

ABOUT THAT

OVERPOPULATION PROBLEM

**Research suggests we may actually face
a declining world population in the coming years.**

by

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The world's seemingly relentless march toward overpopulation achieved a notable milestone in 2012: Somewhere on the planet, according to U.S. Census Bureau estimates, the 7 billionth living person came into existence.

Lucky No. 7,000,000,000 probably celebrated his or her birthday sometime in March and added to a population that's already stressing the planet's limited supplies of food, energy, and clean water. Should this trend continue, as the Los Angeles Times noted in a five-part series marking the occasion, by midcentury, "living conditions are likely to be bleak for much of humanity."

A somewhat more arcane milestone, meanwhile, generated no media coverage at all: It took humankind 13 years to add its 7 billionth. That's longer than the 12 years it took to add the 6 billionth--the first time in human history that interval had grown. (The 2 billionth, 3 billionth, 4 billionth, and 5 billionth took 123, 33, 14, and 13 years, respectively.) In other words, the rate of global population growth has slowed. And it's expected to keep slowing. Indeed, according to experts' best estimates, the total population of Earth will stop growing within the lifespan of people alive today.

And then it will fall.

This is a counterintuitive notion in the United States, where we've heard often and loudly that world population growth is a perilous and perhaps unavoidable threat to our future as a species. But population decline is a very familiar concept in the rest of the developed world, where fertility has long since fallen far below the 2.1 live births per woman required to maintain population equilibrium. In Germany, the birthrate has sunk to just 1.36, worse even than its low-fertility neighbors Spain (1.48) and Italy (1.4). The way things are going, Western Europe as a whole will most likely shrink from 460 million to just 350 million by the end of the century. That's not so bad compared with Russia and China, each of whose populations could fall by half. As you may not be surprised to learn, the Germans have coined a polysyllabic word for this quandary: Schumpf-Gesellschaft, or "shrinking society."

American media have largely ignored the issue of population decline for the simple reason that it hasn't happened here yet. Unlike Europe, the United States has long been the beneficiary of robust immigration. This has helped us not only by directly bolstering the number of people calling the United States home but also by propping up the birthrate, since immigrant women tend to produce far more children than the native-born do.

But both those advantages look to diminish in years to come. A report issued last month by the Pew Research Center found that immigrant births fell from 102 per 1,000 women in 2007 to 87.8 per 1,000 in 2012. That helped bring the overall U.S. birthrate to a mere 64 per 1,000 women--not enough to sustain our current population.

Moreover, the poor, highly fertile countries that once churned out immigrants by the boatload are now experiencing birthrate declines of their own. From 1960 to 2009, Mexico's fertility rate tumbled from 7.3 live births per woman to 2.4, India's dropped from six to 2.5, and Brazil's fell from 6.15 to 1.9. Even in sub-Saharan Africa, where the average birthrate remains a relatively blistering 4.66, fertility is projected to fall below replacement level by the 2070s. This change in developing countries will affect not only the U.S. population, of course, but eventually the world's.

Why is this happening? Scientists who study population dynamics point to a phenomenon called "demographic transition."

"For hundreds of thousands of years," explains Warren Sanderson, a professor of economics at Stony Brook University, "in order for humanity to survive things like epidemics and wars and famine, birthrates had to be very high." Eventually, thanks to technology, death rates started to fall in Europe and in North America, and the population size soared. In time, though, birthrates fell as well, and the population leveled out. The same pattern has repeated in countries around the world. Demographic transition, Sanderson says, "is a shift between two very different long-run states: from high death rates and high birthrates to low death rates and low birthrates." Not only is the pattern well-documented, it's well under way: Already, more than half the world's population is reproducing at below the replacement rate.

If the Germany of today is the rest of the world tomorrow, then the future is going to look a lot different than we thought. Instead of skyrocketing toward uncountable Malthusian multitudes, researchers at Austria's International Institute for Applied Systems Analysis foresee the global population maxing out at 9 billion some time around 2070. On the bright side, the long-dreaded resource shortage may turn out not to be a problem at all. On the not-so-bright side, the demographic shift toward more retirees and fewer workers could throw the rest of the world into the kind of interminable economic stagnation that Japan is experiencing right now.

And in the long term--on the order of centuries--we could be looking at the literal extinction of humanity.

That might sound like an outrageous claim, but it comes down to simple math. According to a 2008 IASA report, if the world stabilizes at a total fertility rate of 1.5--where Europe is today--then by 2200 the global population will fall to half of what it is today. By 2300, it'll barely scratch 1 billion. (The authors of the report tell me that in the years since the initial publication, some details have changed--Europe's population is falling faster than was previously anticipated, while Africa's birthrate is declining more slowly--but the overall outlook is the same.) Extend the trend line, and within a few dozen generations you're talking about a global population small enough to fit in a nursing home.

It's far from certain that any of this will come to pass. IASA's numbers are based on probabilistic projections, meaning that demographers try to identify the key factors affecting population growth and then try to assess the likelihood that each will occur. The several layers of guesswork magnify potential errors. "We simply don't know for sure what will be the population size at a certain time in the future," demographer Wolfgang Lutz told IASA conference-goers earlier this year. "There are huge uncertainties involved." Still, it's worth discussing, because focusing too single-mindedly on the problem of overpopulation could have disastrous consequences--see China's one-child policy.

One of the most contentious issues is the question of whether birthrates in developed countries will remain low. The United Nation's most recent forecast, released in 2010, assumes that low-fertility countries will eventually revert to a birthrate of around 2.0. In that scenario, the world population tops out at about 10 billion and stays there. But there's no reason to believe that that birthrates will behave in that way--no one has ever observed an inherent human tendency to have a nice, arithmetically stable 2.1 children per couple. On the contrary, people either tend to have an enormous number of kids (as they did throughout most of human history and still do in the most impoverished, war-torn

parts of Africa) or far too few. We know how to dampen excessive population growth--just educate girls. The other problem has proved much more intractable: No one's figured out how to boost fertility in countries where it has imploded. Singapore has been encouraging parenthood for nearly 30 years, with cash incentives of up to \$18,000 per child. Its birthrate? A gasping-for-air 1.2. When Sweden started offering parents generous support, the birthrate soared but then fell back again, and after years of fluctuating, it now stands at 1.9--very high for Europe but still below replacement level.

The reason for the implacability of demographic transition can be expressed in one word: education. One of the first things that countries do when they start to develop is educate their young people, including girls. That dramatically improves the size and quality of the workforce. But it also introduces an opportunity cost for having babies. "Women with more schooling tend to have fewer children," says William Butz, a senior research scholar at IIASA.

In developed countries, childrearing has become a lifestyle option tailored to each couple's preferences. Maximizing fertility is rarely a priority. My wife and I are a case in point. I'm 46, she's 39, and we have two toddlers. We waited about as long to have kids as we feasibly could because we were invested in building our careers and, frankly, enjoying all the experiences that those careers let us have. If wanted to pop out another ankle-biter right now, our ageing bodies might just allow us to do so. But we have no intention of trying. As much as we adore our little guys, they're a lot of work and frighteningly expensive. Most of our friends have just one or two kids, too, and like us they regard the prospect of having three or four kids the way most people look at ultramarathoning or transoceanic sailing--admirable pursuits, but only for the very committed.

That attitude could do for Homo sapiens what that giant asteroid did for the dinosaurs. If humanity is going to sustain itself, then the number of couples deciding to have three or four kids will consistently have to exceed the number opting to raise one or zero. The 2.0 that my wife and I have settled for is a decent effort, but we're not quite pulling our weight. Are we being selfish? Or merely rational? Our decision is one that I'm sure future generations will judge us on. Assuming there are any.

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