

Paul Ehrlich CC BY 2.5

Paul Ehrlich died last weekend at the age of 93. Among scientists, he was celebrated for his work on population biology, integrating economics and ecology, and for his creation (with Peter Raven) of the field of co-evolution, the study of how species influence each other's evolution. To the public, he was much better known as a champion for addressing population growth, threats of nuclear war, biodiversity conservation. His 1968 bestseller, *The Population Bomb*, sold over two million copies and changed the public conversation. His quick wit and easy conversation style led to over twenty appearances on the Tonight Show with Johnny Carson, a remarkable number for any academic. To me, he was for thirty years a mentor and good friend.

He was, to be sure, a controversial figure, heralded by some and attacked by others for his outspoken views. In particular, virtually every article and obituary about him has discussed a wager that he made with the economist, Julian Simon. It has become known simply as "The Bet." Missing from nearly every mention is the full background of this wager and why, in many respects, Paul Ehrlich won.

Ehrlich and many other scientists were worried about scarcity because of growing

population and consumption. This was best represented by a famous report from the Club of Rome, called *Limits to Growth*. The basic idea was neo-Malthusian: as a population increases, its consumption needs will at some point exceed the limits of resource production and its consumption impacts will exceed the limits of natural systems.

Simon disputed this theory. An economist who argued that population growth was actually "a triumph for mankind" because it provided more people to solve problems, invent, and create, Simon liked to say that we need not worry about running out of resources because human ingenuity is the ultimate resource that ensures plenty. The basic idea was one of market substitution. Simon and, for that matter, many mainstream economists argued that the market can solve any problem because scarcity of a valuable resource drives up the price. This creates an incentive for ingenious people to innovate and find solutions. To be sure, there are many examples of this around us. An early plastic known as Bakelite was invented to substitute for the increasingly expensive ivory billiard balls; its invention reduced poaching pressure on elephants.

Simon was a skilled self-promoter, having run a mail order and advertising business. He was also a contrarian (his autobiography was titled, *A Life Against the Grain*). He publicly hounded Ehrlich and his colleagues, John Holdren and John Harte, and their messages of ecological harm, calling them "false prophets." In 1980, he publicly challenged them to choose five raw materials: if consumption were indeed increasing and supplies were constant, then their prices should rise over a decade. Ehrlich, Harte and Holdren agreed to the bet of $1,000, choosing five metals. In 1990, adjusted for inflation all five metals had dropped in price, primarily because of technological advances. They paid up, much to the glee of Simon (although economists have shown that he would have lost during different decades).

Following his triumph and eager to make his point more emphatic, Simon continued to challenge Ehrlich to a second bet. In reply, Ehrlich and the climatologist, Stephen Schneider, proposed a wager of their own. They listed a series of 15 trends that would worsen between 1994-2004. These included more carbon dioxide in the atmosphere, higher average temperatures, higher air pollution in Asia, fewer plant and animal species, greater gaps in wealth, etc. Simon rejected these trends as too disconnected from human welfare.

Over the decades, The Bet has been frequently cited to support the argument that environmentalists are misguided doomsayers. A columnist writing for the Cato

Institute described it as “zero-sum thinking that humans evolved in the Pleistocene—a bigger piece of a slaughtered mastodon for me really meant a smaller piece for thee… [P]eople can keep on banging the drum of overpopulation and overconsumption to this day. And they are believed.” A columnist for Reason Magazine called Ehrlich “History’s Wrongest Man.” The theory here is that the market solves problems, so government intervention is unnecessary and even unwise.

The problem with this narrative is that it is mistaken. It is what one might call, “Libertarians’ Wrongest Argument.” And the coda to The Bet tells us why.

What had changed between the first and second bets? I spoke with Paul about The Bet a number of times and he made two observations that have stuck with me. First, he admitted that he didn’t know enough about economics at the time of the first bet to appreciate the power of markets to drive down commodity prices. Self-deprecating, he said to me, “Show me someone who hasn’t changed their mind in thirty years and I’ll show you an idiot.” Second, he realized the key role of public goods. This point is critical, and is why Ehrlich was ultimately right and where his critics miss the bigger picture.

What the first version of The Bet made clear is that scarcity of traded commodities leads to innovations that can increase supply and drive down prices. Simon was right about that and Paul later recognized his mistake. It’s important, but also incomplete in a major way.

What the proposed second version of The Bet made clear is that the most important contributions of the environment to human well-being are public goods. By definition, public goods don’t show up in markets. Climate regulation, clean air, biodiversity, renewal of soil fertility, and other ecosystem services are not things you can buy or sell. They are largely invisible to price signals. They most certainly are not, as Simon suggested, unrelated to human welfare, as anyone suffering lung disease from polluted air can tell you.

This is why the refrain, “Leave it to the market,” misses the point entirely. Markets need clear ownership and prices to operate. *They don’t work when the things we care about don’t have market prices*.

Climate stability is a case in point. Sea level rise and increasing global average temperature are occurring and they have very real, measurable costs on

infrastructure, agriculture, health, indeed entire communities. Markets alone aren't reducing greenhouse gas emissions, but it's not because markets are broken. It's because there are no market signals that can spur innovators to create solutions. That's precisely why various policy instruments such as taxes and cap-and-trade attempt to put a price on carbon.

The think tanks and commenters that crow over The Bet either don't get this point or avoid it. It is, however, *THE* fundamental lesson from The Bet. The real debate was never over whether resource prices will rise or fall. It's over what markets can see and do, and what happens when they are blind. This was a truth Paul Ehrich could see, and Julian Simon could not.