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# Introduction: The Virtues and Vices of Skeptical Environmentalism

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# SYMPOSIUM ON BJØRN LOMBORG'S *THE SKEPTICAL ENVIRONMENTALIST*

## INTRODUCTION:

### THE VIRTUES AND VICES OF SKEPTICAL ENVIRONMENTALISM

*The Skeptical Environmentalist: Measuring the Real State of the World* by Bjørn Lomborg<sup>1</sup> is the most talked about environmental book in recent memory. Lomborg's central thesis is relatively straightforward: "Our doomsday conceptions of the environment are not correct."<sup>2</sup> To the contrary, in recent decades humanity's lot has "improved in terms of practically every measurable indicator."<sup>3</sup> Lomborg is not the first author to make this argument,<sup>4</sup> but his book is the first to spark such a maelstrom of public attention. Its publication ignited controversy and debate on both sides of the Atlantic. Lomborg himself, an associate professor of statistics in the political-science department at the University of Aarhus in Denmark, has become a virtual celebrity, alternatively praised and reviled by partisans in environmental policy debates. In February 2002, largely due to the book, the Danish government made him director of the newly created Environmental Assessment Institute in Copenhagen.<sup>5</sup> Nearly one year later, a Danish scientific community accused Lomborg of presenting a

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<sup>1</sup> BJØRN LOMBORG, *THE SKEPTICAL ENVIRONMENTALIST: MEASURING THE REAL STATE OF THE WORLD* (Cambridge University Press 2001) (1998).

<sup>2</sup> *Id.* at xix.

<sup>3</sup> *Id.* at 4.

<sup>4</sup> See, e.g., RONALD BAILEY, *ECO-SCAM: THE FALSE PROPHETS OF ECOLOGICAL DOOM* (1993); WILFRED BECKERMAN, *THROUGH GREEN-COLORED GLASSES: ENVIRONMENTALISM RECONSIDERED* (1996); *EARTH REPORT 2000: REVISITING THE TRUE STATE OF THE PLANET* (Ronald Bailey ed., 2000); GREGG EASTERBROOK, *A MOMENT UPON THE EARTH: THE COMING OF AGE OF ENVIRONMENTAL OPTIMISM* (1995); JULIAN L. SIMON, *THE ULTIMATE RESOURCE 2* (1996); *THE RESOURCEFUL EARTH: A RESPONSE TO GLOBAL 2000* (Julian L. Simon & Herman Kahn eds., 1984); *THE STATE OF HUMANITY* (Julian L. Simon ed., 1995); *THE TRUE STATE OF THE PLANET* (Ronald Bailey ed. 1995); AARON WILDAVSKY, *BUT IS IT TRUE?: A CITIZEN'S GUIDE TO ENVIRONMENTAL HEALTH SAFETY ISSUES* (1995).

<sup>5</sup> See Bjørn Lomborg, *Biography & Professional Areas of Interest*, at <http://www.lomborg.com/biograph.htm> (last visited Jan. 28, 2003).

“systematically biased representation” of environmental conditions.<sup>6</sup>

Lomborg’s book is styled as a response to “the Litany of our ever deteriorating environment . . . the view of the environment that is shaped by the images and messages that confront us each day on television, in the newspapers, in political statements and in conversations at work and at the kitchen table.”<sup>7</sup> It is a vision of untrammelled, and ever-increasing, human destruction of the global environment, leading to ecological ruin:

Our resources are running out. The population is ever growing, leaving less and less to eat. The air and the water are becoming ever more polluted. The planet’s species are becoming extinct in vast numbers – we kill off more than 40,000 each year. The forests are disappearing, fish stocks are collapsing and the coral reefs are dying.

We are defiling our Earth, the fertile topsoil is disappearing, we are paving over nature, destroying the wilderness, decimating the biosphere, and will end up killing ourselves in the process. The world’s ecosystem is breaking down. We are fast approaching the limit of viability, and the limits of growth are becoming apparent.<sup>8</sup>

Lomborg’s aim is to tell the world that much of what it knows about the state of the environment simply is not so. “We know the Litany and have heard it so often that yet another repetition is, well, almost reassuring,” Lomborg explains. “There is just one problem: It does not seem to be backed up by the available evidence.”<sup>9</sup> Lomborg’s targets are the volumes of apocalyptic and neo-Malthusian environmental literature published over the past several decades that convinced him, and many others, that most environmental trends are getting worse. Books ranging from *The Population Bomb*<sup>10</sup> and *The Limits to Growth*<sup>11</sup> to their more mod-

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<sup>6</sup> See *infra* notes 39-42 and accompanying text.

<sup>7</sup> LOMBORG, *supra* note 1, at 3.

<sup>8</sup> *Id.* at 4.

<sup>9</sup> *Id.* at 4.

<sup>10</sup> PAUL EHRLICH, *THE POPULATION BOMB* (1968).

<sup>11</sup> DONELLA H. MEADOWS ET AL., *THE LIMITS TO GROWTH* (1972). The authors of *The Limits to Growth* also authored a sequel on the book’s twentieth anniversary attesting that humanity had already overshot the limits of sustainability. See DONELLA H. MEADOWS ET AL.,

ern counterparts in the 1980 *Global 2000* report<sup>12</sup> and the Worldwatch Institute's annual *State of the World* books<sup>13</sup> present a world on the verge of ecological ruin – a portrayal regularly echoed in popular media outlets. Lomborg is particularly distressed by environmental organizations and researchers who repeatedly proclaim a sermon of environmental doom. Such proclamations are not merely things of the past. “We are looking over a cliff here,” announced the editor of the United Nations Population Fund 2001 annual report, “Footprints and Milestones: Population and Environmental Change.”<sup>14</sup>

While Lomborg insists “practically every measurable indicator” of human or environmental welfare has improved, he asserts at the outset that “[t]his does not, however, mean that everything is *good enough*.”<sup>15</sup> In Lomborg's view, “there are many circumstances in which environmental intervention is necessary if we are to prevent unnecessary pollution and avoid people shunning their responsibilities.”<sup>16</sup> As a statistician by training, Lomborg is focused on the numbers, believing that an accurate assessment of environmental data is a necessary precursor to the setting of ecological priorities, if not sound environmental policy more generally: “Getting the state of the world right is important because it defines humanity's problems and show us where our actions are most needed.”<sup>17</sup>

Yet *The Skeptical Environmentalist* is more than a simple compilation of environmental data. Having amassed ecological statistics and trends – and criticized the assessments offered by others – Lomborg proceeds to make policy prescriptions of his own. In general, Lomborg adopts a “worst things first” approach to environmental policy. Societies should address the most pressing human and environmental needs before devoting resources to lesser threats. In the former category Lomborg would place access to safe drinking water. In the latter, a bit more controversially, he would place reductions in greenhouse gases and other efforts to

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BEYOND THE LIMITS: CONFRONTING GLOBAL COLLAPSE, ENVISIONING A SUSTAINABLE FUTURE (1992).

<sup>12</sup> GLOBAL 2000 REPORT TO THE PRESIDENT: ENTERING THE TWENTY-FIRST CENTURY (1980).

<sup>13</sup> See, e.g., CHRISTOPHER FLAVIN ET AL., STATE OF THE WORLD, 2002: A WORLDWATCH INSTITUTE REPORT ON PROGRESS TOWARD A SUSTAINABLE SOCIETY (2002).

<sup>14</sup> Jeremy Lovell, *Earth on Edge of a Precipice – UN Report*, REUTERS, November 7, 2001.

<sup>15</sup> LOMBORG, *supra* note 1, at 4. Lomborg also stresses that the mere existence of positive trends is not, in itself, a sufficient basis for complacency: “[W]hen things are improving we know we are on the right track. Although perhaps not at the right speed.” *Id.* at 5.

<sup>16</sup> LOMBORG, *supra* note 1, at 32.

<sup>17</sup> *Id.* at 3.

combat global warming. In all cases, Lomborg believes, wealth accumulation is a necessary precursor to environmental progress. Embracing the "Environmental Kuznets Curve," Lomborg intones, "only when we get sufficiently rich can we afford the relative luxury of caring about the environment."<sup>18</sup> Implicit in Lomborg's approach is a human-centered worldview, one that values the environment only insofar as it contributes to human welfare.<sup>19</sup> Needless to say, this view of the environment is anything but universal.

### I. THE ENSUING DEBATE

The book drew largely favorable reviews and commentary in *The Economist*,<sup>20</sup> the *Washington Post*,<sup>21</sup> the *New York Times*,<sup>22</sup> and other media outlets.<sup>23</sup> It also prompted a substantial response from environmental advocacy organizations and harshly critical commentaries in *Science*,<sup>24</sup> *Nature*,<sup>25</sup> and *Scientific American*.<sup>26</sup> Indeed, in some quarters the book ignited a virtual maelstrom.<sup>27</sup> Environmental activist groups and noted ecologists assailed the book for downplaying environmental risks, misrepresenting global trends, and generally undermining environmental concern. The Union of Concerned Scientists and *Grist*, a web-based environmental magazine, solicited reviews from prominent environmental researchers.<sup>28</sup> The World Resources Institute went further, prepar-

<sup>18</sup> *Id.* at 33.

<sup>19</sup> See, e.g., *id.* at 250-51 (questioning whether the biodiversity loss will have an impact on human welfare).

<sup>20</sup> *Doomsday Postponed*, THE ECONOMIST, Sept. 8, 2001, at 89.

<sup>21</sup> Dennis Dutton, *Greener Than You Think: The Skeptical Environmentalist*, WASH. POST, Oct. 21, 2001, Book World, at 1.

<sup>22</sup> Nicholas Wade, *Scientist at Work: From an Unlikely Quarter, Eco-Optimism*, N.Y. TIMES, August 7, 2001, at F01.

<sup>23</sup> See, e.g., Ronald Bailey, *Why All Those Dire Predictions Have No Future*, WALL ST. J., Oct. 2, 2001, at A17 (book review); Reginald Dale, Editorial, *The Upbeat Environmentalist's Case: Thinking Ahead*, INT'L HERALD TRIB., Oct. 9, 2001, at 13; see also Alex Kozinski, *Gore Wars*, 100 MICH. L. REV. 1742 (2002) (book review).

<sup>24</sup> Michael Grubb, *Relying on Manna from Heaven?*, 294 SCI. 1285 (2001) (book review).

<sup>25</sup> Stuart Pimm & Jeff Harvey, *No Need to Worry about the Future*, 414 NATURE 149 (2001) (book review).

<sup>26</sup> John Rennie et al., *Misleading Math About the Earth: Science Defends Itself Against the Skeptical Environmentalist*, SCI. AM., Jan. 2, 2002, at 61.

<sup>27</sup> See generally *Defending Science*, THE ECONOMIST, Feb. 2-8, 2002, at 15; *The Litany and the Heretic*, THE ECONOMIST, Feb. 2-8, 2002, at 75; David Schoenbrod, *The Mau-Mauing of Bjørn Lomborg*, COMMENTARY (September 2002). The *Nature* reviewers went so far as to compare Lomborg to a Holocaust denier and later filed charges of scientific misconduct against him. See *supra* note 39-40.

<sup>28</sup> See *Something Is Rotten in the State of Denmark: A Skeptical Look at The Skeptical Environmentalist*, GRIST MAGAZINE, Dec. 21, 2001, at <http://www.gristmagazine.com/books/lomborg121201.asp>; *UCS Examines The Skeptical Environmentalist by Bjørn Lomborg*, Union of Concerned Scientists, at [http://www.ucsusa.org/global\\_environment/global\\_warming/page.cfm?pageID=533](http://www.ucsusa.org/global_environment/global_warming/page.cfm?pageID=533) (last modified Jan. 24, 2003).

ing a media kit for journalists challenging some of Lomborg's claims,<sup>29</sup> and warning that the book was "heavily publicized and championed by conservatives."<sup>30</sup> The review in *Science* is representative of the strong, yet divergent, views provoked by *The Skeptical Environmentalist*.<sup>31</sup> The reviewer found Lomborg's claim that many environmental trends are improving "compelling" and a "detailed and well-developed antidote to environmental doom-mongering," but found Lomborg's suggestion that "we should not worry much about the state of the world" to be "woefully inadequate" and insufficiently supported.<sup>32</sup>

Perhaps the most notable attack so far has appeared in *Scientific American*. Under the caption "Science Defends Itself from *The Skeptical Environmentalist*," the popular science magazine published four essays by scientific researchers well known for their environmental advocacy, including two of whom Lomborg criticized by name.<sup>33</sup> Over the course of eleven pages, Lomborg's critics – Stephen Schneider, John P. Holdren, John Bongaarts, and Thomas Lovejoy – excoriated Lomborg for his treatment of their fields – climate change, energy, population, and biodiversity, respectively. Without a doubt, Lomborg's analyses of these issues differs greatly from theirs. Over eleven pages, the four analysts took issue with many aspects of Lomborg's argument insofar as it concerned the four subject areas. The critiques largely attacked Lomborg not for factual errors, but for erroneous *interpretations* of the data and adopting the wrong policy conclusions.<sup>34</sup> John Bon-

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<sup>29</sup> *Nine Things Journalists Should Know About The Skeptical Environmentalist*, World Resources Institute, at [http://newsroom.wri.org/mediakits\\_text.cfm?ContentID=697](http://newsroom.wri.org/mediakits_text.cfm?ContentID=697) (last visited Jan. 30, 2003).

For more of the World Resources Institute's critique, see Hammond and Mathews *infra*. For Lomborg's response to the "Nine Things" analysis, see Bjørn Lomborg, *Comments on the Critique by World Resources Institute and World Wildlife Fund*, at [http://www.lomborg.com/files/Response to WRI-WWF3.pdf](http://www.lomborg.com/files/Response%20to%20WRI-WWF3.pdf) (Dec. 17, 2001).

<sup>30</sup> Jonathan Lash, *Letter from Jonathan Lash to the Society of Environmental Journalists*, World Resources Institute, at [http://newsroom.wri.org/mediakits\\_text.cfm?ContentID=696](http://newsroom.wri.org/mediakits_text.cfm?ContentID=696) (Nov 6, 2001).

<sup>31</sup> See Grubb, *supra*, note 24.

<sup>32</sup> *Id.* Lomborg disputes the reviewer's characterization of the book. See Bjørn Lomborg, *Short Reply Letter*, at [http://www.lomborg.com/files/Reply to Science Michael Grubb 2.doc](http://www.lomborg.com/files/Reply%20to%20Science%20Michael%20Grubb%202.doc) (Mar. 14, 2002).

<sup>33</sup> See *supra* note 26.

<sup>34</sup> See, e.g., John Rennie, *A Response to Lomborg's Rebuttal*, available at <http://www.sciam.com> (Apr. 15, 2002) ("The discussion is not about whether his statements are correct; it is about whether his *arguments* are correct—the plans of thought he develops from those statements."). The critiques identified less than a dozen of factual errors, several of which Lomborg disputed. See Schoenbrod, *supra* note 27; see also Bjørn Lomborg, *Bjørn Lomborg's Comments to the Eleven-Page Critique in January 2002* *Scientific American* (Feb. 11 2002), at <http://www.sciam.com/media/pdf/lomborgrebuttal.pdf>.

Lomborg's defenders did not find the substance of the *Scientific American* to match the harsh tone. See *Defending Science*, *THE ECONOMIST*, Feb. 2-8, 2002, at 15 ("The authors, all

gaarts, for example, generally accepts Lomborg's factual claims about food and population to date, arguing instead that Lomborg places too much relative emphasis on positive trends and underestimates the extent to which additional policy measures are still required.<sup>35</sup> These are substantial differences, to be sure, and worthy grounds for critique, but they hardly amount to a defense of science, as such. In other cases, the authors accused Lomborg of misrepresenting mainstream environmental opinion. John Holdren critiqued Lomborg for "attacking the belief that the world is running out of oil," a view "that few if any environmentalists actually hold."<sup>36</sup> Yet just three months earlier, *Scientific American* published a favorable review of a book purporting to forecast the imminent decline of oil reserves,<sup>37</sup> and in 1998 published a longer article on "The End of Cheap Oil."<sup>38</sup>

The *Scientific American* critique was certainly influential, and is widely cited by Lomborg's critics. It also became the primary exhibit in complaints filed with the Danish Committees on Scientific Dishonesty (DCSD), an arm of the Danish Research Agency. Judging *The Skeptical Environmentalist* as a scientific work, rather than as "a provocative debate-generating paper," the DCSD found the book to be "contrary to the standards of good scientific practice," due to its "systematically biased representation" of environmental concerns.<sup>39</sup> Oddly enough, the DCSD neither identified any examples of biased or "dishonest" claims in Lomborg's book beyond summarizing the *Scientific American* articles, nor addressed any of Lomborg's response.<sup>40</sup> It did, however, note the

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supporters of the green movement, were strong on contempt and sneering, but weak on substance."); *The Litany and the Heretic*, THE ECONOMIST, Feb. 2-8, 2002, at 75 ("The replies to Dr Lomborg in *Scientific American* and elsewhere score remarkably few points of substance. His large factual claims about the current state of the world do not appear to be under challenge—which is unsurprising since they draw on official data. What is under challenge, chiefly, is his outrageous presumption in starting a much-needed debate.") (footnote omitted); Schoenbrod, *supra* note 27; Kozinski, *supra* note 23.

<sup>35</sup> See John Bongaarts, *Population: Ignoring Its Impact*, SCI. AM., Jan. 2002, at 67.

<sup>36</sup> John P. Holdren, *Energy: Asking the Wrong Question*, SCI. AM. Jan. 2002, at 65.

<sup>37</sup> Paul Raeburn, *The End of Oil*, SCI. AM., Oct. 2001, at 91 (reviewing KENNETH S. DEF- FEYES, HUBBERT'S PEAK: THE IMPENDING WORLD OIL SHORTAGE).

<sup>38</sup> Colin J. Campbell and Jean H. Leherrère, *The End of Cheap Oil*, SCI. AM., March 1998, at 78.

<sup>39</sup> Danish Committees on Scientific Dishonesty, Decision Regarding Complaints against Bjørn Lomborg, available at [http://www.forsk.dk/uvvu/nyt/udtaldebat/bl\\_decision.htm](http://www.forsk.dk/uvvu/nyt/udtaldebat/bl_decision.htm) (Jan. 7, 2003) [hereinafter "DCSD"]. The report notes that neither the Working Party initially tasked with evaluating the complaints, nor the DCSD as a whole, reached consensus as to whether *The Skeptical Environmentalist* was the sort of scientific work against which a charge of "scientific dishonesty" could properly be lodged. "Some members do not regard the book as science, but rather as a debate-generating book." *Id.*

<sup>40</sup> *Id.*; see also Bjørn Lomborg, *The Ruling on the Matter of Scientific Dishonesty from the DCSD*, at [http://www.lomborg.com/press\\_release.htm](http://www.lomborg.com/press_release.htm) (Jan. 7, 2003).

tremendous interest showered on *The Skeptical Environmentalist* in the United States, “the society with the highest energy consumption in the world” and home to “powerful interests . . . bound up with increasing energy consumption and with the belief in free market forces.”<sup>41</sup> Lomborg’s most vociferous supporters were not amused; *The Economist* wrote that the DCSD ruling was “incompetent and shameful.”<sup>42</sup>

Throughout the controversy over his book, Lomborg has given as good as he got. For months he produced detailed rebuttals and responses to his critics, posting them on his website.<sup>43</sup> Lomborg even took the relatively unusual step of acknowledging the occasional error and posting a list of corrections on the web.<sup>44</sup> The relatively short list of corrections, Lomborg maintains, demonstrates the general soundness of his empirical claims, if not his policy conclusions. Taken as a whole, *The Skeptical Environmentalist* stands for more than the simple proposition that most global indicators are trending in the right direction. As suggested in its subtitle, and made explicit at the outset, Lomborg believes that resolving debates about empirical environmental trends is a necessary predicate to the development of rational environmental policy.

## II. THE SYMPOSIUM

No environmental book in recent memory has garnered the attention – let alone generated the controversy – of *The Skeptical Environmentalist*. As such, it merits further discussion and serious examination, on several levels. Given that we now have much better data on the state of the environment both today and historically, this is an appropriate time to assess the validity of the existing model of regulation in light of this new information. By provoking such a discussion, Lomborg has done all those interested in environmental law and policy a great service.

First, there is Lomborg’s thesis – things are getting better – and its implications for both environmental law and the teaching thereof. What does it mean if Lomborg is right and “the Litany” is

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<sup>41</sup> DCSD, *supra* note 39. See generally Andrew C. Revkin, *Danes Rebuke a Skeptic*, N.Y. TIMES, Jan 8, 2003, at A7.

<sup>42</sup> *Thought Control*, THE ECONOMIST, Jan. 11-17, 2003, at 70. The DCSD ruling appears to have generated substantial controversy within Danish academic circles as well. Within three weeks of its release, some 280 Danish academics signed a petition supporting Lomborg and rejecting the DCSD’s conclusion. See Bjørn Lomborg, *Something Is Rotten in the State of Denmark*, WALL ST. J., Jan. 23, 2003, at A14.

<sup>43</sup> See generally Bjørn Lomborg, *Critiques and Replies*, at <http://www.lomborg.com/critique.htm> (last visited Feb. 4, 2003).

<sup>44</sup> See Bjørn Lomborg, *Errors and Corrections*, at <http://www.ps.au.dk/vip/lomborg/errors.htm> (last visited Feb. 3, 2003).



untrue? One possible, but by no means necessary, response is to question the basis of existing environmental policy. If environmental problems are exaggerated, does it make sense to devote hundreds of billions of dollars on environmental concerns? Could such sums do more to advance human welfare if devoted to other aims? At the very least, might Lomborg be correct that some environmental and health problems, such as the lack of access to safe drinking water in much of the developing world, are more pressing than others, such as climate change?

Of course this is not the only possible response. Environmental trends may be improving today, but this was not always the case. Another potential reaction is to conclude that the regulatory system works, that it has solved many environmental problems, and that perhaps it has even averted ecological disaster.<sup>45</sup> That the crises never came to pass does not mean the threat was not real. The adoption of stringent environmental controls in the 1970s and thereafter may well have saved the day – or at least forestalled the day of reckoning.

Whether real or not – and no doubt some environmental concerns were – the perception of an environmental crisis undoubtedly affected the evolution of environmental policy.<sup>46</sup> Concerns about population growth, resource depletion, and the cumulative impacts of pollution drove the adoption of federal environmental laws. An image of Cleveland's Cuyahoga River aflame spurred passage of the federal Clean Water Act of 1972.<sup>47</sup> The Clean Air Act of 1970 was spurred in no small part by the Ralph Nader report *Vanishing Air*.<sup>48</sup> "Air pollution (and its fallout on soil and water) is a form of domestic chemical and biological warfare," Nader warned in the foreword. "There is no full escape from such violent ingestions,

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<sup>45</sup> See Robert V. Percival, *Skeptical Environmentalism or Statistical Spin Doctor? Björn Lomborg and the Relationship Between Environmental Law and Environmental Progress*, 53 CASE W. RES. L. REV. 263 (2002).

<sup>46</sup> See, e.g., FREDERICK R. ANDERSON ET AL., ENVIRONMENTAL PROTECTION: LAW AND POLICY 36 (3d. ed. 1999) ("Many have observed that crises are necessary to trigger political responses.") and sources cited therein.

<sup>47</sup> See Jack A. Seamonds, *In Cleveland, Clean Waters Give New Breath of Life*, U.S. NEWS & WORLD REP., Jun. 18, 1984, at 68 ("Many believe the 1969 fire lit the fuse that put the bank in the nationwide campaign to clean up the environment."); Kristina M. Tridico, *Sustainable America in the Twenty-First Century: A Critique of President Clinton's Council on Sustainable Development*, 14 J. NAT. RESOURCES & ENVTL. L. 205, 212, n47 (1998-99) (quoting Carol Browner: "An angry nation called to action, and the Clean Water Act was passed."). See generally, Jonathan H. Adler, *Fables of the Cuyahoga: Reconstructing a History of Environmental Protection*, FORDHAM ENVTL. L. J. (forthcoming 2003).

<sup>48</sup> JOHN C. ESPOSITO & LARRY J. SILVERMAN, THE RALPH NADER STUDY GROUP REPORT ON AIR POLLUTION, VANISHING AIR (1970).

for breathing is required.”<sup>49</sup> Alarmist narratives also sparked the creation of the Superfund. One book warned of “a cancer epidemic” and “[h]undreds of hazardous waste depositories . . . unraveling out of technological control, portending, for the woefully unprepared authorities, the most serious environmental threat of the 1980s,”<sup>50</sup> and the New York State Health Commissioner issued a report on waste dump at Love Canal entitled: *Love Canal: Public Health Time Bomb*.<sup>51</sup> Similar concerns spurred the creation of international environmental measures, including treaties to address, among other things, the threat of climate change, protection of biodiversity, and sustainable development. In 1992, Vice President Al Gore warned of an impending “environmental holocaust” and “ecological *Kristallnacht*” the evidence for which was “as clear as the sound of glass shattering in Berlin.”<sup>52</sup> The only answer, in his view, was to make environmental protection the “central organizing principle” of human civilization.<sup>53</sup>

The atmosphere of crisis is reflected in these statutes’ structures and provisions, especially in those demanding absolutist goals (e.g. zero discharge, zero-risk carcinogen levels, and so on).<sup>54</sup> The modern regulatory structure for pesticides in this country was born amid the widespread popular concern over the potential for a ‘silent spring’ following the mass poisoning of birds by pesticide residues, sparked by Rachel Carson’s book of that name and her warning that “[a] grim spectre has crept upon us almost unnoticed” that had “already silenced the voices of spring in countless towns in America[.]”<sup>55</sup> Often the results of the crisis atmosphere is the creation of absolutist, and often impossible, standards. The notorious ‘Delaney Clause’<sup>56</sup> adopted a zero-tolerance standard for pesticide residues in food so stringent that its application was impossible. Nonetheless, the symbolic importance of the “zero” tolerance was so politically sensitive that legislative action to replace it with a standard that could be administered was impos-

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<sup>49</sup> Ralph Nader, *Foreword* to JOHN C. ESPOSITO & LARRY J. SILVERMAN, THE RALPH NADER STUDY GROUP REPORT ON AIR POLLUTION, VANISHING AIR (1970) at viii.

<sup>50</sup> MICHAEL H. BROWN, LAYING WASTE: THE POISONING OF AMERICA BY TOXIC CHEMICALS 339, 297 (1979).

<sup>51</sup> NEW YORK STATE DEPT. OF HEALTH, LOVE CANAL: PUBLIC HEALTH TIME BOMB (1978).

<sup>52</sup> AL GORE, EARTH IN THE BALANCE 177 (1992).

<sup>53</sup> *Id.* at 269.

<sup>54</sup> See Schoenbrod, *supra* note 27, at 51 (“Th[e] distinction between a problem and a catastrophe is critical to the psychology of the environmental movement. A problem presents us with choices about its priority in relation to other problems; a looming catastrophe impels us to do whatever the ‘experts’ tell us we must do to avert it.”).

<sup>55</sup> RACHEL CARSON, SILENT SPRING 3 (1962).

<sup>56</sup> 21 U.S.C. § 348(c)(3)(A) (1994) (repealed 1996).

sible for decades.<sup>57</sup> Indeed, the Food and Drug Administration essentially ignored it<sup>58</sup> until its repeal in 1996<sup>59</sup> was forced by a court decision threatening to require actual enforcement.<sup>60</sup> The U.S. Clean Air Act was born amid apparently serious discussion of the outlawing of the internal combustion engine,<sup>61</sup> and initially contained a wildly unrealistic timeframe for improvement.<sup>62</sup> Severe environmental problems called for severe policy responses.

Some of Lomborg's critics suggest he may be attacking the "Litany" a bit late. The most strident claims of ecological doom were made in the 1960s and 1970s, and are no longer taken seriously, at least in scientific circles. According to the *Science* reviewer, "To any modern professional, it is no news at all that the 1972 *Limits to Growth* study was mostly wrong or that Paul Ehrlich and Lester Brown have perennially exaggerated the problems of food supply."<sup>63</sup> Al Hammond of the World Resources Institute argues the "Litany" is "based on sometimes mistaken views widely held thirty years ago" and that Lester Brown is no longer "a significant figure in advancing environmental concerns."<sup>64</sup> This may be the case for scientific professionals, yet popular – and even academic – perceptions persist. One of the leading international environmental law casebooks opens with a litany of "The Wild Environmental Facts," including an excerpt from Lester Brown on food and population.<sup>65</sup> No significant space is given to contrasting views.

Whatever the "true" state of the planet, recognizing and understanding global environmental trends is essential for the creation and evaluation of environmental policy. Even more important, however, is discerning the reasons for various trends. It is

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<sup>57</sup> See James Smart, *All the Stars in the Heavens Were in the Right Places: The Passage of the Food Quality Protection Act of 1996*, 17 STAN. ENVTL. L. J. 273, 276 (1998) ("Nevertheless, year after year, there was no legislative progress and very little movement toward common ground by the concerned parties.").

<sup>58</sup> *Id.* at 283-86 (discussing lack of enforcement).

<sup>59</sup> Food Quality Protection Act of 1996, 21 U.S.C. § 346a(a)(2)(A).

<sup>60</sup> See Smart, *supra* note 57, at 318-33 (discussing repeal).

<sup>61</sup> See Andrew P. Morriss, *The Politics of the Clean Air Act*, in POLITICAL ENVIRONMENTALISM: GOING BEHIND THE GREEN CURTAIN 263, 288 (Terry L. Anderson, ed. 2000).

<sup>62</sup> See R. Shep Melnick, *Pollution Deadlines and the Coalition for Failure*, in ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS (Michael S. Greve & Fred L. Smith, Jr. 1992).

<sup>63</sup> Grubb, *supra* note 24, at 1285; see also *infra* notes 36-38, and accompanying text.

<sup>64</sup> Al Holland, Remarks at AEI-Brookings Joint Center conference, "The Environment: Getting Better, Not Worse" (October 3, 2001) (transcript available at: <http://aei.brookings.org/admin/pdffiles/transcript.pdf>); see also Allen Hammond & Emily Mathews, *Faulty Scholarship and Earth's Living Systems*, 53 CASE W. RES. L. REV. 353 (2002).

<sup>65</sup> See DAVID HUNTER ET AL, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 14-15 (2d. ed. 2002).

not enough to recognize that global food production is increasing in some parts of the world but not others, one must also determine why. Such understanding is necessary for the design and implementation of effective environmental laws and institutions. More broadly, differences in ecological conditions and trends may shed light on how institutional choices effect the likelihood of environmental success. If environmental trends are improving, this may vindicate decades of aggressive environmental advocacy and the resulting government regulation – at least in those parts of the world where environmental concern has prompted significant governmental action.

The furor over Lomborg's claims seems no less significant than the book itself. As Roger Pielke observed, "The Lomborg affair merits attention not because of its robust criticisms, character assassination and pressure politics – these are nothing new – but because its extremeness could mark a watershed in how science related to policy and politics."<sup>66</sup> At issue is not merely – or even primarily – the data, but its interpretation and use in environmental policy debates. At one level, environmental activist groups may have an institutional stake in the outcome of this debate.<sup>67</sup> Insofar as public interest groups are dependent upon media coverage and direct mail appeals for substantial portions of their funding, it may be difficult to moderate the alarms. At another level, the bitterness of the controversy over the Lomborg book in some ways resembles a religious schism. Indeed, some have characterized environmentalism as a religion,<sup>68</sup> and the public support for environmental protection spans the spectrum from 'fundamentalist' believers in Gaia to those who simply want to enjoy environmental amenities. Lomborg's claims about the state of the environment threaten that coalition by offering an alternative worldview that might split moderates from fundamentalists.

Consider, for example, the current controversy over the use of DDT in developing countries to control malaria-bearing mosquitoes.<sup>69</sup> The successful campaign against DDT was one of the most

<sup>66</sup> Roger A. Pielke, Jr., *Policy, Politics and Perspective: The Scientific Community Must Distinguish Analysis from Advocacy*, 416 NATURE 367 (2002).

<sup>67</sup> See Todd J. Zywicki, *Baptists?: The Political Economy of Environmental Interest Groups*, 53 CASE W. RES. L. REV. 315 (2002).

<sup>68</sup> See Robert H. Nelson, *Does 'Existence Value' Exist?: Environmental Economics Encroaches on Religion*, 1 THE INDEP. REV. 499 (1997) (discussing similarities between environmentalism and religion); Robert H. Nelson, *How Much is God Worth? The Problems – Economic and Theological – of Existence Value* (1996) at <http://www.cei.org/pdf/1456.pdf> (last visited January 9, 2003).

<sup>69</sup> See Andrew P. Morriss and Roger E. Meiners, *Property Rights, Pesticides, and Public Health: Explaining the Paradox of Modern Pesticide Policy*, FORDHAM ENVTL. L. J. (forthcom-

important early successes of the modern environmental movement; its continued use in the campaign against malaria has provoked considerable controversy because it forces a choice between human lives and environmental purity. Lomborg's suggestion that the threat from synthetic pesticides generally is smaller than the "already imperceptibly tiny risk posed by some of the healthy things we consume, such as lettuce, fruit juice, apples and celery,"<sup>70</sup> threatens an important symbolic policy for the modern environmental movement. This symbolism is certainly at risk. DDT, the primary target of Rachel Carson's *Silent Spring*, is no longer viewed exclusively as an environmental scourge. Instead it is recognized as valuable public health tool in developing nations. There is no longer significant opposition to DDT's use to control malaria, at least until a viable alternative is found.<sup>71</sup> Understanding the substance of the controversy over the book thus gives insight into the merits of the various positions; understanding the manner of the debate gives insight into the debaters.

Symposia introductions often include summaries of the contributions. We are foregoing such an introduction here because we think the authors' works speak for themselves and because we asked the authors to be brief. We do want to note that the contributors to this symposium include prominent environmental law and policy analysts from all sides of the ideological spectrum. As this is a law review symposium, the bulk of the contributors are law professors: Frank Cross, John Dernbach, James Huffman, Robert Percival, Marc Poirier, Dan Rohlf, and Todd Zywicki, each of whom brings a unique perspective to the subject at hand. Several nonlawyers have been added: Bruce Yandle, a regulatory economist and the author or coauthor of numerous works on the application of common law approaches to environmental problems,<sup>72</sup> and Indur Goklany, an analyst whose many works on environmental policy include recent examinations of air pollution control<sup>73</sup> and the precautionary principle.<sup>74</sup> Think tanks are no less important in

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ing 2002); Richard Tren and Roger Bate, *When Politics Kills: Malaria and the DDT Story* (2001), at <http://www.fightingmalaria.org/malaria.ps.pdf> (last visited on September 5, 2002).

<sup>70</sup> LOMBORG, *supra* note 1, at 236.

<sup>71</sup> See, e.g., *Fighting Malaria With DDT*, N.Y. TIMES, Dec. 23, 2002, at A24.

<sup>72</sup> See, e.g., BRUCE YANDLE, COMMON SENSE AND COMMON LAW FOR THE ENVIRONMENT: CREATING WEALTH IN HUMMINGBIRD ECONOMIES (1997); Roger Meiners and Bruce Yandle, *Common Law and the Conceit of Modern Environmental Policy*, 7 GEO. MASON L. REV. 923 (1999).

<sup>73</sup> INDUR M. GOKLANY, CLEARING THE AIR: THE REAL STORY OF THE WAR ON AIR POLLUTION (1999).

<sup>74</sup> INDUR M. GOKLANY, THE PRECAUTIONARY PRINCIPLE: A CRITICAL APPRAISAL OF ENVIRONMENT RISK ASSESSMENT (2001).

the debate over environmental policy, so the symposium includes Terry Anderson and Lea-Rachel Kosnik of PERC – The Center for Free Market Environmentalism, and Allen Hammond and Emily Mathews of the World Resources Institute. Anderson literally co-wrote the book on market approaches to environmental problems<sup>75</sup> and Hammond is one of Lomborg's more persistent interlocutors and critics.<sup>76</sup> As a group, these authors offer some of the best analyses of each of the major points of view in the debate over environmental policy today. We hope you find them as stimulating and worthwhile as we did.

For all these reasons, we are grateful to the editors of the *Case Western Reserve Law Review*, their advisor, Professor Jonathan Entin, and the contributors to this symposium for helping to further the scholarly dialogue over this important work. We hope that reading these articles will provoke readers to go back, not just to Lomborg's book, but to the sources he cites and others as well, to form their own conclusions about the merits of Lomborg's claims and about the state of the environment.

JONATHAN H. ADLER<sup>†</sup> AND ANDREW P. MORRIS<sup>‡</sup>

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<sup>75</sup> TERRY L. ANDERSON & DONALD R. LEAL, *FREE MARKET ENVIRONMENTALISM* (rev. ed. 2001).

<sup>76</sup> *See supra* notes 29-30, 63.

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