

NEW CHALLENGES FOR US ALL

THE SCARY PREDICTIONS OF 1970 INSPIRED **ACTIONS THAT MADE LIFE BETTER** IN MANY WAYS. NOW WE'RE BEING TESTED AGAIN.

● BY CHARLES C. MANN

LET ME DATE MYSELF right away by saying that I attended a demonstration on the first Earth Day, in 1970. The mood, as I recall it, was both joyous and solemn. Joyous because we were collectively celebrating, for the first time in U.S. history, the natural world around us. Solemn because the voices from the podium were issuing dire prophecies about the fate awaiting that natural world.

Such warnings were heard everywhere then. The Nobel Prize-winning biochemist George Wald

explained to an audience at the University of Rhode Island that unless immediate action was taken, civilization would end within 15 or 30 years. According to Stanford biologist Paul Ehrlich, author of *The Population Bomb*, that kind of prediction was overly hopeful. In an interview published for Earth Day, Ehrlich proposed that the planet had only two years left to change course before all "further efforts [to save it] will be futile." Too optimistic still, believed Earth Day national coordinator Denis Hayes. In an

Earth Day-timed article for the Wilderness Society magazine, Hayes argued that it was "already too late to avoid mass starvation." It's easy to understand why they believed this: The global situation was calamitous. At the time of the first Earth Day, about one out of every four people in the world was hungry—"undernourished," to use the term preferred by the United Nations. About half the world was living in extreme poverty. The average life expectancy in Africa was a mere 45.6 years. Roughly half of Latin America and the Caribbean lacked electricity and access to education. Famines in West Africa had just killed about a million people. Wars, revolts, and insurgencies were raging in Southeast Asia (Vietnam, Laos, Cambodia, Indonesia, the Philippines), Africa (Kenya, Ethiopia, Nigeria, the Portuguese colonies), the Middle East (Oman, Yemen, Jordan), and Latin America (Nicaragua, Colombia, Mexico). A flu pandemic that began in Asia was exploding through much of the rest of the world; it would kill a million people before it was over.

THE WORLD TURNED OUT QUITE DIFFERENTLY FROM THE DIRE FORECASTS OF 1970, WHICH FORESAW A RUINOUS DECLINE FOR HUMANKIND AFTER THE PLANET HAD BEEN STRIPPED OF ITS RESOURCES.

Environmental trends were, if anything, worse. Harbors from London to Los Angeles, Boston to Bombay (now Mumbai), were choked with waste. Most of the planet's great rivers—the Danube, the Tiber, the Mississippi—were undrinkable. Leaded gasoline released poisonous fumes into the air in such vast quantities that the average U.S. preschooler had four times more lead in his or her blood than what would now require urgent action. So much smog enveloped cities that *Life* magazine predicted early in 1970 that "by 1985 air pollution will have reduced the amount of sunlight reaching Earth by one-half."

By the first Earth Day, a recently founded international organization, the Club of Rome, was already working on what would become a stunningly influential book: *The Limits to Growth*, published in 1972. The *Limits* team created a computer model of the world, then used it to project future demand for resources such as coal, iron, natural gas, and aluminum. In graph after graph, the book depicts a race to a peak of production, followed by a ruinous decline as the planet is stripped bare. To avoid ruin, the team emphasized, humankind's lurching course forward "must stop soon."

DIANA MARQUES, NGM STAFF; KELSEY NOWAKOWSKI. SOURCES: HUMAN PROGRESS, CATO INSTITUTE, FAO; WORLD BANK; UN STATISTICS DIVISION

GLOBAL GAINS

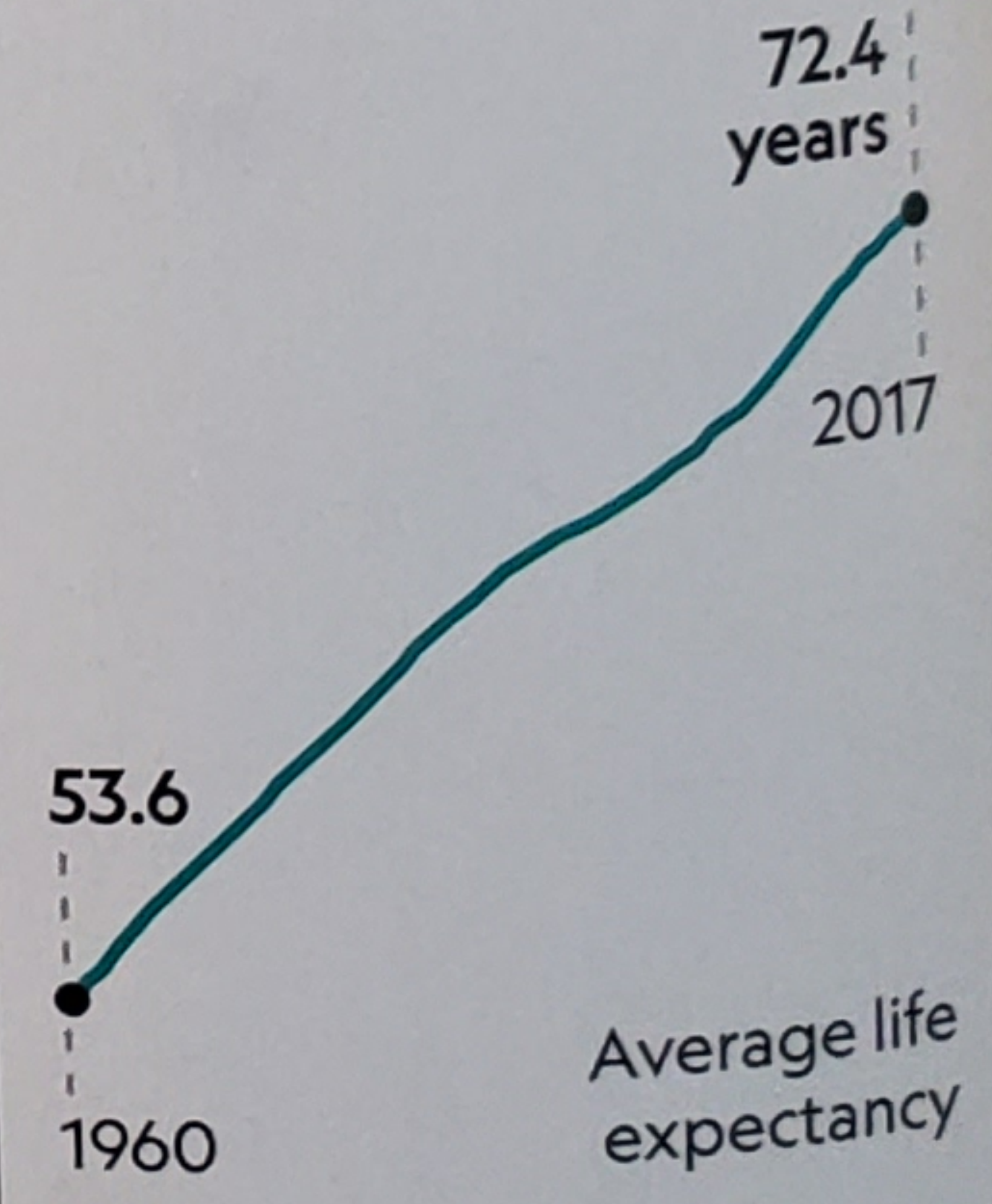
People have more food to eat

Food production has outpaced population growth thanks to the expanded use of nitrogen fertilizers, increased irrigation, and higher-yielding seed varieties.



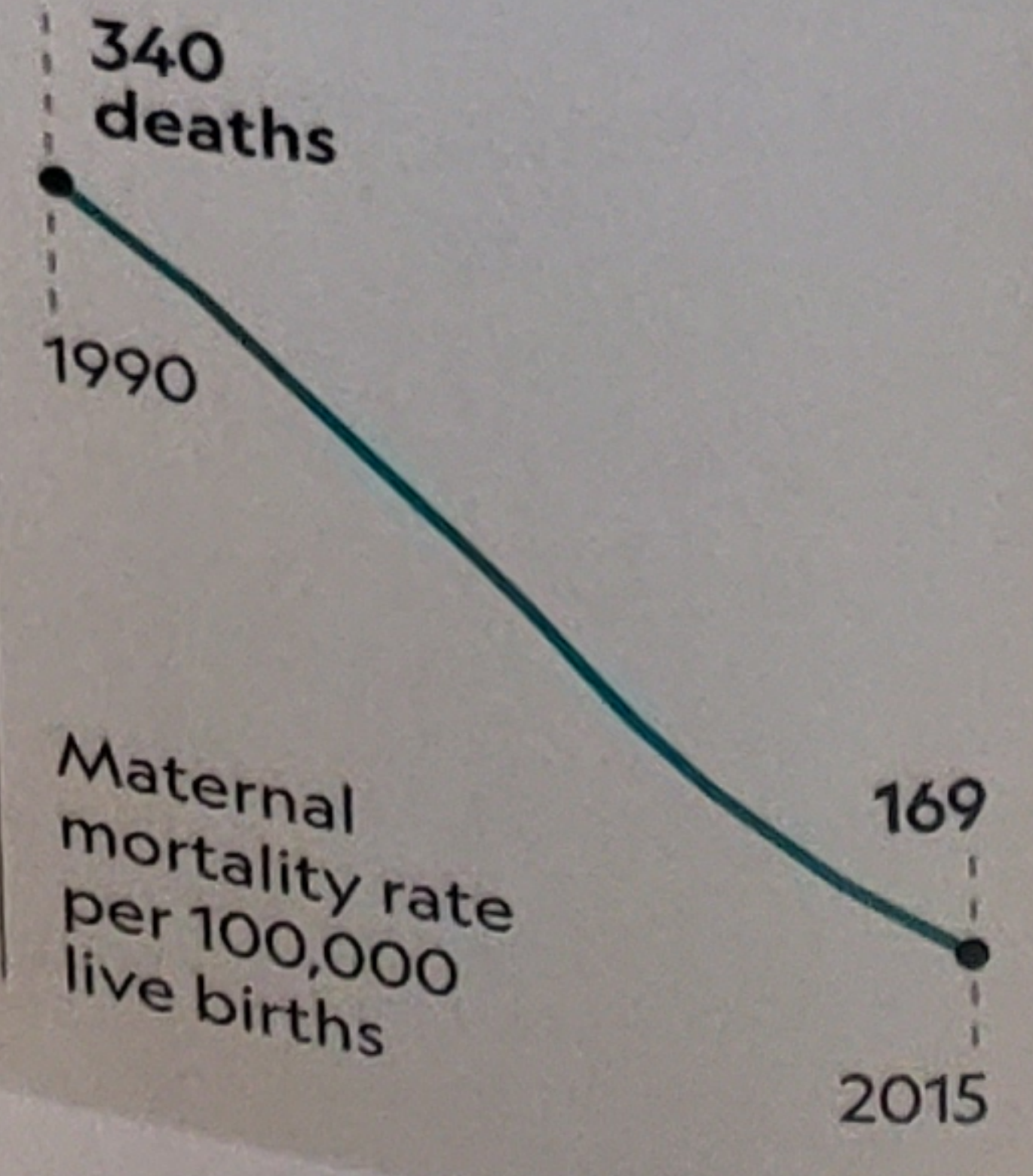
We're living longer

Improvements in sanitation, nutrition, and health have steadily lengthened life expectancy all over the world. Vaccines and antibiotics have reduced deaths from infection and disease.



Fewer women are dying in childbirth

Maternal deaths are much rarer today, including in some regions of Asia that have seen a 60 percent drop since 2000. Globally, improvements can be attributed to better health care, hygiene, and nutrition.



UNB
ST
THA
SW

That didn't happen. The world turned out differently from the predictions—and, in many ways, better. Thanks to technological advances, political and economic reforms, and cultural changes, average human physical well-being has, by almost every measure, improved since 1970. Nowadays, according to the UN, just one out of nine people worldwide is undernourished, even though our numbers have more than doubled in the past 50 years. The chance that a child will be hungry in our era is lower than it has been in recorded history, and as relief efforts have improved, famine deaths, once common, have become increasingly rare. (Hundreds of millions of people are still underfed, but it's important to recognize what has been accomplished.) Partly because of better health and nutrition, average global life expectancy has risen by more than 13 years since the first Earth Day, with most of the increase occurring in low-income places. All the while, incomes have been rising and pollution levels falling—almost, but not quite, everywhere. Billions of people now belong to something that resembles the middle class.

Meanwhile, resources such as steel and aluminum are far from running out, and generally cost the same or less. In the history of our species, nothing like this gush of good fortune has occurred before. It is the signal accomplishment of the postwar generation and its predecessor.

Even the political situation has improved, despite the polarization besetting North America and Europe today. Every research project tracking global political violence shows that it has been falling precipitously; the civil wars in the headlines—Syria, Yemen, and Afghanistan—are ghastly but exceptional. There are many more democracies and partial democracies now than in 1970, and they are working, however unsteadily, to improve their citizens' lives. At the time of the first Earth Day, fewer than one in five people in South Asia had electricity; today the figure is more than nine out of 10. Similarly, the proportion of people in Latin America and the Caribbean with electrical power has risen from less than 50 percent to almost 100 percent.

These improvements have not occurred evenly or equitably: Millions upon millions are not prosperous, and millions more are falling behind. Some places, notably in India and China, are becoming more polluted, not less. But on a global level—the level of the nearly eight billion souls currently inhabiting our planet—the increase in well-being is indisputable. The factory worker in Pennsylvania and the farmer in Pakistan may be struggling and angry, yet they are also, by the standards of the past, wealthy and healthy.

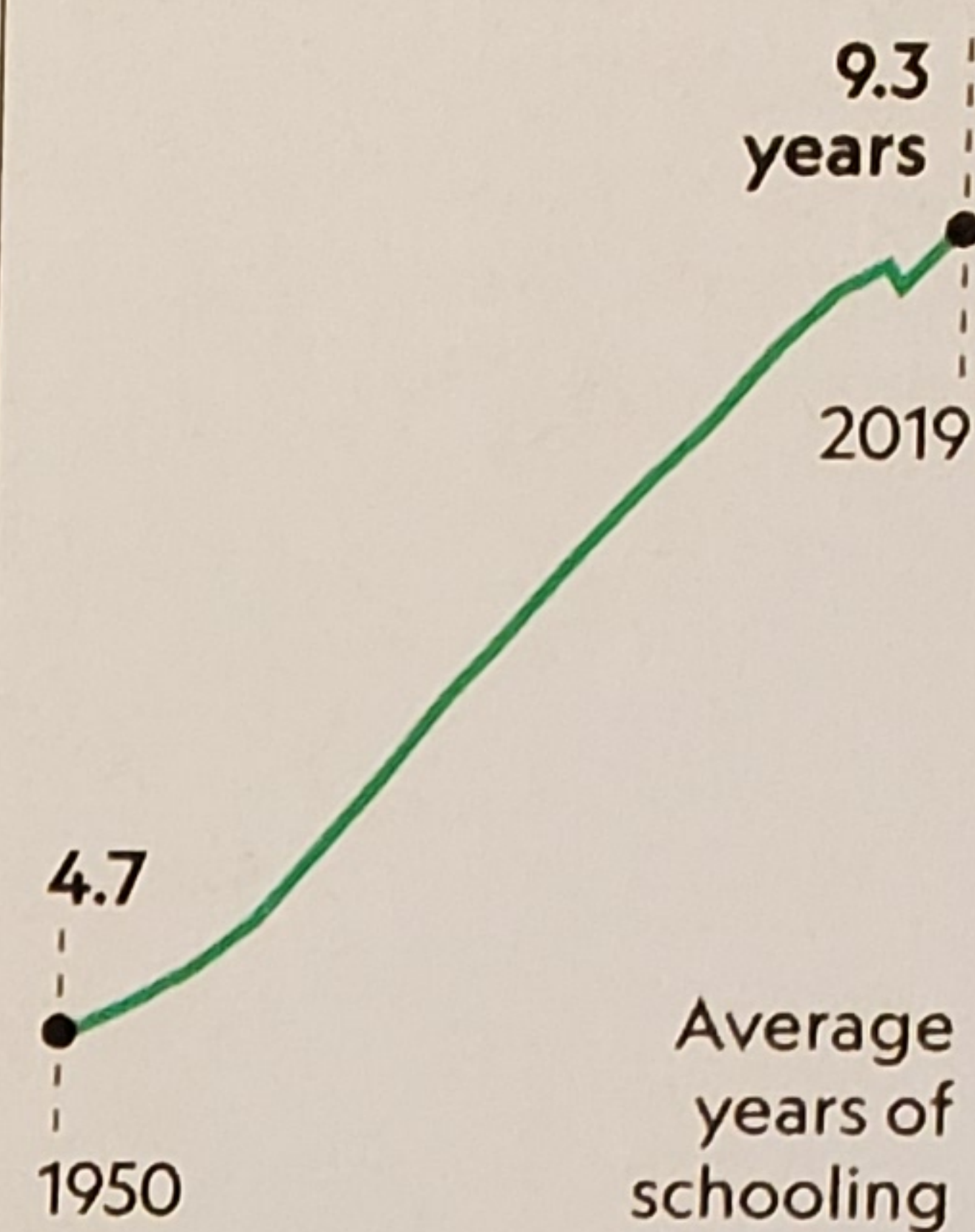
The gains have been accompanied by losses, though. The list of environmental problems is different than it was in 1970, but it also may be more formidable. Biodiversity loss, aquifer drainage, ocean acidification, soil degradation, and, biggest of all, climate change—who can look at this list without quailing?

One lesson of the failed predictions of the first Earth Day is that people can solve environmental problems—if, like air and water pollution, they have immediate, tangible effects on humans' physical welfare. But the problems we face today are much more long-term and abstract, if no less serious. They are not, for the most part, like what we have faced before. Nobody knows whether they can be cracked. And another lesson of those failed predictions is that humans are terrible at foreseeing the future. □

Charles C. Mann is the author of *1491*, *1493*, and *The Wizard and the Prophet*. He's also a correspondent for the *Atlantic*, *Wired*, and *Science*.

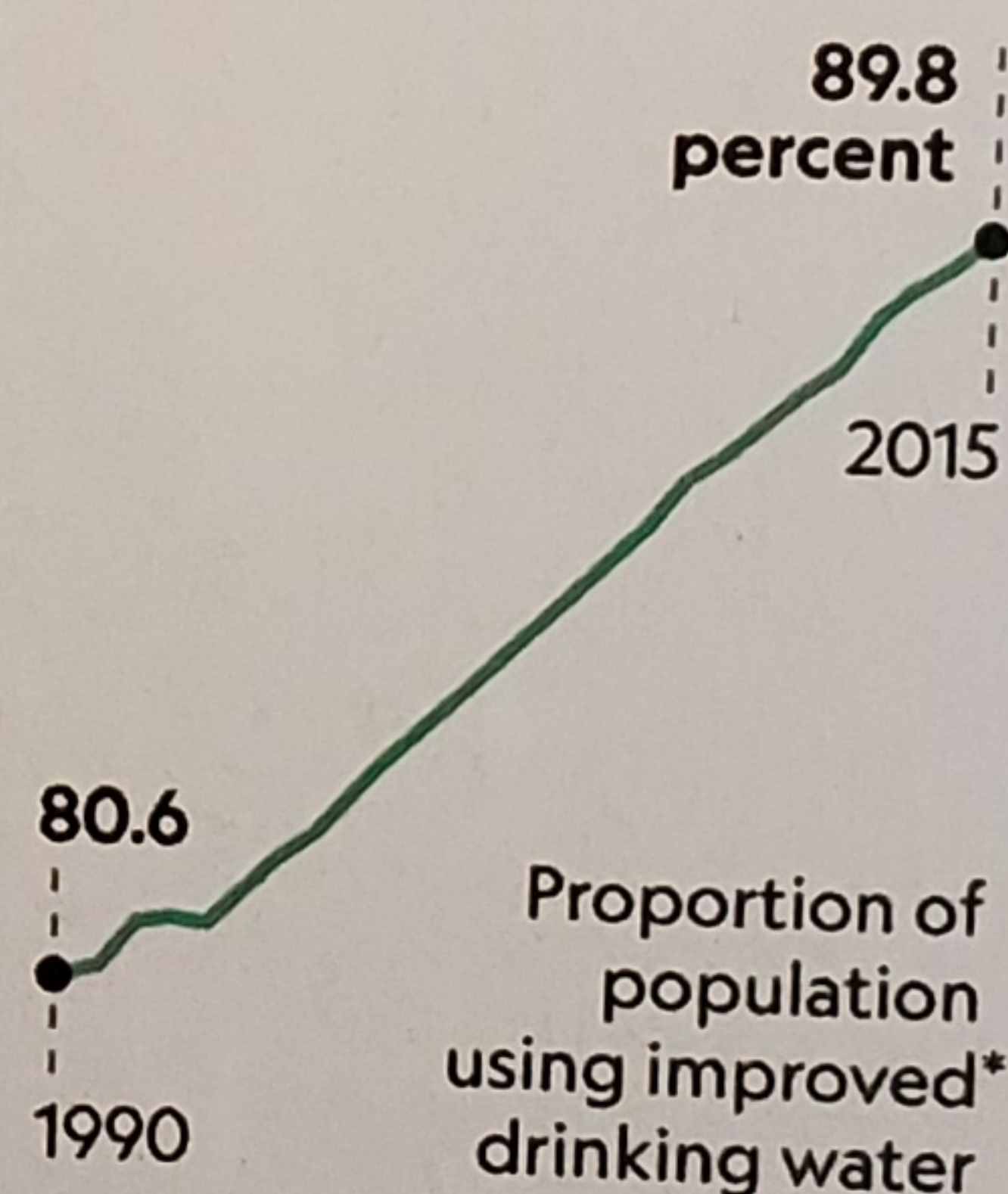
We're spending more time in the classroom

Wide gains in education came from greater public and private investment, as well as an increased appreciation of its benefits. In many regions the gender gap in learning has been nearly eradicated.



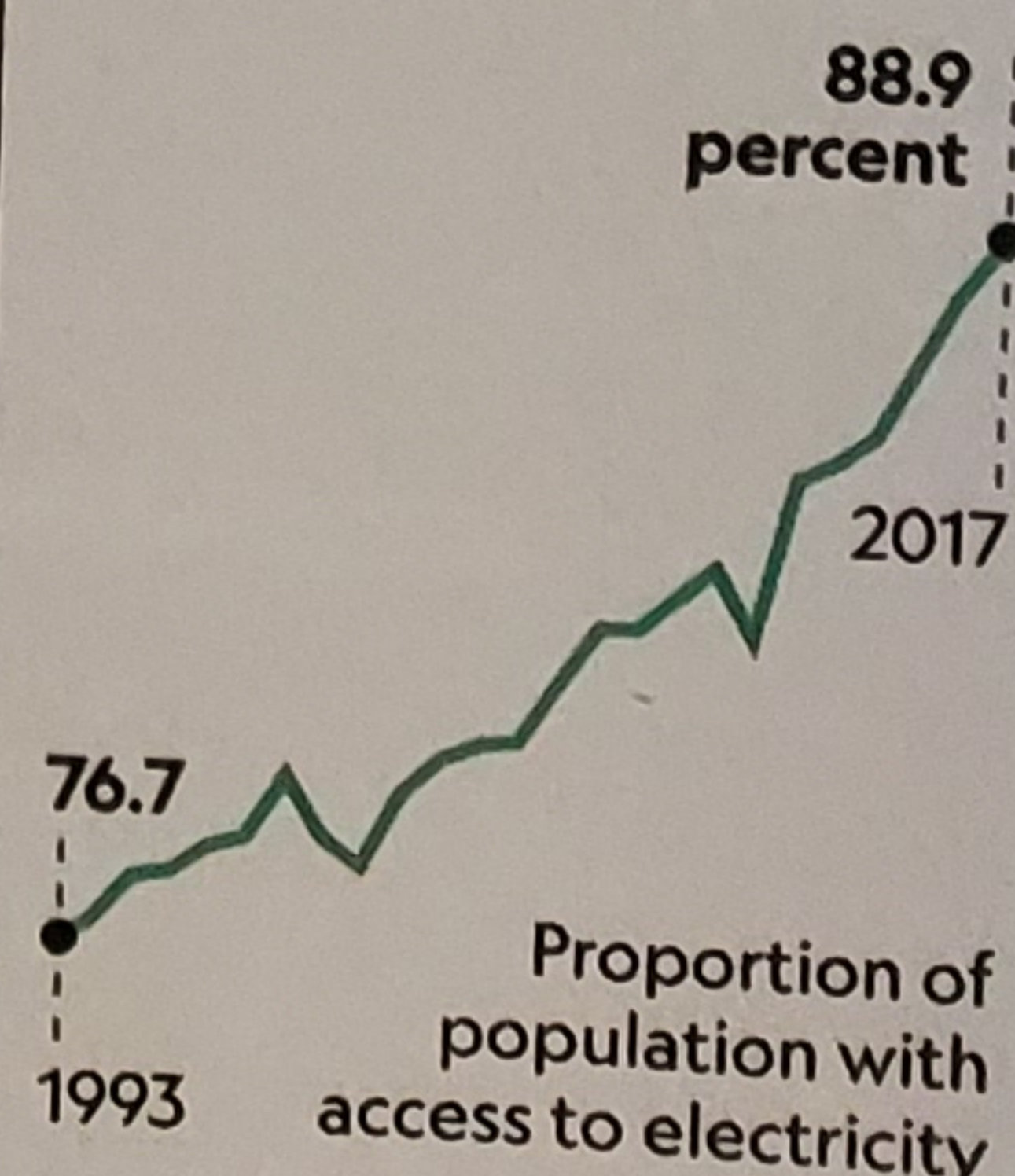
We have better access to clean water

Investments in piped water, public taps, and wells have increased urban and rural access to clean drinking water. Better sanitation also helps fight life-threatening fecal contamination of water.



More people have electricity

The share of the world's population with access to electricity has grown as more people have settled in cities. Off-grid technologies such as solar energy help wire poor, hard-to-reach rural areas.



*Water sources protected from outside contamination