CHAPTER SIX Betting the Future of the Planet

Extreme voices have come to dominate American politics, and the partisan divide has deepened. Contributing to this division are profoundly different ways of seeing the world, such as the divergent perspectives of Paul Ehrlich and Julian Simon. Each had important insights to offer about science, economics, and society. But neither presented a vision that can stand alone. The history of Ehrlich and Simon's conflict instead reveals the limitations of their incompatible viewpoints. Their bitter clash also shows how intelligent people are drawn to vilify their opponents and to reduce the issues that they care about to stark and divisive terms. The conflict that their bet represents has ensnared the national political debate and helped to make environmental problems, especially climate change, among the most polarizing and divisive political questions.

Ehrlich and Simon both made contributions unacknowledged by the other. Paul Ehrlich's contribution—and that of environmental scientists as a whole after World War II—lay in the ability to reveal the deep connections between humans and nature and to show how the planet was changing. Through

research and advocacy, Ehrlich and other scientists helped avert genuine ecological disasters, and show the risks of dangerous new technologies. If scientists had not raised the alarm about declining stratospheric ozone, nations never would have passed the 1987 Montreal Protocol, which phased out chemicals that damage Earth's protective cover against intense solar radiation. Scientific research on the potential impacts of thermonuclear war, as well as the hazards of radioactive waste and nuclear fallout, helped yield treaties to limit atmospheric testing and improve the handling of radioactive materials. More broadly, Ehrlich and other environmental scientists laid the groundwork for the new environmental regulatory regime established in the 1970s. The new environmental laws dramatically curbed air and water pollution in the United States.

The environmental scientists' impact came not just through legislation but also through a new consciousness. Ehrlich and his colleagues raised profound questions about the purpose of consumption and whether more really meant better. They also showed how important natural ecosystems are to human well-being. Instead of viewing wetlands simply as swamps to be drained, for example, scientists have shown how wetlands provide important wildlife habitat and also perform economically valuable tasks such as water management and purification. This new awareness of human reliance on the natural environment has been widely embraced by politicians, corporate leaders, and the public.

Julian Simon also had something important to contribute. He and many other economists argued that human creativity and market forces allow societies to adjust to changing circumstances and to expand efficiency and productivity. They helped fend off calls by Ehrlich and others to slow or halt economic growth in a manner that would have affected millions, or even

billions, of people around the world. Economic analysis of market dynamics also demonstrated that government policies, including those regulating resource use and protecting the environment, entail economic costs. The deregulation of elements of the American economy that started in the late 1970s and accelerated in the 1980s led to greater competition as well as price declines in a variety of industries. While the loosening of regulation sometimes went much too far, as in the case of lax banking regulation and oversight, the pull-back in federal control over transportation, energy, and telecommunications encouraged innovation and economic growth in the United States. As with ecological studies conducted by scientists, the economists' research and data tested long-held prejudices and revealed the unintended consequences of policy proposals. Simon's own studies, for example, countered unfounded attacks on immigrants as a burden on the American economy. His argument for the economic benefits of immigration was one of many factors that cleared the way for the major 1986 law legalizing the status of millions of immigrants.

Sometimes rhetorical sparring partners hone each other's arguments so that they are sharper and better. The opposite happened with Paul Ehrlich and Julian Simon. Despite their respective strengths, both Ehrlich and Simon got carried away in their battle. The ready audience for their ideas encouraged them to make dramatic claims. Their unwillingness to concede anything in their often-vitriolic debate exacerbated critical weaknesses in each of their arguments.

Most fundamentally, human history over the past forty years has not conformed to Paul Ehrlich's predictions. By the most basic measure, human populations have continued to grow and no population collapse or broad-scale famine—caused by population outstripping food supply—has occurred. To the

contrary. With localized exceptions, life expectancy across the globe has risen, as have per capita incomes. Food production has kept pace with population growth. Energy remains abundant. Higher food and energy prices in recent years suggest short-term shortages, and perhaps a long-term tightening of the market, but not catastrophic failure. The discrepancies in average health and welfare among nations have declined rather than increased. Countries around the world generally continue to improve their well-being rather than slip backward into greater poverty and suffering.[1]

The sustained population growth of the past forty years and growing human prosperity suggest that humanity has remained much further from its natural limits than Paul Ehrlich predicted. In a 1994 essay on "optimum human population size," he declared that the human population of 5.5 billion had "clearly exceeded the capacity of Earth to sustain it." Ehrlich and his coauthors said that an optimum population size for the planet would range from 1.5 to 2 billion people. Since that time, the planet has added another 1.5 billion people. So in what sense have humans "clearly exceeded" Earth's capacity? To be sure, many people suffer from poverty and malnutrition, and climate change threatens. But humanity has yet to run into the hard limits that Ehrlich predicted. Have we really degraded our resource base such that world populations will face catastrophic declines? We do not know for certain how many people Earth can support, and it is possible that humanity has already set the stage for its future demise. But that date still seems far off.[2]

One problem with Ehrlich's style of argument is that environmental pessimism often far exceeds reasonable predictions for how markets function and scarcity develops. Gloomy forecasts for soaring resource costs illustrate this common problem. Fears that petroleum would quickly rise into the hundreds

of dollars per barrel led to another humiliating betting defeat, in this case over oil prices, for those (like Ehrlich) who believe in impending scarcity. In 2005, investment banker Matthew Simmons bet journalist John Tierney and Rita Simon (Julian's widow) five thousand dollars that oil prices would more than triple from around sixty-five dollars to a 2010 annual average of more than two hundred dollars per barrel. But the 2010 price averaged just eighty dollars. Adjusted for inflation, oil prices increased less than 10 percent over the five-year period, nowhere close to Simmons's dire forecast. Bleak, but flawed, forecasts such as these for the fossil fuel economy have broader implications because they have been the basis for disappointing national "green jobs" and "green energy" programs in the United States. Government policies have an important long-term role to play in shifting the United States away from fossil fuels toward solar and wind energy and energy efficiency. In the short term, however, dour predictions that key resources, such as solar-grade silicon, would grow increasingly scarce, and that fossil fuel prices would rise substantially, led to overly ambitious business plans and exaggerated estimates of how many new jobs would be created. Major solar power companies in the United States went bankrupt, while, at the same time, the green jobs economic programs did relatively little to stimulate job creation and spur short-term economic recovery. Aggressive subsidies by the Chinese government, of course, complicated this story by also helping competing Chinese manufacturers undercut American suppliers.[3]

Simon's victory in his bet with Ehrlich drove home an important insight relevant to these energy markets: scarcity and abundance are in dynamic relationship with each other. Abundance does not simply progress steadily to scarcity. Scarcity, by leading to increased prices, spurs innovation and investment.

Efforts to locate new resources and design cheaper methods yield new technologies. New periods of abundance occur, even overabundance or a glut. Understanding this cyclical process can be vital to crafting successful public policy. Exaggerated fears of resource scarcity can easily lead to poor economic management, including stifling price controls, panicked efforts to limit production or consumption, and national investment strategies predicated on high resource prices that turn out to be ephemeral. In other words, excessive pessimism has a cost.

Ehrlich, however, remains convinced by the essential logic of his original bet. He declared in a 2011 interview that humans were on track to "destroy their life support systems" at which point "society as we know it is going to collapse." The temptation is high to see evidence of imminent decline in current events. Yet flexible markets for energy and other natural resources, as well as human ingenuity, make the grim scenarios unlikely, and certainly not predetermined. Casual predictions that "peak oil" threatens imminent social catastrophe and massive economic disruption, or that the airline industry will "cease to exist" in a few years due to high oil prices, similarly invite skepticism of environmental claims.[4]

Julian Simon and other critics of environmentalism, however, have taken far too much comfort from extravagant and flawed predictions of scarcity and doom. Simon frequently argued that problems lead to solutions that leave humanity better off than before the problem arose. But by focusing solely and relentlessly on positive trends, Julian Simon made it more difficult to solve environmental problems. He liked to point out that the air and water were getting cleaner in the United States rather than dirtier. But Simon did not acknowledge the irony inherent in this improvement. The environment got cleaner partly because warnings by environmentalists like Paul Ehrlich

prompted regulatory action. After years of struggle, environmentalists forced manufacturers to remove lead from gasoline and paint, improving human health. They also forced changes to motor vehicle exhaust systems that reduced air pollution–related respiratory illnesses. These environmental improvements generally cost much less than critics feared and suggest that combating climate change might also cost less than feared. Julian Simon's rosy view of the future thus undermined—and continues to discourage—efforts to address environmental problems in the present. His optimism paradoxically inhibited the kinds of problem-solving market and technological innovations that produced the improvements that he celebrated.

Simon treated markets as if they were separate from society, instead of a human creation, vulnerable to our collective blind spots and limitations. Many economists espouse Simon's view that the marketplace *can* address environmental problems adequately, *if* the markets account for the external costs of economic growth. But that is a big if. Economic research in recent decades has shown how difficult it is to eliminate information gaps and free riders and to address external costs. The idea that the market can fully account for social costs has been discredited. Market failures are unavoidable. For this reason, many economists tend to favor taxes on pollution that would force economic decision-makers to factor external, social costs into their private choices. The difficult politics of imposing these levies, however, has kept measures such as carbon taxes on fossil fuels out of legislative reach.[5]

Simon's bet with Ehrlich about mineral prices did not prove that market forces will drive these prices down in the future. Nor did that single drop in price prove that Ehrlich's concerns about threats to the environment were foolish. Simon might not have won if they had not chosen for their starting date the

year 1980, the end of a decade of mostly rising metal prices. Yet Julian Simon's faith in human ingenuity and adaptability seemed to know no bounds. In his more exuberant moments, Simon claimed that humanity would figure out how to make copper from other metals, tap the resources of space to support human life, and find ways to feed and support a human population that continued to grow for thousands of years. If these views of the future were more than fairy-tale visions, Julian Simon never put forth a credible view of how they could be realized. His utopian vision often resembled an inversion of Ehrlich's dystopian future; both served as distractions from practical policies and actions.

The most pernicious current reflection of Ehrlich and Simon's clash is the ongoing political impasse over climate change. Inaccurate past claims about population growth and resource scarcity—such as Ehrlich's forecast for massive famines due to food scarcity in the 1970s and 1980s—undermined the credibility of scientists and environmentalists advocating action on climate. "By repeatedly crying wolf," the conservative judge Richard Posner wrote of Paul Ehrlich, "he has played into the hands of those who consider environmentalism a lunatic movement." Conservative commentators have warned of "apocalypse fatigue" and have frequently cited the Ehrlich-Simon bet as evidence that environmentalists are misguided fear-mongers. "Climategate did not begin with climate," the free market energy scholar Robert Bradley Jr. wrote in a 2009 essay about a controversy over climate science. Bradley tied "climate alarmism" to the "neo-Malthusianism" of the 1970s. The "doom merchants were uber-confident and still are loath to admit they were ever wrong," he argued. Conservative politicians' sustained attack on climate science draws its energy partly from decades of suspicion of environmental scientists. Conservatives who

questioned Ehrlich's earlier dire claims have argued that climate warnings are just a new liberal strategy to expand government regulation and taxation. With popular support for government economic planning diminished, argued Fred Smith, president of the Competitive Enterprise Institute, the "new Malthusians" now used the pretext of an endangered, fragile earth to cover up a power grab.[6]

At the furthest extreme, these suspicions of an environmentalist conspiracy have led some prominent conservatives and Republican politicians to reject the science of climate change as a liberal hoax. "Global warming is the mother of all environmental scares," wrote the political scientist Aaron Wildavsky dismissively in a frequently quoted 1992 essay. James Inhofe, a leading congressional opponent of national climate change legislation, has urged his colleagues to "reject prophets of doom who peddle propaganda masquerading as science in the name of saving the planet from catastrophic disaster." Rush Limbaugh, the conservative radio commentator, similarly has attacked "environmental wackos" for "pure politics disguised as science." Funding from fossil fuel companies and other opponents of climate legislation has amplified these dismissive viewpoints, sowing public uncertainty about the strong scientific consensus that greenhouse gas emissions are warming the planet.[7]

Climate change, to the best of our scientific knowledge, is happening, and much of the recent global warming that we have seen appears caused by human actions. And climate change is a significant problem that threatens heavy economic and social costs. The world that humans are creating—with an increased likelihood of more intense storms, prolonged droughts, and profound changes to ecological systems—is not likely to bring changes that people will want. These are some of

the vital insights of environmental scientists like Paul Ehrlich. At the same time, predictions that "billions of us will die" by the end of the century as a result of climate change or that civilization will collapse reenact the least helpful elements of Ehrlich-style environmentalism.[8]

What often gets lost in the climate debate are the lessons of the clash between Paul Ehrlich and Julian Simon. There is a serious and significant discussion to be had over what policy actions to take, and when. How much will the impacts of climate change cost, and how urgent is the need for immediate action? There are two dramatically different versions of the future. Should we count on technological innovation and economic growth to help societies meet this new challenge and adapt to change? Or must we cut emissions immediately and transform our societies in a dramatic way? The competing viewpoints echo positions held by Ehrlich and Simon. Both tend to exaggerate the consequences of their opponents' position: how expensive and disruptive it would be to shift away from fossil fuels, on the one hand, and whether it would be possible for humanity to adapt to a warmer world.

Whether human beings can increase their numbers and continue to survive on a warmer planet is only one way to assess the future. People have placed unprecedented demands on Earth's ecosystems in the past century. To adapt to population and economic growth, as well as future climate change, we are rapidly transforming the planet in the ways that Ehrlich has lamented. Even if Julian Simon proves right that humans can adapt and prosper on this changing planet, will the world that survives accord with how people want to live? The rate of resource consumption cannot be sustained without deeply altering the planet. The quest for resources also will profoundly reshape human societies. Are the risks and unequal burdens of

this change acceptable? These are the questions we should be pondering, long and hard, together. Yet Ehrlich and Simon's stark framing of the future as either apocalyptic or utopian makes the conversation almost impossible.

The clashing insights of Ehrlich and Simon are necessary to help frame our thinking about the future. Our task is not to choose between these competing perspectives but rather to find ways to wrestle with their tensions and uncertainties, and to take what each offers that is of value. Ultimately, humanity's course will be determined less by iron laws of nature or by unbounded market powers, Ehrlich and Simon's dueling lodestars, and more by the social and political choices that we make. Neither biology nor economics can substitute for the deeper ethical question: What kind of world do we desire?

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