The Bet

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The Bet

Paul Ehrlich, Julian Simon, and Our Gamble over Earth's Future

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Yale UNIVERSITY PRESS NEW HAVEN & LONDON

Published with assistance from the Frederick W. Hilles Publication Fund and from the foundation established in memory of Amasa Stone Mather of the Class of 1907, Yale College.

Designed by James J. Johnson.
Set in Scala and Meta types by Integrated Publishing Solutions.
Printed in the United States of America.

ISBN 978-0-300-17648-3

A catalogue record for this book is available from the Library of Congress and the British Library.

This paper meets the requirements of ANSI/NISO Z39.48–1992 (Permanence of Paper).

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For my parents

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Preface

On a typical winter weekend morning, our house was freezing. It was the late 1970s, and my parents had set the thermostat to the low sixties. My older brother took the *Boston Globe* sports section and settled onto the hot air vent by the kitchen refrigerator. I staked out the dining room vent to read my favorite comics, wearing a wool hat.

In a way, this book has its origins in those cold childhood mornings. In the pages that follow, I tackle a huge issue: the future of humankind on the planet. At the same time, my book also attempts to answer a lingering, and more personal, question: Why exactly was our house so cold?

I was born in March 1970, a month before the first Earth Day. The environmental sentiments of the 1970s influenced my family deeply: the push to conserve everything from cans to heat, the insistence on the evil of waste. I remember hand-me-down clothes, haircuts at home, reused paper napkins, and no television. The thermostat sent a clear message. In a world of scarce resources, we needed to consume less. The little choices of daily life reflected much larger ethical decisions about the right way to live.

I held fast to that ethic in my teens, through college, and into my professional career. I wrote a regular column for the high school paper criticizing materialism and worrying about the ozone layer. I studied history and environmental studies in college. I even met my future wife on a campus recycling truck. Later, when I was in graduate school in American history in the late 1990s, I took a break from the archives to start a nonprofit, called the Environmental Leadership Program, that brought together fellow scholars interested in environmental concerns, along with peers working in advocacy organizations, businesses, and government agencies.

By this point, my thinking had evolved. I knew what I was against—locating a hazardous power plant in a poor neighborhood, for example, or slashing the Environmental Protection Agency's enforcement budget—but it was far harder to articulate what I was for. How would a "green economy" actually work? How should we manage tradeoffs among economic growth, environmental protection, and social equity? The idea for the Environmental Leadership Program was to challenge one another with questions like these—there would be no party line. Through the rough-and-tumble of argument, I hoped, we would find compelling ways to balance competing societal goals.

When I joined the history faculty at Yale University in 2008, I wanted to keep thinking about these issues, particularly our society's inability to agree on what to do about climate change and other key problems. Writing about the rise of the environmental movement since the 1960s, and the backlash and debates it engendered, offered me a way to examine the striking divide that has emerged between liberals and conservatives on environmental questions.

Republicans and Democrats passed landmark environ-

mental laws together in the early 1970s, but in the ensuing decades, the parties have increasingly diverged. What were the roots of this partisan divide? Scholars often explain the change by pointing to the political parties' shift to more ideologically coherent and regionally defined blocs that used the environment as a wedge issue. In this interpretation, Republicans abandoned the environment to Democrats. An alternate explanation emphasizes an economic backlash, with business groups—rightly or wrongly depending on political perspective—fighting expensive regulation and pushing politicians to oppose new rules. Last, many point to the creation of conservative think tanks and institutes starting in the mid-1970s, which organized a strategic media assault on environmental regulatory proposals favored by liberal advocates.

These explanations all have considerable historical evidence to support them. Yet they also do not take seriously the genuine clash between different viewpoints that occurred. Resistance to environmental legislation represented more than simply political and economic interest. Extreme claims by environmentalists, I argue, helped spark the backlash against the environmental movement in the United States and helped generate support for equally extreme positions taken by conservative opponents. Put another way, the political gulf that we see today on environmental issues has been mutually created. Only by tending to the substantive intellectual and historical elements of this divide—not just the political and economic dimensions—can we reduce the partisan conflict surrounding environmental policies and find a more pragmatic path forward.

The rancorous clash between the biologist Paul Ehrlich and the economist Julian Simon offers a window into this gaping political divide. Concretely, their bet was about the prices of five

metals. But their wager stands for much, much more—our collective gamble on the future of humanity and the planet. The bet raises hard questions about the widely held assumption among environmentalists that we are headed inexorably for a world of scarcity and likely catastrophe. It also tests conservatives' faith that free markets and technological innovation will yield continued prosperity. By better understanding both sides of this story—by really listening to the arguments they make—I hope to encourage a different conversation, in the present, about the future.

In these partisan times, one sends a book about politics into the world with trepidation. Let me be clear: I believe that we define ourselves in part through our stewardship of the planet. At the same time, there is more than one way to live on our Earth. Where I once saw resource conservation as the only possible answer to scarcity and the limits of nature, now I understand it as a far-less-certain effort to apply ethical values in a world of constantly shifting parameters and possibilities. I still keep my thermostat set low. After studying the debates between Paul Ehrlich and Julian Simon, however, moral certainties seem more elusive.

In the journey from the heating vent in my family's house to this book, I have incurred extensive debts. The Ehrlich and Simon families have been unfailingly generous with their time and stories. I thank Paul and Anne Ehrlich, Lisa Daniel, and Sally Kellock, as well as Rita James Simon, Daniel Simon, David Simon, and Judith Simon Garrett, for meeting with me or speaking on the telephone. Naomi Kleitman, Paul and Anne Ehrlich, and Sally Kellock generously provided family photos for the book. I also am grateful for the opportunity to interview

Lincoln Caplan, Aristides Demetrios, John Harte, Donald Kennedy, Charles Michener, William Nordhaus, Stephen Schneider, John Tierney, and Daniel Weinberg.

Many friends and colleagues generously commented on the manuscript, improving it immensely, including Edward Ball, Jean Thomson Black, Lincoln Caplan, Fritz Davis, Fabian Drixler, David Engerman, John Mack Faragher, Beverly Gage, Glenda Gilmore, Matthew Jacobson, Naomi Lamoreaux, Anthony Leiserowitz, David McCormick, Steven Moss, Jeffrey Park, David Plotz, Claire Potter, Tyler Priest, Jay Turner, Chris Udry, Perry de Valpine, John Wargo, Richard White, and Donald Worster. William Cronon provided valuable early advice on the book and has deeply shaped my thinking about the relation of history to environmental politics. I also have benefited greatly from conversations with Richard Brooks, Donald Chen, Jon Christensen, William Deverell, Robin Einhorn, Gregory Eow, Seth Goldman, Jacob Hacker, Daniel Kevles, Matthew Klingle, Nancy Langston, Penn Loh, Jennifer Marlon, Steven Mufson, Dara O'Rourke, Peter Perdue, Ethan Pollock, Tom Robertson, Harry Scheiber, and Jay Winter.

Jean Thomson Black, my editor at Yale, expertly steered the book to publication. Sara Hoover helped with critical final touches on the manuscript, and Laura Jones Dooley improved it with her copy-editing. David McCormick, my agent, skillfully helped me to develop the project. Gabriel Botelho, Avinash Chak, Jerrod Dobkin, Joanna Linzer, Keira Lu, and Michael Wysolmerski provided terrific research assistance along the way. I also am deeply grateful to the archivists and librarians who assisted me at the American Academy for the Advancement of Science, American Heritage Center, Bancroft Library, Jimmy Carter Library, George Washington University, Library

of Congress, National Archives, Stanford University, University of Illinois, University of Maryland, and Yale University.

I am grateful to Yale University for faculty research support, including funding from the Morse Fellowship in the Humanities, A. Whitney Griswold Fund, and Frederick W. Hilles Publication Fund.

Here at Yale, I have enjoyed and benefited from the chance to work with John Wargo, Amity Doolittle, Sara Smiley Smith, Jeffrey Park, and others to develop the undergraduate major in environmental studies. For their warm collegiality and excellent insights, I also thank my Yale colleagues, including Jean-Cristophe Agnew, Ned Blackhawk, David Blight, Daniel Botsman, Garry Brewer, Becky Conekin, Dennis Curtis, Alex Felson, Paul Freedman, Joanne Freeman, Beverly Gage, Glenda Gilmore, Jay Gitlin, Robert Harms, Karen Hébert, Jonathan Holloway, Matthew Jacobson, Ben Kiernan, Jennifer Klein, Mary Lui, Daniel Magaziner, Joseph Manning, Joanne Meyerowitz, Alan Mikhail, Steven Pincus, Stephen Pitti, William Rankin, Judith Resnik, Edward Rugemer, Marci Shore, Ronald Smith, Frank Snowden, Timothy Snyder, Adam Tooze, Francesca Trivellato, Jenifer Van Vleck, Charles Walton, John Warner, and John Witt. Laura Engelstein and George Chauncey have been wonderfully supportive chairs in the Department of History. I appreciate the friendship and good humor of Dirk Bergemann, Kishwar Rizvi, Darcy Chase, Pericles Lewis, Sheila Hayre, Paige McLean, Paul El-Fishawy, Caleb Kleppner, Ted Ruger, David Simon, Michael Sloan, Leslie Stone, David Berg, and Robin Golden. Friends and colleagues from the Environmental Leadership Program continue to inspire me. Kitty Bacon generously opened her Vermont home for a few weeks each summer, and shared her secret swimming holes and donut peaches, which

we enjoyed passing along to James Sturm, Rachel Gross, and Eva and Charlotte.

I am fortunate to have a remarkably supportive and loving extended family. My parents, Margery and Jim Sabin, have shared their passion for ideas and adventure, and I'm delighted to dedicate this book to them. Their house is still freezing, but it was a wonderful place to grow up, and they deserve a gold medal for parenting. Michael and Debbie Sabin leave me in awe of their commitment to teaching and education, and my nephews and niece, Zachary, Matthew, and Elena, are a joy. My wife's family, Rick and Eileen, Lara, Matt, Carter and Ella, Jill, Joel, Harper and Trevor, and Dana and David, are incredibly supportive and fun and make me feel very lucky indeed.

Writing books together with Emily these past few years has been a surprisingly fun joint effort. I love the life we've made together— you're the surest and best bet of all. My sons, Eli and Simon, have put up with our simultaneous writing and make our house sparkle with their interest in politics and curiosity about the world. At one point while writing this book, I asked Simon, then eight years old, how we would know when the world was overpopulated. "When everything starts to run out," he said. I argue in the pages that follow that it's more complicated than that, but sometimes simple claims capture essential truths. For Eli and Simon's sake, and all the other kids out there, I hope we can lay our bets carefully to create a humane and prosperous future.

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Introduction

The lanky man with short black hair and sideburns almost to his chin sat down next to late-night host Johnny Carson, for *The Tonight Show,* in early January 1970. Paul Ehrlich, a thirty-seven-year-old biology professor at Stanford, leaned forward in his seat, determined to alert his national television audience to the threat he saw imperiling humanity and Earth—the danger of overpopulation. Ehrlich had made his name two years earlier with a blockbuster jeremiad, *The Population Bomb*. "The battle to feed humanity is over," Ehrlich warned in his book, predicting that hundreds of millions of people "are going to starve to death." His first appearance on *The Tonight Show* would vault him into the national consciousness as a sober prophet of impending doom.

As Carson introduced Ehrlich to millions of ordinary Americans, a new environmentalism was dawning. President Richard M. Nixon, in his State of the Union address that same month, told Congress and the nation that the "great question of the seventies" was whether Americans would "make our peace with nature." It was three months before the first Earth Day,

and Nixon was about to create the Environmental Protection Agency. Despite his grim predictions, Ehrlich proved an entertaining guest, with his sharp wit, self-confidence, and booming laugh. Carson invited Ehrlich back on his show in February and again in April. At the close of each appearance, Carson flashed on the screen the address of Zero Population Growth, the organization that Ehrlich had founded to advance his agenda of population control. Up to sixteen hundred pieces of mail per day flooded into the organization's headquarters in Los Altos, California, near Stanford. Zero Population Growth quickly grew to eighty chapters across the country.[1]

At home in Urbana, Illinois, a little-known business administration professor named Julian Simon, also thirty-seven, watched Ehrlich's performances with growing dismay and envy. Carson asked Ehrlich about the relation between population growth and the food supply. Ehrlich declared, "It's really very simple, Johnny." As populations grew, food would become scarcer. Ehrlich said it was "already too late to avoid famines that will kill millions."[2]

Yet to Julian Simon, the relation between population and food was anything but simple. The Chicago-trained economist had recently written that processed fish, soybeans, and algae could "produce enough protein to supply present and future needs, and at low cost." Rather than Ehrlich's looming famines, Simon saw an ingenious technological solution that could alleviate severe protein deficiency in many countries. Distribution posed logistical challenges. But burgeoning worldwide populations would not necessarily prompt a global food shortage, Simon thought.[3]

Yet here he was, sitting and grumbling alone in his living room while the most beloved television host in the country re-

garded Paul Ehrlich, as Simon later complained, with a "look of stupefied admiration."[4]

Simon and Ehrlich represented two poles in the bitter contest over the future that helped define the 1970s. Ehrlich's dire predictions underlay the era's new environmental consciousness, whereas Simon's increasing skepticism helped fuel a conservative backlash against federal regulatory expansion. Ehrlich's star continued to rise through the decade. Writing and speaking engagements poured in. He appeared on Carson's show, one of the most coveted spots in television, at least twenty times. He also wrote a regular column for the *Saturday Review* and shared his fears about starvation and population growth with concerned readers in *Playboy* and *Penthouse*. Ehrlich commented broadly on nuclear power and endangered species, immigration and race relations. He readily denounced "growthmanic economists and profit-hungry businessmen" and warned of a "coming social tidal wave" due to conflicts over limited resources.[5]

Meanwhile, Simon for years played the role of frustrated and largely ignored bystander. "What could I do? Go talk to five people?" he later asked. "Here was a guy reaching a vast audience, leading this juggernaut of environmentalist hysteria, and I felt utterly helpless." There was a certain irony behind the resentment: in the late 1960s, Simon too had argued urgently in favor of slowing population growth. He had written studies arguing that birth control programs were a "fantastic economic bargain" for countries seeking to raise incomes. He had used his marketing expertise to improve the efficiency of family planning programs. But by the time Ehrlich burst onto his TV screen in 1970, Simon had changed his mind. He no longer believed that population growth posed a problem. Rather than

Ehrlich's doomsday scenarios, Simon argued that more people meant more ideas, new technologies, and better solutions. Rather than sparking the world's crises, population growth would help resolve them. People, as Simon titled his landmark 1981 tome, were *The Ultimate Resource*.[6]

The celebrity environmentalist and the little-known skeptic collided directly at the end of the 1970s, ending the decade locked in a bet that would leave their legacies forever intertwined. In 1980, Simon challenged Ehrlich in *Social Science Quarterly* to a contest that directly tested their competing visions of the future, one apocalyptic and fearful of human excess, the other optimistic and bullish about human progress.

Ehrlich agreed to bet Simon that the cost of chromium, copper, nickel, tin, and tungsten would increase in the next decade. It was a simple thousand-dollar wager: five industrial metals, ten years, prices up or down. At the same time, the bet stood for much more. Ehrlich thought rising metal prices would prove that population growth caused resource scarcity, bolstering his call for government-led population control and for limits on resource consumption. Ehrlich's conviction reflected a more general sense after the 1973 Arab oil embargo that the world risked running out of vital resources and faced hard limits to growth. Simon argued that markets and new technologies would drive prices down, proving that society did not face resource constraints and that human welfare was on a path of steady improvement. The outcome of the bet would either provide ammunition for Ehrlich's campaign against population growth and environmental calamity or promote Simon's optimism about human resourcefulness through new technologies and market forces.

Ehrlich and Simon laid their wager at a pivot point in the struggle between liberalism and conservatism in the late

twentieth-century United States. With markers laid down in the pages of academic journals, their bet resonated with the cultural clash occurring in the country as a whole. The bet also captured the starkly different paths of Democrat Jimmy Carter and his Republican challenger Ronald Reagan in the 1980 election.

Jimmy Carter, a government planner and nature enthusiast, embraced conservation and limits in keeping with the idea that resources were fixed. He argued that the United States needed to adjust its consumption and production to match its "rapidly shrinking resources." Carter devoted precious political capital to changing American energy policy, considering it a national strategic priority.[7]

Ronald Reagan, by contrast, ran for office on the promise of restoring America's greatness. Reagan insisted that resource limits weren't real and shouldn't constrain America's future. In his announcement of his candidacy in November 1979, Reagan denounced "estimates by unknown, unidentifiable experts who rewrite modern history . . . to convince us our high standard of living . . . is somehow selfish extravagance which we must renounce as we join in sharing scarcity." Reagan believed that the environmental laws of the 1970s hampered the nation's economic growth. Once he beat Carter and took office, he quickly postponed hundreds of new regulations and ordered agency heads to review and rescind other burdensome rules, many of them environmental.[8]

Nixon's "environmental decade" was finished. Reagan's aggressive campaign against federal regulation helped end the political bipartisanship that characterized the modern environmental movement's early successes. The Sierra Club and other advocacy organizations surged in membership as they denounced Reagan and sought to drive his conservative appoin-

tees from office. The nation split over how cautious or bullish to be about environmental problems. The divide between liberals and conservatives and, increasingly, between Democrats and Republicans turned on the questions embedded in Paul Ehrlich's bet with Julian Simon. Did the nation and the planet face an environmental crisis? Were we running out of resources and compelled to conserve? Were there natural limits to American growth?

These questions about population growth, resources, and the fate of humanity tapped age-old intellectual traditions. Ehrlich's widely publicized fears about population growth revived the arguments of the Reverend Thomas Malthus, a political economist who famously declared in a 1798 treatise that the "power of population" exceeded "the power in the earth to produce subsistence for man." Populations doubled rapidly, Malthus argued, while subsistence could increase only incrementally. This inherent tension between populations growing exponentially and limited subsistence doomed humanity to harsh suffering. "Necessity, that all pervading law of nature," Malthus wrote darkly, kept all plants and animals to "prescribed bounds." Limited subsistence would constrain human population growth through the "grinding law of necessity, misery, and the fear of misery." Malthus's ideas about population growth, natural limits, and the struggle for existence would significantly influence Charles Darwin and Alfred Russel Wallace in their development of the theory of evolution by natural selection in the mid-nineteenth century, and be embraced by biologists like Paul Ehrlich a century later.[9]

Early critics of Malthus, however, such as the English philosopher William Godwin, anticipated Julian Simon's critique of Ehrlich, mocking Malthus's conviction that humanity was doomed to misery. Malthus's theory of relentless population

growth, Godwin wrote in 1820, was just a "house of cards" that was "evidently founded upon nothing." Godwin argued that population would grow much more slowly than Malthus predicted. He also believed that humanity had barely pressed against the vast resources of the planet. Earth, Godwin wrote, could support nine billion people with little improvement in technology. Other nineteenth-century critics of Malthus, such as Friedrich Engels, thought that agricultural productivity could be "increased ad infinitum by the application of capital, labour and science." The "productive power at mankind's disposal," Engels declared, "is immeasurable." The Industrial Revolution of the nineteenth century and rapid advances in agriculture, of course, did prove Malthus wrong in the short term. The world population grew from around one billion people in 1800 to approximately three billion in 1960. But Paul Ehrlich and his contemporaries insisted that Malthus's day of reckoning had simply been deferred. Ehrlich and other new prophets of overpopulation came to be called "neo-Malthusians" for their embrace of Malthus's warnings about an inevitable gap between accelerating population growth and limited food supply.[10]

Julian Simon rejected Ehrlich's Malthusian thinking, and in doing so, Simon's views also raised venerable, even biblical, questions. What is the purpose of humans on earth? How should we measure the success of human societies? Simon was influenced by the utilitarian philosophy of Jeremy Bentham, the British philosopher. Bentham proposed that the "measure of right and wrong" in society should be "the greatest happiness of the greatest number." Following this logic, Julian Simon welcomed continued population growth because it meant that more people could live productive and meaningful lives. Bentham also had argued that "two sovereign masters, *pain* and *pleasure*," governed mankind, and he defined the good

as that which maximizes pleasure and minimizes pain. Simon did not speak in the elementary terms of "pain and pleasure." But he also placed human welfare at the center of his moral universe. Simon measured societal progress in terms of human life expectancy, prevalence of disease, available food and work, and per capita income. Paul Ehrlich rejected these simple calculations of societal success. Humanity, Ehrlich thought, could not serve as the measure of all things. Humans needed to accept their proper role in a larger balance of nature on earth. Ehrlich also dismissed Simon's optimistic projections and warned that humanity's ultimate suffering would be even greater if it continued on its same path.[11]

Paul Ehrlich and Julian Simon's conflict thus continued long unresolved debates. The structure of their bet, however, matched their times. With its promise of a winner and a loser determined by the cold, hard math of natural resource prices, the bet epitomized the increasingly polarized rhetoric of American politics. Rather than sober and nuanced assessment of policy alternatives, politicians and commentators simplified complex issues and ratcheted up their opposing claims. Important insights from biology and from economics frequently were placed in opposition, without sufficient effort to reconcile their tensions and integrate them into a coherent whole. Overly grandiose claims about the constraints of nature or the power of the market fed this clash. Underlying differences in social values and attitudes toward societal risk also often were left unacknowledged. Though ritually satisfying and motivating for partisans, the rhetorical conflict helped produce legislative paralysis and deepening political rancor. Increasingly prominent political debates over climate change, for example, starting in the 1990s slipped into rhetorical ruts established in earlier debates over population growth and resource scarcity, such as the

fight between Ehrlich and Simon. In this polarizing legacy, climate change became either a myth or the possible end of human civilization. Is there another way to think about the future? Instead of reading Paul Ehrlich's clash with Julian Simon as a simple white hat–black hat morality tale, their story can move us beyond stereotyped portrayals of environmentalists and conservatives. Both men, in fact, had well-considered, significant, yet competing viewpoints underlying their strong rhetoric. Ultimately the history of their bet contains cautionary lessons for both sides, and perhaps a path to a less heated, but more productive and even hopeful, conversation about the future.

CHAPTER ONE Biologist to the Rescue

It was the winter of 1968, and David Brower wanted to recruit Paul Ehrlich. The longtime executive director of the Sierra Club had heard Ehrlich on the radio predicting disaster: food shortages and famines, a deteriorating natural environment, and increased conflict on a crowded planet. Now Brower wanted the thirty-five-year-old Stanford biologist to write up his ideas as a book for a Sierra Club series of paperbacks published by Ballantine Books. Ehrlich agreed. In a fit of feverish productivity, Ehrlich collaborated closely with his wife, Anne, to write the manuscript over the next few months. He wrote the draft "as 'wild' as I could" in just a few weeks and then let friends help tone it down. *The Population Bomb,* published with Paul Ehrlich as its sole author, came out in mid-1968, in an effort, Ehrlich said, to "make the population crisis an issue in this year's elections." "I will be on the 'campaign trail' for at least the rest of this academic year," Ehrlich wrote his friend Charles Birch. Ehrlich was determined to change the way Americans thought about population issues.[1]

Ehrlich delivered *The Population Bomb* to an audience re-

ceptive to grim predictions about the future. That same year saw Robert F. Kennedy and Martin Luther King Jr. assassinated, riots in Washington, DC, Chicago, and Kansas City, and student rebellions in Paris and Mexico City. Meanwhile, the death toll mounted in Vietnam. To these woes, Ehrlich added his warning of "vast famines" and his call for "radical surgery" to excise the "cancer" of runaway human population growth. Ehrlich folded the crises of the late 1960s into a much larger story. Humanity had enjoyed four centuries of economic growth, Ehrlich said, but "the boom is clearly over." He urged his readers to bring every argument about social problems back to sheer numbers of people. Too many cars caused smog, but it was overpopulation that created the overabundance of vehicles. More children meant more schools and more school bond debt to pay off. In order to maintain social welfare, the birthrate needed to be brought into balance with the death rate, Ehrlich warned, or "mankind will breed itself into oblivion."[2]

As *The Population Bomb* became a best-seller, going through twenty-two reprintings in the first three years, Ehrlich emerged as a prominent national spokesman on environmental issues, inundated with speaking requests. Within the framework of overpopulation, Ehrlich also addressed broader threats from excessive consumption, pesticide use, disease, and the ecological limits that he thought constrained future food production. Many environmentalists came to view the sharp-tongued, passionate Ehrlich as the "best champion we got." Ehrlich's quick humor stayed relentlessly on message. At seven o'clock one Thanksgiving morning, Ehrlich answered questions on a San Francisco television show. When a woman called to tell Ehrlich that "vegetarianism was the answer . . . I replied 'only if eating salads makes men impotent.'" "What do you call people who

use the rhythm method?" Ehrlich would joke. "Parents." Ehrlich was a skilled raconteur and a master of verbal combat, the opposite of a stereotypical brainy researcher who struggled to explain his work. To make sure *The Population Bomb* would reach the widest possible audience, Ehrlich paid his twelve-year-old daughter ten dollars to read the draft manuscript and flag any difficult passages.[3]

Ehrlich soon had a crammed schedule of public appearances that transformed him from a scientist to a celebrity. His speaking fee increased to a thousand dollars per lecture (adjusted for inflation, around six thousand dollars in 2013). Television and radio shows called for interviews and publishers solicited manuscripts. "I seem to be spending more time on radio and TV than in bed these days," Ehrlich told a friend in August 1968. On one day in Washington, DC, that month, Ehrlich did seven radio and television shows between 7:00 a.m. and midnight, plus lunch with a newspaper reporter. "The book is giving me a lot of opportunity to shoot my mouth off over the public media, and I am determined to take full advantage of it," Ehrlich explained. Within a year of the book's publication, Ehrlich's frenetic pace had driven him to a state of exhaustion and poor health. His doctor ordered him to curtail his activities, but he scarcely heeded. In 1970 alone, Ehrlich gave a hundred public lectures and appeared on two hundred radio and television shows. Each time, he returned home from a trip to dozens of letters from people suggesting ideas and asking him questions or seeking advice. Paul Ehrlich had arrived where he wanted to be, on center stage, with a large and interested public audience. For the rest of his career, Ehrlich would spend only part of his time in active biological research, choosing to devote much of his prodigious energy to writing and speaking about humankind's precarious relationship with the natural world.[4]

Paul Ehrlich with his sister, Sally, 1940. Courtesy of Sally Kellock.

Paul Ehrlich grew up in suburban New Jersey at the dawn of the nuclear and chemical age and during a great wave of suburban expansion. His father, William, was a shirt salesman, and his mother, Ruth, who had graduated from the University of Pennsylvania, was a homemaker. The family moved from Philadelphia to Maplewood, New Jersey, in 1941, when Paul was nine years old and his younger sister, Sally, was four and a half. The Ehrlichs were part of a migration of Jewish families from nearby cities to the suburban town with its quiet streets and excellent school system. The family even purchased a

house right across from the high school. William Ehrlich traveled frequently for work, often lugging around large sample cases. He also developed Hodgkin lymphoma in his thirties, a few years after they moved to New Jersey. Between his tiring work and the debilitating illness, which finally killed him in 1955, William left most of the childrearing to Ruth. He did not care much for Paul's early interest in insects and butterflies, but Ruth encouraged Paul to explore the outdoors. Ruth Ehrlich was tough but warm, and like her son, she "didn't suffer fools lightly." After William's death, she would return to Philadelphia to become an English and Latin teacher.[5]

As a teenager, Ehrlich roamed the fields around Maplewood, often with a butterfly net in hand, exploring the pockets of nature. He had first learned to catch and preserve butterfly specimens as a young teenager at summer camp in Vermont. He thought that they were simply "beautiful," and he loved collecting things. Specimen drawers filled with butterflies soon piled up in his bedroom. Aquariums containing tropical fish cluttered the second floor. At one point, Ehrlich started sleeping in the attic to make more space in his bedroom for his collections. One day, the heat or power went off in the house, and his mother rushed to school to get him so that he could come home to rescue his fish. At the age of fifteen, Ehrlich took the train into New York City and presented himself for employment to Charles Michener, the curator of the American Museum of Natural History's butterfly collection. Michener had little money to pay a high school student worker. So he instead rewarded the young Ehrlich with colorful tropical butterflies that were unlabeled and therefore not valuable to the museum collection.[6]

Even in high school, Ehrlich showed a precocious ability in science, including a willingness to challenge the ideas of others

and a love for fieldwork. He always "very much believed in himself and his ideas." At just fifteen, in 1947, Ehrlich became a charter member of the newly established Lepidopterist Society for the study of butterflies. He was one of just a handful of members from his home state of New Jersey. The following year, Ehrlich published his first scientific field notes in the society's mimeographed *Lepidopterists' News*. Ehrlich's three-paragraph report detailed his observations of butterflies at home in Maplewood, as well as in Bethesda, Maryland, where he had spent the summer. Ehrlich had examined the eye color of more than four hundred specimens of the orange sulfur butterfly. His passion for science set him apart from his peers. "He was pretty much a loner," his mother later recalled. "After all, he had a butterfly net and he was chasing butterflies, and people ridiculed him." Ehrlich learned at a young age to follow his own muse. He developed a strong belief in his ability to understand how the world worked. He saw patterns and beauty in nature that his peers simply ignored.[7]

Suburban New Jersey proved fertile ground for breeding a young environmentalist. Maplewood and its surrounding towns were a war zone in the chemical battle against insects. Large trucks would roll down the streets spraying the pesticide DDT to kill off mosquitoes. Ehrlich found it increasingly difficult to find "food plants to feed caterpillars that weren't soused in DDT." The chemical later became an academic interest for Ehrlich. His first graduate school assistantship in 1952 focused on the development of resistance to DDT in fruit flies. Housing developers also were ripping up New Jersey's farms and rolling hills and its small country roads for suburban tract housing. Ehrlich disliked how the New Jersey landscape was changing around him. He recalled later that his environmental interest grew "when I saw the subdivisions being put over the places

where I used to go collect butterflies." Ehrlich was thus part of a generation of environmentalists who would grow up in the booming suburbs. The fields, woods, and backyards attracted their families, but the construction boom and the effort to control mosquitoes and other pests also threatened suburban nature and politicized many young suburbanites like Ehrlich.[8]

Ehrlich's passion for insects and biology continued at the University of Pennsylvania, where he entered college in the fall of 1949. During one of his years, Ehrlich lived in an off-campus apartment in Philadelphia with two World War II veterans. He liked to have a good time with his friends, and although he enjoyed his studies, he later described his college years as majoring in "liquor and women." With a loud voice and booming laugh, Ehrlich held forth with strong opinions on most any topic. The future of humanity provided a favored theme. Around this time, Ehrlich read Fairfield Osborn's *Our Plundered Planet* and William Vogt's *Road to Survival,* two popular 1948 warnings about overpopulation and resource scarcity. Osborn, president of the New York Zoological Society, and Vogt, a leading ornithologist, emphasized the dependence of humanity on nature. They used the recent world war to emphasize dangers posed by resource depletion and overpopulation. "Man's conflict with nature," Osborn wrote, was a "silent war" that threatened an "ultimate disaster greater even than would follow the misuse of atomic power." Describing depleted forests and shortages of arable land and the danger of population growth, Osborn warned that "another century like the last and civilization will be facing its final crisis." Osborn called for a new humility: "The time for defiance is at an end." Humanity, the "new geologic force," must "recognize the necessity of cooperating with nature." William Vogt shared Osborn's view that overpopulation and resource depletion endangered humanity's