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Daniel J. Rohlf

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REVENGE OF THE ONCE-LER: THE SKEPTICAL ENVIRONMENTALIST

Daniel J. Rohlf[†]

“UNLESS someone like you cares a whole awful lot, nothing is going to get better. It’s not.”

—Dr. Seuss, excerpt from *“The Lorax”*¹

INTRODUCTION

So reads the warning of Dr. Seuss’s popular children’s book, whose furry title character continually pops up at inconvenient times to point out a host of environmental misdeeds. The Lorax aims his criticisms at the Once-ler, an industrious creature who gets rich by cutting down nearly all of the trees in an idyllic valley, in the process polluting the air and water and chasing away the local animals.² In the book, the Once-ler ends up languishing in his boarded-up factory amid self-inflicted environmental devastation, finally offering the book’s ultimate lesson to a curious child.³

In Bjørn Lomborg’s world, however, the Once-ler fights back. With only a small nod to the Loraxes of our times, Lomborg acknowledges that modern development has had *some* environmental impacts.⁴ But casting his lot solidly with the Once-ler’s efforts, Lomborg argues that industrialization and its resulting material wealth has both enhanced human welfare and enabled Western countries to afford the luxury of enhanced environmental protections.⁵ He also contends that similar wealth accumulation eventually will enable developing countries to do the same, particularly by buying pollution control and energy technologies from the

[†] Associate Professor, Lewis and Clark Law School.

¹ DR. SEUSS, *THE LORAX* 58 (1971).

² *Id.* at 12-50.

³ *Id.* at 3-11.

⁴ BJØRN LOMBERG, *THE SKEPTICAL ENVIRONMENTALIST: MEASURING THE REAL STATE OF THE WORLD* (Cambridge University Press 2001) (1998).

⁵ *Id.* at 176.

West.⁶ In the meantime, Lomborg-as-Once-ler loosens a statistical barrage of alleged portrayals of the “real” state of the environment to support his assertions that forests are *not* falling at an alarming rate,⁷ that Brown Bar-ba-loots, Swamee-Swans, and their friends are *not* becoming extinct in droves,⁸ that the Gluppity-Glup and Schoppity Schlopp in our air and water really are not *that* bad for us,⁹ and that we’ll all be better off in the end if we just trust and even encourage the Once-lers among us to get on with creating more wealth, as well as inventing more Thneeds¹⁰ to solve our energy and environmental problems.¹¹

Lomborg continues even beyond his view of the “real” state of the world, in the process taking another page from Seuss lore. With a foray into social commentary, Lomborg heaps pointed criticisms on the Lorax himself – who in Lomborg’s mind is personified in real life by Lester Brown of the WorldWatch Institute.¹² In Dr. Seuss’ story, the exasperated Once-ler, beset yet again by preaching about the environmental impacts of accelerating commodity production, yells at the Lorax: “Now listen here Dad! All you do is yap-yap and say ‘Bad! Bad! Bad! Bad! Well, I have my rights, sir, and I’m telling you I intend to go on doing just what I do!’”¹³ Similarly, in *The Skeptical Environmentalist*,¹⁴ Lomborg takes Brown and fellow environmentalists to task for continually subjecting a vulnerable public to “The Litany,” which Lomborg sees as a vastly overblown but almost mindlessly repeated list of environmental ills.¹⁵ Such a false picture, according to Lomborg, encourages society to act out of fear, leading to over-regulation, overinvestment in measures to combat slight risks, and an unproductive sense of social guilt.¹⁶ Ultimately, Lomborg asserts, it is just fine for modern society to go on doing just what we’re doing

⁶ *Id.*

⁷ *Id.* at 110-17.

⁸ *See id.* at 249-57.

⁹ *See id.* at 163-202.

¹⁰ “A thneed’s a Fine-Something-That-All-People-Need!” SEUSS, *supra* note 1, at 24.

¹¹ LOMBORG, *supra* note 4, at 350-52.

¹² *Id.* at 27-31.

¹³ SEUSS, *supra* note 1, at 49.

¹⁴ With his book’s title and his discussion of his Greenpeace background, Lomborg seems to be saying that he comes to his rosy environmental conclusions only after being initially biased in the other direction. However, the title also might remind some of the stereotypical talk that starts out “You’re a really great person, but . . .” One has a pretty good idea what is coming next.

¹⁵ LOMBORG, *supra* note 4, at 3-4, 327-28.

¹⁶ *Id.* at 338-42.

now – in fact, doing exactly that is the recipe for a bright environmental future.¹⁷

The interesting question is whose book is a work of fiction – that of Dr. Seuss or that of Professor Lomborg? Lomborg offers support for his thesis with a seductive mix of seemingly exhaustive research (his book contains nearly 3,000 footnotes and sports a 70 page bibliography), “common-sense” reasoning, and a homespun writing style. However, closer analysis reveals a number of reasons to be skeptical of the neo-Once-ler. The scientific community has expressed little support for many of Lomborg's assertions about “real” global environmental trends,¹⁸ and commonly employed indicia of scientific veracity provide little reason to give credence to a statistics professor's substantive (as opposed to methodological) conclusions on everything from extinction rates to global economics.¹⁹ Moreover, even if one assumes for the sake of argument that many of Lomborg's factual contentions are correct, they do not support many of his broad prognostications of a bright global future.²⁰ This is particularly true of Lomborg's almost casual optimism that development and technology will soon overcome the twin scourges of poverty and environmental degradation that plague many of the world's poorer countries.²¹ Lomborg also ignores or dismisses the role of environmental regulations in improving the state of the global environment, a perplexing stance given that these regulatory regimes are directly responsible for many of the environmental improvements that he trumpets.²² Lastly, even though analyzing broader trends can sometimes provide useful insights, Lomborg fails to recognize that many environmental problems are local – as solutions must be as well.

On the other hand, however, *The Skeptical Environmentalist* does hold a few lessons that modern-day Loraxes should consider. Lomborg's book is in large part a reaction to the scare tactics, gloomy messages, and alarming – and occasionally somewhat speculative – statistics that the environmental movement some-

¹⁷ *Id.* at 350-52.

¹⁸ See John Rennie, *Misleading Math About the Earth*, SCIENTIFIC AMERICAN, Jan. 2002, at 61.

¹⁹ *Id.* (Lomborg's view “is often marred by an incompetent use of the data or a misunderstanding of the underlying science”).

²⁰ *Id.* (“Even where [Lomborg's] statistical analyses are correct, his interpretations are frequently off the mark.”).

²¹ See John Bongarts, *Population: Ignoring its Impact*, SCIENTIFIC AMERICAN, Jan. 2002, at 67-69 (“Lomborg's view that ‘the number of people is not the problem’ is wrong.”).

²² See Michael Grubb, *Relying on Manna from Heaven?* 294 SCIENCE 1285, 1285 (2001) (book review) (citing examples where policy driven legislation has improved the environment).

times employs to make its case to the public.²³ Faced with such consistently “downer” messages, Lomborg warns, at least a portion of the populace may lapse into apathy or “hide” from problems they perceive as overwhelming (of course, bad tidings spread by environmentalists also tend to make the public and media are eager to grasp rose colored glasses peddled by people such as Lomborg). And though Lomborg takes the concept too far, it may make sense to include some consideration of relative risk when making decisions about allocating resources to reduce threats to humans and the environment. Finally, Lomborg’s tome should also serve as a reminder of the power of economics for those concerned with our environmental fate. The Danish professor is probably not far off the mark in painting at least partial solutions to a number of environmental problems in terms of economics – even if his book is fuzzy on how to change current economic systems to realize those fixes.

I. BYE BYE BJØRN

Lomborg devotes much of his effort to showing that Lester Brown and his fellow Loraxes are wrong in painting a gloomy picture of current environmental trends, and that society thus should largely ignore their warnings.²⁴ To do this, of course, Lomborg must first describe what he thinks constitutes “The Litany” that environmentalists preach.²⁵ Next, Lomborg attempts to dazzle readers with a vast array of “facts,” backed up by figures, graphs, and a profusion of circuitous footnotes.²⁶ Finally, he employs these “facts” to reach an array of broad findings diametrically opposed to his characterization of those that form “The Litany,” Lomborg concludes that most everything from the environment to international economics to human health is just fine and getting better all the time.²⁷ However, while Lomborg’s graphics are impressive looking and his assertions sound plausible, in the end

²³ See LOMBORG, *supra* note 4, at 3-5 (citing examples where television and newspapers send the message that the environment is in bad shape).

²⁴ See *id.* at 327-30 (criticizing Brown’s views as “myths”).

²⁵ See *id.* at 3-4. Lomborg’s Litany is that: (1) the environment is in poor shape; (2) the earth’s resources are running out; (3) population growth is leaving less and less to eat; and (4) the air and water are becoming ever more polluted. See *id.* at 4.

²⁶ Lomborg’s footnotes are frustratingly difficult to follow, as well as ultimately often incomplete. The notes themselves refer readers to the bibliography, requiring the reader to look in two places to pin down the sources of his factual assertions. Often, however, neither citation provides the specific page or graphic that supposedly supports Lomborg’s point. See, e.g., *id.* at 377 n.833.

²⁷ See *id.* at 4 (“Mankind’s lot has actually improved in terms of practically every measurable indicator.”).

pressive looking and his assertions sound plausible, in the end there are ample reasons to question his conclusions.

Before attacking "The Litany," Lomborg had to first describe its tenets. This he does in many cases by setting up an extremist straw man that practically begs to be knocked down. For example, he quotes two obscure Danish publications calling acid rain an "ecological Hiroshima,"²⁸ and "one of the most serious threats to life here on Earth."²⁹ Even a decade ago, however, few environmental organizations portrayed the phenomenon in such alarming terms. But for Lomborg, it would have been much less dramatic to take issue with a more accurate characterization of the problem as a chronic stressor of lakes, forests, and soils, as well as a contributor to regional haze and chronic human health effects.

In looking for additional sources of environmental gloom and doom to pillory, Lomborg often quotes media sources.³⁰ His discussion about the public's fear of cancer, for example, cites a number of magazine articles warning of a modern cancer "epidemic."³¹ In doing so, the Danish Once-ler in essence criticizes the Lorax for the way the Truffula Valley Times characterizes the furry environmentalist's message.³² Lomborg thus misses the mark in his efforts to critique "The Litany" itself, since many times he refers only to what some in the media report as environmental problems.³³ Lomborg makes a valid a point in showing that some in the media may overemphasize environmental problems and risks, just as, for example, other media critics have pointed out that sensational stories on violent crimes give the public a false impression of the world as a place with murderers and child snatchers behind every bush. However, Lomborg needs to be clearer that there is a meaningful difference between what the scientific and environmental communities portray as the state of the environment versus how the media characterizes environmental problems and fears.

All of the above, though, is just prelude to the key question: does *The Skeptical Environmentalist* live up to its billing by accurately setting forth the "real" state of the world? If the answer is affirmative, many more people should read his book, because

²⁸ *Id.* at 178.

²⁹ *Id.*

³⁰ *See, e.g., id.* at 215-16, 39-42.

³¹ *Id.* at 216.

³² *Id.* at 215 (examining response to Rachel Carson's *SILENT SPRING*).

³³ *See id.* at 216-17.

Lomborg reaches some amazing findings.³⁴ Some examples: acid rain may make forests grow faster, not harm them;³⁵ freshwater pollutants in the United States and the United Kingdom have declined 80-90% over the past couple of decades;³⁶ a cornerstone theory of conservation biology may not work in many places, and reports of losses of biological diversity are vastly overstated;³⁷ global climate change will not decrease food production, will not increase damage from storms and hurricanes, and will not increase malaria;³⁸ and more than 85% of the developing world – and 90% of the entire world – has never been as “rich” as it is now.³⁹ Lomborg uses these and many similar contentions to support his ultimate conclusion that the world’s environment and economy are just fine, and will only improve even without measures advocated by environmentalists.

This message, of course, has been warmly received by a host of people and institutions with economic or political stakes in maintaining the status quo. A number of reviewers and pundits without such interests have also embraced the book, apparently impressed enough with all of the book’s graphs and footnotes to dispense with much critical analysis of whether Lomborg’s provocative assertions are accurate.

So what is a more skeptical reader to do? Should Lomborg’s research and conclusions prompt a far-reaching factual reassessment of what appears to be considerable uncertainty over the “real” state of the global environment and economy, as well as ideological soul-searching over what this means for modern society? The answer is quite simple – not just “no,” but “heck no.”

³⁴ Lomborg also goes through some equally amazing statistical exercises to reach his conclusions. My own favorite is his analysis dismissing reports of decreases in sperm count over recent decades in human males, which some have attributed to feminization in males as a result of estrogen-mimicking chemicals in air, water, and food. *Id.* at 238-41. In an effort to prove that such concerns are unfounded, Lomborg asserts that men in New York have higher sperm counts than nearly anywhere else in the world (though no one knows exactly why!), and thus the use of New Yorkers in several of the sperm count studies skews their results. *Id.* at 239, 244. Moreover, Lomborg also asserts that men have a lot more sex today than in past decades, which tends to naturally lower the number of sperm per ejaculation. *Id.* at 240. So *voilà!* – studies that show what looks like statistical indications of lower sperm counts over time really just reflect the fact that men in New York are really virile and that we’re all having a lot more sex these days. *See id.* at 239-40. I can’t wait to see the episode of HBO’s “Sex and the City” when Carrie reads *The Skeptical Environmentalist!*

³⁵ *Id.* at 179-80.

³⁶ *Id.* at 204-05, 205 fig. 112.

³⁷ *Id.* at 253-54, 257 (discussing actual losses of biological diversity and consequences of overstating extinctions).

³⁸ *Id.* at 317.

³⁹ *Id.* at 77.

In deciding whether to act upon or even consider extrinsic information, both individuals and institutions naturally apply a threshold test of whether the source of the information is credible and reliable;⁴⁰ for this reason, few people take much notice of the person on a street corner with a sign warning that judgment day is nigh. An important reason underlies this behavior; with limited time and resources, one must develop a mechanism for discarding information when the cost of assessing its validity is likely to exceed the information's worth, or when merely considering the information is likely to lead to unwarranted fear or prejudice.

The U.S. Supreme Court interpreted the Federal Rules of Evidence to include this common sense notion in *Daubert v. Merrell Dow Pharmaceuticals*.⁴¹ In that case, the Court held that federal judges must act as "gatekeepers" of good science to insure the relevance and reliability of scientific evidence used in resolving civil disputes.⁴² Rejecting the former test that judges should consider admissibility of scientific evidence solely based on whether it is "generally accepted" in a particular field, the Court encouraged judges to conduct a "flexible" inquiry that, in addition to "general acceptance," considers as indicia of "good" science factors such as whether a theory or technique has been tested, whether it has been subjected to peer review and published, and a theory's known or potential rates of error.⁴³ Courts apply the *Daubert* test as scientific gatekeepers in order to prevent interminable trials, as well as to avoid exposing juries to information that may affect their judgments, yet that is not reliable or relevant.⁴⁴ Before attempting the considerable task of stacking Lomborg's facts and figures up with those from other sources and attempting to decide whom to believe, it makes sense to apply this sort of a "gatekeeper" inquiry to

⁴⁰ Cf. *id.* at 348-52 (discussing how environmental policies should be decided in the future).

⁴¹ 509 U.S. 579 (1993).

⁴² *Id.* at 589 n.7, 597.

⁴³ *Id.* at 593-94.

⁴⁴ See *Tome v. U.S.*, 513 U.S. 150, 163 (1995) (Breyer, J., dissenting) ("The judge may reject the evidence . . . only if the probative value of the evidence is substantially outweighed by its tendency to prejudice a party or delay a trial."); *In re TMI Litigation*, 193 F.3d 613, 664 (3d Cir. 1999) ("Rule 403 . . . permits the exclusion of relevant evidence if its probative value is substantially outweighed by the danger of unfair prejudice . . .") (citing *Daubert*, 509 U.S. at 595); *In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 747 (3d Cir. 1994) ("The Court noted that Rule 403's balancing test of the probative against the prejudicial value of evidence has a special role in cases involving expert witnesses.") (citing *Daubert*, 509 U.S. 579); *State v. Porter*, 698 A.2d 739, 794 (Conn. 1997) (Berdon, J., dissenting) ("[W]e not only adopted the 'considerations' that the court in *Daubert* delineated . . . but we also made clear that the admissibility of scientific evidence was subject to the limitations of rule 403 by stating that 'scientific evidence, like all evidence, is properly excluded if its prejudicial impact substantially outweighs its probative value'").

The Skeptical Environmentalist to decide whether or not it is even worth the trouble.

In such a threshold analysis, Lomborg and his book fail spectacularly. At the outset, one must question whether Lomborg, a statistics professor, is qualified to draw *any* substantive scientific, economic, and medical conclusions, let alone the sweeping conclusions he reaches on issues that have been debated in various expert circles for decades. His background provides him with the credentials to critique statistical methods that others have employed in assessing environmental and economic issues, or to suggest what he views as more accurate statistical methodology to apply to such questions. Lomborg, however, shops around for his own data, applies statistical analyses to the data, draws conclusions, and then explains what these conclusions mean for society. Competence in only one of these four areas does not make Lomborg enough of an expert to merit attention as one who knows much of anything about the “real” state of the world.

Additionally, with the obvious exception of a book marketed to what is essentially a popular audience, Lomborg’s facts and conclusions have not been subject to peer review and publication. In order for a scientist to have a paper published in a reputable journal, it must first pass muster with an editor who herself is an expert in the relevant field, as well as a panel of anonymous reviewers.⁴⁵ Only if the reviewers recommend publication (usually after considerable changes to the paper’s analysis and conclusions, or even to its methodology) does the paper go to press. Though it

⁴⁵ See *Daubert v. Merrell Dow Pharm., Inc.*, 951 F.2d 1128, 1131 (Cal. Ct. App. 1991) (vacated by 509 U.S. 579 (1993)) (“[T]he best test of certainty we have is good science - the science of publication, replication and verification, the science of consensus and peer review.” (quoting P. HUBER, *GALILEO’S REVENGE: JUNK SCIENCE IN THE COURTROOM* 228 (1991)); *Valentine v. Pioneer Chlor Alkali Co., Inc.*, 921 F. Supp. 666, 670 (D. Nev. 1996) (“One indication that the proposed evidence is the result of good science is proof that the research and analysis supporting the expert witness’s conclusions have been subjected to normal scientific scrutiny through the process of “peer review” and through publication in a generally-recognized scientific journal that conditions publication on a bona fide process of peer review.”) (citing *Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1318 n.6 (9th Cir. 1995)); see also William L. Anderson et al., *Daubert’s Backwash: Litigation-Generated Science*, 34 U. MICH. J.L. REFORM. 619, 621 (2001) (describing the methods and effects of peer review and publication); Effie J. Chan, *The “Brave New World” of Daubert: True Peer Review*, 70 N.Y.U. L. REV. 100, 117 (1995) (describing the process of editorial peer review in scientific journals and noting the “general correlation between a journal’s prestige and the quality of its editorial peer review.”); Lars Noah, *Sanctifying Scientific Peer Review: Publication as a Proxy for Regulatory Decisionmaking*, 59 U. PITT. L. REV. 677, 693 (1998) (editorial peer review “represents the scientific community’s effort to police itself and to assure a certain minimum level of quality so that scientists and others can rely on the results of reported scientific research.”). Noah’s article describes the process and notes, “[p]ublication in peer-reviewed journals is one of the most important mechanisms for screening, disseminating, and preserving new research results. In a sense, publication represents the currency of scientific activity.” *Id.* at 695.

can have flaws, scientists almost universally regard this process as a key indicator of a paper's reliability.⁴⁶ Lomborg has never published in a peer-reviewed journal any of the findings he reports in *The Skeptical Environmentalist*.

It is unlikely that he could do so. Scientists who have been recognized as experts in their respective fields – and who *have* authored many papers in peer-reviewed journals – have almost universally excoriated both Lomborg's factual assertions and the broader conclusions he draws from them.⁴⁷ Also providing a good

⁴⁶ Lomborg, however, seems better acquainted with the popular media than with scientific publications. For example, he devotes a box on page 36 to arguing that scientists have a difficult time publishing their results unless their conclusions are interesting or provocative, even if those conclusions may have resulted from some purely coincidental relationship. While this may be a valid criticism of some popular media – for instance, one might speculate whether a high profile publisher would have found a book on the global environment very attractive had it merely once again pointed out the problems society faces rather than arguing that these problems have been trumped up by a semi-conspiracy among environmentalists, scientists, and governments – it demonstrates either ignorance or disregard of scientific peer review, the purpose of which is to avoid publishing any results based on mere coincidence.

⁴⁷ See Mikael Skou Andersen, *The Lomborg debate: Some replies from Danish scientists to a Contrarian* (Dec. 31, 2000), at <http://www.au.dk/~cesamat/debate.html> (“In each their [sic] professional field, the researchers argue against the interpretations that Bjørn Lomborg have given, and provide counter-arguments that are for the reader to consider.”); Sherry Bosse, *The Lomborg and Short of It: Links related to The Skeptical Environmentalist*, GRIST MAGAZINE, Dec. 12, 2001, at <http://www.gristmagazine.com/grist/books/links121201.asp> (links to sites that “praise the man, haze the man, and walk the middle ground.”); Douglas A. Kysar, *Some Realism About Environmental Skepticism*, at 63, at http://papers.ssrn.com/sol3/delivery.cfm/SRRN_ID323460_code020907500.pdf?abstractid=323460:

[Lomborg] fails to acknowledge that his preferred method of policy review is built upon its own tenets of faith. They are less transparent than the frequently charged rhetorical appeals of environmentalists, but they exist and often are backed by the same fervor that Lomborg appears to deride as non-rational. . . . [The reliability of his decisions] depends not upon scientific evidence but upon the quality of their moral justification. Lomborg, regrettably, appears not to have comprehended this point, an omission that leaves the careful reader decidedly skeptical about *The Skeptical Environmentalist*.

(last visited Oct. 16, 2002); Jim Norton, *Correcting Myths from Bjørn Lomborg*, at <http://www.info-pollution.com/lomborg.htm> (providing links to sites criticizing Lomborg's book) (last viewed Oct. 16, 2002); John Rennie, *Misleading Math About the Earth: Science Defends Itself Against The Skeptical Environmentalist*, SCI. AM. 61 (Jan. 2002):

The problem with Lomborg's conclusion is that the scientists themselves disavow it. Many spoke to us at Scientific American about their frustration at what they described as Lomborg's misrepresentation of their fields. His seemingly dispassionate outsider's view, they told us, is often marred by an incomplete use of the data or a misunderstanding of the underlying science. Even where his statistical analyses are valid, his interpretations are frequently off the mark – literally not seeing the state of the forests for the number of the trees, for example.

World Resources Institute, *Debunking Pseudo-Scholarship: Things a Journalist Should Know About The Skeptical Environmentalist* (last updated July 23, 2002), at http://www.wri.org/press/mk_lomborg.html (providing links to critical articles written by environmental groups, environmental scholars, and scientists: “Lomborg paints a caricature of the environmental agenda based on sometimes mistaken views widely held 30 years ago, but to which no serious environmental institution today subscribes. In making the case for a more rational and scientific debate

indication of the general acceptance of his book in scientific circles, a long list of luminaries of the technical world have not been gentle on the modern Once-ler. Dr. E.O. Wilson, for example, who in addition to world-wide scientific acclaim has won two Pulitzer Prizes for his own books, called Lomborg part of “the parasite load on scholars who earn success through the slow process of peer review and approval.”⁴⁸ Dr. Peter Gleick at the Pacific Institute for Studies in Development, Environment, and Security declared that “Lomborg’s understanding of basic environmental science concepts and the nature of risk assessment are highly flawed.”⁴⁹ Finally, lamenting that popular publication of Lomborg’s book has essentially forced the scientific community to deal with findings it would have never accepted through standard scientific channels, climate expert and MacArthur Fellow Dr. Stephen Schneider commented as follows: “What a monumental waste of busy people’s time countering the scores upon scores of [Lomborg’s] straw men, misquotes, unbalanced statements, and selective inattention to the full literature.”⁵⁰

Dr. Schneider’s statement emphasizes one of the important reasons behind dismissing Lomborg’s thesis without the necessity of going through each of its elements point by point, namely that such a process is not worth the time because the source is not credible in the first place.⁵¹ Still, some might cry foul at the idea of simply dismissing Lomborg on the grounds that he and his book fail some sort of threshold test; surely, these people will contend, the “marketplace of ideas” is the best way to sort out whether or not *The Skeptical Environmentalist* contains worthy information.⁵²

on environmental issues, Lomborg commits the same sins for which he attacks environmentalists. He exaggerates, makes sweeping generalizations, presents false choices, is highly selective in his use of data and quotations and, frequently, is simply wrong.”); *see also infra* notes 48-50 and accompanying text.

⁴⁸ E.O. Wilson, *Vanishing Point: On Bjørn Lomborg and Extinction*, GRIST MAGAZINE, Dec. 12, 2001, at <http://www.gristmagazine.com/books/wilson121201.asp>.

⁴⁹ Peter H. Gleick, *Where’s Waldo: A Review of the Skeptical Environmentalist*, *Union of Concerned Scientists*, at 7, at <http://www.ucsusa.org/publication.cfm?publicationID=393> (Nov. 6, 2002).

⁵⁰ Stephen H. Schneider, *Hostile Climate: On Bjørn Lomborg and Climate Change*, GRIST MAGAZINE, Dec. 12 2001, at <http://www.gristmagazine.com/books/schneider121201.asp>.

⁵¹ Indeed, one must question whether it is worth devoting a law review symposium to Lomborg’s book, when law professors could be otherwise engaged in more meaningful work. Then again, perhaps this sort of project is an innocuous way to keep professors busy in a way that does not involve discussions of game theory or obscure constitutional analyses.

⁵² *But see How a Pseudoscientist Duped the Big Media* (Dec. 31, 2001), at <http://www.kuroshin.org/story/2001/12/30/19819721>:

The marketplace of ideas, eh? Nice in theory - the trouble is, popular books promoting ideas like ‘environmentalism is really a load of nonsense’ are quickly seized upon by special interests, and can have an influence totally disproportionate to their accuracy (or lack of it). Unfor-

Unfortunately, however, information “consumers,” particularly in an era when science grows ever more sophisticated and the general public’s science literacy continues to decline, have few tools with which to distinguish “sound” scientific information from its pretenders. For many, therefore, the conclusions of people such as Lomborg encourage ambivalence or even cynicism; if it seems that scientists can never agree about whether or not society faces significant environmental problems, people are not likely to question the status quo, and *are* likely to begin to mistrust all scientists.⁵³ Fostering such thinking is most insidious danger of Lomborg’s work.

Unlike the scientific rigor of peer-reviewed journals, Lomborg’s manuscript was obviously subject to a much less exacting review prior to publication. Accordingly, whether anyone likes it or not, *The Skeptical Environmentalist* has been widely disseminated. It is thus important for the scientific community and others to educate the public – not necessarily about whether or not Lomborg is correct, but about why society should not have to bother asking that question.

II. YOU CAN’T GET THERE FROM HERE

In litigation, effective litigators often argue that their client should prevail even assuming that the other party’s version of a disputed fact is correct. Such a strategy also reveals significant

Unfortunately, in the real world, people aren't perfectly rational calculators, and bogus ideas can gain sway with millions. In a 'marketplace of ideas' in which no attention is paid to discerning truth from falsity, he with the most money often has the most influence. Who has more money – Big Oil or Greenpeace?

See also Alberto Bernabe Riefkohl, *Freedom of the Press and the Business of Journalism: The Myth of Democratic Competition in the Marketplace of Ideas*, 67 REV. JUR. U.P.R. 447 (1998) (describing the history of the marketplace of ideas). Justice Oliver Wendell Holmes is usually credited with introducing the idea of the marketplace of ideas into American Jurisprudence in his dissent in *Abrams v. United States*, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting) (“[M]en . . . may come to believe . . . that the ultimate good desired is better reached by free trade in ideas - that the best test of truth is the power of the thought to get itself accepted in the competition of the market and that truth is the only ground upon which their wishes safely can be carried out.”). Anna M. Taruschio, *The First Amendment, the Right Not to Speak, and the Problem of Government Access Statutes*, 27 FORDHAM URB. L.J. 1001 (2000) (“[B]ecause the marketplace encourages free and open debate in a public forum, it follows that each member of the audience will have a wider range of ideas and information from which to choose in making his or her own decisions about the issue at hand . . . ‘More speech’ means that under the marketplace of ideas paradigm, more speech, never less, is the remedy for false or untrue speech. In this way, false or untrue ideas will always be countered by new and different ones, and will eventually be defeated.”); Dru Oja Jay, *The Marketplace of Idea(l)s*, at <http://www.argosy.ca/argosy01-02/11.29.01/08.html> (“‘The marketplace of ideas’ refers to the popular concept that if all ideas and opinions are given space to be heard and compete with others, the best (i.e. most true) will win out.”) (last visited Oct. 16, 2002).

⁵³ See sources cited *supra* note 52.

weaknesses in Lomborg's characterization of the "real" state of the world: even assuming for the sake of argument that most of Lomborg's factual assertions are true, there nevertheless remains little support for many of his sweeping conclusions about the global environment.

This is particularly true with respect to Lomborg's prescription for improvements in environmental protection in developing countries.⁵⁴ Like others before him, Lomborg sees technology as the salvation to environmental problems – in his words, "technology makes it possible to achieve growth as well as a better environment."⁵⁵ He argues (with slim support) that developing countries will prosper and save their environments at the same time, principally through employing technical innovations acquired from the developed world.⁵⁶ But even making the huge assumption that technology can provide the answer to most environmental problems, Lomborg does not explain how the developing world will be able to afford to purchase these technologies. Even though these countries' economies are growing slowly, many economists note that the income gap between poor and rich nations continues to widen.⁵⁷

Lomborg, however, waves this issue away, insisting that the most meaningful economic statistic is the relative buying power of people's money in their local economy, i.e. "how much an Ethiopian can buy in Ethiopia,"⁵⁸ or what one magazine called the Big Mac index.⁵⁹ By this measure, he argues that people in less developed countries are actually much better off than they might appear in comparisons based strictly on dollar equivalencies, and asserts that the gap between the global "haves" and "have nots" has not widened.⁶⁰ But while this methodology may say something about purchasing power within individual nations, it breaks down quickly at the international level. The income in developing countries may be growing, but the price of technical innovations in the developed world is often rising even more quickly. While it may require only a few rupees or pesos to buy a Big Mac in New Delhi

⁵⁴ LOMBORG, *supra* note 4, at 175-77 (air pollution); 20-21 (clean water and sanitation); 113-17 (forests); 155-56 (water); 328-30 (the real state of the world); 350-52 (continued progress); *See also* Kysar, *supra* note 47, at 26-33 (discussing the impact of environmental regulation and conditions in developing nations).

⁵⁵ LOMBORG, *supra* note 4, at 176.

⁵⁶ *Id.*

⁵⁷ *Id.* at 73 (discussing the UN Development Programme's investigation of the relationship between the richest and poorest nations).

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.* at 74.

or Mexico City, an Indian entrepreneur or the Mexican government cannot go to the local village shop to purchase biotechnology or air scrubbers for a power plant. In the global technology market, only dollars and euros count. And even assuming, as Lomborg asserts, relative wealth in the developing world is managing to stay even with that in industrialized countries, much of modern technology will likely remain out of the economic reach of many developing countries.

The Skeptical Environmentalist's chapter on water provides a specific example of Lomborg's casual use of voodoo economics as the solution for entrenched environmental problems.⁶¹ Portraying water scarcity in many developing countries as simply an economic problem, Lomborg prescribes dramatic increases in water prices for consumers, as well as essentially eliminating agricultural water use because it is more efficient economically for these countries to import food rather than effectively subsidize wasteful agricultural practices.⁶² In countries with severe water shortages, Lomborg notes that there are almost limitless supplies of water to be had "at a price" from desalinization of seawater.⁶³ However, Lomborg never bothers to explain how desperately poor people will be able to afford significantly higher prices for water or what will happen to displaced farmers, much less how nations already burdened by lack of hard currency reserves and burgeoning international debt are going to find the money to increase food imports or purchase phenomenally expensive desalinization technologies.

Water issues also serve to highlight other weaknesses in Lomborg's book even if one assumes the truth of his factual assertions. First, contradictions abound. For example, Lomborg notes that many developed countries have essentially progressed beyond having to worry about water quality in rivers because they have become rich enough to rely on groundwater rather than surface waters for human uses.⁶⁴ However, earlier in the book, Lomborg admonishes that we should stop mining groundwater.⁶⁵ Similarly, Lomborg suggests that additional food production in the United States could provide exports to make up for agricultural land taken out of production in arid countries in order to eliminate wasteful agricultural subsidies,⁶⁶ but on the very next page notes that the

⁶¹ *Id.* at 155-58.

⁶² *Id.* at 155-56.

⁶³ *Id.* at 158.

⁶⁴ *Id.* at 203.

⁶⁵ *Id.* at 157.

⁶⁶ *Id.* at 155.

United States gives farmers similar subsidies.⁶⁷ This sounds like water quality and allocation presents serious environmental challenges for both developed and developing countries, suggesting the Lorax carries more credibility on this issue than the Once-ler. Lomborg also employs sweeping rhetorical flourishes to suggest that environmental problems are relatively easy to solve, and not cause for much concern.⁶⁸ However, he provides no indication of how his rosy scenarios will come about, essentially confirming that the issue he is discussing really does present a real and pressing problem. For instance, in addition to making water more expensive and telling countries in arid regions to import more food, Lomborg glibly counsels “better water management” to solve problems of water scarcity.⁶⁹ This is akin to saying that the Middle East will become a great place to live as soon as the people there behave more peacefully.

III. THE GOOD STUFF – SORT OF

Setting aside the many problems with *The Skeptical Environmentalist*, Lomborg’s work does convey a couple of worthwhile messages. Above all, he recognizes that the prices of energy and other commodities, whose production and use affect the environment, often fail to reflect their true social and environmental costs.⁷⁰ This of course reduces economic incentives to minimize environmental impacts. While hardly anything new, this at least is a tacit recognition that the invisible hand of the market has often failed as a guide for rationally managing the relationship between humans and the environment.

Perhaps recognizing the shortcomings of the market, Lomborg ultimately admits that environmental regulation plays a key role in protecting both humans and the planet. Though he downplays environmental law as the true driver in this area (even Danish Once-lers apparently find it difficult to highlight regulations as crucial), he nonetheless acknowledges its importance in cleaning up past messes as well as guarding against future harm. For example, Lomborg notes that “[s]ome of the most significant progress in the area of pollution has been achieved through recent regulation,”⁷¹

⁶⁷ *Id.* at 156.

⁶⁸ *Id.* at 158.

⁶⁹ *Id.*

⁷⁰ *See, e.g., id.* at 132 (prices for energy sources), 156 (discussing “hidden” subsidies to agriculture in the form of very low prices for irrigation water).

⁷¹ *Id.* at 351.

and concedes that genetically modified foods present risks that “suggest the need for a strong regulatory system.”⁷²

Lomborg, however, tempers his support of command and control schemes by asserting that “regulation has been right to the extent that it represented a reasonable prioritization and not because it was founded on a general worry.”⁷³ Elaborating on his idea of “reasonable prioritization,”⁷⁴ he presents in his final chapter an argument for risk management guided by relative risk principles,⁷⁵ much as did U.S. Supreme Court Justice Stephen Breyer in his book *Breaking the Vicious Circle*.⁷⁶

The idea of prioritizing risks certainly has validity. Most countries, including the United States, have virtually no system for considering tradeoffs inherent in regulating certain risks, including activities that pose very small dangers, while simultaneously not regulating other significant risks. Protecting consumers against pesticide residue to the level of one-in-a-million chance of harm seems somewhat incongruous when the law does not prevent the sale of – and in fact provides subsidies for – products such as cigarettes, which are known to be lethal to users as well as those incidentally exposed. Similarly, it may be useful to consider the wisdom of spending tax dollars to clean up all contaminated sites according to very stringent standards, when governments have a severe shortage of funds for acquiring habitat or for otherwise protecting imperiled ecosystems that often provide significant benefits to humans. In these types of cases, Lomborg’s ideas find some traction. Pesticides and hazardous waste sites are frightening, whereas restoring a wetland, for example, sounds as if it will primarily benefit frogs and birds. In actuality, however, putting social resources into wetland restoration may lead to relatively greater positive impacts, on both human health and the environment, because wetlands filter pollutants (including pesticides and hazardous chemicals) from human water supplies, improve water availability for both humans and other life forms, and provide wildlife habitat and human recreational opportunities.

Though it raises valid issues, Lomborg’s appeal for “reasonable” prioritization – like many arguments in his book – suffers from gross oversimplifications. Social resources devoted to the environment and human welfare are not nearly as fungible as

⁷² *Id.* at 348.

⁷³ *Id.* at 351.

⁷⁴ *Id.*

⁷⁵ *Id.* at 327-52.

⁷⁶ STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE* (1993).

Lomborg implies; for example, society cannot at a whim reallocate money that it spends or may spend on combating climate change to improve health care. Lomborg also overlooks rational reasons for accepting some risks while simultaneously spending money to eliminate lesser dangers. For instance, whether people face a risk voluntarily or whether it is imposed upon them often plays a significant role in risk management policy decisions. There are numerous other reasons why risks are often not equally borne by all segments of society, many of which can reasonably justify risk allocations that deviate from a strict relative risk calculus, notwithstanding Lomborg's hyperbolic labeling of such schemes as "statistical murder."⁷⁷

Finally, Lomborg's blast at the Lorax may ultimately provide the furry environmentalist with a good lesson in modern public relations. In our sound bite age, it is probably not a good thing to always be quoted as sounding ominous or saying something negative – sooner or later many people will tire of listening to the "bad, bad, bad, bad," or begin to feel so guilty that they go out of their way to avoid the message altogether. In recent years, many environmental organizations have attempted to include in their statements and publications examples of environmental progress and positive suggestions for things the average citizen can do to make things better. Still, it is always a challenge to find a positive message in efforts to prevent or stop harmful activities and to fix the serious environmental problems the world faces. But the neo-Once-ler's book adds yet another danger of a "spin" that is consistently negative – bad tidings spread by environmentalists tend to make the public and media eager to grasp flimsy rose colored glasses peddled by people like Lomborg.

CONCLUSION

Bjorn Lomborg's *The Skeptical Environmentalist* is an ambitious but deeply flawed work. Since it lacks basic indicators of scientific reliability, it does not merit serious consideration as providing credible information about the "real" state of the world. Like the Once-ler, Lomborg is likely to eventually see for himself that there are indeed environmental problems of much more significance than his numbers and charts would lead one to believe. However, saying "I told you so" will be small consolation for the Loraxes among us.

⁷⁷ LOMBORG, *supra* note 4, at 342.

POSTSCRIPT

In response to three complaints filed against Bjørn Lomborg over his assertions in *The Skeptical Environmentalist*, the Danish Committees on Scientific Dishonesty issued the following ruling on January 7, 2003:

Objectively speaking, the publication of the work under consideration is deemed to fall within the concept of scientific dishonesty. In view of the subjective requirements made in terms of intent or gross negligence, however, Bjørn Lomborg's publication cannot fall within the bounds of this characterization. Conversely, the publication is deemed clearly contrary to the standards of good scientific practice.⁷⁸

⁷⁸ The full text of the Committee's decision is available at http://www.forsk.dk/uvvu/nyt/udtaldebat/bl_decision.htm.

