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New Shade of Green: Stark Shift for Onetime Foe of Genetic Engineering in Crops

By ANDREW C. REVKIN

In case you missed the coverage and commentary yesterday (the Twitter flow is here), you can now watch Mark Lynas, the British writer and environmentalist who once helped drive Europe's movement against genetically engineered crops, apologize for those actions and embrace this technology as a vital tool for ending hunger and conserving the environment. He spoke yesterday at the Oxford Farming Conference at Oxford University. (Many other fascinating presentations are now online.)

An excerpt from Lynas's prepared remarks is below. Here's his remarkable preamble:

> For the record, here and upfront, I apologize for having spent several years ripping up GM crops. I am also sorry that I helped to start the anti-GM movement back in the mid 1990s, and that I thereby assisted in demonizing an important technological option which can be used to benefit the environment.
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> As an environmentalist, and someone who believes that everyone in this world has a right to a healthy and nutritious diet of their choosing, I could not have chosen a more counter-productive path. I now regret it completely.

The arc of Lynas's fascinating career is in some ways neatly encapsulated by two acts at Oxford — throwing a cream pie in the face of Bjorn Lomborg, the skeptic of eco-calamity, at a book signing there in 2001, yelling "pies for lies" (see photo below), and now echoing more than a few of Lomborg's assertions in his lecture at the Oxford Farming Conference on Thursday.

In doing so, he has displayed an encouraging — and still rare — capacity to shed dogma in favor of data. His valuable 2011 book "The God Species" (a host of reviews here) was the first big sign of this transformation.

After "The God Species" was published, Lynas explained his shift this way in an interview with Keith Kloor:

> Well, life is nothing if not a learning process. As you get older you tend to realize just how complicated the world is and how simplistic solutions don't really work... There was no "Road to Damascus" conversion, where there's a sudden blinding flash and you go, "Oh, my God, I've got this wrong." There are

> processes of gradually opening one's mind and beginning to take seriously alternative viewpoints, and then looking more closely at the weight of the evidence.

In reading the text of Lynas's speech yesterday, I asked him if he'd reassessed the pie assault. His reply showed just how willing he is to endure slings and arrows from old allies by invoking another name that is anathema to many traditional greens:

> Bjorn was always the perfect gentleman about that incident. I have apologized properly over email to him, and we've had a couple of phone conversations since. These days I read his stuff with interest but I do think he could make his case more strongly by avoiding his own tendency to confirmation bias and being rather selective with his sources, to say the least.
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> I only recently discovered the work of Julian Simon, who was Lomborg's original inspiration, and I think it should be required reading for all enviro types – some vital wisdom there.

Before we get to Lynas's talk on genetics and agriculture, it's worth posting my reply on Simon:

> Simon was too demonized for sure (his relevant work is online). But he was wrong on one thing — the need for *more* people to make more progress (more geniuses), as I wrote here: "Julian Simon's 20th century notion that population growth was good because it raised the odds of generating a fresh batch of breakthroughs was half right; you just don't need the extra billions if you expand access to education and tie brains together with communication (and translation)."

Read on for an excerpt from Lynas's speech (as prepared for delivery), but please read or listen to the whole thing, and then to dig in to "The God Species," as well:

> When I first heard about Monsanto's GM soya I knew exactly what I thought. Here was a big American corporation with a nasty track record, putting something new and experimental into our food without telling us. Mixing genes between species seemed to be about as unnatural as you can get – here was humankind acquiring too much technological power; something was bound to go horribly wrong. These genes would spread like some kind of living pollution. It was the stuff of nightmares.
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> These fears spread like wildfire, and within a few years GM was essentially banned in Europe, and our worries were exported by NGOs like Greenpeace and Friends of the Earth to Africa, India and the rest of Asia, where GM is still banned today. This was the most successful campaign I have ever been involved with.

This was also explicitly an anti-science movement. We employed a lot of imagery about scientists in their labs cackling demonically as they tinkered with the very building blocks of life. Hence the Frankenstein food tag – this absolutely was about deep-seated fears of scientific powers being used secretly for unnatural ends. What we didn't realize at the time was that the real Frankenstein's monster was not GM technology, but our reaction against it.

For me this anti-science environmentalism became increasingly inconsistent with my pro-science environmentalism with regard to climate change. I published my first book on global warming in 2004, and I was determined to make it scientifically credible rather than just a collection of anecdotes.

So I had to back up the story of my trip to Alaska with satellite data on sea ice, and I had to justify my pictures of disappearing glaciers in the Andes with long-term records of mass balance of mountain glaciers. That meant I had to learn how to read scientific papers, understand basic statistics and become literate in very different fields from oceanography to paleoclimate, none of which my degree in politics and modern history helped me with a great deal.

I found myself arguing constantly with people who I considered to be incorrigibly anti-science, because they wouldn't listen to the climatologists and denied the scientific reality of climate change. So I lectured them about the value of peer-review, about the importance of scientific consensus and how the only facts that mattered were the ones published in the most distinguished scholarly journals.

My second climate book, Six Degrees, was so sciency that it even won the Royal Society science books prize, and climate scientists I had become friendly with would joke that I knew more about the subject than them. And yet, incredibly, at this time in 2008 I was still penning screeds in the Guardian attacking the science of GM – even though I had done no academic research on the topic, and had a pretty limited personal understanding. I don't think I'd ever read a peer-reviewed paper on biotechnology or plant science even at this late stage.

Obviously this contradiction was untenable. What really threw me were some of the comments underneath my final anti-GM Guardian article. In particular one critic said to me: so you're opposed to GM on the basis that it is marketed by big corporations. Are you also opposed to the wheel because because it is marketed by the big auto companies?

So I did some reading. And I discovered that one by one my cherished beliefs about GM turned out to be little more than green urban myths.

I'd assumed that it would increase the use of chemicals. It turned out that pest-resistant cotton and maize needed less insecticide.

I'd assumed that GM benefited only the big companies. It turned out that billions of dollars of benefits were accruing to farmers needing fewer inputs.

I'd assumed that Terminator Technology was robbing farmers of the right to save seed. It turned out that hybrids did that long ago, and that Terminator never happened.

I'd assumed that no one wanted GM. Actually what happened was that Bt cotton was pirated into India and roundup ready soya into Brazil because farmers were so eager to use them.

I'd assumed that GM was dangerous. It turned out that it was safer and more precise than conventional breeding using mutagenesis for example; GM just moves a couple of genes, whereas conventional breeding mucks about with the entire genome in a trial and error way.

But what about mixing genes between unrelated species? The fish and the tomato? Turns out viruses do that all the time, as do plants and insects and even us – it's called gene flow.

But this was still only the beginning. So in my third book The God Species I junked all the environmentalist orthodoxy at the outset and tried to look at the bigger picture on a planetary scale. [*The full text is here*.]