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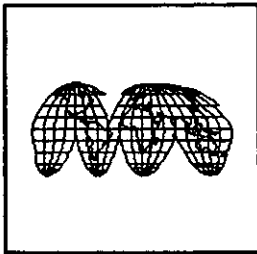
# Workshop in Political Theory and Policy Analysis

513 N. Park

Indiana University

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## Colloquium Presentation April 5, 1993



Learning, sharing, and working  
with diverse languages in  
communicating and using  
knowledge.

*The Workshop in Political Theory and Policy Analysis combines teaching, research, and related activities where faculty, visiting scholars, and students have opportunities to participate in productive scholarship. The term "workshop" is used to emphasize a conviction that research skills are best acquired where students and faculty, working as apprentices and journeymen, participate in the organization and conduct of research.*

**Dean Alfred C. Aman, Jr., School of Law, Indiana University, will be the speaker for the Workshop Colloquium on Monday, April 5, 1993.** His presentation is entitled "The Earth As Eggshell Victim: A Global Perspective." An abstract of his paper is provided below.

The purpose of this paper is three-fold: it will (1) link the relationship of international trade and domestic environmental regulation to a broader global discourse; (2) outline this global discourse, which includes both international and domestic elements; and (3) articulate some additional factors (beyond trade) that are now integral to the relationship between domestic environmental law and the global regulatory discourse. I maintain that a global regulatory discourse now exists, and that it involves a logic that can and should be applied to a much broader array of circumstances than is now the case.

A copy of his paper is available by calling the above telephone number. Colloquium sessions begin at 12 noon and adjourn promptly at 1:30 p.m. You are welcome to bring your lunch. Coffee is provided free of charge, and soft drinks are available. We hope you will be able to join us!

WORKSHOP IN POLITICAL THEORY  
AND POLICY ANALYSIS

The Earth As Eggshell Victim: A Global Perspective *Reprint File*

on Domestic Regulation

Alfred C. Aman, Jr.\*

In 1891, in a small schoolroom in Waukesha, Wisconsin, 12 year-old George Putney scuffled with 14 year-old Andrew Vosburg and kicked him in the shin. The kick would hardly have injured a healthy child; however, Vosburg was not healthy. He had an infection in his tibia. The kick aggravated that infection, causing him serious injury. The Supreme Court of Wisconsin held George Putney liable for all the damages that followed, even though Putney did not know of Vosburg's weakened condition. In the now famous case of *Vosburg v. Putney*<sup>1</sup>, the Wisconsin Court enunciated the common law doctrine long since known as the "eggshell skull" or "thin skull" rule: you take your victim as you find him.

The thin skull rule is, in my view, a productive starting point for dialogue on the place of law in any scenario that involves controlling (or reversing) the cumulative damage to the planet's ecosystem. Any such dialogue requires a global perspective on both international and domestic law. Today, environmental law must assess not only the level of assault against the

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\*Dean and Professor of Law, Indiana University Law School, Bloomington. I am very grateful for the helpful comments I received on the draft of this comment by Dr. Thomas Drennen and Professors Robert Fischman, Aviva Orenstein, Mary Ellen O'Connell, Don Gjerdingen, Carol Greenhouse, David Williams and Susan Williams.

<sup>1</sup>50 N.W. 403 (Wis. 1891). An earlier Wisconsin case also reached a similar doctrinal conclusion. See *Stewart v. City of Ripon*, 38 Wis. 584, 590-91 (1875). See generally, W. PAGE KEETON ET. AL., PROSSER AND KEETON ON THE LAW OF TORTS § 43, at 291-92 (5th. ed. 1984). For modern cases applying this doctrine see, e.g., *Stoleson v. United States*, 708 F.2d 1217, 1220-21 (7th Cir. 1983); *Jordan v. Atchison, Topeka & Santa Fe Ry.*, 934 F.2d 225, 228-29 (9th Cir. 1991).

earth, but also the risk of the planet's hypervulnerability to further injury. As in the case of *Vosburg v. Putney*, some of the insult to the planet has been the result of unintended consequences, whose significance we are only now beginning to understand. The planet has become an eggshell victim of industrialization, population growth and the expansion of the consumer society.

In the case of the global environment, unlike *Vosburg*, we cannot point to a single culprit. The causes of environmental damage are multiple. But, as in *Vosburg*, the whole "body" - the earth - is an irreducible unit of analysis. True, pollution - Putney's kick - emanates from different countries and regions and with differing degrees of intensity, but their global environmental impact is general and cumulative. True, pollution, toxicity and damage to the global commons<sup>2</sup> are by-products of processes to be "assimilated" at home or abroad. Yet, viewed from the vantage point of the eggshell doctrine, the interests of the earth are prior to the interests of any particular nation, industry or individual. To claim otherwise would be tantamount to asserting that *Vosburg* was unharmed, except at the precise spot where Putney's shoe made contact with *Vosburg's* shin. The aspect of *Vosburg* that I believe clarifies an approach to the environment is not Putney's liability, but the implicit distinction the judge drew between kicking someone's shins, and kicking the shins of someone who is already weakened.

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<sup>2</sup>By global commons I mean, particularly, resources such as the atmosphere and the global climate that are not and cannot be owned by any one particular state. My analysis also includes other commons as well, such as parts of the oceans and Antarctica as well as resources such as tropical rain forests that are located fully in one or within a group of states. The uses and misuses of resources located solely in one state or a group of states also can affect the planetary environment dramatically. For example, massive deforestation of the tropical rain forests in Brazil could alter global temperatures. In this sense, such a resource can be seen as part of the "common heritage of mankind" necessitating global cooperation for its preservation. See Trends in International Environmental Law, 60-61 (American Bar Assoc. 1992).

In *Vosburg*, the judge made Putney responsible for full damages to Vosburg because his infection made him so vulnerable as to render Putney's assault serious, when it would otherwise might have been a trivial incident. As in *Vosburg*, responsibility for the global environment is to be measured in terms of the impact of the assault—*understood as one episode in a long term process of cumulative injury*. Pollution can be better understood as part of an ongoing process—just as the injury Putney delivered to Vosburg involved not merely “an act” but an incident in Vosburg's medical history.

Once Putney's act was connected to another person with unique qualities, it was no longer merely an act, but an element of the relationship between the two boys. Pollution, too, can be viewed as an element in a vast set of relationships, linking polluters through the global environment to all other people now living. That environment is severely debilitated and accordingly, those relationships are, at present, destructive ones. I see the relevance of the eggshell victim as an analogy to the collective responsibility we bear for the way we take the earth's condition into account as we live on it. It is this perspective that I wish to articulate more fully in commenting on Professor Stewart's article. I deal primarily with the premises of this perspective rather than problems of implementation.

The purpose of this comment is thus three-fold: it will (1) link the relationship of international trade and domestic environmental regulation to a broader global discourse; (2) outline this global discourse, which includes both international and domestic elements; and (3) articulate some additional factors (beyond trade) that are now integral to the relationship between domestic environmental law and the global regulatory discourse. I maintain that a global regulatory discourse now exists, and that it involves a logic that can and should be applied to

a much broader array of circumstances than is now the case. Professor Stewart's article focuses on how concerns about international competitiveness affect domestic environmental regulation. My response to Professor Stewart emphasizes that the domestic and international realms of law and politics are merged—conceptually and in fact—in the circumstances of our present times.

### I. The Eggshell Planet

While Professor Stewart recognizes the role international competition can play politically, he questions whether there is, in fact, any real connection between environmental regulation and international competition, citing empirical studies that call into question the overall impact of domestic environmental regulation on production costs.<sup>3</sup> He is, however, skeptical of the empirical studies that have attempted to examine this relationship<sup>4</sup> and argues that—quite apart from whether there is a connection between environmental regulation and trade—there are environmental regulatory changes we should undertake for their own sake. These include greater

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<sup>3</sup>Stewart Article, P. \_\_\_\_.

<sup>4</sup>Stewart Article, Like Professor Stewart, I am very skeptical of some early studies dealing with domestic environmental regulation and trade. If empirical studies are to be useful, there are a number of factors, often omitted in the kinds of studies cited by Professor Stewart, that should be measured. See, Duane Chapman, *Environmental Standards and International Trade in Automobiles and Copper: The Case for a Social Tariff*, 31 *Nat. Resources* 449 (1991). As professor Chapman notes, many economists believe that pollution control and workplace safety are not factors in industrial location, but that is because they seriously understate environmental costs. He lists and analyzes “six sources of error in the types of cost factors which have been excluded” in analyzing automobiles and copper, including: (1) labor costs—such as those incurred in attempting to control dust in a pit mine; (2) costs of monitoring and planning activities—such as time spent with visitors inspecting protection systems as well as time spent on preparing reports and meeting with state and federal officials; (3) the cost of protecting workers from environmental hazards; (4) productivity losses—i.e. “[w]hen production stops or is slowed because of environmental problems, this is not counted as an environmental expense.”; (5) under-reporting environmental costs such as respirators and tall stacks in surveys; and (6) opportunity costs for investment in protection equipment. *Id.* at 456-57.

use of market oriented regulatory techniques and the use of an approach to environmental regulation that relies on regulatory contracts.<sup>5</sup>

Inherent in the studies that Professor Stewart cites are, I believe, two distinct and important points of view on domestic environmental regulation, but points of view that are not sufficiently global in outlook: that of individual sovereign nation-states and that of individual corporations capable of locating their operations anywhere in the world. Individual nation-states seek to maximize their own interests by focusing, primarily, on the well-being of their own constituents. This puts a premium on domestic law and domestic politics.

While the changes in regulatory approach described by Professor Stewart may be welcome reforms on the domestic front, I believe that it is primarily because they resonate with the new global regulatory approaches that they seem particularly appealing at this point in our regulatory history. The interactive relationship of domestic law to the global discourse now developing adds a new and important dimension to our own domestic regulatory dialogues, one that necessitates a broader view of how we conceptualize national sovereignty as well as how we conceptualize individual or corporate self-interest.

Elsewhere I have suggested that a new global awareness now increasingly informs our domestic regulatory debates and actions. This shift of consciousness from a primarily domestic perspective to a more global outlook is the hallmark of the "global regulatory era."<sup>6</sup> This change of consciousness was driven in part by the increased and intensified international competition, especially in the 1980's. Specifically, competition among industries that operated

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<sup>5</sup>Stewart Article.

<sup>6</sup>See ALFRED C. AMAN, JR., ADMINISTRATIVE LAW IN A GLOBAL ERA (1992).

in nations with different, lower, or minimal regulatory requirements helped place the cost of U.S. domestic regulation in stark relief for policy makers and the public. It was thus theoretically possible for multinational corporations, for example, to lower their production costs by relocating some or all of their manufacturing facilities in parts of the world where, all other things being equal, regulatory costs were minimal or non-existent.<sup>7</sup> The cost of domestic regulation helped fuel the debate in the 1980's that encouraged deregulation<sup>8</sup>, more efficient regulation,<sup>9</sup> and harmonization of the regulation imposed by the U.S. and other states.<sup>10</sup>

More importantly, there is now emerging a new set of assumptions about the nature, functions and limits of regulation.<sup>11</sup> This set of assumptions is consistent with the eggshell

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<sup>7</sup>*Id.* at 78-79. See also, Duane Chapman, *Environmental Standards and International Trade in Automobiles and Copper. The Case For A Social Tariff*, *supra* note 4 at 449-450 (arguing that a full and accurate assessment of the costs of domestic pollution and workplace safety regulation are, indeed, likely to be significant factors affecting productivity, the location of manufacturing and levels of global pollution). For a discussion of the impact lower labor costs or the decisions of some industries to look outside the U.S. when it comes to locating their manufacturing operations, see ROBERT B. REICH, *THE WORK OF NATIONS*, 69-70 (1991).

<sup>8</sup>See, e.g., *Motor Vehicles Mfr. Assoc. v. State Farm Mut. Auto Ins.*, 463 U.S. 29 (1983)(rescission of air bags rule).

<sup>9</sup>See, e.g., George Bush, Address Before a Joint Session of the Congress on the State of the Union, Jan. 28, 1992 (calling for a moratorium on "anti-growth" domestic regulation.)

<sup>10</sup>See, e.g., Montreal Protocol on Substances That Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550 (entered into force Jan. 1 1989) [hereinafter Montreal Protocol]. A major factor in the U.S. taking the lead in drafting this agreement was the fact that U.S. regulation of ozone depleting substances was more stringent than that of other competitors. A level playing field in this case meant extending our regulatory approach to other countries. See RICHARD BENEDICK, *OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET*, 28-29, 66-67 (1991). See also, David Doniger, *Politics of the Ozone Layer*, 4 *ISSUES IN SCIENCE AND TECHNOLOGY*, 86, 87 (1988).

<sup>11</sup>In my book, *supra* note 4, at 3, I call such sets of assumptions a "regulatory matrix". The term refers to the whole open-ended set of propositions, premises, assumptions, and attitudes that make a regulatory approach or outcome seem logical, or appropriate to its circumstances.

doctrine outlined above. The complex global regulatory discourse now developing treats the earth as an eggshell victim. Accordingly it is a discourse whose logic encompasses a requirement that we take seriously international differences in wealth, culture, and political will that lead to different perspectives on the environment. Moreover, this global discourse also proceeds from the premise that an individual country's domestic regulatory approaches to environmental matters simply may not be enough, no matter how effective or efficient they may be in national terms. These are the main themes in what follows.

## II. The Global Regulatory Discourse

### A. The Global Perspective

The image of the earth as eggshell victim provides an apt metaphor for the global environment in that it redirects attention from the cause of harm to the impact of injury. Accordingly, if pollution is harmful to the global commons, its source should not be of primary relevance to law and policy. For example, simply because the developed world's relative affluence is, in part, the result of its history of pollution, it does not follow that pollution from less developed countries should be tolerated in the name of equity or as an inevitable stage of economic development.<sup>12</sup> In other words, responsibility is both retrospective *and*

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In any society, at any time, one matrix can generate different, and even rival, models of regulation, since decision-makers can justify different positions by drawing on different combinations of the elements of its logic. The regulation-deregulation debates of the 1980's were an example of such a contest. For a discussion of these concepts and a summary of the regulatory matrix that emerged in the deregulatory movement of the 1980's, see AMAN, *supra* note 4, at 125-30.

<sup>12</sup>Developing countries, however, may legitimately demand assistance from the developed world in meeting new environmental standards.



prospective.<sup>13</sup> The eggshell image transcends propositions that focus solely on the sources of pollution or on the short-term economic development of individual countries. Similarly, the eggshell image moves past questions of how any particular individual, corporate entity or country should achieve environmental soundness. From a global viewpoint, local successes “count” only if they improve planetary health, not if they simply shift the source or destination of pollution to some other site. Finally, the image of the planet as an eggshell victim underscores a less obvious long-term assumption inherent in the global perspective: that the historical process of the “first world’s” economic development should not be replicated by the developing world if the environment, as we have known it, is to be preserved.<sup>14</sup> Preservation, much less restoration, necessarily will require advances in and new applications of science in the form of new “green” technologies. Sustainable development must also involve new social forms.

#### B. A Global Perspective and Trade

One hallmark of the global perspective is the way it draws the relationship between a nation’s overall international competitiveness and its domestic environmental regulation. Three hypothetical international trade scenarios illustrate its range of applications. The simplest is a situation in which domestic environmental regulation influences industries’ relocation of their plants and operations. Viewed from a global perspective, the relocation of a substantial cross-section of industries strengthens industries’ interests in the harmonization of regulation across

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<sup>13</sup>How that responsibility should be defined and measured in practice, and the precise outlines of such issues as implementation and enforcement, lie ahead, but are beyond the scope of this Comment.

<sup>14</sup>See Thomas E. Drennen, *Economic Development and Climate Change: Analyzing the International Response* (1993) (unpublished Ph.D. dissertation, Cornell University) 1-14.

various countries. This is because most multinational corporations would likely prefer one set of rules to a multiplicity of conflicting legal regimes.<sup>15</sup> Moreover, the countries losing industry would likely extend their regulatory approaches to other countries or lessen the stringency of their regulatory approaches at home. Whether harmonization would reduce or increase regulation in any one country would depend on a number of factors, including the persuasiveness of scientific data involved and political dynamics. Based on the empirical studies Professor Stewart cites, this hypothetical scenario seems unlikely.

The second hypothetical is one in which domestic environmental regulation adversely affects only dirty industries, such as copper mining and refining. These industries have a strong incentive to relocate to country where such regulation is either non-existent or less costly. This scenario is the most likely, according to the studies cited by Professor Stewart.<sup>16</sup> It also is the scenario that raises most clearly some of the ethical issues involved in the emerging global discourse. If increased domestic environmental regulation results in the displacement of dirty

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<sup>15</sup>Because multinational corporations dealing with certain chemicals, for example, may fear liability, they would have a desire for, at least, minimal standards to avoid the tragedy and liability of Bhopal. See Stewart Article \_\_\_\_\_. Even if such forces for harmonization of legal regimes did not exist, the idea that different levels of regulation in different nations would lead to efficient relocation and, in effect, efficient global production ignores the fact that the pollution produced due to minimal regulation in some countries will ultimately affect us all. Increased global pollution or emissions of CO<sub>2</sub>, for example, will increase the chances of global warming, not merely the short run production costs of a certain company. Similarly, pollution of other global commons, such as oceans, will ultimately affect us all. Fish caught in polluted waters abroad, and then exported to the U.S., is an example of what has been called a circle of poison. See generally, Alice Crowe, *Breaking the Circle of Poison: EPA's Enforcement of Current FIFRA Export Requirements*, 4 GEO. INT'L ENVTL. L. REV. 319 (1992); Circle of Poison Prevention Act of 1991 [omit per bluebook, rule 13.2?], S. 898, 102d Cong., 1st Sess. (1991) and H.R. 2083, 102d Cong., 1st Sess. (1991); DAVID WEIR AND MARK SCHAPIRO, *CIRCLE OF POISON: PESTICIDES AND PEOPLE IN A HUNGRY WORLD* (1981).

<sup>16</sup>Stewart, *supra* note 3.

industries, declining emissions of pollutants in one country will likely result in increased pollution world-wide. It follows that, from a global point of view, it is not enough simply to set responsible environmental standards at home. Under the eggshell victim doctrine, developed nations have a strong responsibility to help other countries—particularly developing countries—keep maximum environmental effectiveness at the top of their economic agendas. Subsidies, along with the creation and transfer of new environmentally compatible technologies, might all be corollaries to this second scenario.<sup>17</sup>

In most cases involving less developed countries, the richer countries must contribute to the necessary funding and technology transfers. To do otherwise is tantamount to exporting environmental, health and worker safety problems abroad. The idea that poorer countries should bear such costs for the sake of their own economic growth not only overlooks the human costs such growth entails, but also rationalizes a form of exploitation. This problem is compounded if the developed world can then take advantage of these “cheap” goods.<sup>18</sup> But equity is not the only issue; the eggshell victim doctrine is about overall vulnerability. If we take the image of the earth as eggshell victim seriously, some types of pollution, such as ozone depleting chloroflourocarbons (CFC's), pose a serious threat to the earth, regardless of their source.

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<sup>17</sup>*See, e.g.,* London Amendments, *supra* note 13, arts. X, X(A), 30 I.L.M. at 549-51. Article X attempts to provide financial assistance to less developed countries by creating a mechanism to establish a multilateral fund to help LDC's adapt to new technologies. Article X(A) makes technology transfer an express goal, if LDC's were to adapt to new environmentally sound approaches to economic growth. *See AMAN, supra* note 4, at 152.

<sup>18</sup>Similar problems arose in the negotiations leading to the Montreal Protocol, *supra* note 8. The Protocol and its amendments deal with them, albeit in less than fully successful ways. *See BENEDICK, supra* note 8, at 91-92.

Compared to standard economic approaches, a global perspective on environmental regulation involves a very different view of what constitutes economic growth and environmental quality.<sup>19</sup> Not all forms of economic growth are to be applauded. If, for example, a developing country improves its Gross National Product by destroying parts of a rain forest, any increase in its GNP made at the expense of an irreplaceable asset is, in the long run, likely to backfire in terms of higher costs. If manufacturing in dirty industries increases in one country, the higher levels of productivity that result are, in reality, reduced quickly by human costs and, in the long term, by the impact on the global commons. In short, any strategy by poorer countries to, in effect, accept low bids in the market due to their "assimilative capacity" will only result in higher costs to its workers and citizens immediately affected by pollution in the form of deteriorating health, safety and environmental repair. The eggshell victim doctrine highlights this connection.

The third hypothetical scenario is one in which no local industry is adversely affected in the global marketplace by domestic environmental regulation. Either the percent of production costs this regulation involves is so small as to be insignificant, or the regulation is so efficient that it is not a factor in terms of cost. Even under this scenario, the relationships that pollution defines make the environmental problems of any nation the problems of every nation. Once again, the eggshell doctrine does not permit a distinction between the shin and the whole body. A kick to the shin is a kick to the body.

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<sup>19</sup>See, e.g., Robert Repetto, *The Need For National Resource Accounting*, 93 TECHNOLOGY REV. 38 (1990); WORLD RESOURCES, 1990-91, A REPORT BY THE WORLD RESOURCES INSTITUTE, 231-39 (1990).

The relationship between international trade and environmental regulation may affect the focus of the global perspective in all three contexts, but regardless of the precise contours of this relationship, a global perspective on environmental issues is fundamentally different from one conceived in domestic or even strictly in international terms. No one state acting to regulate on its own can ignore the possible impact of other nations' decisions. For example, if the People's Republic of China continued industrialization by making exclusive use of its own considerable coal reserves, the amount of global pollution that would result would be enormous, rendering U.S. regulatory attempts to curb the environmental impact of its air pollution essentially irrelevant from a global point of view.<sup>20</sup> Similarly, if the developing world used CFC's at the same per capita level as used in the developed world, the impact on the ozone layer would be devastating.<sup>21</sup> The essential point is that even if domestic environmental regulation provides no incentives for multinational corporations to conduct business elsewhere in the world, it is

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<sup>20</sup>See generally Paul Kennedy, *Preparing for the Twenty First Century*, 190-192 (Random House, 1993); see also, *Trends in International Environmental Law*, A Foreward (Jay Hair), p.3 (American Bar Assoc. 1992). See generally, "Top Environmental Official Welcomes Summit Aid Pledges from Developed Nations -- China," International Environment Reporter: Current Reports, vol. 15, no. 13 (July 1, 1992).

<sup>21</sup>The Montreal Protocol, *supra* note 8, art. V, 26 I.L.M. at 1555-56, provided the developing world a grace period of up to ten years to comply with the terms of the Protocol, but then these countries would be limited to per capita consumption of CFC's of .3 kg. This amount is well below the developed world, but even at that amount, were the developing world to use .3 CFC's per capita, this additional CFC use would devastate the ozone layer. See Duane Chapman & Thomas Drennen, *Equity and Effectiveness of Possible CO<sub>2</sub> Treaty Proposals*, CONTEMPORARY POLICY ISSUES Jul. 1990, at 16-20.

impossible, from a global perspective, to ignore the effects of any nation's environmental decisions on the global commons.<sup>22</sup>

### C. A Global Perspective and Science

Under a global perspective, other countries' approaches to environmental problems are as important to the global commons as our own. From the vantage point of the global problem of preserving the environment, the only meaningful unit of analysis is the planet itself. To understand and strengthen the planet's eggshell condition, the globe is irreducible to the separate nation states whose political maps comprise its surface. Of necessity, the physical reality of the global environment links our domestic efforts with those of other countries. Strong equitable reasons support this link as well.<sup>23</sup> But, as Professor Stewart notes, countries differ not only

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<sup>22</sup>In addition to global commons problems and resources such as the Brazilian rain forest, *supra* note 2, seemingly wholly domestic environmental issues such as landfill space for solid waste disposal may have global consequences. If, for example, waste can be transported internationally, the high cost of landfills domestically may encourage an international market for waste. Prohibiting the export of waste internationally might then necessitate more stringent domestic regulation and affect the political and economic costs of creating domestic landfills. Allowing the international transport of waste creates the possibilities that poorer countries will become the dumping grounds for the developed world. *See generally*, Basil Convention On The Control of Transboundary Movements of Hazardous Wastes And Their Disposal, March 22, 1989, 28 I.L.M. 657.

<sup>23</sup>The developing countries' poverty arguably necessitates wealth transfers in the form of technology and the financial ability to purchase environmentally sound equipment. This is because without such help they could not possibly achieve economic growth in a relatively clean way. More important, it may be argued that the present condition of the planet is due, in large part, to the development approaches used in the past by the developed world. The developing world is not to blame for the present eggshell condition of the earth. They have an equitable claim on the assistance of the developed world in helping them to achieve economic growth in environmentally sound ways and to secure the benefits to their populations that such growth could produce. For a detailed treatment of such equitable issues in the context of global warming, see Henry Shue, *Subsistence Emissions and Luxury Emissions*, Law and Policy (forthcoming). For a discussion of equity in the context of ozone depletion, see Aman, *supra* note 4, 145, 151-154; Benedick, *supra* note \_\_\_, 148-162.

in their financial and technological ability to monitor their own environmental problems, but also in the political will of their leaders and citizens to deal effectively with environmental issues.<sup>24</sup>

The connection between green technologies and the political will to invest in and to implement them highlights the importance of worldwide communication of scientific discovery and technological innovation. This includes information technologies that enable the global community to share data and assess environmental progress globally, as well as on a nation-by-nation basis. Science and technology increase our ability to measure and assess the impact of pollution emanating from various nations and regions on the global atmosphere. Prior to the Montreal Protocol, for example, scientists hypothesized about the interaction between CFC's and the earth's ozone layer<sup>25</sup> with satellites and various forms of imaging they now observe the impact of CFC's on the ozone layer. This ability to theorize and then test these hypotheses assisted the political task of formulating an environmental issue in global terms.<sup>26</sup>

The kind of scientific data and the verification of the environmental theories it makes possible must be accessible to the general public and disseminated widely to have a chance of political efficacy. Global environmental issues, however, vary in their political viability and impact. Some, like ozone depletion, have distinct, damaging effects on individuals (skin cancer), brought about by dramatic, visible changes in the atmosphere (a hole in the ozone layer above the earth). These issues receive more media and political attention as well as remedial action

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<sup>24</sup>Stewart, *supra* note 3, at \_\_

<sup>25</sup>See BENEDICK, *supra* note 8, at 10-12. See Mario J. Molina & F. Sherwood Rowland, *Stratospheric Sink for Chlorofluoromethanes: Chlorine Atomic Catalyzed, Destruction of Ozone*, 249 NATURE 810-812 (1974).

<sup>26</sup>BENEDICK, *supra* note \_\_, at 14-15.

than those which, initially at least, appear more abstract—such as biodiversity—or more local, such as the disappearance of rain forests. It is difficult both to individualize the impact of these problems and to grasp their global significance, but they too are global in their scope and effect.<sup>27</sup>

The global discourse involves specific assumptions about the nature of science and scientists. First, it assumes that the production of scientific data is the result of international cooperation among scientists. Second, it assumes that scientists, particularly multinational panels of scientists, are capable of being objective and neutral with respect to the analyses of particular global environmental issues. While these assumptions are contestable, it is important to recognize the crucial role they play in the global discourse as it now exists and may continue to develop. Taken together, these assumptions identify a global perspective on regulation as a scientific position. One implication is that lawyers and politicians can and should turn to science as a means of resolving policy debates. This does not mean that all scientists will agree on all issues or that some scientists will not have been politicized. Rather, it means that a consensus among a cross section of scientists can emerge in which there is general agreement on what the

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<sup>27</sup>From the point of view of dramatizing the issues involved, the prospect of increased incidences in individuals of skin cancer due to the depletion of the ozone layer is likely to result in greater attention from various political constituencies than the arguably more abstract concern created by the gradual depletion of certain species of the earth's wildlife or of deforestation occurring thousands of miles from one's own country. This is because it is easier to relate to damage to individuals than it is to damage done on a long term basis to a global commons. Such individualized damage is closer to the actual facts of *Vosburg v. Putney*. We can more easily identify with localized, specific and individualized harm. The ability to dramatize the global harms involved and the processes that cause them often may be significant factors affecting the politics necessary for the creation of meaningful global legislation in the form of multinational treaties. See generally, Alfred Aman, The Montreal Protocol and The Future of Global Legislation, Law and Policy (forthcoming).



problem at hand may be, on what possible solutions may exist and which of these is more or less likely to succeed. Correspondingly, the global discourse also tends to assume that science can contribute to the consolidation and mobilization of political opinion around particular regulatory proposals.

All these aspects of the global discourse can temper an exclusively nation-specific point of view on environmental problems and widen a global perspective that goes beyond the relationship between international trade to domestic environmental regulation. The trade and competitive relationship is an important aspect of the global discourse, but it is just one part of a broader and ever-deepening global discourse. The global discourse—featuring the planet as an eggshell victim—has and will have a profound impact on the genesis and development of new domestic and international regulatory matrices.

### III. Emerging New Regulatory Images, Structures and Approaches

#### A. The Global Web

So far, I have considered some of the implications of the emerging global discourse in environmental regulatory contexts by discussing how its inner logic should be put into practice. Now I turn to elements of the global regulatory matrix already in practice. The image of the eggshell planet helps frame environmental problems in global terms. The image of a web helps clarify the nature of global corporations and the kind of regulation necessary if government is to play an effective regulatory role vis-a-vis corporations on both the national and the global levels.

In *The Administrative Process*, James Landis, an architect of the New Deal, looked to business and, in particular, the structure of corporations for inspiration when evaluating the kind of organizational structure government might follow in regulating these entities:

[W]hen government concerns itself with the stability of an industry it is only intelligent realism for it to follow the industrial rather than the political analogue. It vests the necessary powers with the administrative authority it creates, not too greatly concerned with the extent to which such action does violence to the traditional tripartite theory of government organization.<sup>28</sup>

Landis was particularly concerned with the structure of administrative agencies. A formalistic view of separation of powers would have rendered unconstitutional the combination of functions he believed necessary for New Deal agencies to be effective. Instead he modeled his organizational and structural ideas on the more fluid, flexible corporate entities he wished to regulate.<sup>29</sup>

The corporation at that time could be viewed as comparable in structure to the large buildings many of them occupied—many floors high, with the executives at the top and workers scattered below. The company usually located manufacturing plants nearby and often kept the materials and inventories necessary for these plants to function on the premises.<sup>30</sup> The corporation of the 21st century, however, is better conceptualized as a global web rather than an immovable building; it is multinational in its reach, rather than merely local or national. Thus Robert B. Reich, now Secretary of Labor and one of the economic architects of the Clinton Administration, describes the modern corporation and its trading relationships in this manner:

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<sup>28</sup>JAMES M. LANDIS, *THE ADMINISTRATIVE PROCESS* 11-12 (1938).

<sup>29</sup>*Id.* See also AMAN, *supra* note 4, at 13-15.

<sup>30</sup>REICH, *supra* note 5, 33, at 81-82.

When an American buys a Pontiac Le Mans from General Motors, for example, he or she engages unwittingly in an international transaction. Of the \$20,000 paid to GM, about \$6,000 goes to South Korea for routine labor and assembly operations, \$3,500 to Japan for advanced components (engines, transaxles, and electronics), \$1,500 to West Germany for styling and design engineering, \$800 to Taiwan, Singapore, and Japan for small components, \$500 to Britain for advertising and marketing services, and about \$100 to Ireland and Barbados for data processing. The rest—less than \$8,000—goes to strategists in Detroit, lawyers and bankers in New York, lobbyists in Washington, insurance and health-care workers all over the country, and General Motors shareholders—most of whom live in the United States, but an increasing number of whom are foreign nationals.

The proud new owner of the Pontiac is not aware of having bought so much from overseas, of course. General Motors did the trading, within its global web.<sup>31</sup>

Thus, as Reich goes on to note, in the 1990's, trade cannot be conceptualized simply as a series of arm-length transactions between buyers in one nation and sellers in another but between "people in the same web who are likely to deal repeatedly with each other across borders."<sup>32</sup>

An open corporate structure with so international a scope for its operations requires regulatory language that is flexible and translates easily across boundaries, if government is to be effective in regulating such entities. The market-based approaches to domestic regulation described by Professor Stewart may represent sound regulatory reforms, but if they prove to be widely adopted, that result will be due to the global perspective now emerging. The fact is that the corporation of the 21st century will be more flexible, multicentered and global than its 20th-

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<sup>31</sup>*Id.* at 113. Professor Reich's numbers in this example have been criticized, specifically the cost of a Pontiac Le Mans. See Steven Greenhouse, *The New Presidency: The Labor Department; Nominee Devoted Years to Rehearsing for Role*, N.Y. TIMES, Jan. 10, 1993, at § 1, 18. Nevertheless, the international web-like nature of this transaction and the basic ratio of the costs involved are, for our purposes, the key factors.

<sup>32</sup>REICH, *supra* note 5, 33, at 113.

century ancestors. For corporations of this kind, the global discourse easily encompasses market-based approaches to regulation. This is because, like the language of science, the economic language of costs and incentives easily translates across national borders and within wide-spread corporate structures. Under these circumstances, market-based approaches are both practical and easily accommodated by a global regulatory perspective. Thus, if market-based approaches prevail in the 1990's and beyond, the reason is as likely to be the broader global context in which they operate, and not simply the substantive regulation-deregulation debate of the 1980's.

Similarly, the contract approach to domestic regulation that Professor Stewart advocates in his article<sup>33</sup> is also encompassed within the new global discourse. The contract approach is akin to a regulatory government agency adopting various bilateral treaties with individual, multinational companies. Since such corporate entities easily can shift their operations from country to country or from division to division in their own corporate web, one needs a kind of regulatory web if government is to do more than simply encourage pollution to change its locale.<sup>34</sup> The domestic approach Professor Stewart describes is thus a good model for the more global regulation that also is necessary if problems such as greenhouse gas emissions or acid rain are to be solved. The applicability of this domestic approach to global realities facilitates the link necessary between local and global regulation, central to either one being effective. It also reinforces a common regulatory discourse that blurs the line between global and local.

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<sup>33</sup>Stewart Article.

<sup>34</sup>Of course, manufacturing plants that already exist are not likely to be moved, but increased investment in new facilities or expanding output in old facilities is more likely to occur in locations where the overall costs of production are lower.

A contract approach to domestic regulation also emphasizes a more comprehensive approach to the domestic environment than that which is usually possible when multiple regulators seek to enforce traditional command-and-control rules. Since many domestic companies often have multiple and complex air and water pollution problems, their economic and technological ability to solve these problems often requires that the company think of these issues in an interconnected way. A contract approach can provide needed flexibility for both the company and the regulators to bargain and negotiate a settlement to their problems. A more individually tailored plan for regulatory progress may thus be worked out that is not only less costly for both the regulated and the regulators, but likely to be more effective than blunt command-and-control regulatory tools applied by multiple regulators.<sup>35</sup> More holistic, bargaining or negotiating oriented models of domestic regulation clearly will resonate with the kind of global regulatory approaches now emerging.<sup>36</sup> This contract approach will make regulation not only more efficient, but also more acceptable to the regulators and the regulated.

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<sup>35</sup>Command-and-control, technology-based standards are found in most federal environmental statutes. *See e.g.*, Clean Water Act, 33 U.S.C. § 1311 (1988); Clean Air Act, 42 U.S.C. § 7503 (1988); Resource Conservation and Recovery Act, 42 U.S.C. § 6924 (1988).

<sup>36</sup>Professor Stewart has advocated a similar comprehensive approach to the eventual elimination of greenhouse gases from the atmosphere. *See* Richard B. Stewart & Jonathan B. Wiener, *The Comprehensive Approach to Global Climate Policy: Issues of Design and Practicality*, 9 ARIZ. J. INT'L & COMP. L. 83 (1992). This approach, however, understates the important wealth differences among developed and developing countries. It also understates the effectiveness of a regulatory approach that focuses specifically on the major greenhouse gas—CO<sub>2</sub>. *See* Thomas Drennen, *After Rio: Measuring the Effectiveness of the International Response*, 15 LAW & POL'Y (1993)(forthcoming). Nevertheless, this comprehensive approach to greenhouse gases may make the process of global bargaining among the various nations responsible for greenhouse gases easier to begin and thus make global legislative progress in this regard at least more likely.

## B. Global Regulation and New Regulatory Structures

The global discourse described in Part I includes issues involving trade, equity, economic growth, and by implication, population growth as well as science and technology. Global discourse tends to fuse international and domestic approaches to law; international and domestic approaches are no longer at different “levels” of law, but are in dialogue on the global “level.”<sup>37</sup> The Montreal Protocol on ozone depletion<sup>38</sup> and the Rio Framework Convention<sup>39</sup> dealing with greenhouse gases offer some important examples of early attempts at creating the kinds of legal innovations necessary to respond to the global discourses now developing.<sup>40</sup>

The Montreal Protocol, and its amendments, as Professor Stewart notes, do not disregard equity.<sup>41</sup> In attempting to regulate CFC's and other ozone depleting materials, the agreement is among the first to recognize the need to treat lesser developed countries differently when it

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<sup>37</sup>See Aman, *supra* note 4, pp. 154-156.

<sup>38</sup>Montreal Protocol, *supra* note 8.

<sup>39</sup>[For next source cite, try to find U.S.T., Stat., T.I.A.S., T.S., E.A.S., U.N.T.S., L.N.T.S., or I.L.M. citation. Bluebook rule 20.4.5, p. 144.] For the text of the Rio Framework Convention and follow-up commentary, see *Rio Conference on Environment and Development*, 22 ENVTL. POL'Y & L., 204, x (1992).

<sup>40</sup>It is important to recognize that the process of global regulation is often as important as the ultimate result that is reached. While it may seem, for example, that initial framework conventions are relatively ineffectual, they can trigger a regulatory process that eventually leads to much more significant results in the future. The Montreal Protocol, *supra* note 8, is an excellent example of this. This is not to say that that Protocol has solved all of the problems involved with ozone depletion, but the Protocol, too, must be viewed as the start, not the end, of a long-term regulatory process. See generally, BENEDICK, *supra* note 8, at 199-211; Alfred C. Aman, Jr., *The Montreal Protocol and the Future of Global Legislation*, 15 LAW & POL'Y (forthcoming, 1993).

<sup>41</sup>For a detailed discussion of equity and the equitable considerations embodied in the Montreal Protocol, see AMAN, *supra* note 4, at 145-54, and BENEDICK, *supra* note 8, at 92-93.

comes to formulating and enforcing global legislation. The 1990 London Amendments to the Montreal Protocol,<sup>42</sup> for example, at least begin to address the difficult problems inherent in making such agreements meaningful and possible for lesser developed countries to sign—the difficult issues of technology transfer and wealth disparities.<sup>43</sup>

The Montreal Protocol and its amendments are also technology-forcing pieces of global legislation.<sup>44</sup> For example, the Montreal Protocol established a rigid time table for phasing out CFC's, thereby creating a market for substitutes.<sup>45</sup> In this regard, it has led to some important successes. Consider, for example, the case of CFC-113, widely used as a solvent in the manufacture of computer chips. During discussions on phasing out CFC's, it was claimed that this was a necessary use of CFC's and that its phaseout would be costly.<sup>46</sup> Yet, within a few years, CFC-113 was the first of the CFC's to disappear after an inexpensive water and citrus-based solution was discovered that was equally as effective. Though economics suggests firms minimize costs, the cheaper process was not discovered earlier.<sup>47</sup>

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<sup>42</sup>See London Amendments, *supra* note 13.

<sup>43</sup>See BENEDICK, *supra* note 8, at 148-62. London Amendments, *supra* note 13, at 549-51.

<sup>44</sup>Montreal Protocol, *supra* note 8, art. II and annex A, 26 I.L.M. at 1552-53, 1561; London Amendments, *supra* note 13, at 539-40.

<sup>45</sup>Id.

<sup>46</sup>See BENEDICK, *supra* note 8, at 78.

<sup>47</sup>See, e.g., *Apple Computer Inc. Announces Worldwide Elimination of CFCs*, 15 Int'l Env't'l Rep. (BNA) 492 (July 29, 1992) ("Apple Computer Inc. has eliminated the use of ozone-depleting chloroflourocarbons to clean electronic assemblies and manufacturing equipment. . . .").

The Protocol's regulatory structure had much to do with this. What is crucial to the development of new green technologies is a firm commitment to create a market for them. The firm timetable established by the Montreal Protocol for phasing out CFC's meant that investment in substitutes could proceed in an aggressive fashion. Thus, one answer to Professor Stewart's question regarding the emergence of new green technologies<sup>48</sup> may be found in the fact that it is necessary—through law—to insure that a market will, in fact, exist for them.

Moreover, the Montreal Protocol has also helped develop a mechanism for the creation and dissemination of information.<sup>49</sup> Such information is essential to enforcement, keeping everyone apprised of progress towards reducing CFC's in the atmosphere. This aspect of knowledge creation and dissemination is a key factor in the proposal for a Sustainable Development Commission made at the first Earth Summit held in Rio de Janeiro in June, 1992.<sup>50</sup> The purpose of this Commission is to develop the information on emission levels of

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<sup>48</sup>Stewart Article.

<sup>49</sup>Montreal Protocol, *supra* note 8, arts. IX(2) & (3), 26 I.L.M. at 1557.

<sup>50</sup>There was a broad consensus in Rio to establish a high-level watchdog group to ensure that individual governments respect the pledges they have or will make in the future to reduce greenhouse gas emissions. The new international body, as proposed in a follow-up resolution to the Rio Earth Summit, will be called the Sustainable Development Commission and it will rely heavily on evidence gathered by private environmental groups. One model for the Commission was the U.N. Human Rights Commission—one that seeks to shame countries into following policies that are environmentally sound. This model would not have the power to impose sanctions or fines. Other models sought to be more enforcement oriented. The United Nations, however, has adopted a resolution establishing a Commission based more on the Human Rights Commission model. The Commission is to, among other things, "monitor progress in promoting, facilitating and financing, as appropriate, the access to and the transfer of environmentally sound technologies and corresponding know-how, in particular to developing countries. . . ." U.N. General Assembly Resolution on Institutional Arrangements to Follow-up the U.N. Conference on Environment and Development, G.A. Res. \_\_\_\_\_, U.N. GAOR, 47th Sess., Supp. No. \_\_\_\_\_, at \_\_\_\_\_, U.N. Doc. \_\_\_\_\_ (1992).



greenhouse gases to enable it to determine whether any progress is being made toward the agreed upon goals of the framework convention. It is thus a new international information agency enabling us to monitor our progress on this important global issue—a kind of environmental Amnesty International, but one that includes representatives from various nation-states, thus giving it a multi-national and global imprimatur.<sup>51</sup>

Inevitably, if it is to succeed, the global regulatory structure now developing will have to solve a variety of complex problems, including how developing countries can enjoy economic growth without adopting 19th- or early 20th-century approaches to industrialization. This is, by far, the greatest challenge, particularly given the enormous disparities of wealth around the world. Technology-forcing legislation can help promote new green technologies which then presumably would be shared in some equitable manner around the world. Intellectual property rights are held by private corporations, not the countries doing the negotiations for the creation of new global legislative regimes.<sup>52</sup> The end result is that it is very difficult, indeed, to facilitate the transfer of these new technologies without there being a form of expropriation, from the point of view of the holders of these property rights, or a new form of economic colonialism from the point of view of the lesser developed countries. These, however, are some

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<sup>51</sup>The U.N. General Assembly Resolution recommends that the Commission “consist of representatives of 53 States elected by ECOSOC from amongst the Member-States of the United Nations and its Specialized Agencies for three years terms with due regard to equitable geographical distribution.” *Id.*

<sup>52</sup>Convention on Biological Diversity, 31 I.L.M. 822, signed by 150 nations in Rio was resisted by the United States largely because it failed, in the view of the United States, to protect adequately U.S. intellectual property interests.

of the regulatory problems for which solutions must be found.<sup>53</sup> Simply going about our business on a domestic level as if we were not tied to the global demands of an unequal world is no longer possible in the new global era.

### Conclusion

The eggshell state of our planet highlights an image of the global environment that requires new conceptualizations of national sovereignty and individual self interest. The global discourse now emerging expresses some of these conceptualizations. I believe it will continue to do so, only in part because of the new consciousness of the global environment itself. Additional factors are the structure of 21st-century corporation, and the ease with which market- and contract-based regulatory approaches can operationalize a global discourse. The 19th-century perspective inherent in *Vosburg v. Putney* remains highly relevant for the new century nearly upon us. That case emphasized responsibility for harm done to a body that suffers from cumulative weakness. In the case of the global discourse outlined here, that responsibility is collective, absolute and immediate. It affirms the capacity of legislators, scientists, and citizens to expand their concept of self-interest in response to new information and opportunities for environmental improvement.

Like Professor Stewart, I agree that environmental regulation in these times requires new and more efficient domestic regulatory approaches, but this is not because I believe pollution

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<sup>53</sup>It may be that a multilateral fund will be necessary to help pay royalties to entrepreneurs, thereby retaining the incentive to develop new technologies, but also making it possible for the developing world to afford them. For a discussion of possible solutions to technology transfer problems see, Jason M. Patlis, Note, *The Multilateral Fund of the Montreal Protocol: A Prototype for Financial Mechanisms in Protecting the Global Environment*, 25 CORNELL INT'L L.J. 181, 203-205 (1992). The author points to the trust fund mechanism utilized by the Montreal Protocol as a means of protecting and facilitating technology transfers.

should be conceptualized merely as a commodity to be bought and sold. In my view, these new regulatory approaches must not only promote domestic industrial efficiency but also link domestic regulatory regimes to new global regulatory approaches now developing. To the extent they facilitate a more global conception of environmental regulation, and deal more effectively with new global corporate structures, they should be pursued. We must evaluate the efficacy of domestic regulation in global terms. The developed world can no longer accurately calculate its own self interest without considering fully the needs and abilities of the developing world. In the global era of regulation now upon us, the global regulatory discourse erases the old lines between “them” and “us” at least for purposes of protecting the eggshell planet—and its present and future inhabitants—from further harm.