

Steven Pinker: 'Solutions Create New Problems'



By Alex Berezow, PhD — June 22, 2017



Steven Pinker and Alex Berezow

The Breakthrough Dialogue is an annual meeting of a politically diverse group of scientists, professors, journalists, think-tankers, and others who discuss technological solutions to environmental and social problems*. Referring to themselves as "ecomodernists," they represent everything environmentalism should be: pro-science, pro-technology, pro-human, and bipartisan.

One of the featured speakers at this year's Dialogue was the preeminent Harvard scientist Steven Pinker. He is an optimist who believes that, in general, the world is getting better. (Sadly, [only 6% of Americans agree](#) ^[1] with him.) Dr. Pinker concluded his talk with the following insight:

"Problems are inevitable. Problems are solvable. Solutions create new problems."

How profound. It is worth examining this in the context of biotechnology.

Biotech Solutions Create New Problems

In biology, the concept that "solutions create new problems" has a name: It's called evolution. Life can be thought of as a never-ending arms race between species for survival. In other words, life is a series of problems that we are required to solve. If we don't solve them, we die. If we do solve them, we will eventually face a new set of problems. This pattern repeats indefinitely.

For millennia, humans suffered from a very serious problem: People died of bacterial infections. To overcome that problem, we discovered antibiotics.

But just as Dr. Pinker says, this solution created a new problem. Bacteria developed resistance to antibiotics. We responded by finding and synthesizing new antibiotics. But the bacteria persisted;

we now have bacteria that are resistant to most or perhaps all antibiotics.

Does that mean we give up? No! We keep looking for new antibiotics, as well as researching completely different tactics, such as phage therapy, antimicrobial surfaces, and the like. And yes, when we come up with a new solution, the bacteria will probably evolve yet again, posing yet another problem. That's life.

A similar logic applies to genetically engineered crops. A common complaint is that crops engineered to produce Bt toxin, which kills insects, will inevitably produce Bt-resistant insects. That is true. Biotechnologists need to address this problem with a more clever solution. What's the alternative? Letting bugs eat our crops?

Understanding and accepting the reality that every solution will inevitably give rise to more problems should help allay some concerns about implementing new technologies. Life is a never-ending struggle, and we cannot escape that fact. Evolution happens.

**Note: The Breakthrough Dialogue paid for my travel and lodging.*

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