

International Environmental Law Reform
and the Allocation Problem:
from Market Failure
to a Critical Theory of Justice

by

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A thesis submitted in partial fulfilment of the requirements for the
degree of
Doctor of Philosophy in Socio-Legal Studies

University of Warwick, Departments of Sociology and Law
January 2011

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Preface

The achievement of a sustainable human culture requires the reform of economic practices in light of their role in global environmental change. The success of reform turns on successfully meeting three immediate challenges. 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. The third is to justify, and to elicit sufficient motivation for, the first two tasks.

This work identifies and responds to shortcomings in contemporary efforts to meet the first of these three challenges. Limiting thus the scope of this work is not to imply that the remaining challenges are by any means unimportant. It is for the simple reason that if the first challenge is not met then any effort to meet the remaining challenges will lack clear guidance. That principle, ideally, precedes practice follows from Meyer's (2007) adaptation of Kant's dictum that whilst principle without practice is impotent, practice without principle is blind. In the current circumstances, practice without principle is dangerous: without coherent guidance, reform efforts are unlikely to be able to achieve sustainable outcomes and, in the process, squander a diminishing portal of opportunity.

This work identifies and seeks to make good certain shortcomings in existing efforts to supply such guidance. Its primary task is to critically identify conditions necessary for the achievement of global sustainability. It does so, as will be discussed subsequently, by defining and answering the question concerning conditions necessary for the possibility of effective international regulation of domestic economic practice. This is the central question of what kind of international regulation must apply if global environmental change is in principle to be arrested. This question is addressed in two ways. First, I analyse contending meanings of the criterion of 'effectiveness' along with conflicting interpretations of conditions under which the international regulation of domestic economic practice might be effective. Second, I evaluate two leading theoretical positions – neoclassical economics and rival justice-based approaches – in terms of their likelihood of meeting these conditions, and thus as a basis of effective regulation. The overall trajectory taken in this work is, therefore, to advance the debate on epistemological conditions for

action relevant to global sustainability. The approach taken to achieve this aim and its findings make this work relevant to those academics, practitioners and students in particular of law, public policy, applied philosophy and social, economic and political studies, who take seriously the question of how to make human society sustainable.

* * *

A note on semantics: the general context for the inquiry comprises global environmental change and the allocation problem. The inquiry centres on identifying conditions necessary for the possibility of global coordination to reform the prevailing manner of resource use allocation within and between national communities, which is a precondition of economic practice, in order to arrest global environmental change. At the heart of existing and possible coordination is international environmental law. This is taken to mean both the express and de facto international regulation of (predominantly) domestic economic practice. The bulk of the inquiry addresses the question of whether or not reform of the substance of that law (i.e., of objectives and principles, rules and instruments by which parties' commitments to objectives are given effect) is best served from the perspective of neoclassical economic theory or from the broad church of justice-based perspectives. Finally, the meaning of 'reform' itself is taken in the more general and 'deep' sense common to social and political theory rather than the narrow and precise sense common to legal scholarship.

Acknowledgements

I am grateful to the University of Warwick for a Warwick Postgraduate Research Fellowship without which this work would not have seen the light of day, and to my supervisors, Robert Fine and Steve Fuller, for their invaluable support for the manner in which in this work has indeed seen the light of day. I have benefited very much from discussions about this work and its context with friends and family including Peter Edwards, Lewis Cleverdon, Aubrey Meyer, Christoph Bey and, above all, Chris Groves, although some may wish that I had benefitted more. The usual disclaimers apply, of course. Responsibility for the weakness and limits of the argument including any howlers is mine.

I am told that film director, François Truffaut, started each new, creative venture with the hope that the film would turn out to be the best he had ever made, but by halfway through wanted only to finish with his sanity intact. The creative process involved in finishing this work has been little different. For keeping me vaguely sane during the process, I am indebted to the individuals mentioned above, to the Kelham family of Warwick for their hospitality, generosity and warmth, to the Leamington School of Samba (Sambassadors of Groove) and the Malvern Hills Brewery for keeping spirits up, to Jain Hopkins for her profound insight and support, to well-being practitioners Maria Worton of Knighton, Barry Williams of Warwick and Tina Mitchell of Hereford, and in particular to my cats, Wescles and Squiggles, without whose affection, playfulness and healthy disdain for such narrow human preoccupations as this work I would have long ago lost any semblance of a plot. Above all, I am indebted to Tania Dolley, without whose love, care, generosity, encouragement and patience, this work would not have been possible. It is for these reasons, and more, that this work is dedicated to her.

Synopsis

Contemporary efforts to collectively reform economic practices in light of their role in global environmental change remain hampered by two ongoing conflicts. The first concerns how best to explain the ineffectiveness of the current international regulation of domestic economic practice, specifically, of international environmental law (IEL). The second concerns how best to reform that regulation in order to arrest global environmental change.

This work contributes to the resolution of these conflicts by addressing the question as to which conditions are necessary for the possibility of effective IEL. This question is addressed in two ways. The first is to *analyse* contending meanings of the criterion of effectiveness and the conditions purportedly necessary for the possibility of effective IEL. The second is to *evaluate* two leading theoretical positions in terms of their capacity to meet these conditions, and thereby to serve as a basis of effective IEL.

Upon critically identifying analytic elements necessarily implied in the possibility of achieving international sustainability (including collective resource use contraction and re-allocation), evaluation of two proposals to render economic practice sustainable suggests that

- proposals characterised by neoclassical economic theory exhibit such systemic flaws as to be presumptively ineffective; and that
- proposals rooted in perspectives of distributive justice, whilst more promising, would benefit from being set within the context of a critical theory of justice. With the focus provided by this perspective on distributions of power, it is possible (i) to attribute significant causal responsibility for global environmental change to the capitalist organisation of economic practice and (ii) to identify a rival mode of organising that practice, characterised by common, democratic and deliberative key resource control, on the basis that it should be capable both of directly rendering economic practice sustainable and of so doing indirectly by making distributively equitable outcomes more likely (such outcomes being conducive to collective sustainable regulation).

Taken together, this work's analytic and evaluative findings make a significant contribution to discussions on the epistemological conditions of an adequate approach to global sustainability. They open up a possible direction that ought to be taken by theoretical and practical efforts which take seriously the question of how to make human society sustainable.

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- 1933 (Montevideo) Convention on Rights and Duties of States
- 1946 International Convention for the Regulation of Whaling
- 1948 Universal Declaration of Human Rights
- 1969 (Vienna) Convention on the Law of Treaties
- 1970 Declaration on Principles of International Law Concerning Friendly Relations and Co-operation among States
- 1971 (Ramsar) Convention on Wetlands of International Importance
- 1972 (Stockholm) Declaration on the Human Environment
- 1972 (London) Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
- 1972 Agreement between the United States and Canada Concerning the Water Quality of the Great Lakes
- 1973 Convention on the Trade in Endangered Species (CITES)
- 1973/1978/1990 International Convention for Prevention of Pollution from Ships (MARPOL)
- 1979 (Geneva) Convention on Long Range Transboundary Air Pollution
- 1982 World Charter for Nature
- 1982 Convention on the Law of the Sea (UNCLOS)
- 1985 (Vienna) Convention for the Protection of the Ozone Layer
- 1987 (Montreal) Protocol on Substances that Deplete the Ozone Layer
- 1989 (Basel) Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- 1989 (Hague) Declaration on the Environment
- 1990 (Bergen) Ministerial Declaration on Sustainable Development
- 1991 (Bamako) Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa
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- 1992 Convention on Biological Diversity
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2000 (Cartagena) Biosafety Protocol to the Convention on Biological Diversity

2001 (Stockholm) Convention on Persistent Organic Pollutants

2002 (Johannesburg) Declaration on Sustainable Development

2005 General Assembly Resolution (*World Summit Outcome*) A/RES/60/1 24, 60th Session

2008 Non-legally Binding Instrument on All Types of Forests

European Union

EC Treaty (as amended)

EC Decision 2002/358/EC

EC Directive 2006/1907 (Registration, Evaluation, Authorisation and Restriction of Chemicals)

List of abbreviations

AOSIS	Association of Small Island States
CBA	Cost-benefit analysis
CBD	Convention on Biological Diversity
CDF	Comprehensive Development Framework
CDM	Clean Development Mechanism
EC	European Community
ECJ	European Court of Justice
EKC	Environmental Kuznet's Curve
EU	European Union
FAO	Food and Agriculture Organisation
FCCC	Framework Convention on Climate Change
ICJ	International Court of Justice
IEL	International environmental law
ILC	International Law Commission
IPC	Intellectual Property Committee
IPCC	Intergovernmental Panel on Climate Change
GDP	Gross Domestic Product
GEC	Global environmental change
GEF	Global Environment Facility
MARPOL	International Convention for Prevention of Pollution from Ships
MEA	Multilateral environmental agreement
OECD	Organisation for Economic Cooperation and Development
OPEC	Organisation of the Petroleum Exporting Countries
TCC	Transnational capitalist class
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WTAC	Willingness to accept compensation
WTO	World Trade Organisation
WTP	Willingness to pay

Introduction

International environmental law reform and the allocation problem

A conundrum lies at the heart of international efforts to achieve global environmental sustainability. It lies in the first instance in a dissonance between the human capacity to generate environmental problems and the capacity to resolve them. This dissonance finds notable expression in the reported intensification of anthropogenic global environmental change – much of it the unintended, cumulative result of economic practices – during a period in which particular modes of the international regulation of domestic economic practice, specifically, international environmental law (IEL), have proliferated extensively. The conundrum also lies in continued differences in views concerning the reasons for the apparent failure of that law and correspondingly, over how best to reform it in order to arrest global environmental change. The importance of resolving these differences is evident. If, as will be discussed shortly, arresting global environmental change turns on subjecting international regulation to adequate reform then resolving differences in views concerning the reasons for its ineffectiveness and proposals for its reform is critical.

The purpose of this work is to resolve some of the more important theoretical differences. It does so by addressing the question as to which conditions are in fact necessary for the possibility of effective international environmental law. This question is addressed in two ways. The first is to *analyse* the meanings of the criterion of effectiveness together with conflicting interpretations of conditions apparently necessary for the possibility of effective international environmental regulation. The second is to *evaluate* two leading theoretical propositions in terms of their capacity to ensure that these conditions are met, and thus to serve as the basis of effective international regulation. Overall, this work aims to identify and defend an epistemological

approach for establishing the requirements of global sustainability, within which some of the aforementioned differences are resolved.

Since meeting this aim is a task of some complexity, it seems useful to summarise the main conclusions. In respect of the *analytic* argument, it is submitted that among the various conditions endogenous and exogenous to international law that appear necessary for its effectiveness, 'substantive' endogenous conditions offer the most suitable point of departure from which to evaluate proposals for IEL reform. Substantive conditions comprise treaty aims/objectives and principles, rules and instruments by which to give domestic effect to aims/objectives. It is also submitted that the better meaning of the criterion of effectiveness lies in 'problem-solving'. On this view, substantive conditions for the international regulation of domestic economic practice would be effective to the extent that they serve to arrest global environmental change faster than that it is being caused. To do so, substantive conditions must serve to resolve 'conflicts of rates' constitutive of anthropogenic environmental change. This means that (i) conditions must serve to reduce the aggregate rate at which natural resources are used as sources of, and sinks for, economic practice to that within which the resources in question may be replenished, and (ii) in order to secure collective agreement to that end, conditions must serve to effect just re-allocation in the use of the Earth's remaining resources within the terms of this aggregate contraction.

To this meet this dual requirement is, to be sure, a task of considerable difficulty. This is in part because substantive changes to IEL in respect of (i) and (ii) must, by implication, reform prevailing ways of addressing the 'allocation problem'. This is to say that substantive changes must reform ways in which national communities allocate the use of scarce resources as a precondition of economic practice. Changes must also reform ways in which authority, or sovereignty, is allocated between national communities in order to allocate domestic resource use. Qualification of state sovereignty is implied because effective international regulation of domestic economic practice, on the one hand, imposes obligations on states to other states in respect of domestic activities which affect others, shared resources and the 'global environment', and on the other, extends the legitimate scope of interest of other states in a state's domestic affairs.

These broad analytic themes provide the context for the aforementioned *evaluation* of two influential propositions on the reform of the substantive international regulation of domestic economic practice.

Market failure

The first perspective is that of neoclassical economic theory. According to microeconomic perspectives, environmental problems represent ‘market failures’. Environmental problems are thought to have their origin in the inadequate pricing of, or in the absence of markets in, environmental resources in question. In these instances, peoples’ preferences are inadequately registered, if at all, in market transactions. As a result, resources tend to be used more than they would be if they had prices which reflected peoples’ preferences for them. The solution is to *create* markets where they do not exist and to *correct* markets where they do so that peoples’ preferences, including environmental ‘costs’, are reflected in the price of resource use. These processes involve, respectively, privatising resources subject to human use and, where this is not possible, simulating economically efficient markets through the construction of shadow prices derived from what individuals would be willing to pay for resources were there a market for them. The latter option in turn requires the determination of economically efficient *levels* of resource use (by comparing the aggregated estimated monetised costs and benefits of existing levels of use against possible levels of use) and of efficient price-based *means* by which these levels may be brought about (e.g., taxes, tradable use permits). According to macroeconomic perspectives, whilst economic growth may cause resource overuse, it can also be the solution to environmental harms that it creates. This is typically thought to occur through market-led technological innovation and harm ‘internalisation’ through the correction or creation of markets. One implication of this view is that, being unable in effect to afford a clean environment, the poor are often portrayed as a significant cause of environmental degradation.

Neoclassical economics represents a pertinent subject of evaluation for two reasons. The first concerns its influence. It has been and continues to be influential in the development of express international environmental law including “many of the most important and far reaching international environmental treaties such as those on climate change and biodiversity” (Bernstein 2002: 1). It has also been influential in the development of *de facto* international environmental law, or the international regulation of domestic economic practice for reasons other than expressly effecting environmental sustainability. Significant in this respect is its prominence in the ‘constitution’ and dispute mechanisms of international trade law. The second reason for evaluating neoclassical economic perspectives on how to achieve global sustainability lies in certain shortcomings in the critique of neoclassical economics. Despite extensive criticism, much critique has tended to avoid sustained investigation of how effective neoclassical economic prescriptions may be in arresting environmental problems. Among commentators who attempt

such an evaluation, many limit themselves to the domestic, rather than international, context of the nation-state. This presents an immediate problem concerning the plausibility of applying findings from one level of social organisation to another. Furthermore, that critiques of neoclassical economic prescriptions for global environmental problems tend not to refer explicitly to IEL underscores the suggestion that economics remains insufficiently challenged in international legal fora (Bachram 2004: 6).

The argument is made that neoclassical economics (which for the sake of convenience will from here on simply be referred to as ‘economics’ unless otherwise stated) cannot provide an adequate basis for the possibility of effective substantive international environmental law. The content of this argument proceeds along two paths. The first concerns prescriptions for arresting environmental change. The second concerns diagnoses of the causes of environmental change from which prescriptions arise.

Economic prescriptions

A rigorous evaluation reveals systemic flaws in standard prescriptions for global resource use contraction and re-allocation. Flaws may be observed in micro- and macroeconomic contributions. In respect of macroeconomic prescriptions, supporting evidence is largely

- irrelevant because reliable empirical data applies to a restricted range of environmental factors which are, typically, localised short-term types of pollutants rather than long-term, widely dispersed pollutants. These factors comprise at most “only a small part of environmental concerns at the global level” (Cavaglia-Harris *et al.* 2009: 1149);
- inadequate because a causal link between a decline in these localised short-term pollutants and rising income is usually assumed rather than proven; and
- contradicted because where a causal link appears plausible, closer inspection reveals *inter alia* that pollutants have been reduced rather than eliminated; in some cases insignificantly, in others reductions have been achieved by displacing harm elsewhere. When more comprehensive resource-use accounting tools are employed, findings affirm the view, despite variation across resource sector and nation-state, of a general positive correlation between economic growth and environmental impact.

Problems with microeconomic prescriptions are various. Some of the more important may be distinguished according to whether they concern the determination of economically efficient *levels* of resource use or of efficient *means* of achieving those levels. It is submitted that an efficient *level* of resource use would not be one that is environmentally sustainable. This is

principally because, determined by comparing the aggregate estimated monetised costs and benefits of existing and alternative levels of resource use, an efficient level would in fact permit continued environmental change to the extent that

- causing it is sufficiently profitable, an attribute of many of the more significant types of GEC, and/or
- the social cost of harms is calculated sufficiently low, an outcome that is facilitated by systemic biases in the determination of efficiency.

Even if an economically efficient level of resource use could be environmentally sustainable, it is unlikely that price-based *means* would in fact achieve sustainability. Three points support this contention. First, significant operational difficulties face liberal privatisation. These include difficulties involved in the creation of divisions in inherently indivisible biophysical processes. They also include reliably identifying sources and perpetrators of cumulative harms, and of plausibly calculating the costs and benefits of resource overuse in situations characterised by profound uncertainty. Second, assuming operational difficulties may be overcome, market prescriptions espoused by neoclassical economics face a further problem. Since market-based prescriptions depend on the existence of competitive markets they are clearly inapplicable to oligopolistic markets. Since oligopolistic markets, for example, from fossil energy, potable water and metals to food sources, forests and land, characterise many of the more significant resources subject to global change, market-based prescriptions are of scant relevance to arresting that change.

Third, where market prescriptions may be applied to resources unaffected by oligopolistic markets, prospects of ‘success’ are highly precarious. Despite the claim that privatisation incentivises good stewardship because the “wealth of the owner of the property right is at stake if bad decisions are made” (Anderson and Leal 1991: 3), in general terms private owners are unaccountable to the public for what they do with their resources. More specifically, since the market incentive for sustainable resource use is a function of opportunity costs, information and preferences, the achievement of sustainability is made contingent upon the vagaries of the market. Two immediate problems arise. The first is that privatisation assumes that “changes in one or more of these variables” (opportunity costs, information and preferences) will not “lead to environmental values being outbid by competing values” (Eckersley 1995: 26). Given that the sole incentive for conservation is a fiduciary one, it is not inconceivable, however, that overuse would be preferable to sustainable use if the former option would generate more income over a given period of time than would others. Indeed, it is a well-developed point that privatisation in

competitive markets in fact incentivises resource overuse. The “rationality of competitive markets is such that each actor must use those resources to their greatest individual advantage as quickly as possible” (Goldblatt 1996: 45). Since the price of wanted goods will *ceteris paribus* increase when their supply decreases, the deliberate overuse of certain natural resources or elimination of entire populations may appear to be the most attractive policy to an individual owner.

Building on the view that liberal privatisation may in fact incentivise resource overuse, a second problem arises from the suggestion that privatisation may make overuse self-fuelling. In essence, in competitive market conditions, privatisation incentivises participants to

- use resources at a rate proportionate to the rate of return rather than the rate of resource replenishment,
- correspondingly de-value resources that are relatively unproductive from the point of view of the self-expansion of capital,
- shift costs onto others, in particular the inarticulate and future generations

in so far, in each respect, as failure so to do would place participants at a comparative disadvantage to those who use resources to seek maximally higher returns. In broad terms, then, the chances of success would appear to diminish the more extensively natural resources are privatised.

Economic diagnoses

A second line of argument can be made against the view that economics can provide an adequate basis for the possibility of effective substantive IEL. This argument concerns economic diagnoses of the *causes* of induced environmental change from which aforementioned prescriptions arise. A critical review suggests that it would be wrong-headed to regard economics as an appropriate context within which to think about environmental sustainability in the first place. Among the more important reasons, four stand out. First, economics misrepresents basic diagnostic variables by misrecognising the environment as commodity, person as consumer and value as price. This reduces the applicability of the diagnosis. It also undermines the very rationale for the mitigation of environmental problems.

Second, economic diagnoses presuppose a recognisably capitalist institutional context – one in which the bulk of human-environment interactions is organised around the profit motive and expansion – that is itself unrepresented in diagnoses. This failure to represent that context

invalidates the thesis of market failure *qua* missing markets: capitalist markets are presupposed whenever diagnostic variables are represented as commodities, consumers and prices. Indeed, economic diagnoses may be taken instead to tacitly endorse the view that greater causal importance ought to be attributed to the capitalist institutional context than to perceived problems of price alone.

Third, economics misunderstands the nature of induced environmental change. The alleged problematic relationship between persons and the environment, that is, of price, in fact turns on prevailing property relations. Since prices are nominally a function of permitted supply and effective demand, they reflect the underlying distribution of property rights in available resources (supply) and in income and revenue-generating resources or capital (demand). This is because supply is in fact *permitted* supply. It presupposes entitlement to bring to market in so far as one cannot lawfully sell or use what one does not own. Similarly, demand is effective demand, that is, one capable of being registered in market transactions as willingness to pay. Because willingness to pay is a function of ability to pay, and ability to pay turns on the distribution of property rights – whether in income or in income-generating resources – effective demand is in the final analysis a function of the existing distribution of property rights. Problems are twofold. First, that the problematic relationship between persons and environments of price is in fact one of property relations undermines the thesis of market failure *qua* poverty. Generally speaking, it is not the poor but the rich who are most implicated in environmental change: since impact is broadly proportionate to wealth, greater causal impact may be attributed to the rich. Second, the primacy of property relations suggests that a more appropriate context for thinking about environmental sustainability – of re-allocation for the purpose of the resource use contraction – would be social justice rather than economic efficiency.

Fourth, even if economics could offer accurate diagnoses of the causes of, and effective remedies to, environmental change, the fact that it tacitly sanctions practices which dispossess and profitably harm others raises the question as to whether it can count as permissible problem-solving means at all.

The combined effect of these criticisms of economic prescriptions for arresting, and diagnoses of the causes of, environmental change is to undermine the idea of basing the reform of IEL upon neoclassical economic theory and the market-based instruments that it recommends. It is also to underscore an urgent need to reform existing international regulation of domestic economic practices that is rooted in such theory and which employs such instruments.

A critical theory of justice

Significant among alternative prescriptions for global resource use contraction and re-allocation which go beyond the narrow confines of economic theory are those rooted in perspectives of distributive justice. According to this view, global environmental change signifies a ‘context of justice’. In essence, global environmental change is “characterised by conflicting claims” *inter alia* over desired distributions of wanted goods and necessary harms which “call for adjudication in light principles of justice” (Forst 2001: 161). Prescriptions rooted in perspectives of distributive justice are important. This is in part because distributively just allocations of wanted goods and necessary harms appear a precondition of any possibility of global agreement to contract aggregate resource use rates. At the same time, these prescriptions are not without limitation. Particularly significant is a tendency to ignore or downplay prevailing distributions of power. To downplay distributions of power embodied, for example, in the structure of socio-economic organisation is especially self-limiting given that this structure appreciably determines the nature, level and distribution of goods and harms. Consequently, concerns about the distribution of goods and harms ought to be located situated within wider concerns about the distribution of power. To put it another way, distributive prescriptions are better situated within the context of a critical theory of justice.

This proposition underscores the need for two tasks. The first is a more coherent diagnosis of the causes of global environmental change than that offered by economics, and one that pays particular attention to the role of forms of socio-economic organisation in the generation of global environmental change. The second task is an evaluation of rival structures of socio-economic organisation in terms of their likelihood of arresting and avoiding harms generated, it is argued, by prevailing forms of socio-economic organisation.

Capitalism and global environmental change

With respect to the first of these tasks, of foremost significance among institutions implicated in determining the nature, level and distribution of goods and harms are those associated with the capitalist organisation of economic practice. Although by no means the sole cause of global environmental change, nor the sole form of socio-economic organisation capable of causing that change, capitalism is especially problematic. In *general* terms, capitalism encourages environmental change by virtue of the fact that the rate of resource use is determined according to the rate of capital accumulation rather than according to the rate of resource replenishment. Further, capitalism necessarily causes environmental change. Since the rate of capital accumulation is exponential, while the rate of resource replenishment is not, the rate of

accumulation will necessarily tend to outpace that of replenishment. In *specific* terms, because the rate of accumulation is a function of the permitted private appropriation of surplus value, this private appropriation of surplus value induces environmental change by

- creating common pressures on, and incentives for, the use of productive resources at rates commensurate with those of accumulation rather than resource replenishment; and
- imposing restraints on remedies to environmentally-harmful pressures and incentives.

Whilst an explanation of these pressures, incentives and restraints is given in detail later, suffice it here to note that pressures and incentives follow, on the one hand, from the *creation* of conditions for collective action problems, that is, the suboptimal and sometimes disastrous outcomes which arise from uncoordinated private gain-seeking. Conditions appear chiefly in the form of the reduction of social coordination in the use of productive resources to that of the cash nexus, and correspondingly, the removal of social safeguards to the overuse of productive resources. Pressures and incentives also follow, on the other hand, from an *amplification* of conditions for collective action problems. Amplification takes the form principally of the establishment of competitive market relations and of the private creation of credit. The result of private credit-fuelled competition in the use of productive resource for maximally more surplus value is to undermine the public good: producers, for example, are compelled to expand surplus value by socialising ‘costs’ and ‘consumers’ find their interests institutionally defined in terms of the acquisition of ever more goods.

Restraints on remedies to environmentally-harmful pressures and incentives assume the form, generally, of state reliance upon economic expansion. More specifically, restraints also assume the form of a corresponding privilege granted to the interests of those who control and organise the accumulation process (on account of their occupation of state offices and of the structural power of capital from their occupation of key resources) in significant domestic and international policy and law-making fora. It follows from both types of occupation that the scope for meaningful collective action by capitalist states is limited to areas and means which do not significantly militate against the interests of those permitted to be in control of the accumulation process.

Ecological democracy

With respect to the evaluation of a rival form of socio-economic organisation, it is shown – despite shortcomings in the analysis of how it might effect environmentally sustainable outcomes – how and why an organisation characterised by common, democratic and decentralised key

resource control (referred to as radical or ‘ecological’ democracy) would be likely to render economic practice sustainable. Two forms of evidence for this are provided. The first lies in the *indirect* effects of such a form of democracy on the possibility of rendering economic practice sustainable. These include making more likely a set of distributively equitable outcomes which are themselves commonly a precondition for the possibility of global agreement to contract towards sustainable resource use rates. The second way lies in the *direct* effects that such forms of democracy have on the possibility of making economic practice sustainable. Of particular note is the manner in which this governance may arrest and avoid collectively-harmful pressures, incentives and restraints associated with the capitalist organisation of economic practice. On the one hand, deliberative democracy incentivises sustainable resource use because those who bear the consequences of decisions are, when empowered so to do, incentivised to make the wiser decisions. On the other, this incentive for sustainable outcomes is made possible by forms of common ownership, and thus the reform of the prevailing nature of the control of key resources including credit and of the prevailing private corporate form in which control of these resources is often concentrated. These arguments are mutually reinforcing. Generally speaking, democratic procedures incentivise sustainable outcomes without of themselves being able to effect them, whilst common control makes these outcomes possible without of itself necessarily incentivising resource use conducive to sustainable outcomes. Taken together, they make possible and incentivise sustainable economic practice. As a consequence, prescriptions associated with a critical theory of justice, specifically, those which reflect common, decentralised and deliberative democratic key resource control would serve as a viable basis for the substantive reform of international environmental law.

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In pursuing these lines of argument, this work contributes to the literature on the epistemology of sustainability found in contemporary discussions in the social sciences, law and public policy on global dimensions of human (un)sustainability. Contributions are both analytical and evaluative in nature. Contributions of an analytic nature are characterised by providing greater *coherence* to arguments in widely fragmented literature that is hallmarked at times by partiality and inaccuracy, first, in the diagnosis of the causes of global environmental change, second, in reasons for the failure of international regulation and, third, in the identification of propositions to reform the latter in order to remedy the former. Added coherence derives from the analysis of elements necessarily implied in the possibility of achieving global sustainability. This analysis –

effectively a ground-clearing exercise of the disparate approaches in order to find common ground – improves definitions of the terms by which differences in views, first, on the causes of global environmental change, second, over reasons for the apparent failure of international regulation and third, on the corresponding reform of international regulation in order to arrest global environmental change may be understood.

Contributions of an evaluative nature are characterised by a *refinement* of assessments of institutional conditions for sustainable economic practice. This refinement helps overcome limitations in:

- the critique of economic prescriptions for sustainable economic practice;
- the critique of the economic diagnosis of the causes of unsustainable economic practice;
- the diagnosis of the role played by the capitalist organisation of economic practice in the generation of global environmental change;
- prevailing distributive justice-based approaches to make economic practice sustainable; and
- the definition and demonstration of how an alternative way of addressing the allocation problem – represented by common, deliberative, decentralised key resource control – would be likely to render economic practice sustainable, and therefore serve as a basis of effective substantive international environmental law.

When taken together, these contributions advance discussions on the achievement of global sustainability by outlining an adequate epistemological approach for the establishment of its conditions. Whilst neither definitive nor final, it opens up a possible direction that, it is submitted, ought to be taken by theoretical and practical efforts which take seriously the question of how to make human society sustainable.

Overview of chapters

This work is divided into three parts. The first, largely analytical part (Chapters 1-2), identifies the problems at hand as ineffective IEL and as differences in views on the reasons for this inefficacy and on corresponding remedies. In Part I, the need for the reform of coordinated

responses to global environmental change is defined in terms of conditions necessary for the possibility of effective international regulation of domestic economic practice. This definition of conditions and criteria of international law capable of rendering domestic economic practice sustainable provides an analytic basis for evaluations in the second and third parts of this work. These latter parts offer answers to the question as to which conditions are necessary for the possibility of effective regulation. In Part II (Chapters 3-4), an initial, 'negative' answer arises from a critical evaluation of the neoclassical economic model of IEL reform. In Part III (Chapters 5-6), a 'positive' answer is provided by a critical evaluation of a rival set of institutional remedies that is rooted in a re-diagnosis of seminal views on key causes of induced global environmental change.

In Chapter 1, the problematic that animates this work is defined and general issues required to examine it are outlined. Discussion of the problematic introduces the reported problem of induced global environmental change, the perceived failure of international coordination to arrest this, the importance of the need for an *effective* coordinated response and some immediate obstacles to the possibility of effective coordination (namely, the aforementioned differences in views on reasons for its inefficacy and proposals for its reform). The question presupposed by any substantive approach to the need for an effective coordinated response is then raised. This is the question concerning conditions necessary for the possibility of an effective coordinated response. This question is defined further in two ways. Since express IEL lies at the heart of existing coordination, the first is to identify some of the defining features of that law. This definition offers a necessary background for the second way in which the question is refined, namely, by a critical evaluation of discussions on the meaning of the criterion of effectiveness and on the possible conditions both endogenous and exogenous to IEL by which such law may be made effective. Identification of core features of IEL and evaluation of conditions and the criterion of effectiveness concerning that law provide a general basis upon which specific proposals for law reform are evaluated in Parts II and III.

The purpose of Chapter 2 is to refine the question concerning conditions necessary for the possibility of effective IEL. This permits a more pertinent evaluation of selected proposals for its reform in Parts II and III. To this end, in the first, shorter part of the chapter, the approach taken to the question defined in Chapter 1 is narrowed. Specifically, it is explained why neoclassical economic prescriptions for the reform of substantive (endogenous) conditions of IEL offer a useful point of departure by which to answer the question at hand. It is also explained why 'problem-solving' represents the better meaning of the criterion of effectiveness. In the second,

larger part of this chapter, constitutive elements of problem-solving are elaborated. This elaboration serves to refine the context for the evaluation of proposals for substantive international law reform. Elements comprise the analytic dimensions of the nature of the problem (global environmental change), the analytic dimensions implied in the possibility of resolution of that problem (contraction and re-allocation) and finally permissible means by which the former may be transformed in the latter. Discussion of permissible means is limited to some of the more important features of *substantive* IEL. These features are characterised by the extension of state responsibility and the promulgation of an overarching emphasis on integrating economic with environmental concerns, contemporarily conceived in terms of ‘sustainable development’. An example of the extension and supplementation of state responsibility is given in the form of climate law, an example that is employed to illustrative effect throughout this work.

In Chapter 3, the question of whether or not neoclassical economic prescriptions offer a basis for the possibility of effective substantive IEL is taken up. The chapter is divided into two parts. In the first, generic features of the neoclassical economic approach to environmental problems is outlined. This involves a sketch of the theoretical assumptions of the diagnosis of the causes of induced environmental change, micro- and macro-economic prescriptions for arresting that change and the economic model of substantive IEL reform which correspond to these assumptions and prescriptions. In the second, main part of the chapter, a critique is made of the environmental effectiveness of micro-and macro-economic prescriptions, that is, of their likelihood of rendering economic practice sustainable. In question, first, are preliminary concerns about operational matters, relevance and the introduction and/or extension of a set of vulnerabilities in the collective use of natural resources in space and over time. Second, questions are raised both about the plausibility of defending economic prescriptions on account of the apparent failures of rival institutional approaches and of the claimed successes of economic prescriptions themselves. In particular focus are claims of success by means of macro-economic growth-based prescriptions (represented by the ‘environmental Kuznet’s Curve’). Finally, criticism is made of the standard ‘fall-back’ claim that economic efficiency is simply a proxy for sustainability, such that environmentally sustainable outcomes would follow from resource use allocations by markets that are efficient, economically speaking. Criticism is made in respect of how these approaches determine both efficient levels of resource use and efficient means by which to bring about these levels.

Building upon the critique of neoclassical economic prescriptions, Chapter 4 presents a critique of core features of its diagnosis of the causes of environmental change. The purpose of the criticism

is to establish the extent to which, despite problems with its prescription, economics offers an adequate context for thinking about environmental sustainability in the first place. The critique is made across four intersecting themes. First, the merits of diagnostic variables are critically examined, including the environment as both factor of production and commodity, persons as consumers and value as price. Second, the implication of excluding from economic diagnoses of environmental change the institutional presuppositions upon which that diagnosis necessarily depends are laid bare. Third, the merits of viewing environmental change as arising from a specific relationship between persons and environments, namely, of price is critically examined. Fourth, developing the aforementioned criticism, the case is made against considering economics as ‘permissible’ environmental problem-solving means in the sense of the term defined in Chapter 2.

The combined effect of the critique in Part II (Chapters 3 and 4) reveals a need for the evaluation of alternative institutional conditions for sustainable economic practice as a basis for the possibility of effective IEL. Meeting this need is the focus of Part III. This involves two steps. The first is a re-examination of seminal discussions of causal responsibility for the generation of global environmental change. This is because effective rival institutional prescriptions must be rooted in an adequate diagnosis of the causes of global environmental change. The second step is to evaluate a set of rival institutional conditions for the possibility of sustainable economic practice, and thus its merits as a basis for reforming the substantive international regulation of domestic economic practice.

In Chapter 5 the need for an adequate diagnosis of the causes of global environmental change is taken up. This need is addressed in several steps. First, the sketch of the causal analysis of global environmental change presented in Chapter 1 (‘focus of coordination’) and developed in Chapter 2 (‘analytical dimensions of GEC’) is refined. This refinement narrows discussion to a few of the more important common structural causes. Second, the position that greater causal importance in most of the more significant types of global environmental change lies not in institutional factors but in those of population growth and/or productive technology and techniques (‘industrialism’) is critically examined. Third, the case is made that in most instances these factors play a lesser role in the generation of global environmental change than does that of the capitalist form of organising economic practice. This third point is based upon a refinement of standard definitions of capitalism. Fourth, the argument is made, in light of shortcomings in standard accounts, for a more through-going account of the causal implication of capitalism in the generation of global environmental change. Particular attention is given, first, to structural incentives and pressures on

individuals, particularly those in possession of productive resources, to overuse them; second, to structural restraints on the reform of these incentives and pressures; and third, in both respects, to differential contribution to global environmental change by those permitted to control and organise the accumulation process.

The purpose of Chapter 6 is to refine and evaluate a rival perspective on institutional conditions for sustainable economic practice. This task involves several steps. First, a summary of the argument made thus far is offered: of analytic conclusions concerning steps necessarily implied in the possibility of arresting global environmental change and of evaluative conclusions concerning the critique of the neoclassical economic model of that reform. Second, a common alternative approach to economics, namely, one rooted in the perspective of distributive justice is critically reconsidered. In light of two general shortcomings, the case is made that a better candidate might be a critical theory of justice. This means that concerns about the distribution of goods and harms are situated within wider concerns about the distribution of power. Third, a rival distribution of power to that embodied by the capitalist organisation of economic practice is defined in terms of common, democratic and decentralised key resource control. This rival form of governance is represented by the idea of radical or ‘ecological’ democracy. Fourth, the environmental effectiveness of this form of governance, that is, its likelihood of rendering economic practice sustainable, is critically evaluated. It is evaluated, first, in terms of the indirect effect of ecological democracy on the possibility of sustainability, that is, in terms of effecting distributively equitable outcomes which themselves often serve as a precondition for the possibility of global agreement to contract existing rates to sustainable rates of resource use. Second, it is evaluated in terms of the direct effect of ecological democracy on the possibility of the making economic practice sustainable. In question is the extent to which, if at all, ecological democracy could avoid and arrest environmentally-harmful structural pressures, incentives and restraints associated with the capitalist organisation of economic activity. Fifth and finally, concluding remarks are offered by way of showing that, and how, prescriptions rooted in a critical theory of justice may serve as a plausible basis for substantive IEL reform. Brief note is also made of how some existing principles of IEL may be developed if they are to be effective; of lines of further research by which the argument made in the latter part of Chapter 6 may be refined; and of analytic and evaluative contributions that this work makes to the literature on the epistemology of sustainability, in particular to contemporary discussions in the social sciences, law and public policy on the reform of the IEL.

Methodological considerations

Any serious attempt to define and to answer the question concerning conditions necessary for the possibility of effective substantive IEL must perforce adopt an interdisciplinary approach. The nature of the interdisciplinary approach adopted in this work is reflected in both its analytic and its evaluative aims. The *analysis* of the criterion of effectiveness and conditions necessary for the possibility of effective law draws, first, on environmental sociology, environmental science and social and political theory in respect of an account of the dimensions of global environmental change, and second, on international relations theory in general and international law in particular in respect of an account of global coordination to mitigate that change. The *evaluation* of propositions for effective substantive IEL draws on social and political theory understood broadly to include economic theory. Accordingly, the approach adopted may be taken as one that falls with qualification within socio-legal studies. The qualification is that in the circumstances the ‘legal’ dimension of the term refers to international law and the ‘social’ dimension refers to social and political theory, both of which are informed by environmental sociology and environmental science.

As a theoretical work, text-based data analysis was made of relevant material (including analyses, meta-analyses, case-studies and literature reviews) identified by library-based, progressively cross-referenced data gathering techniques. Whilst both data gathering and analysis was facilitated by the author’s prior competence in the fields of philosophy, social and political theory, law and environmental science, the interdisciplinary nature of this work also demarcated some of the main problems encountered, in particular, data analysis. These problems gave rise to requirements of ‘translation’, without which ambiguity would have pervaded much of the discussion in question, and to the need to overcome a series of partialities.

The first set of problems in the literature lay in the common use of different terms to refer to the same thing, the same or similar terms to mean different things (e.g., ‘property’, ‘institutions’, ‘capitalism’) and misrepresentation of key terms. The latter included the confusion of property types such as commons for open access and of all property for private property, and inaccuracy in representations of property-based systems such as capitalism (see Chapter 5) and rival socio-economic forms of organisation (see Chapter 6).

A second set of problems arose in the form of various partialities in discussions of relevant material. To be sure, some partiality is unavoidable; few works are sufficiently comprehensive as

to be exhaustive. However, the problem at hand concerned partialities that were essentially avoidable. Encountering avoidable partialities was commonplace. Indeed, identifying sufficiently comprehensive discussions of the main themes of this work was an exception that proved the rule. These themes included:

- problem identification: partiality arose from those who identified the problem(s) exclusively in analytic or normative terms, and from those who, whilst combining these approaches, did so in the absence of a coherent problem-solving schema;
- problem diagnosis including causal analysis: partiality arose from those who simply ignored evident causes, insufficiently defined them, weighted them inadequately or else offered inadequate justification for methods of identifying and weighting causal variables;
- remedy identification and evaluation: partiality arose from those who without explanation ignored evident remedies, insufficiently defined them and/or insufficiently evaluated them (in much neoclassical economic literature, for example, it remains uncommon to find discussions which coherently combine micro- with macro-economic explanation and prescription).

Although this work is by no means sufficiently comprehensive as to have ‘resolved’ such partialities, the fact that it seeks to make novel analytic and evaluative contributions entails that it leaves the literature in a state of greater coherence than that in which it was found.