

The Optimistic Environmentalist

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I want to thank the Kennedy School, Secretary Glickman, President Summers and my alma mater for inviting me to address a critical topic:

Are we acting as good, prudent, ethical stewards of the biosphere, the system of living creatures of which we are a part and on which we depend?

I'd like to ask everyone in the audience who has read the whole book to raise their hand.

OK, now stand if you have ever worked on a graduate dissertation.

Remain standing if you did it in less than a year.

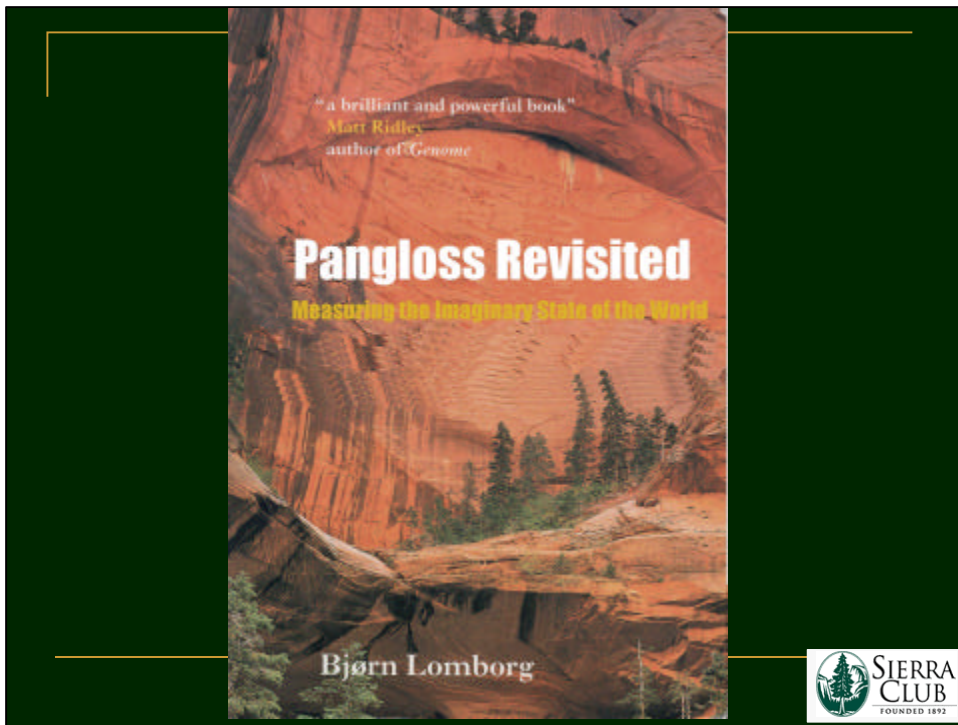
Remain standing if you did it on a subject as ambitious as measuring the real state of the world.

Are we skeptical yet?

Voltaire's young Candide asks his tutor, Dr. Pangloss, "Wasn't the devil the root of syphilis?"

Pangloss replies, "Not at all. It was an indispensable thing in this best of worlds, a necessary ingredient; for if Columbus had not caught this disease ... we would not have either chocolate or cochineal."

But in America, Bjorn, skepticism doesn't sell.



So, to help your book sales along, here's a galley proof of the second edition, with its new title "Pangloss Revisited; Imagining the Real State of the World."

I agree that we have no gun to our head; no unavoidable fate; no destined doom. But that does not mean that we should not be concerned or that we should continue to shoot ourselves in the foot. And what we have here in this book is a fiction, a confection, a fantasy -- albeit like syphilis, a dangerous one -- that encourages us to continue recklessly to damage our own life-support system, but which, fortunately, can be properly treated with common sense and by measuring the real world in the ONLY way it exists -- place by place. I too am an optimist -- but optimism if we want to avoid Candide's fate, must be married with prudence and realism

The World According to Lomborg

- "The world is basically headed in the right direction, and ... we can help to steer this development process by focusing on and insisting on reasonable prioritization."
- "All indicators of human welfare show progress."
- "We are not overexploiting our renewable resources."



The World According to Lomborg

- “We know of no other substantial problems looming on the horizon.”
- “In general, on average, things are getting better.”
- “We can forget about our fear of imminent breakdowns.”
- “Mankind’s lot has improved in every significant measurable field and it is likely to continue to do so.”



Lomborg’s basic thesis can be summed up:

The health of the biosphere is improving;

There are no serious warning signs;

Any unfavorable trends impact things like beetles, that we don’t need to care about;

Anything getting worse we do care about, like air pollution in Delhi, will fix itself with prosperity;

Anything that won’t fix itself, like typhoon deaths in Bangla Desh, will get even worse if we try to fix it.

This is described as “skeptical environmentalism,” the outcome of having “measured the real state of the world.”

It actually sounds a lot like the world Dr. Pangloss portrayed to Candide:

The World According to *Candide*

“All this is for the very best. For if there is a volcano in Lisbon, it could not be anywhere else. For it is impossible that things should not be where they are. For all is well.”

— Pangloss
Candide, Voltaire, 1759



I agree with Bjorn that scientists are not much better at predicting the exact future than economists, that the media prefer bad news, and that we are unlikely to run out of copper. And I agree with him that we are not condemned to a horrible fate. But we are also not exempt from such a fate.

It's up to us.

Here are two other summations of the state of the world.

The July 25, 1997 issue of *SCIENCE* magazine is devoted to the health of human-dominated ecosystems. Lector Lomborg cites this as one of his sources:

Red means the finding directly contradicts one of Lomborg's claims, brown means he simply ignored the problem.

The World According to *Science*

- Between one-third and one-half of the land surface has been transformed by human action.
- More than half of all accessible fresh water is **already** being used by humanity.
- About one-quarter of the bird species have been driven extinct.
- 50% of coastal mangrove ecosystems have been destroyed or transformed.
- 6% of marine fisheries had collapsed by 1995: California sardine, Peruvian anchovy, Grand Bank cod, Columbia Basin salmon, and George's Bank ground fishery.

Brown = Metric omitted by Lomborg

Red = Finding in conflict with Lomborg's metric

White = Addressed by Lomborg

Source: "Human Dominated Ecosystems," *Science*, 25 July 1997, vol. 227, pages 445-608.



The World According to Science

- Another 22% of marine fisheries were overexploited, and 44% were at the limit of exploitation.
- River systems from which only a fraction of total flow now reaches the sea include the Nile, the Colorado, the Ganges, and the Amu and Syr Darya.
- 18% of world's mammals currently threatened with extinction.
- 15 million hectares in the developing world suffer from salt build up or waterlogging.
- Depending on the continent, tropical forests are being cleared at a rate of 1-4% per year.

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Source: "Human Dominated Ecosystems." *Science*, 25 July 1997, vol. 227, pages 445-608.



Our second contrast is the findings from a Report, "Global Trends 2015," published by the National Foreign Intelligence board under the Director of Central Intelligence, in 2002. Their assessment diverges sharply from Bjorn's, again in red and brown.

The World According to the CIA

- 3 billion people will be living in water-stressed regions from North Africa to China by 2015 — less than 1700 cubic meters per year.
- A number of developing nations will not be able to maintain current levels of irrigated agriculture.
- Water table in major grain producing areas in Northern China is dropping 5 feet per year; through India average is 3-10 ft per year; per capita water availability in India will drop 50-70%.

Red = Finding in conflict with Lomborg's metric

White = Addressed by Lomborg

Source: *Global Trends 2015*, Central Intelligence Agency, December 2000.



The World According to the CIA

- The number of chronically malnourished people in sub-Saharan Africa will increase by 20% over the next 15 years.
- Developing countries will experience a surge in both infectious and non-infectious diseases; tuberculosis, malaria, hepatitis and AIDS will increase rapidly. AIDS and TB will account for a majority of developing country deaths. In Africa, life spans may be reduced by 30-40 years.

Brown = Metric omitted by Lomborg

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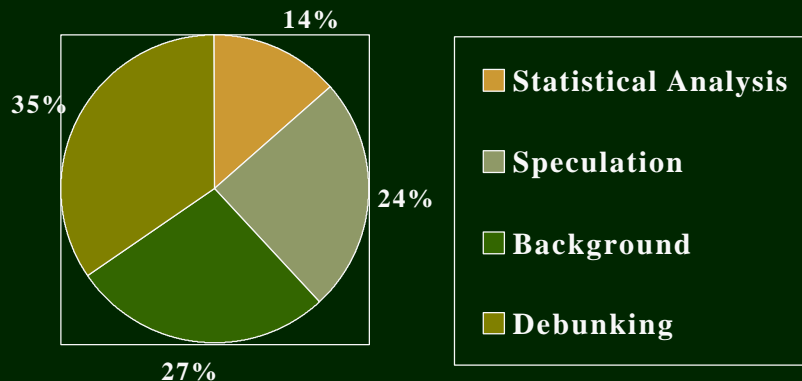
Source: *Global Trends 2015*, Central Intelligence Agency, December 2000.



Why this chasm? If Lomborg, as he says, has measured “the real state of the world”, why do these two very different analyses concur that his skepticism is, in fact, naivete -- almost Panglossian naivete?

“Fluff” or Analysis?

A Case Study of Lomborg’s Chapter Five, “Our Chemical Fears”



Because Lomborg has not measured much. A content analysis of Chapter 5 shows that only 14% of the text presented or discussed Lomborg’s statistical analysis of the world. The bulk

simply debunked other's work -- 35%, 27% was basic background, and 24% was pure speculation -- moral, economic or political musings with no data or evidence presented whatsoever.

And when I examined that 14%, I found it riddled with errors and inconsistencies.

Lomborg has not measured the right things.

He has not measured them accurately or consistently.

He has not actually drawn his conclusions from his own data.

Look close to home -- the collapse of the New England and the Canadian cod and ground fisheries.

Lomborg dismisses these catastrophic examples of environmental mismanagement. He admits that "35 percent of the fish catch is obtained from stocks showing declining yields" but reassures us: Fish farming, particularly in China, is increasing faster than marine stocks can collapse. "It appears of minor importance whether the consumer's salmon stems from the Atlantic Ocean or a fish farm."

Oh. Pangloss again.

"Private misfortunes make up
the general good; so that
the more private misfortunes there are,
the more all is well."

— Pangloss
Candide, Voltaire, 1759



Sell that message in New Bedford or Block Island, or in St. John's or Burin, Newfoundland; sell it in Albion, California or Astoria, Washington. Catfish production in ponds in China is a good thing. It doesn't make up for the unnecessary loss of a natural fishery on the Grand

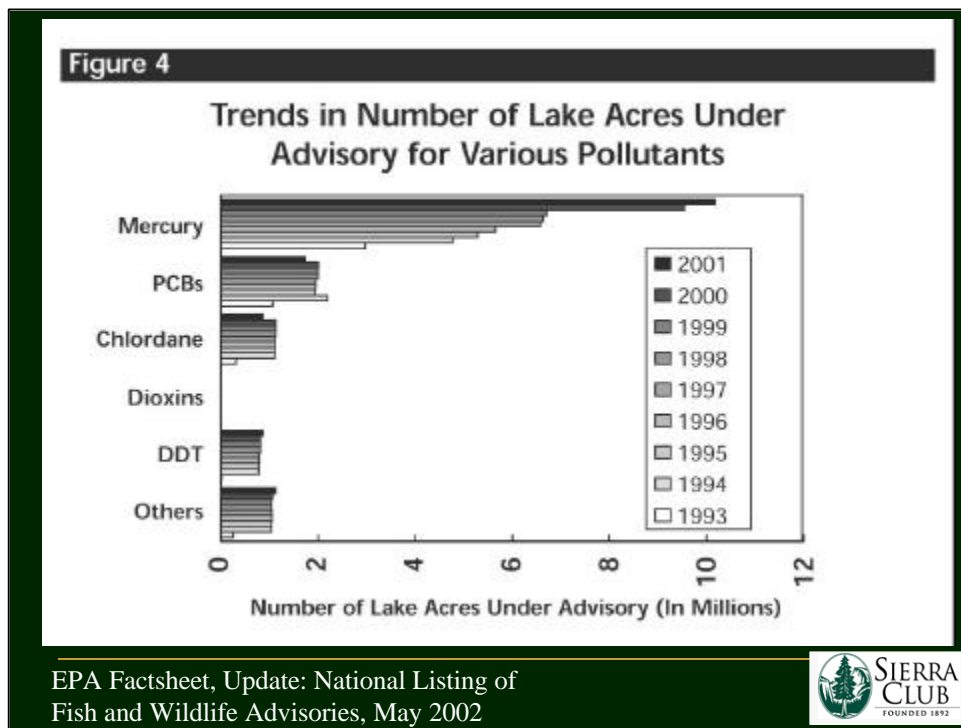
Banks which once supported hundreds of communities and yielded 300,000 tons of cod a year. It doesn't alter the grim fact that in the last five years 100,000 fishing families have lost their livelihood from mismanagement of marine fisheries. Is the environment improving when marine ecosystems from the Philippines to Oregon, from New Zealand to Mexico, are collapsing? Does Chinese aquaculture justify the reckless global sacrifice of the livelihoods of 200 million people who live directly off marine fisheries and could face unemployment, even starvation, if we keep blowing it?

Is this good stewardship?

Let's measure clean water.

Lomborg cheerfully reports on our progress in reducing water pollution since the doom and gloom crowd -- that's me -- persuaded politicians to stop cities and industries from dumping in our rivers, lakes and oceans. All the chlorinated pesticides and compounds we banned in the 70's, are down sharply. Lomborg attributes this improvement to higher incomes -- as always. But what really increased was not prosperity -- the average American family, Bjorn, is not much better off than they were in 1970. What increased was the public support for tough environmental standards. We cleaned up these pollutants -- not prosperity.

As proof, look at what's not down, and what you don't mention -- mercury -- the worst prevalent toxic we missed. It now takes off the kitchen table fish from 11 million US lake acres, up from 4 million, and accounts for 75% of poisoned fisheries. Mercury has just been reported by the EPA as a significant health threat to American kids. Minnesota, whose license plates proclaim "The land of 10,000 lakes" can't find a single one safe for fishing.



Mercury's not increasing because Americans are too poor; because cleaning it up is a luxury; because we have a gun at our head. Mercury's increasing because powerful corporate interests like coal companies and public utilities, which love your book, Bjorn, would rather risk our minds than their pocketbooks.

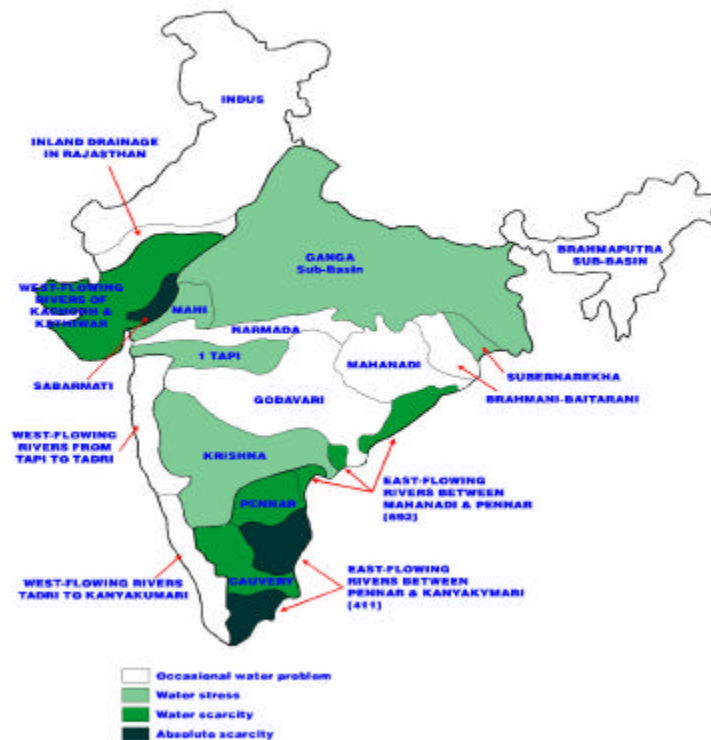
When I left Harvard I went to India, spent two years in a village -- India is one sixth of the world, and the data does not suggest that the environment is getting better. Look at drinking water in West Bengal. 30 million people live in areas where arsenic is found in excess of WHO safe levels in ground-water -- 800,000 of whom are already drinking from these wells. Of that 800,000, 175,000 show signs of clinical arsenic poisoning.

Drinking water that doesn't kill you, as Lomborg repeatedly points out, should not be a luxury. But skeptical environmentalism doesn't offer a solution. There is a lot of water in Bengal, as Lomborg points out. No absolute water shortage. He says there should be "no problema." But measured in the only way that matters, place by place, it's clear that Pangloss was wrong.

Things could be different in West Bengal, if we have the will to make them different.

And agricultural India, on which 500,000 people depend for their livelihood, faces severe water shortages. Bjorn assures us that India has lots of water, 5600 liters/capita/day, and even in 2050 will still have 3724 liters. But as this chart shows, while there is lots of water per capita in the Northeast, and on the Western coast, areas of India where most farmers live, including the huge Gangetic Plain, are already either water-stressed or water-short.

Map 4
River basins : Water stress and water scarcity



Source: Chitale, 1992.

Lomborg ignores that it is of no value to peasants in Rajasthan that Kerala is still in water surplus, nor can the huge peasant population -- probably 150 million people-- of the Gangetic Plain hope to escape poverty without irrigation. And the huge monsoons of the Northeast are far too distant.

Nor can groundwater solve this problem. In the Punjab, India's breadbasket, 62% of all groundwater aquifers are exploited beyond 85%; in Haryana 33%; in Rajasthan 29%; in Gujerat 25%. Groundwater overcharge is a serious problem in Punjab, Haryana, Tamilnadu and Gujerat.

Lomborg advocates solving environmental problems by eliminating poverty. He ignores that environmental problems cause poverty. He offers "skeptical" bromides like "it will be necessary to redistribute water from agriculture to industry and households, and this will probably involve a minor decline in agricultural production ... but this will definitely be profitable for the countries involved." Could we measure "minor?" And will this also be profitable for the peasants displaced? Lomborg proposes to replace the lost food production with imports from water surplus countries. What replaces the lost agricultural livelihoods?

Jobs in the cities? But fifty years ago economists realized that in third world countries like India, if agricultural livelihoods collapse, so do urban wages and living standards -- basic supply and demand, an economic concept Lombard is surprisingly intermittent in grasping.

Water shortages in India are, as the CIA reported, real, increasing, and will drive poverty up, not down. That's what's happening in the real world.

Nor is air pollution in India "a cough" that you might, if you got richer, decide to worry about. Particulate levels in Delhi were higher than the highest Lomborg ever cited for London, 40% of the population was suffering from asthma. It's coming down, not because Delhi suddenly got rich, but because worried citizens organized, protested and required two-stroke cycle-rickshaws to be converted to compressed natural gas. People got fed up and acted, and already air quality is substantially better.

China, like Mexico, could ban lead. It ought to, when 60-95% of urban kids have clinical lead poisoning. This is not a luxury. It's a matter of life and death, and of future prosperity sacrificed to huge levels of brain damage. Why did this happen? Not because China is poor, but because in the 1920s, when worriers -- then lodged in the US Public Health Service -- argued that we shouldn't put lead into gasoline in the first place, because we knew it would poison people, the Ethyl corporation accused the doctors of being alarmists in language highly reminiscent of that you just heard from Bjorn.

Lead Pollution Poses a Hazard to Children

A Look at China

CITY/REGION	YEAR	PERCENTAGE OF CHILDREN WITH LEVELS >10 MICROGRAMS PER DECILITER
Shenyang (polluted urban)	1991	99.5
Shenyang (nonpolluted suburban)	1991	67.9
Beijing (polluted suburban)	1992	64.9
Shanghai (polluted urban)	1988	85.6
Shanghai (nonpolluted suburban)	1988	88.2

Source: WRI report on Selected Studies Showing High Blood Levels Among Children, 1988-1995. The data in the report comes from China: Xiao-ming Shen *et al.*, "Childhood Lead Poisoning in China," *The Science of the Total Environment*, Vol. 181 (1996), p. 103.



It isn't skepticism that is going to give us a better world -- at least not the kind of skepticism that looks at problems from such a distance that human beings and the natural world get lost. It's action. And we don't act if we think that everything is either just great, or getting better on its own. The more we measure the world, the more we come to understand that it's a little more complicated than that -- and that Julian Simon is no better a guide to life than Pangloss turned out to be for Candide.

"All events are linked together in the best of all possible worlds. For after all, if you had not been expelled from a fine castle with great kicks in the backside; if you had not been subject to the Inquisition; if you had not traveled about America on foot; if you had not lost all your sheep from the good country of Eldorado, you would not be here eating candied citrons and pistachios."

— Pangloss
Candide, Voltaire, 1759



TWO MINUTE REBUTTAL

There is a prudent course between acting as if we had a gun at our heads and shooting ourselves in the foot. That course depends on understanding that our environmental problems are serious, that we have available solutions, and that we need to act on them.

Let's begin with Bjorn's big pot of money. It is big. We don't spend most of it on our environmental problems, and we wouldn't even if we implemented Kyoto. We ought to get every family in the world clean drinking water. We could pay for it in fifteen years if we simply ended crop subsidies to the 10 biggest agribusinesses in America -- and free up \$12 billion a year. This would also dramatically reduce pesticide and fertilizer damage to wildlife and clean water, and raise wages for peasants in the third world to alleviate poverty.

If we want to help the agricultural states, we could help them build windmills to produce electricity we need rather than wheat we don't.

We could scrap the \$35 billion in new subsidies to the oil and gas industry proposed by the Bush Administration, and put those funds instead into renewable energy research.

If we also forced oil companies and public utilities globally to stop poisoning their neighbors, they would have the financial incentive to use these new technologies which would also reduce the stress on ecosystems and the climate.

Then we could save the \$54 billion a year maritime nations currently spend subsidizing the overbuilt fishing fleet, and invest it in producing renewable energy in the third world to meet such basic villages needs as health care and communications. A right-sized fishing fleet would enable fishery stocks, environments, and fishing communities to recover, and the investment in renewable energy would take us down the road to a sustainable climate without any of Bjorn's parade of horrors.

That's two minutes of solutions -- which might serve us better than 352 pages of sophomoric skepticism.

It could be a beautiful world. But it's up to us to make it that way.