# BUILDING THE POPULATION BOMB



**EMILY KLANCHER MERCHANT** 

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For my family, planned and unplanned.

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### ABBREVIATIONS USED IN NOTES

- AESR American Eugenics Society Records, American Philosophical Society Library, Philadelphia
- AJCP Ansley J. Coale Papers, Seeley G. Mudd Manuscript Library, Princeton University
- AJLP Alfred J. Lotka Papers, Seeley G. Mudd Manuscript Library, Princeton University
- FHOP Frederick Henry Osborn Papers, American Philosophical Society Library, Philadelphia
- FWNP Frank W. Notestein Papers, Seeley G. Mudd Manuscript Library, Princeton University
- HMFC Hugh Moore Fund Collection, Public Policy Papers, Department of Special Collections, Princeton University Library
- JDR3 John D. Rockefeller III Papers, Rockefeller Archive Center, Sleepy Hollow, New York
- MMFR Milbank Memorial Fund Records, Yale University Library
- NA National Archives, Washington, D.C.
- NAS National Academy of Sciences Archives, Washington, D.C.
- PCA Population Council Archives, Rockefeller Archive Center, Sleepy Hollow, New York
- PMHP Philip M. Hauser Papers, Special Collections Research Center, University of Chicago Library
- PREP Paul R. Ehrlich Papers, Stanford University Library
- RFA Rockefeller Foundation Archives, Rockefeller Archive Center, Sleepy Hollow, New York
- RPP Raymond Pearl Papers, American Philosophical Society Library, Philadelphia
- SPIA School of Public and International Affairs, Seeley G. Mudd Manuscript Library, Princeton University
- SSC Sophia Smith Collection, Smith College
- UNA United Nations Archives, New York

### Introduction

The camera started rolling. Wearing his signature bow tie and light blue lab coat, Bill Nye the "Science Guy" stood in front of a conveyor belt that moved colorful people-shaped sponges from the sponge-people machine into a small blue tub. The tub was full of water, which the sponge people rapidly absorbed. In his characteristic frenetic style, Nye scooped them up, squeezed them out, and put them back on the conveyor belt, only to have even more sponge people fall into the tub. "They're so absorbent!" he complained. Nye was filming the finale episode for the first season of his Netflix show, *Bill Nye Saves the World.* The episode was titled "Earth's People Problem," and the sponge people represented the growing human population soaking up Earth's limited resources.<sup>1</sup>

Nye's own concern about population growth had begun at the age of nine, when he visited the 1965 World's Fair in New York with his family. There he saw a scoreboard showing the world's population growing in real time. On the day he attended the fair, the scoreboard had just clicked over from 2,999,999,999 to three billion. When he filmed "Earth's People Problem" a half-century later, the world's population had more than doubled to 7.5 billion. Nye predicted that, by the time the episode aired, it would have increased by another million.

That the Earth's human population is growing is undeniable. At the time of this writing (2020), it has passed 7.7 billion.<sup>2</sup> Also undeniable is the fact that global population growth causes Americans considerable anxiety. As Nye explained, population growth "is bound up with lots of other difficult issues: the way we treat the environment, how our economies grow, migration of people, women's rights, access to healthcare, and contraception." Yet by the end of the episode twenty-six minutes later, Nye had done little to elucidate the connection between population growth and these other

important issues. He even suggested that perhaps the population problem is not what we think it is. He explained, "close to a billion of us are undernourished" because "we can produce enough food for everybody, but we're not good at distributing it." He also noted that "Earth's people problem" isn't necessarily about too many babies. In some parts of the world there aren't enough young people to support rapidly growing elderly populations. Nye even admitted that the word "overpopulation" "has a lot of baggage" because, when people use it, they always attribute it to "those other people" rather than to themselves. Despite complicating population in these ways, Nye kept the episode firmly focused on the question of how to reduce the number of babies coming into the world.

More than anything, what this episode of *Bill Nye Saves the World* demonstrates is Americans' widespread confusion regarding human population. We know that the Earth's population is growing, and we have a sense that population growth is causing problems. We can't exactly explain why, though, and there is little scientific evidence to support that feeling. We are nevertheless certain that having fewer people on the planet would help, and we are frustrated because we don't exactly know how to make that happen. As a result, the challenges of controlling the world's population often stand in for evidence that the world's population needs to be controlled.

This book turns the clock back one hundred years to explain how Americans came to see population growth as the fundamental cause of—and population control the ultimate solution to—many of the world's most pressing problems, from poverty to climate change. It explores how human population became an object of intervention for governments, intergovernmental agencies, and nongovernmental organizations, and how some forms of intervention, such as increasing women's access to education and birth control, got classified as legitimate, while others, such as penalties for supposedly excess childbearing, were recognized as coercive. This distinction between legitimate and illegitimate modes of intervention played out in the central segment of the Bill Nye episode, in a debate among a panel of experts over how to solve "Earth's people problem." On one side, Nye and bioethicist Travis Rieder argued that, for the sake of the planet, we need strict limits on childbearing

in the "developed world." On the other side, reproductive biologist Rachel Snow and gynecologist Nerys Benfield recommended a focus on family planning and education for women. They argued against "anything to incentivize fewer children or more children," pointing out that such policies inevitably penalize "poor women, minority women, disabled women." Nye, who seemed unaware of the history of eugenics in the United States, challenged this position, asking how these women were penalized, and suggested as an alternative better birth control for men.

The ongoing population debate, between moderates who advocate voluntary family planning and extremists who advocate compulsory childbearing limits, follows contours that were drawn globally between the 1920s and the mid-1970s. On the moderate side, demographers, the United Nations, and such nongovernmental organizations as the Population Council take the position that continued economic growth requires that population growth rates remain within a narrow (but generally unspecified) band. Populations must grow rapidly enough that there are ample workers to provide for children and retirees but not so rapidly as to divert money from capital accumulation for such everyday needs as food, clothing, and shelter. Proponents of this view maintain that the only legitimate way to keep population growth rates within the appropriate band is through education for women and the active promotion of family planning. The moderate side of the debate also includes those who argue that population in some parts of the world—notably East Asia and Europe—is growing too slowly, a perspective that Nye acknowledged and quickly skipped past. The extreme position is less prevalent today than it was fifty years ago, but support for it mounts as anxiety about climate change becomes more pervasive. This side is taken by population-oriented natural scientists, some ethicists, and such environmental organizations as Population Matters.<sup>5</sup> Its proponents contend that human population has already exceeded the planet's ability to provide for us and absorb our emissions, and that population growth must be reversed by limiting the number of children people are allowed to have.

Building the Population Bomb does not take one side or the other. Rather, it argues that today's population debate presents a false set of choices, focusing attention on how to control the world's population and foreclosing the question of whether doing so would actually solve any of the world's problems. This book transcends the debate by demonstrating that the moderate and extreme positions emerged in tandem and have supported and sustained one another, each attributing some of the world's most pressing problems to population, thereby eliding the true causes of those problems and substituting population control—whether of the moderate or the extreme variety—for more appropriate solutions. Most histories of population thought and policy, even those that are critical of population control, are told from within the terms of this debate. They generally begin from the assumption that human population growth is a problem and that we need noncoercive means of slowing it down.<sup>6</sup> Some explain how experts came to recognize that population is a problem, 7 while others tell the story of how the enormity of this problem led to enthusiasm for coercive solutions that did not respect women's rights.<sup>8</sup> Yet others warn that our enthusiasm for women's rights has led us to overlook the enormity of the population problem.9

Instead of beginning with those assumptions, this book asks where they came from. 10 It finds that demography, the social science of human population dynamics, is the key to answering that question. Demography has been mostly absent from existing histories, and its absence has gone almost entirely unremarked. Demographers make cameo appearances, but they are generally assumed to speak in unison and in unqualified support of population control. I was able to piece together a more complete story only through a lengthy research process that involved traveling to archives around the country, training in demography and working in historical demography lab, interviewing demographers and attending their meetings, reading as much of the demography literature as I could, and programming computers to read what I couldn't. 11 What I found is that historicizing demography unravels the presumed scientific foundation of the entire population debate; it was the debate itself that provided the impetus for the establishment of demography between the world wars and its meteoric growth in the decades following World War II. Only by taking a step back from the debate over how to solve the population problem does it become possible to ask how population growth came to constitute a problem, to identify demography's contributions and challenges to that process, and to recognize that the moderate and extreme positions evident on *Bill Nye Saves the World*, though generally framed as oppositional, are mutually constitutive.

Building the Population Bomb documents the history of "Earth's people problem" by tracing the material circulation of ideas about human population among and between scientists (of various kinds), philanthropists, businessmen, diplomats, the media. policymakers in the United States and throughout the world. It demonstrates that each side of the debate aired on Bill Nye Saves the World represents an assemblage: a specific configuration of people, theories, data, analytics, institutions, organizations, publications, slogans, and devices. 12 While the two sides of the debate are distinguishable from one another, their assemblages are entangled. Each has contributed to the promotion and perpetuation of the other. Even the conflict between them has helped to advance their primary point of agreement, which is that population growth is a problem that needs to be solved. The emergence of these population assemblages in the interwar United States was neither natural nor inevitable but rather the result of specific people working toward specific ends with the tools at their disposal. Their continued existence has never been an accomplished fact. Rather, the maintenance and transformation of these populationist assemblages over the past hundred years has always been the product of active work by their witting or unwitting supporters.

This book shows who put each piece of each assemblage into place and what implements they used to secure it. Identifying this historical process required following specific concepts—and even turns of phrase—as they moved between contexts and across time, tracing their travels between people, institutions, and publications. It involved constructing family trees and intellectual and professional networks that made it possible to document the circulation of ideas among people, people among institutions, and money between people and institutions. The book relies on archives of demographers, their employers, and their interlocutors, and on oral

history interviews with demographers and other key players in the story. This research demonstrates that, while science often legitimated population control projects, money was the most powerful tool for constructing the assemblages and holding them in place. Those who had the money wielded considerable influence over what science got done and how and to whom its results were communicated.

Although this book deals with global population, it is centered on the United States. Since World War II, U.S.-based actors have exercised an outsized influence on population thought and policy worldwide. Digging below the surface of such multilateral organizations as the United Nations Population Fund usually reveals that the bulk of the leadership and money comes from the United States. This book therefore tells the story of how Americans understood and shaped the world's population in the twentieth century, though it also demonstrates that they did not do so alone and that they often faced resistance.

Building the Population Bomb furthers our understanding of the history of the social sciences<sup>15</sup> and of the role of the United States in promoting global development in the second half of the twentieth century. Critically, it brings together these largely separate areas of historical inquiry, showing how social scientific research not only informed American efforts to promote economic development abroad during the Cold War but also legitimated those efforts and traveled along with them, often smoothing the way. In a postwar and postcolonial world organized around national sovereignty, carrying the authority of science allowed the U.S. government and U.S.-based nongovernmental organizations to step across international borders and intervene in the most intimate aspects of life in other countries.

This book also furthers the contemporary project of reproductive justice, which advocates "the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities." In the United States, white middle-class and wealthy women generally take these rights for granted. The reproductive justice movement was born out

of the struggles of women of color and poor women to achieve the same basic rights regarding their reproductive capacity. The United States has a long history of sometimes suppressing and sometimes promoting the reproduction of poor women and women of color for the benefit of the country's white middle-class and wealthy. In the twentieth century, population size and the rate of population growth emerged as scientific justifications for denying women of color and poor women the right to have children, not just in the United States but throughout the world. This book explains how. It further explains how supposedly legitimate approaches to population control, namely family planning programs, were neither safe nor approaches to fertility management. Such programs aimed to convince women that their poverty was caused by the number of children they had rather than by the structure of the global economy, and clinics often disappeared after they had put IUDs in what governments and scientists deemed enough women, leaving the women without medical care to deal with complications or to remove the devices when they wanted to have children.

This book shows how population professionals, most of them elite men, transformed the reproduction of poor and nonwhite women into a problem that required their intervention. At the same time, those professionals denied poor and nonwhite women the right to parent the children they had in safe and sustainable communities. By attributing individual poverty to family size and nation-level poverty to high birth rates, population professionals foreclosed opportunities for redistribution between and within societies. By attributing ecosystem degradation to human numbers, they naturalized the industrial, military, and governmental activities and decisions that pollute our air, water, and soil and that warm our climate. Further, they elided the fact that pollution-generating installations are intentionally sited in poor communities and communities of color, the issue at the heart of today's environmental justice movement. Achieving economic, environmental, and reproductive justice requires challenging the attribution of the world's problems to reproduction, whether the supposedly excessive reproduction of poor people in high-fertility countries or the supposedly inadequate reproduction of middle-class people in low-fertility countries.

Building the Population Bomb reveals, layer by historical layer, the scientific and political foundation on which the "Earth's People Problem" episode stands. Seeing the accretion of those layers, understanding where they came from, and recognizing whose ends they have served is key to realizing that the emperor of population is wearing no clothes. To be sure, there is a theoretical limit to the number of people the Earth can sustain. That limit, however, depends on how humans interact with the Earth; at current rates of population growth, we are unlikely to reach it. 18 The story told here challenges the implication of reproduction (whether thought to be excessive or inadequate) in the creation and perpetuation of such global problems as poverty and environmental degradation by demonstrating how population came to take the blame in the first place. It does not, however, advocate for dispensing with the concept of population altogether, as some science and technology scholars have recommended. 19 As will become clear, demography and the demographic concept of population provide powerful tools for thinking in terms of social (not natural) aggregates, for planning the provision of human services, and for interrogating and addressing the causes of inequality.<sup>20</sup>

The story begins in the 1920s, with the emergence of two scientific approaches to human population. Natural scientists, focusing on population growth in the aggregate, warned that the United States and the world as a whole were headed for overpopulation. Statisticians, meanwhile, developed new vital rate indices that suggested that population growth in North America and Western Europe was slowing and would soon reverse course. Instead of overpopulation, they claimed, countries in those regions faced the danger of depopulation. Chapter 1 demonstrates that these divergent scientific positions emerged from different ontologies of population and supported opposing political projects. They could not be reconciled scientifically, as they relied on incompatible analyses of the same data. Despite these differences, natural scientists and statisticians from the Americas, Europe, and Asia came together in 1928 to form an international professional organization to promote the emergent science of population. Their project crumbled in the 1930s, however, under the weight of the political tensions that had

begun to tear Europe apart. As various European countries weaponized their population policies, they looked to the new organization for scientific legitimacy, and scientists found themselves unable to distinguish scientific questions about population from political ones. In their attempts to draw those boundaries, American participants laid the foundation for demography, a social science of human population based on the vital rate indices developed by statisticians in the 1920s.

Chapter 2 demonstrates that the American social scientists who began to identify as demographers between the wars formed an alliance with a new brand of eugenics that emerged in the United States in the 1930s. This updated version of eugenics eschewed the intra-European racism that had become associated with European fascism. Its proponents aimed to replace government control over who reproduced and who did not with social and market control. While the older eugenicists who continued to espouse nativism and intra-European racism looked to the natural science of population and its predictions of overpopulation for scientific legitimacy, younger eugenicists instead embraced demography and its vital rate indices, which continued to suggest that depopulation was just around the corner. As the Great Depression opened seats at the policy table for demographers, demographers turned their research focus to the development of eugenic pronatalist policies. At the heart of this agenda was a new combination of birth control legalization and social engineering that would encourage the wealthy to have large families and the poor to have small families, without overt state control. Supporters of this project termed it "family planning."

Chapter 3 explains how, following World War II, the new United Nations conceptually reorganized the world from a small collection of empires into a large community of nation-states, each responsible for statistically constituting and technocratically governing its own population and economy. The experts who advised the UN expected that, once populations and economies had been measured, they could be compared and adjusted relative to one another if necessary. UN demographers initially attempted to bring this world of nation-states into being through the establishment of democratic governments and national statistical infrastructures. This effort failed,

however, as disputes over sovereignty at local, national, and international levels rendered population data either uncollectable or untrustworthy. The UN ultimately turned to demographic theory and models to fill in the persistent gaps in its data tables, producing a statistical image of the world as a series of populations and rendering those populations tractable to control.

Chapter 4 documents the development in the 1950s and 1960s of a global consensus regarding population that briefly united the two scientific positions that had emerged in opposition to one another between the wars. Whereas interwar natural scientists had contended that the world's population was nearing its natural limit, postwar natural scientists argued that the limit had already been exceeded, pointing to soil erosion and resource depletion as suggested that Demographic theory, meanwhile, evidence. modernization would both expand the Earth's human capacity and keep human population well below it. But demographers worried that rapid population growth in certain countries of Asia and Latin America could prevent modernization, and they began to promote family planning as the solution. Working together, demographers and natural scientists generated and popularized the belief that population growth in developing countries was one of humanity's most pressing challenges and that it could be averted through family planning. This consensus allowed the U.S. government to embrace family planning as a tool of domestic and foreign policy by moving it from the realm of religious and political debate to the realm of scientific and technological certainty.

Chapter 5 explains how, during the 1960s, the (over)population consensus supported the growth of demography, which in turn promoted the international spread of the consensus. U.S.-based organizations devoted to overseas population control recruited demography graduate students from developing countries and funded their education in the United States, with the understanding that they would return home to advocate for population control as a means of promoting economic development. These organizations also funded field studies by American demographers in Africa, Asia, and Latin America that promoted small-family norms and the distribution of new systemic contraceptive technologies. This

research documented the existence of what demographers termed "unmet need" for family planning services, legitimating the establishment or expansion of family planning programs by governments, international agencies, and nongovernmental organizations.

Chapter 6 documents the fragmentation of the postwar population consensus. It explains how, as American power in the world became more tenuous at the end of the 1960s and the beginning of the 1970s, the consensus broke down under attack from two directions. On the right, natural scientists abandoned their support for family planning and instead advocated more direct population control measures. Pointing to the growing environmental crisis, these erstwhile participants in the population consensus contended that family planning would not reduce population growth quickly enough to prevent massive famine, ecosystem collapse, and global political catastrophe. On the left, Latin American social scientists, amplified by a new generation of demography graduate students in the United States, contended that no approach to population control would ever solve the world's problems because those problems had their roots in the structure of the global capitalist economy, not human numbers. American demographers, who continued to espouse family planning as a stabilizing force in an increasingly chaotic world, found themselves embattled at the 1974 UN World Population Conference, which marked the demise of the postwar population consensus.

The epilogue brings the story to the present. It follows the demographic and natural scientific versions of the population problem into the twenty-first century and demonstrates how debates between these two positions on population have largely silenced and co-opted voices that refuse to attribute the world's woes to expanding human numbers. I contend that the real problem with population is that it remains a prominent scapegoat for nearly all of the world's ills. Efforts to control population distract publics and policymakers from the actual causes of human suffering and environmental degradation. The framing of the world's pressing issues as "the population problem" diverts resources from just and equitable solutions at the expense of the world's most vulnerable people and of the planet itself.

Feminist science and technology scholars Adele Clarke and Donna Haraway have recently made a new appeal for limiting the number of humans on Earth, equating sanguinity about population growth with climate denialism.<sup>21</sup> This book challenges that position, contending that blaming population growth for climate change is much more akin to climate denialism, as it obscures the role of fossilfuel-driven global capitalism and deters regulatory solutions. I certainly do not dispute that population has grown enormously in the past hundred years or that anthropogenic climate change is threatening our very existence on Earth, but research has shown that the former is not the cause of the latter.<sup>22</sup> As feminist environmental geographer Joni Seager explains, "there is only the loosest correlation between numbers of people and environmental stress," so "an environmental analysis that focuses on population numbers is largely diversionary."23 This book explains who has diverted our attention and from what.

Advocates of population limitation often complain that ideological opposition to birth control and abortion keep birth rates dangerously high or that the dark history of eugenics and population control have rendered suspect any efforts to make birth control and abortion more readily accessible. Ideological opposition to birth control and abortion, and the long history of eugenics and population control, are real issues that need to be addressed. But these are reproductive justice problems, not population problems. To adequately solve them, we must challenge the assumption that population is the source of such complex issues as global poverty and climate change. This book tells the story of how these separate concerns human population growth, the natural environment, social inequality, eugenics, racism, and the legality and availability of birth control and abortion—got entwined. In particular it documents the role of demography in both bringing them together and teasing them apart.<sup>24</sup>

Prior to the COVID-19 pandemic, the UN predicted that the world's human population would peak at 11 billion around the year 2100.<sup>25</sup> This book explains where such numbers come from and how Americans have been taught to view them with alarm—really to view

any prediction of future population growth with alarm. It is only by recognizing that the anxiety we feel about future population growth is learned and not obvious that we can see that population growth itself is not a barrier to economic, environmental, and reproductive justice. Rather, it is our anxiety about population growth that distracts us from the pursuit of those urgent goals.