Leaving to one side the matter of the somewhat haphazard organization of contents, the *Handbook*
118 redeems the first of its two promissory notes. It offers a rich, well-referenced, and admirably
119 comprehensive exposition of positive IEL. As a reference source for the scholar, practitioner,
120 and student, particularly useful are the contributions on formal and substantive aspects, such as
121 liability, principles and concepts, human rights, and the case studies.

122 Unfortunately, the volume’s assessment of the efficacy of IEL falls short of the claim that it
123 constitutes an “important research agenda for legal . . . reform”. Two limitations are particularly
124 evident. First, there is no discussion about what is meant by “effectiveness” as a criterion by
125 which IEL is to be assessed. Second, there are problems with, and partialities in, contributions
126 on substantive IEL in particular.⁶ On the one hand, it is largely assumed that the prevailing
127 (neoclassical) economic interpretation of SD is coherent and that the market-based principles,
128 rules, and instruments that it advocates are effective. On the other, there are avoidable partialities
129 in the assessment of the efficacy of such alternative sources of environmental decision-making
130 as distributive justice and human rights.

⁶ For present purposes, substantive (treaty-based) IEL may be taken to include objectives or aims and principles, rules and instruments to give domestic effect to states’ commitments to objectives and aims.

1. Theoretical Overview

Any coherent attempt to achieve a sustainable human culture by reforming economic practices in light of their role in GEC depends upon successfully meeting three immediate tasks. The first is to identify what it is in economic practices that must change if sustainable outcomes are to emerge. The second is to effect that change sufficiently quickly (e.g. implementation, compliance, enforcement). The third is to justify and elicit sufficient motivation for the first two tasks.

Significant among the concerns about the *Handbook's* assessment of the efficacy of IEL on the first task is a failure to define the *criterion* of effectiveness, without which a coherent assessment cannot be undertaken. If the purpose of the exercise is, as its editors explain, to arrest the “dire situation” by means of “international law”,⁷ then central among various possible meanings of “to arrest”⁸ must be that of “problem-solving”, namely resolution of the problem that led to the creation of the law in the first place (for law that cannot resolve such problems cannot plausibly be described as effective).⁹

If effectiveness means “problem-solving” then any assessment of IEL needs not only to identify problem-solving means (which the *Handbook* ably does) but also the nature of the problem itself, about which the *Handbook* is largely silent. Although justice cannot be done here to the meanings of GEC—understood as a term of art used to describe avoidable environmental problems which (i) arise cumulatively from economic practice, (ii) differ from earlier instances of induced change by virtue of their scale, and (iii) affect the international community by affecting shared resources or by otherwise being so widespread or serious as to qualify as problems of common concern¹⁰—two characteristics are immediately relevant to the exercise. First, GEC may be characterized as a “conflict of rates”.¹¹ This is because it involves the collective use of natural resources as a source of, and a sink for, economic activity, at a rate greater than that at which the resources can be replenished. Second, since that conflict arises for the most part as the

⁷ Merkouris, *supra* note 3, at xxiv.

⁸ Chambers, *supra* note 1, at 501; Joseph DiMento, *The Global Environment and International Law* 88-9, 139 (University of Texas Press, 2003); Oran Young, *Governance in World Affairs* 109-14 (Cornell University Press, 1999); Karl Doehring, *Effectiveness*, 7 *Encyclopaedia of Public International Law* 70-1 (Max Plank Institute, 1984).

⁹ E.g. Michael Faure and Jürgen Lefevere, *Compliance with Global Environmental Policy*, in *The Global Environment: Institutions, Law and Policy*, 163, at 164 (Regina Axelrod, David Downie, and Norman Vig, eds., CQ Press, 2005); Oran Young and Marc Levy (eds.), *The Effectiveness of International Environmental Regimes: Causal Connections and Behavioural Mechanisms* 1, 4 (MIT Press, 1999). Ong comes close to this recognition: “only when ‘nature’ . . . is fully protected by law from the negative effects of human activity can it truly be said that environmental law is fulfilling its ultimate aim” (David Ong, *International Environmental Law Governing Threats to Biological Diversity*, in *Research Handbook on International Environmental Law*, 519, at 520 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010)).

¹⁰ Patricia Birnie, Alan Boyle, and Catherine Redgwell, *International Law and the Environment* 8-9 (Oxford University Press, 3rd ed., 2009); French, *supra* note 2, at 380.

¹¹ Aubrey Meyer, *The Case for Contraction and Convergence*, in *Surviving Climate Change: The Struggle to Avert Global Catastrophe*, 29, at 38 (David Cromwell and Mark Levene, eds., Pluto, 2007); Alf Hornborg, *Cornucopia or Zero-sum Game? The Epistemology of Sustainability*, 9 *Journal of World-systems Research* 205, at 205 (2003).

cumulative result of uncoordinated individual gain-seeking, it follows that resolving this global collective-action problem requires global coordination. Specifically, it requires (certain caveats aside) coordination capable of winning the conflict of rates. This will involve:

- *contracting* the rate of resource use to that within which resources can be replenished; and to this end,
- acceptably *re-allocating* the use of the Earth's remaining resources.

As a consequence, substantive IEL would be effective to the extent that it serves to arrest GEC faster than it is being caused.¹² IEL may be assessed according to whether it facilitates contraction and re-allocation to that end. I will now turn to assumptions concerning the effectiveness of those areas of substantive IEL that are informed by neoclassical economic theory.

2. Neoclassical Economic Approaches to Contraction and Re-Allocation

Most substantive contributions in the *Handbook* appear unified in the view that, as a common denominator of modern global regulation of domestic resource use,¹³ SD represents an “advance” and “the need for [it] remains as great as ever”.¹⁴ This conclusion is reached by examining problems to do with its status, scope, and influence at the expense of those to do with its meaning. As a principle by which to integrate social, environmental, and economic concerns, a striking feature of prevailing views on SD is the way in which integration is sought by situating environmental protection firmly within the dominant economic paradigm.¹⁵ Reframing environmental protection in terms of economic development assumes that environmental objectives can be accommodated within the existing framework of the global market economy.¹⁶

¹² Meyer, *supra* note 11, at 38.

¹³ Birnie, Boyle, and Redgwell, *supra* note 10, at 123-5; Maria Lee, *EU Environmental Law: Challenges, Change and Decision-Making* 25 (Hart Publishing, 2005); Luis Paradell-Trius, *Principles of International Environmental Law: An Overview*, 9 RECIEL, 93, at 98 (2000); John Gillroy, *Adjudicative Norms, Dispute Settlement Regimes and International Tribunals: the Status of ‘Environmental Sustainability’ in International Jurisprudence*, 42 Stanford J. Int’l L. 2 (2006). On the significance of neoclassical economic theory (either directly or as SD) in WTO law, see, for example, Duncan French, *Sustainable Development*, in *Research Handbook on International Environmental Law*, 51, at 63 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); David Freestone, *The World Bank and Sustainable Development*, in *Research Handbook on International Environmental Law*, 138 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); Joanna Gomula, *Environmental Disputes in the WTO*, in *Research Handbook on International Environmental Law*, 401 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); WTO, *Understanding the WTO* 65 (World Trade Organisation, 2010); Birnie, Bolye and Redgwell, *supra* note 10, at ch. 14.

¹⁴ French, *supra* note 14, at 51, 53, 55, 66; Priscilla Schwartz, *The Polluter Pays Principle*, in *Research Handbook on International Environmental Law*, 243, at 256 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010).

¹⁵ Paolo Galizzi and Alena Herklotz, *Environment and Development: Friends or Foes in the 21st Century*, in *Research Handbook on International Environmental Law*, 69, at 77-87 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); Lee, *supra* note 14, at 38.

¹⁶ Alan Holland, *Introduction – Sustainable Development: The Contested Vision*, in *Global Sustainable Development in the 21st Century*, 1, at 2 (Keekok Lee, Alan Holland, and Desmond McNeill, eds., Edinburgh University Press 2000). See also Galizzi and Herklotz, *ibid.*, at 79-80.

176 This assumption, common particularly to biodiversity and climate change regimes,¹⁷ is given
177 theoretical weight by neoclassical economic theory.

178 According to neoclassical economics, environmental problems are economic problems. Envi-
179 ronmental problems represent a form of market failure that occurs due to inefficient resource-use
180 allocation.¹⁸ Inefficient allocation occurs when prices for resources inadequately reflect people's
181 preferences for them, or when there are no markets for resources at all.¹⁹ As a result, the "true"
182 costs of resource use are "externalized". If environmental problems arise from non-existent mar-
183 kets, then the solution is to *create* markets for natural resources so that people's preferences may
184 be registered (or costs internalized), a process that requires the privatization of resources. Where
185 markets do exist, inefficient allocations require them to be *corrected* through, for example, taxes,
186 charges, or emission credits based on shadow prices constructed from what individuals would
187 be willing to pay for resources were there a market for them.²⁰

¹⁷ David Ong, *International Legal Efforts to Address Human-Induced Global Climate Change*, in Research Hand-
book on International Environmental Law, 450 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds.,
Edward Elgar, 2010); Ong, *supra* note 9, at 534; Schwartz, *supra* note 15, at 251; Benjamin Richardson, *Eco-
nomic Instruments in UK Environmental Law Reform: Is the UK Government 'Sending the Rights Signals'?* 3
E.J.L.R. 1 (2004); Steven Bernstein, *Liberal Environmentalism and Global Environmental Governance*, 2 Global
Environmental Politics 1 (2002).

¹⁸ The meaning economists give to the term 'efficiency' differs from its conventional technical meaning in everyday
use. Efficient refers to allocation in which it is not possible to make one person better off without making another
worse off (Pareto-optimality) or, as is commonly practised (Emillio Padilla, *Climate Change, Economic Analysis
and Sustainable Development*, 13 Environmental Values 529 (2004)), one in which the aggregate gain exceeds
aggregate losses such that the gainers could potentially compensate the losers and still be better off (Kaldor-Hicks
optimality; see, for example, John O'Neill, *Ecology, Policy and Politics: Human Well-being and the Natural World*
45-6 (Routledge, 1993) and Mark Sagoff, *Economy of the Earth* 32 (Cambridge University Press, 1988)). In this
state of efficient or 'optimal' allocation, the total marginal or incremental cost is said to equal the total marginal
benefits (Michael Jacobs, *The Limits to Neoclassicism: Towards an Institutional Environmental Economics*, in
Social Theory and the Global Environment, 67, at 70 (Michael Redclift and Ted Benton, eds., Routledge 1994)).

¹⁹ See, for example, Dieter Helm and David Pearce, *Assessment: Economic Policy Towards the Environment*, 6
Oxford Review of Economic Policy 1, at 2 (1990); Kenneth Arrow, *The Economics of Information* 155 (Harvard
University Press, 1984).

²⁰ According to this (micro)economic view, effective international environmental law would be one that is econom-
ically efficient. Environmental *aims* and *objectives* would ideally reflect an equilibrium between the marginal cost of
mitigation and social cost of causing environmental change (as determined by shadow pricing aggregated from the
strength of individual preference satisfaction measured by willingness to pay) or would simply arise as an outcome
of market transactions following resource privatisation. Priority would be given to *principles* generative of economic
growth (Eric Posner and Cass Sunstein, *Climate Change Justice*, 96 G.L.J. 1565 (2008)), and a "presumption in
favour of the polluter pays principle" over other principles (Helm and Pearce, *supra* note 20, at 6), that is, of pricing
environmental harm to ensure that the costs are borne by those responsible for environmental harm (Schwartz,
supra note 15, at 250-1). *Rules* and *instruments* would give effect to "the proper functioning of markets" (Sagoff,
supra note 19, at 34). Reformed international environmental law would thus mandate the expansion of markets and
corresponding growth of private sector involvement in global and sub-global environmental governance, hitherto
dominated by governments. It would do so (i) by means of the direct privatization (and variations including, say,
public-private partnerships and voluntary self-regulation) of all affected resources including potable water, carbon
"sinks", clean air, biodiversity, genetic material, natural habitats, pollution and "traditional" knowledge, and/or (ii)
by the expansion of market norms in environmental governance through the creation of markets for such resources
by assigning them shadow prices (Schwartz, *supra* note 15, at 249-51; John O'Neill, *Markets and the Environment:
The Solution is the Problem*, May 26 Economic and Political Weekly 1865 (2001)).

In four chapters in the *Handbook* concerning SD, a passing (half-page) reference is made to possible problems with this interpretation.²¹ In other chapters, economic instruments are uncritically assumed to be effective.²² This neglect is significant given the substantial criticism of the effectiveness and appropriateness of market-based prescriptions as means of achieving global sustainability through economic reform.

A. Effectiveness of Prescriptions

Criticism of the effectiveness of economic prescriptions may fall into two categories, depending on whether it concerns the mandated level of environmental protection (level of resource-use contraction) or the means by which to attain that level.²³

(i) Contraction Level

Even if it is plausible to think that an efficient allocation would, as Schwartz suggests, “internalise externalities”,²⁴ it does not necessarily follow that such allocation would be one without harm, that is, would be sustainable. This is because the aim is to internalize into the costs of resource use, not harm itself, but the social costs of harm. Further, social costs are not eliminated, but are reduced (ideally) to an efficient level. Critically, that level—the point at which the marginal social cost of harm-causing economic practices equals their marginal benefits—is inseparable from three sets of bias which mandate a lower level of environmental protection than would apply were bias removed. First, since only those willing and able to register preferences articulated through acts of buying and selling (whether actually or in shadow markets) are considered to have standing, those unable to buy and sell (future generations and non-human beings) are rendered inarticulate and thereby divested of standing.²⁵

Second, since the preferences of those able to express them in market terms are ranked according to the bearers’ willingness to pay for their satisfaction (or to accept “compensation” for their non-satisfaction), preferences incapable of being assigned a price are by definition excluded from the outset. Third, preferences capable of being assigned a price are made proportionate to the wealth of those with standing. Since willingness to pay is

²¹ French, supra note 14, at 54.

²² E.g. Schwartz, supra note 15, at 250-1; Ong, supra note 18, at 451-3, 456-7.

²³ For criticism of macroeconomic prescriptions, namely, the view that economic growth can and should provide a solution to the environmental harm that it creates (Freestone, supra note 14, at 140; Gene Grossman and Alan Krueger, *Economic Growth and the Environment*, 110 *The Quarterly Journal of Economics* 353 (1995)), see, for example, Paul Anderson, *Social Thought in Turbulent Times: Reforming Law and Economy for a Sustainable Earth* ch. 3 (Routledge: under review; on file with the author); Jill Cavaglia-Harris, Dustin Chambers and James Kahn, *Taking the ‘U’ out of the Kuznets: A Comprehensive Analysis of the EKC and Environmental Degradation*, 68 *Ecological Economics* 1149 (2009); Richard York, Eugene Rosa and Thomas Dietz, *Footprints on the Earth: The Environmental Consequences of Modernity*, 68 *American Sociological Review* 279 (2003).

²⁴ Schwartz, supra note 15, at 250.

²⁵ E.g. J. Samuel Barkin, *Discounting the Discount Rate: Ecocentrism and Environmental Economics*, 6 *Global Environmental Politics* 56 (2006); Michael Jacobs, *Sustainable Development, Capital Substitution and Economic Humility: a Response to Beckerman*, 4 *Environmental Values* 57, at 62 (1995); O’Neill, supra note 19, at ch. 4.

214 constrained by ability to pay, and the latter in turn depends on the initial distribution of prop-
215 erty rights in income-generating resources,²⁶ preferences for environmental goods are made
216 proportionate to income. This means that what the poor care about is made to matter less
217 than what is cared about by those who “can afford to express their care in additional mon-
218 etary payments for environmental goods”.²⁷ As Boyce explains, an “efficient” level of, say,
219 “air pollution is higher where those who breathe the dirty air are poorer than when they
220 are rich for the simple reason that the poor’s ability and willingness to pay to avoid it is
221 lower.”²⁸

222 The combined effect of these sets of bias is to mandate a level of resource-use contraction lower
223 than that which would apply were biases removed.²⁹ Cost “internalization”, contrary to assump-
224 tions about its effectiveness such as by Schwartz,³⁰ means that, rather than cause harm for free,
225 perpetrators are merely made to pay the market rate for harm. Furthermore, the likelihood that
226 an efficient outcome might be commensurate with environmental sustainability is entirely con-
227 tingent upon the possibility that causing environmental change becomes insufficiently profitable
228 to perpetrators or that victims might be able to register sufficiently high social costs. The latter
229 possibility is, however, all but eclipsed by excluding and distorting victims’ preferences.

230 (ii) Contraction/Re-Allocation Means

231 Even if an efficient level of resource-use contraction might be one that is environmentally sus-
232 tainable, doubts remain about whether what Ong, for example, refers to as “innovative” economic
233 means would in fact achieve that end.³¹ Assuming operational difficulties may be overcome,³²
234 since economic prescriptions depend on the existence of competitive markets, they are *prima*
235 *facie* inapplicable to oligopolistic markets.³³ This problem is significant. Many resources subject

²⁶ James Boyce, *Inequality as a Cause of Environmental Degradation*, 11 *Ecological Economics*, 169, at 174 (1994).

²⁷ O’Neill, *supra* note 21, at 1868.

²⁸ Boyce, *supra* note 27, at 174; see also Frank Ackerman and Elizabeth Stanton, *A Comment on ‘Economy-wide Estimates of the Implications of Climate Change: Human Health’*, 66 *Ecological Economics* 8, at 8 (2008).

²⁹ Jay Michaelson, *Rethinking Regulatory Reform: Toxics, Politics and Ethics*, 105 *Yale L. J.* 1891, at 1892 (1996).

³⁰ Schwartz, *supra* note 15, at 244, 250-1, 256.

³¹ Ong, *supra* note 18, at 451; see also Schwartz, *supra* note 15, at 251.

³² Problems include identifying perpetrators and victims, creating divisions by defining exclusive property rights in indivisible biophysical processes, and establishing costs and benefits in order to simulate market transactions, the very possibility of which is rendered less and less plausible the more likely it is that society “is bound to be radically transformed in ways which are . . . unpredictable to us now” by GEC (John Broome, *Counting the Cost of Global Warming* 10 (ESCR/White Horse, 1992)). See also Schwartz, *supra* note 15, at 248-9; Chris Groves, *Living in Uncertainty: Anthropogenic Global Warming and the Limits of ‘Risk Thinking’*, in *Future Ethics: Climate Change and the Apocalyptic Imagination*, 107 (Stefan Skrimshire, ed., Continuum, 2010); Richardson, *supra* note 18, at 446.

³³ Robert Ayers, *Sustainability Economics: Where do we Stand?*, 67 *Ecological Economics* 281, at 284 (2008); Sharon Beder, *Charging the Earth: The Promotion of Price-based Measures for Pollution Control*, 16 *Ecological Economics* 51, at 57 (1996); Helm and Pearce, *supra* note 20, at 5; and Robert Hahn, *Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor’s Orders*, 3 *Journal of Economic Perspectives* 95, at 96, 98 (1989).

to “global change”—from fossil energy, potable water, and metals to food sources, forests, and land—are characterized by de jure and de facto oligopolistic markets.³⁴

Where economic prescriptions may be applied to resources unaffected by oligopolistic control, they may introduce or extend vulnerability to collective resource overuse in three ways. First, the extension of the market to all that for which individuals have preferences removes social safeguards to collective overuse (such as the commons, which withhold from the play of the market resources held in common)³⁵ and restricts possible means of social coordination in the use of productive resources to the price mechanism. Coordinated only by price signals, individual gain-seeking responds to existing, rather than environmentally desirable, levels of resource supply. Second, the potential for thus uncoordinated individual gain-seeking to create collective-action problems is actualized by competition over resource use. In competitive market conditions participants are incentivized

- to use resources at a rate proportionate to the rate of return rather than the rate of resource replenishment;
- to correspondingly devalue resources that are unproductive from the standpoint of the expansion of capital; and,
- to shift costs onto others, in particular those who cannot affect the price system, including future generations,

in so far, in each respect, as failure so to do places participants at a comparative disadvantage to those who use resources to seek maximally higher returns.³⁶

Third, when supplemented with privately created credit, collective resource overuse risks becoming self-fuelling (omitted from Freestone’s account of the ostensibly environmental virtues of banks, and in particular the World Bank).³⁷ Since the use of productive resources is determined largely by access to credit, which is itself a function of expectations of future revenue, individuals are incentivized to use resources not only at a rate in excess of the rate of interest but also in excess of rivals seeking the same. This dynamic presupposes, and in turn reinforces, generalization of the view of environments as merely sets of opportunity costs and benefits evaluated in terms of different investment strategies.³⁸

³⁴ Kevin Cahill, *Who Owns the World? The Hidden Facts behind Landownership* (Mainstream, 2006); James Ridgeway, *It’s All for Sale: The Control of Global Resources* (Duke University Press, 2004); Michael Klare, *Resource Wars: the New Landscape of Global Conflict* ch. 2 (Metropolitan, 2001).

³⁵ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, 1990); C.B. Macpherson, *Democratic Theory: Essays in Retrieval* 133 (Clarendon Press, 1973).

³⁶ E.g. David Goldblatt, *Social Theory and the Environment* 45 (Polity, 1996 : 45); David Schweickart, *Is Sustainable Capitalism an Oxymoron?*, 8 *Perspectives on Global Development and Technology* 559, at 563-4 (2009).

³⁷ Freestone, supra note 14.

³⁸ Groves, supra note 33; Max Weber, *General Economic History* 278 (S. Hellmann and Melchior Palyi, eds., Transaction, 1981 [1923]).

When taken together, creating and simulating markets—of which, French claims, we need more,³⁹ and the “importance” of which for “sound policy direction”, Schwartz holds, “cannot be overstated”—may in fact lead to the creation and intensification of collective-action problems, the more resources are privatized.⁴⁰

B. Appropriateness of Prescriptions

Even if the economic prescriptions that characterize SD could be effective, two reasons among others stand out to suggest that they may be inappropriate.

(i) Causal Explanation

Of immediate concern in economic accounts of GEC is the representation of core explanatory variables, namely those of the environment, persons, and what persons value. The *environment*, first, is not recognized as such. Instead, it is recognized only to the extent that individuals express monetized preferences for it and its goods and services. In essence, the environment becomes a mere factor of production.⁴¹ Quite aside from the scientifically questionable assumption which is entailed by this substitution of economic for biophysical characteristics,⁴² the assumption that the environment may be substituted for other factors of production effectively removes the rationale for natural resource conservation.⁴³ All natural “services” required by humans could theoretically be provided by human-made capital.

³⁹ Schwartz, *supra* note 15, at 256; French, *supra* note 14, at 66.

⁴⁰ For elaboration, see Anderson, *supra* note 24, at ch. 3. This general presumption against neoclassical economic prescriptions admits, of course, of exceptions. When combined with non-market measures, market mechanisms such as emissions trading may be promising. A key example is the global policy framework of ‘Contraction and Convergence’ which prioritizes – in order – UNFCCC principles of precaution, equity and efficiency. Within this rank ordering, emissions trading may help accelerate the aggregate contraction of greenhouse gas emissions (Meyer, *supra* note 11). However, because this proposal involves an initial allocation of emissions entitlements on a equal *per capita* basis (equity) and subjects them in the aggregate to sustained contraction over time (on precautionary grounds), the policy framework offers no support for the argument that economic growth, still less efficiency alone, may serve environmental ends (Jonathan Wiener, *Property and Prices to Protect the Planet*, 19 Duke J. Comp. & Int’l L. 515, at 519-21 (2009)). It should be noted that to suggest that market mechanisms, if implemented according to criteria other than efficiency and/or combined with non-market measures, may mitigate environmental harm is not necessarily the same as saying that they could be effective nor, should some prove to be, more effective than rival approaches (see Richardson, *supra* note 18, at 447-8 and below).

⁴¹ Daniel Bromley, *Searching for Sustainability: the Poverty of Spontaneous Order*, 24 Ecological Economics 231, at 233 (1998); see also John Dryzek, *The Politics of the Earth: Environmental Discourses* 140 (Oxford University Press, 2nd ed., 2005).

⁴² For example, assumptions that non-commensurate, dynamically interrelated ecological processes are adequately understood in terms of discrete, interchangeable monetised preferences (Robert Nadeau, *The Economist has no Clothes: Unscientific Assumptions in Economic Theory are Undermining Efforts to Solve Environmental Problems*, 298(4) Scientific American 42, at 42-3 (2008); Herman Daly and Joshua Farley, *Ecological Economics: Principles and Applications* 22 (Island Press, 2004)).

⁴³ Alan Holland, *Natural Capital, in Philosophy and the Natural Environment*, 169, at 171-2 (Robin Attfield and Andrew Belsey, eds., Cambridge University Press, 1994).

281 Assumed to be rational self-maximizers, individuals are not treated as *persons*. By addressing
282 only their preferences ranked by willingness to pay, individuals are treated instead as locations
283 at which monetizable “affective states may be found”.⁴⁴ This assumption has been the subject
284 to sustained criticism. Significant among criticisms is that it collapses the various roles that
285 individuals have into the single role of consumer. The role persons assume, for instance, as
286 citizens or commoners in which they express concerns about the public good as judgements
287 about “what is right and good or appropriate in the circumstances” is not captured by their
288 willingness to pay.⁴⁵ Further, collapsing the roles of persons in this way obstructs the expression
289 of concern, since it is precisely as citizens or commoners that persons typically express concerns
290 about such public goods as environmental sustainability.

291 Moreover, explaining GEC in terms of a price relationship between persons and environment,
292 neoclassical economics reduces people’s *values* to mere exchange value. Two problems arise.
293 First, the reduction ensures that what people most care about is disregarded. Many of the things
294 that people most care about (e.g. significant social relations and evaluative commitments includ-
295 ing those constitutive of identity and social loyalties) have the property of what Raz calls
296 “constitutive incommensurability”.⁴⁶ To assume that these values are in principle commensu-
297 rable under a common measure such as price—and that the operational problem, Schwartz notes,
298 is merely “getting the price right”⁴⁷—is to misunderstand what it is that such values constitute.
299 The value, say, of friendship is constituted in part by a refusal to treat it as a commodity; to do
300 so would be to betray that commitment.⁴⁸ A person who is willing to put a price on a friend
301 simply has not understood what it is to be a friend.⁴⁹ Critically, the same commitment may be
302 observed in numerous other goods that individuals value, including non-human beings, special
303 places, and environments.⁵⁰ In these instances, the “worth of things we love”, Sagoff explains,
304 “is better measured by our *unwillingness* to pay for them”.⁵¹ Core values offer a critical basis
305 for the prevention of harm to that which people value, a point to which Gillespie’s contribu-
306 tion on ethical sources of environmental protection other than “preference utilitarian”, attests.
307 To exclude core values undermines the rationale for mitigation. To include them requires the
308 exclusion of the market instruments and norms from areas that matter most to people.

309 Second, the problematic relationship between persons and the environment in fact appears, on
310 neoclassical economics’ own terms, to be not one of price but of property relations. Although
311 efficient and inefficient allocations are, it was observed, a function of prices, prices themselves are

⁴⁴ Sagoff, *supra* note 19, at 46.

⁴⁵ Sagoff, *supra* note 19, at 7-8; see also John Rawls, *A Theory of Justice* 27 (Oxford University Press, 1971) and “deliberative democracy”, below.

⁴⁶ Joseph Raz, *The Morality of Freedom* at ch. 13 (Clarendon Press, 1986).

⁴⁷ Schwartz, *supra* note 15, at 255-6; see also Ong, *supra* note 18, at 452-3.

⁴⁸ O’Neill, *supra* note 19, at 120

⁴⁹ O’Neill *supra* note 19, at 120.

⁵⁰ O’Neill, *supra* note 19, at 118-22; E. F. Schumacher, *Small is Beautiful: a Study of Economics as if People Mattered* 31 (Vintage, 1993).

⁵¹ Sagoff, *supra* note 19, at 68 emphasis in original.

312 nominally a consequence of supply and demand.⁵² Supply and demand are, however, a function
 313 of the existing distribution of property rights in the resources in question. Supply presupposes
 314 entitlement to sell insofar as one cannot lawfully sell or use what one does not own.⁵³ Demand
 315 capable of being registered in market transactions depends on ability to pay, which turns on
 316 the distribution of property rights—whether in income or in revenue-generating resources. This
 317 means that prices answer to prevailing property relations. Efficient and inefficient allocations
 318 “are themselves the product of a given distribution of property rights”.⁵⁴ Change the initial
 319 distribution of property rights, and one changes possible supply and demand. As a result, an
 320 entirely different set of prices will emerge.⁵⁵ For example, one set of efficient prices will arise from
 321 the assumption that ownership of all resources is concentrated in present generations. However,
 322 if those property rights are distributed across various generations so that future generations
 323 have a claim on the resource use of present generations, then an entirely different set of prices
 324 emerges.⁵⁶ Both sets of prices are efficient, given the distributions of property rights.⁵⁷ Critically,
 325 if the environmentally problematic relationship between persons and the environment lies in
 326 dominant property relations, then to the extent that property relations reflect the prevailing
 327 nature of social justice in a society, social justice would provide the more appropriate context
 328 for contraction and re-allocation. Efficiency is, in other words, secondary to social justice.

329 (ii) Incoherence

330 In addition, the economic approach to sustainability tacitly replaces liability rules in which people
 331 have an entitlement to bodily integrity (or to an undamaged environment) with a proxy *property*
 332 rule in which perpetrators are assumed to have a de facto right to harmful use.⁵⁸ Economics
 sanctions this replacement because:

- 334 ● it treats environmental harm as a cost externalized from production;
- it assumes contraction to be legitimate only when it is economically efficient;

⁵² Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* 56-7 (Modern Library, 1965 [1776]).

⁵³ E.g. Jeremy Waldron, *The Right to Private Property* 31-3 (Clarendon Press, 1988).

⁵⁴ John O’Neill, *Property, Care and Environment*, 19 *Environment and Planning C: Government and Policy* 695, at 706 (2001); Freeman, A., *Economics*, in *A Companion to Environmental Philosophy*, 279 (D. Jamieson, ed., Blackwell, 2001).

⁵⁵ O’Neill, supra note 55, at 706.

⁵⁶ Herman Daly, *On Wilfred Beckerman’s Critique of Sustainable Development*, 4. *Environmental Values* 49, at 53.

⁵⁷ Richard Nordgaard and Richard Howard, *Sustainability and Discounting the Future*, in *Ecological Economics* (Robert Constanza (ed.), Columbia University Press, 1991).

⁵⁸ Michaelson, supra note 30, at 1892; see also Guido Calabresi and A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 *Harv. L. Rev.* 1089, at 1089-92 (1972).

- in the determination of an efficient level of contraction, it presumes victims' consent to harm or to the risk of harm,⁵⁹ and it includes benefits that perpetrators gain from harming; a practice that mandates the following view:
- that harm is to be mitigated, optimally, to a level at which causing it becomes insufficiently profitable for perpetrators or at which victims assign a sufficiently high monetary value, say, to their bodily integrity or to the protection of a habitat or species about which they may care.

Quite aside from the legal coherence of such a practice,⁶⁰ an assumed right to harm renders the diagnostic and prescriptive operations of economics incoherent. The assumption has this result because it undermines, if not destroys, the meaning of property rights that efficiency-based approaches must nonetheless presuppose in order to be applicable. Among various rights within any bundle of property, a right to harm others is not one of them. This is because property is, in any given circumstance, subject to a politico-legal background of constraints on the use of resources in ways contrary to the public good, many of which find expression in a jurisdiction's penal code and tort laws.⁶¹ To divest property of such constraints, for instance, by assuming that resource owners are "free to pollute", is to grant them the power of "eminent domain over any persons or property they wish to violate".⁶² This assumption means that one person's entitlement is subject to another's perception of whether it would be profitable to divest him or her of that entitlement. The assumption implicitly replaces law with force. But it does so at the expense of rendering the efficiency approach inapplicable. This is because, as explained, allocation is only ever efficient or inefficient *given* an initial distribution of property rights. If presuming a right to harm destroys the meaning of those rights, then it denies the possibility that economics can apply at all.⁶³

⁵⁹ It is assumed that victims are indifferent between exposure plus compensation and no exposure and no compensation (Steve Vanderheiden, *Missing the Forest for the Trees: Justice and Environmental Economics*, 8 Critical Review of International Social and Political Philosophy 51, at 53 (2005)), a presumption underscored by denying victims the possibility of withdrawing this "consent" such as by seeking prosecution or injunctive relief. For a similar notion that reducing environmental harm may be conceived of as an "improvement"; see, for example, Freestone, *supra* note 14, at 139, and Schwartz, *supra* note 15, at 247-8.

⁶⁰ The practice reverses basic rights generally held to be constitutive of democratic societies in which it is not within their legitimate power to assume a right to harm by, in the circumstances, compelling people to be harmed and exposed to non-negligible risks of harms "for no purpose other than the financial gain of others" (Michaelson, *supra* note 30, at 1920; Vanderheiden, *supra* note 60, at 53; Tibor Machan, *Pollution and Political Theory, in Earthbound*, at 98 (Tom Regan, ed., Temple University Press, 1984).

⁶¹ Sean Coyle and Karren Morrow, *The Philosophical Foundations of Environmental Law: Property, Rights and Nature* 164 (Hart, 2004); Robert Nozick, *Anarchy, State, and Utopia* 171 (Basic, 1974). Property thus appears a "right to carry out a circumscribed list of actions" (Ronald Coase, *The Problem of Social Cost*, 3 Journal of Law and Economics 1, at 44 (1960); see also Malgosia Fitzmaurice, *The Law of International Watercourses and Sustainable Development, in Research Handbook on International Environmental Law*, 605, at 611 (Malgosia Fitzmaurice, David Ong and Panos Merkouris, eds., Edward Elgar, 2010); Daniel Cole, *Pollution and Property: Comparing Ownership Institutions for Environmental Protection* 9 (Cambridge University Press, 2002).

⁶² Mark Sagoff, *Free-Market Environmentalism versus Libertarian Environmentalism*, 6(2-3) Critical Review 211, at 220 (1992).

⁶³ Similarly, since there is no right to harmful use or development, the "right to development – to sustainable development", to which Ong and French refer (Ong, *supra* note 18, at 463, and French, *supra* note 14, at 58-61) appears tacitly a right to *non-harmful* use or development. If this is the case then because economics presumes a right to harmful use, it is submitted that it cannot or ought not to inform the content of sustainable development.

The views of certain *Handbook* contributors notwithstanding, it follows from criticism of neo-classical economic theory that environmental sustainability will not be served by introducing or extending market instruments and norms to various areas of society, but quite the reverse. It would be better served by expanding and supporting the public sphere—substantively (Shelton) and procedurally (Razzaque)—so that the many-sided qualities of values, persons, and environments may be recognized as such,⁶⁴ and that people may be able to arrive at public judgements about what is of value,⁶⁵ including common concern and responsibility (Bowman; Cullet; Brown Weiss), prevention, and precaution (de Sadeleer; Pyhälä et al.). This possibility requires among other things the removal of market instruments and norms from areas for which they are not appropriate. It is to contributions within the *Handbook* dealing with alternative forms of environmental decision-making that I now turn.

3. Rival Approaches of Contraction and Re-Allocation

Central to the chapters on distributive justice (Cullet; Brown Weiss) is the view that GEC is not primarily an economic problem but one of justice. It is a situation often characterized by conflicting claims over desired distributions of wanted goods and necessary harms which, in order to secure global coordination for resource-use contraction, call for adjudication in light of principles of justice.⁶⁶ Although the chapters usefully outline distributive principles in positive law (Brown Weiss) and interpret substantive legal principles of multilateral agreements in light of theories of justice (Cullet),⁶⁷ they nevertheless make two omissions, of a “corrective” and of a “critical” nature, which limit more generally the efficacy of distributive justice-based approaches to contraction and re-allocation.

A. Corrective Justice

An initial omission lies in a tendency, by virtue of focusing on existing and desired distributions of wanted goods and necessary harms, to assume that those who use resources constitutive of

⁶⁴ Ong, supra note 9, at 537-8.

⁶⁵ O’Neill, supra note 19, at 173; Schumacher, supra note 51, at 29.

⁶⁶ Mitigation of global environmental changes involves “fundamental questions” in the allocation of the Earth’s resources such as those concerning “for what purposes, subject to which limitations, . . . under whose control” and, it should be added, according to which legitimate criteria (Arthur Kuflik, *Allocation and Ownership of World Resources: a Symposium Overview*, 23 *The Journal of Value Inquiry* 249, at 250 (1989)). For accounts on dimensions of distributive justice in various types of GEC, see, for example, Elizabeth Cripps, *Where are we now: Climate ethics and future challenges*, 2 *Climate Law* 117 (2011); Doris Schroeder and Thomas Pogge, *Justice and the Convention on Biological Diversity*, 23 *Ethics and International Affairs* 267 (2009); Steve Vanderheiden, *Allocating Ecological Space*, 40 *Journal of Social Philosophy* 257 (2009); David Pellow, Adam Weinberg and Allan Schnaiberg, *The Environmental Justice Movement: Equitable Allocation of the Costs and Benefits of Environmental Management Outcomes*, 14 *Social Justice Research* 423 (2001).

⁶⁷ Equally relevant is interpretation in light of theories of distributive justice of legal principles such as equity (e.g. Meyer, supra note 11; Edward Page, *Equity and the Kyoto Protocol*, 27 *Politics* 8 (2007)); common heritage of humankind (e.g. Robin Attfield, *Environmental Ethics: an Overview for the Twenty-First Century* 169-73 (Polity, 2003; Schroeder and Pogge, supra note 67); common but differentiated responsibility (e.g. Simon Caney, *Cosmopolitan Justice, Responsibility and Global Climate Change*, 18 *Leiden Journal of International Law* 747, at 772-4 (2005)); and the polluter pays (e.g. Peter Singer, *One World: the Ethics of Globalization* ch. 2 (Yale University Press, 2004).

such goods and harms are in fact entitled to that use.⁶⁸ Omissions also arise in the assumption that the harms which proponents seek to redistribute justly are unavoidable—avoidably harming those with standing is something that attracts liability, not something that in the first instance should be redistributed more justly.

Although chapters on liability (Okowa; de La Fayette; Perry-Kessarlis) help to make good these omissions and indicate, inter alia, ways in which corrective measures may help catalyse comprehensive and proactive international coordination by nation-states to improve environmental protection,⁶⁹ these measures still face widely noted difficulties concerning standing, causation, fault, and remedy.⁷⁰ As a result, they appear reactive and largely piecemeal, and unable to substitute for comprehensive and proactive coordination.⁷¹

B. Critical Justice

A second set of limitations concerns a failure to address the distribution of power. Distributive approaches typically assume institutional structures as given and inquire into principles and practices of distribution within them.⁷² They do so by focusing on principles relevant to subjects conceived of as recipients, and to objects conceived of as wanted goods and necessary harms and burdens. Conceiving of subjects as participants and objects as the right to define and determine who gets what is thereby largely excluded,⁷³ with the result that discussion is limited to the distribution of goods and harms whose origin is rarely accounted for.⁷⁴

The consequence of ignoring distributions of power is perhaps even more damaging than that of downplaying issues of corrective justice. At the risk of over-generalizing, if there is merit in the view that prevailing distributions of power, especially those embodied in institutions which organize society as a whole, define, and in large part determine, the existence, level, and

⁶⁸ Leif Wenar, *Property Rights and the Resource Curse*, 36 *Philosophy & Public Affairs* 2 (2008); Thomas Pogge, *Recognized and Violated by International Law: the Human Rights of the Global Poor*, 18 *Leiden Journal of International Law* 717, at 737 (2005).

⁶⁹ E.g. ICHRP, *Climate Change and Human Rights: a Rough Guide* vii, 47 (International Council on Human Rights Policy, 2008); Michael Faure, and Andre Nollkaemper, *International Liability as an Instrument to Prevent and Compensate for Climate Change*, 43A *Stan. J. Int'l L.* 123 (2007).

⁷⁰ Accounts are various. See, for example, Ong, supra note 18, at 451-5; ICHRP, supra note 70, at 64-6, 70; Christopher Williams, *An Environmental Victimology* in *Environmental Victims: Environmental Victims: New Risks, New Injustice* 4-8 (C. Williams, ed., Earthscan, 1998).

⁷¹ Philippe Sands, and Jacqueline Peel, *Environmental Protection in the Twenty-first Century: Sustainable Development and International Law*, in *The Global Environment: Institutions, Law and Policy*, 43, at 52 (Regina Axelrod, David Downie, and Norman Vig, eds., CQ Press, 2005).

⁷² See, for example, Kai Nielsen, *Globalization and Justice* 286-7 (Humanity Books, 2003); Robert Forst, *Towards a Critical Theory of Transnational Justice*, 32 *Metaphilosophy* 160, at 166 (2001); Christian Hunold and Iris Young, *Justice, Democracy and Hazardous Siting*, 46 *Political Studies* 82, at 85 (1998); Iris Young, *Toward a Critical Theory of Justice*, 7 *Social Theory and Practice* 279, at 279-80 (1981).

⁷³ Hunold and Young, *ibid.*, at 85; Ulrich Beck, *Ecological Politics in an Age of Risk* 167-8 (Polity, 1995).

⁷⁴ Young, supra note 73, at 279-80.

402 distribution of goods and harms, then to focus simply on distribution is unduly self-limiting.⁷⁵
403 If the task of contracting global resource use implies questions over the legitimate distribution
404 of the economic “pie” and harms from its production, then the first task is to determine who
405 decides what kind of pie shall be produced, from which ingredients, and for what purposes.

406 Consequently, an initial focus of normative approaches to contraction and re-allocation ought to
407 be the distribution of power as an *object* of justice, *standing* as participants in, rather than merely
408 recipients of, justice, and *criteria* as a right to define and to determine that distribution.⁷⁶ Further,
409 since definition of terms constitutive of causes of action appears, in the final analysis, a function
410 of prevailing distributions of power, a critical theory of justice offers a useful perspective within
411 which to consider both corrective and distributive justice issues.

412 (i) Environmental Governance

413 Attention to matters of power in the *Handbook* is limited predominantly to two features of
414 environmental governance, namely, substantive and procedural environmental rights. Some
415 contributions (Shelton; Razzaque) usefully outline alternative substantive and procedural con-
416 stitutional sources of environmental decision-making to that of the economic model.⁷⁷ On the
417 matter of the efficacy of those sources, however, neither contribution is without fault.

418 *Procedural rights.* Two limitations mark Razzaque’s chapter on procedural rights. The first is
419 a tendency to assume, rather than demonstrate, the environmental merits of procedural rights,
420 or at least that they are better than the economic model. Demonstration, had it been effected,
421 might have referred to deliberative democratic theory. Hallmarked by the prominence of the idea
422 of “public reason”, deliberative decision-making consists ideally of a “process where citizens
423 discuss a problem together and attempt to persuade one another that the solutions they propose
424 are best, in the sense of most just [and] most effective”.⁷⁸ Extending the classic defence of
425 democracy, namely that those who bear the consequences of decisions are, when empowered to
426 do so, incentivized to make the wiser decisions,⁷⁹ demonstration might have referred to ways in
427 which deliberative decision-making helps to subject decisions constitutive of resource-use rates
428 to those whose lives are most affected by these rates. It might have drawn attention to ways in
429 which deliberative democracy can:

- 430 ● help to reverse the attenuation of social coordination in the use of productive resources to
431 the cash nexus by facilitating recognition of varieties of individual and common good in

⁷⁵ Forst, *supra* note 73, at 167.

⁷⁶ Forst, *supra* note 73; Nielsen, *supra* note 73, at 286-7; Hunold and Young, *supra* note 73, at 85-6.

⁷⁷ See also, for example, Birnie, Boyle and Redgwell, *supra* note 10, at 271-302.

⁷⁸ Hunold and Young, *supra* note 73, at 86-7, 92; John Dryzek, *Ecology and Discursive Democracy: Beyond Liberal Capitalism and the Administrative State*, in *Is Capitalism Sustainable? Political Economy and the Politics of Ecology*, 176 (Martin O’Connor, ed., Guildford Press, 1994).

⁷⁹ E.g. John Barry, *Environment and Social Theory* 163 (Routledge, 1999).

432 terms of expressions of care and the rationality of persons in their various roles, including
 433 as citizens or commoners; and,

- 434 ● encourage wiser resource-use decisions due to the breadth and quality of participation that
 435 it facilitates.⁸⁰

436 A second limitation lies in a failure to demonstrate not only that such procedural approaches
 437 are better than the economic model but that they are sufficient for the matters at hand. Two
 438 generic weaknesses stand out. Both arise from the divorce of questions of value and consensus
 439 from those of power and social conflict. First, the divorce militates against *prospects* of mean-
 440 ingful consensus. In the absence of expressly addressing issues of power including resource
 441 control, it is not at all clear, as Sen explains, “how antagonistic interests, including class inter-
 442 ests, would all get submerged in ‘unanimous preferences’ merely by ‘a rational discussion’”.⁸¹ In
 443 the circumstances, it is unclear how deliberation would necessarily result in a collective choice
 444 for sustainability, let alone grant a more valued status to the non-human world than it currently
 445 has.⁸² For it is not inconceivable that decisions reached deliberatively could result in a preference
 446 for economic gain at the expense of environments.⁸³ Second, the divorce of issues of consensus
 447 from those of power militates against the *coherence* of any consensus that might be reached. Even
 448 if deliberative decisions were unanimous in calling for sustainability, it is unclear how this call
 449 could be answered without substantive reform of the type and distribution of rights implicated in
 450 unsustainable economic practice. The problem is that “to advocate democracy is to advocate pro-
 451 cedures”, yet “to advocate [sustainability] is to advocate substantive outcomes”.⁸⁴ If prevailing
 452 forms of economic practice are structurally orientated toward generating a conflict of rates, then
 453 it seems incoherent to think that enrichment of the public sphere by deliberative procedures—in
 454 the absence of simultaneously reforming the nature of natural resource control—would arrest,
 455 let alone reverse, this conflict.

456 *Substantive rights.* Although procedural rights may *incentivize* sustainable outcomes, it seems
 457 clear that, to *effect* those outcomes, substantive rights are required, not least because as Shelton

⁸⁰ First, participation includes ideally “all affected... perspectives... in the discussion” having “grasp[ed] the consequences and... considered alternatives” including “scientific and social-scientific techniques... necessary for assessing alternatives and envisioning consequences” of resource use options (Hunold and Young, supra note 73, at 87), a *breadth* that helps sensitize decision-making to the inherent “complexity” of many environmental problems (Dryzek, supra note 79, at 192; O’Neill, supra note 21, at 1867-8). Second, in terms of *quality*, deliberative decision-making enables each to “contribute their situated knowledge of how various” resource use options and techniques “would affect the people whose lives they know best and the environment in which they live” (Hunold and Young, supra note 73, at 87; see also, for example, Ostrom, supra note 36, ch. 3; Barry, supra note 80, at 163-4).

⁸¹ Amartya Sen, *Foundations of Social Choice Theory: an Epilogue*, in *Foundations of Social Choice Theory* 213, at 234 (Jon Elster and A. Hylland, eds., Cambridge University Press, 1986); see also Goldblatt, supra note 37, at 198.

⁸² Andy Dobson, *Critical Theory and Green Politics*, in *The Politics of Nature* 109 (Andy Dobson, and Paul Lucardie, eds., Routledge, 1993).

⁸³ Kate Getliffe, *Proceduralisation and the Aarhus Convention: Does Increased Participation in the Decision-making Process lead to less to more Effective EU Environmental Law?*, 4 *Env. L. Rev.* 101, at 114-6 (2002); Marcel Wissenburg, *Green Liberalism* 223 (UCL Press, 1998).

⁸⁴ Robert Goodin, *Green Political Theory* 168 (Polity, 1992).

notes they “place certain limits on the outcomes of . . . [decision-making] process[es]”.⁸⁵ Among several sources of substantive rights discussed in the *Handbook*, two stand out: the domestic effect of the precautionary principle (de Sadeleer; Pyhälä et al.)⁸⁶ and incipient human rights to a clean and healthy environment (Shelton). Neither source is (currently) unproblematic. Although a proper discussion lies beyond the scope of this review, suffice it to mention, first, that it remains uncertain whether precaution is a principle of law or, as the European Community prefers, one of policy (i.e. an “approach”)⁸⁷ and thus largely non-justiciable.⁸⁸ Even if justiciable, the principle is hampered by ongoing differences in views over whether the principle is a right or a duty, the level and type of uncertainty by which the right/duty is triggered, its scope, upon whom the burden of proof is placed, and the proportionality of response.⁸⁹

Second, reasons to think that positive substantive human rights (as yet) inadequately supplement procedural rights include the fact that:

- most of the more important rights are reactive rather than proactive (more a shield and less a sword);
- their efficacy as a shield is undermined by limitations shared by corrective measures (e.g. causation, jurisdiction, remedy); and,
- in addition to ambiguities in prevailing definitions of “clean” and “healthy” environments,⁹⁰ as Ong observes, because the environment generally features only in so far as threats and harms to “it” appreciably impact upon human rights,⁹¹ where human rights are unaffected, such law offers little relief to the environment and non-human victims.⁹²

A direction for reform? The current constitution of environmental governance requires reform if it is to be conducive to contraction and re-allocation. One possible lead is suggested by the

⁸⁵ Dinah Shelton, *Human Rights and the Environment: Substantive Rights*, in Research Handbook on International Environmental Law, 265, at 265 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010).

⁸⁶ By subjecting state and certain private resource use decisions to precautionary requirements, scope, for example, for public participation is respectively widened and introduced (see, for example, Barry, supra note 80, at 158-61).

⁸⁷ *Pfizer v. European Commission* [2002] ECR II-3305 (Case T-13/99); *R v. Secretary of State for Trade and Industry ex p. Duddridge* [1995] Env. L. R. 151; European Commission, Communication from the Commission on the Precautionary Principle (COM (2000) 1).

⁸⁸ Cf. Nicholas de Sadeleer, *The Principles of Precaution and Prevention in International Law: Two Heads of the Same Coin?*, in Research Handbook on International Environmental Law, 182, at 194 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010).

⁸⁹ De Sadeleer, *ibid.*, at 185-6; Minna Pyhälä, Anne Brusendorff, and Hanna Paulomäki, *The Precautionary Principle*, in Research Handbook on International Environmental Law, 203, at 212-6 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); Arie Trouwborst, *The Precautionary Principle in General International Law: Combating the Babylonian Confusion*, 16 RECIEL 185 (2007); Jaye Ellis, *Overexploitation of a Valuable Resources? New Literature on the Precautionary Principle*, 17 Eur. J. Int. Law 445 (2006).

⁹⁰ E.g., Ong, supra note 9, at 538-9; Birnie, Boyle, and Redgwell, supra note 10, at 277-82.

⁹¹ Ong, supra note 9, at 537-8.

⁹² Ong, supra note 9 at 538-9; Polly Higgins, *Eradicating Ecocide: Laws and Governance to Prevent the Destruction of our Planet* 142 (Shepard-Walwyn, 2010); cf. Shelton, supra note 86, at 279.

foregoing criticism of SD. At the heart of the problem with economic practice is that natural resource use is allocated in a manner that ensures that the rate of resource use is determined according to the rate of return rather than the rate of resource replenishment—a problem that price correction appears incapable of resolving.

From a position of sufficient remove, conflicts of rates appear to be *generated* by pressures on, and incentives for, individuals to collectively overuse natural resources, which follow, in the circumstances, from (i) the creation of conditions for collective-action problems by market coordination in the use of productive resources and (ii) amplification of those conditions by privately created, credit-fuelled competition in the use of productive resources for maximally increased returns. Conflicts also appear *compounded* by restraints on remedies to harmful pressures and incentives which follow inter alia from state reliance on economic expansion⁹³ and from a corresponding privilege granted in significant law- and policy-making fora to those who control and organize the accumulation process. Privilege is afforded, Perry-Kessaris and others suggest, on account of their occupation of key decision-making state offices.⁹⁴ It is also afforded, in the form of the structural power of capital (e.g. capital flight and investment strike), on account of their capture of key resources.⁹⁵ Scope for meaningful collective action by states tends thus to be limited to areas and means which do not significantly militate against the interests of those permitted to be in control of the accumulation process (which perhaps helps account for the widespread endorsement of SD).

It follows that substantive IEL conducive to securing collective contraction and re-allocation would serve to remove these pressures, incentives, and restraints on remedies. It would therefore involve reform of:

- exclusive and asymmetric *allocation* of key resource control, without which it would not be generally possible to use productive resources according to the profit motive nor to distribute resources and products thereof according to the price mechanism;⁹⁶
- *standing* or recognition of many of those in possession of key resources as private corporations, that is, as Perry-Kessaris observes, in possession of rights, powers, and immunities

⁹³ Such as for its fiscal income, and thus in some measure, its legitimacy. See, for example, Dryzek, *supra* note 79, at 176-8; David Held, *Democracy, the Nation-State and the Global System*, in *Political Theory Today* 197, 213-222 (David Held, ed., Polity, 1991); Robert Cox, *Production, Power and the World Order* ch. 8-9 (Columbia University Press, 1987).

⁹⁴ E.g. Craig Collins, *Toxic Loopholes: Failures and Future Prospects for Environmental Law* (Cambridge University Press, 2010); Goldblatt, *supra* note 37, at 45.

⁹⁵ E.g. Stephen Gill, *New Constitutionalism, Democratisation and Global Political Economy*, in *The Global Governance Reader* 174, 174-6 (Rorden Wilkinson, ed., Routledge 2005); Joel Bakan, *The Corporation: The Pathological Pursuit of Profit and Power* 25 and elsewhere (Constable, 2004); Peter Newell and Matthew Paterson, *A Climate for Business: Global Warming, the State and Capital*, 5 *Review of International Political Economy* 679 (1998); Charles Lindblom, *The Market as Prison*, 44 *Journal of Politics* 324 (1982).

⁹⁶ Karl Polanyi, *The Great Transformation: Political and Economic Origins of Our Time* 46, 71-2 (Beacon, 2001 [1944]); Goldblatt *supra* note 37, at 44-5; Macpherson, *supra* note 36, at 133.

508 more akin to governments than to natural persons (and which have facilitated the domination
509 and often replacement of markets);⁹⁷ and,

- 510 ● collective decision-making *criteria* which, for economics, lies ideally in the distribution of
511 “slices” of the economic “pie” and necessary harms from its production in ways generative
512 of the highest net social gain.

513 A possible direction for that reform may involve the privileging of public, rather than private,
514 interest in collective, key resource decision-making, such as by:

- 515 ● re-allocating key resource control, including credit, in a manner that avoids both collective-
516 action problems and amplifications from competition and privately created credit; and,
- 517 ● recognizing standing in a manner that empowers human agency (in a manner greater, that is,
518 than predominant procedural and substantive human rights allow for)⁹⁸ and correspondingly
519 curtails concentrations of power (e.g. by abolition of the private corporate form).⁹⁹

520 The merits of the *Handbook* depend very much on the purposes for which it is used. As a
521 reference resource, it offers a highly useful, comprehensive, and richly informed source of
522 information on the content, status, and historical development of positive IEL. As a critical
523 comment on the efficacy of such law and on the prospects for reform, it leaves, with exceptions,
524 much to be desired. As a reference resource, the *Handbook* indeed makes good its claim to
525 offer an “important research agenda for legal research”, but its relative lack of critical comment
526 undermines the notion that this agenda is in fact important for “legal . . . reform”.¹⁰⁰

⁹⁷ Amanda Perry-Kessaris, *Corporate Liability for Environmental Harm*, in Research Handbook on International Environmental Law, 361 (Malgosia Fitzmaurice, David Ong, and Panos Merkouris, eds., Edward Elgar, 2010); J. K. Galbraith, *Mission: Control – Why can’t Economists admit that Corporations Serve Themselves, not the Market?*, Nov./Dec. Mother Jones 34 (2006); Bakan, supra note 96; James Gobert and Maurice Punch, *Rethinking Corporate Crime* (Butterworths LexisNexis, 2003); David Vogel, *The Corporation as Government: Challenges and Dilemmas*, 8 Polity 5 (1975).

⁹⁸ E.g. Higgins, supra note 93; Michael Goodhart, *Human Rights and Global Democracy*, 22 Ethics and International Affairs 395, at 398, 402 (2008); Held, supra note 94.

⁹⁹ A defence of these broad prescriptions may be found in Anderson, supra note 24, ch. 6-7.

¹⁰⁰ Merkouris, supra note 3, at xxv.