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Pinker's "Enlightenment Now": Humanism and scientific progress

By David H Bailey, on February 28th, 2018

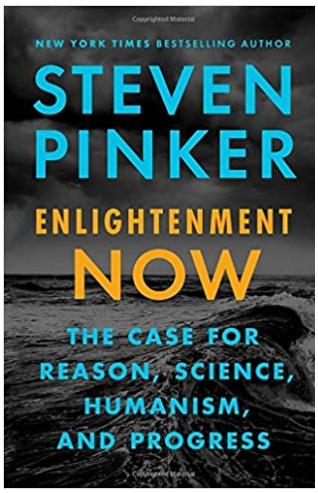
Introduction

Many have read books and articles by renowned Harvard social scientist **Steven Pinker**. In his 2011 book **The Better Angels of Our Nature: Why Violence Has Declined**, Pinker cited a huge amount of historical and sociological data to conclude, counter-intuitively to many, that **violence has declined** "at the scale of millennia, centuries, decades, and years", "over several orders of magnitude of violence, from genocide to war to rioting to homicide to the treatment of children and animals."

Pinker pointed out, for example, that while WWI and WWII had the most wartime fatalities in history, when normalized by world population at the time, they do not even make the top eight. Further, crime rates have plummeted in most nations, again very much contrary to popular perception. For example, between 1991 and 2016 the homicide rate plummeted by a whopping 87% in New York City, and by 76% in Los Angeles. There has been an uptick in a few U.S. cities during the past year or two (e.g., Chicago and Baltimore), but in most other cities, in the U.S. and elsewhere, crime continues to fall. For example, in New York City **there were only 286 homicides in 2017**, only about 1/8th of the 2245 recorded in 1990, and the lowest since the 1950s when the city's population was much smaller.

This is not just a U.S. phenomenon. Crime has dropped so much in Britain and Europe that the Economist asked **Where have all the burglars gone?**. Along this line, the low and declining **homicide rates** in many first-world nations [Japan (0.31 per 100,000), Spain (0.66), Switzerland (0.69), South Korea (0.74), Italy (0.78), Germany (0.85), U.K. (0.92), Australia (0.98) and Sweden (1.15)], give hope that the relatively higher rates in the U.S. (4.88) and elsewhere can be reduced much more.

Progress is real



Pinker's latest book, **Enlightenment Now: The Case for Reason, Science, Humanism, and Progress**, extends this analysis to encompass a broad range of societal well-being indicators, from life expectancy, health and wealth, to education, environment and safety. Again, Pinker concludes that the pervasive public view of seemingly hopeless decline is perversely in error, a most unfortunate byproduct of the predilection of the media (from both left and right) for reporting bad news. Progress is truly real.

Here are just a few of the interesting statistics Pinker cites in his latest book:

1. *Life expectancy* (Chap. 5). Life expectancy in Europe and America hovered around 35 for over two centuries, before soaring, starting about 1880, to over 80 at the present time. Worldwide, life expectancy has soared from 29 in 1880 to 71 today. Along this line, infant mortality has plunged from 25% in much of Europe as recently as the late 1800s, to a fraction of a percent today. Similar precipitous declines have recently been seen in numerous other nations, including the poor regions in southeast Asia and sub-Saharan Africa.

2. *Disease* (Chap. 6). As recently as the early 1900s, epidemics repeatedly ravaged populations around the world, striking down hundreds of millions, both rich and poor. But within the past century disease after disease has been either eradicated or enormously reduced, thanks to research, vaccines and better medical care. These include smallpox (eradicated in 1977), polio (only 37 cases remain) and Guinea worm (only 25 cases remain). Others likely to be eradicated in the next decade include elephantiasis, river blindness, blinding trachoma, measles, rubella, sleeping sickness and hookworm. Deaths by malaria have fallen 60% since 2000, and WHO workers hope to reduce this by another 90% by 2030.

3. *Malnourishment* (Chap. 7). Throughout history, waves of famine have decimated societies worldwide, with hundreds of millions of victims, and hundreds of millions more have suffered from malnourishment. As recently as 1870, the number of worldwide famine deaths per 100,000 was 1400; today it is virtually zero. Similarly, in spite of widespread dire predictions by writers such as Paul Ehrlich in the 1960s that the world would soon face mass starvation, the percentage of people in the developing world who are undernourished has declined from 35% in 1970 to 15% today, and further reductions are a but certain in the decades ahead as scientific agriculture continues to advance.

4. *Economic output* (Chap. 8). China and India, each with over one billion persons, have now achieved the same per-capita income that Sweden had in the mid-20th century, thanks in part to the "great convergence," namely the phenomenon of poorer countries advancing faster than richer ones. More importantly, the number of persons worldwide living in extreme poverty ($1.90 income per person per day or less in inflation-adjusted 2014 dollars) has dropped from 90% a century or two ago to just 10% today, and every day the number of persons in that category drops by a whopping 137,000.

5. *Inequality* (Chap. 9). Inequality remains a big challenge, but it is worth noting that on the worldwide stage, as mentioned above, inequality has actually been *decreasing* — poorer nations are rapidly catching up to their first-world peers. Within first-world nations, there has been a hollowing out of lower-skilled jobs, and this certainly merits much more study and effort to deal with, particularly in light of looming advances in robotics and artificial intelligence. But thanks to various social programs in nations worldwide (which are much more extensive than in prior decades and centuries), the impact o this income inequality has been greatly reduced. For example, in terms of *consumption*, the number of U.S. poor has declined 90% since 1960, from 30% of the population to just 3%.

6. *Environment* (Chap. 10). At the present time, many are focused on the daunting challenge of dealing with climate change which surely deserves all the effort that society can muster. But progress is definitely being made, particularly in green energy technology. And by almost all other measures, the environment is getting cleaner, although much remains to be done: the proportion of the world that drinks tainted water has fallen by 60% since the mid-20th century; five key atmospheric pollutants have been reduced by an average of 50%; and annual deforestation, which was soaring in the 20th century, has now fallen by nearly 70%.

7. *Peace* (Chap. 11). As mentioned above, although WWI and WWII are the worst ever in terms of military deaths, when normalized by world population they are only blips in a declining trajectory. And we must not forget that since 1945 the number of military conflicts between the major Western European powers has been zero. Prior to 1945, at least one such war was ongoing for 400 years if not longer. Since 1945, the number of war deaths worldwide per year per world capita has declined by a factor of ten.

8. *Safety* (Chap. 12, 13). At the same time that wealth has been exponentially increasing and war deaths have been declining, the number of accidental deaths has also been declining. For example, the number of U.S. motor vehicle deaths per 100 million vehicle miles has declined from 25 in 1920 to only one today. Airplane crash deaths worldwide have declined from 6.5 per million passengers per year in 1970 to virtually zero today. There have been no deaths whatsoever involving U.S.-registered passenger airlines since 2009.

9. *Democracy and equal rights* (Chap. 14, 15). As recently as 1989, there were only 52 democracies worldwide; now the number is 103. The recent headlines of racial and sexual incidents mask the broader trend downward over time. In the U.S. in 1940, 44% of whites said they would move if a black family moved next door; today the figure is less than 1%. Sexist, racist and homophobic jokes are rapidly disappearing from respectable discourse. Rates of domestic violence, sexual harassment and rape are steadily declining, although from recent events it is clear we still have far to go.

10. *Education, work and family life* (Chap. 16, 17). Worldwide literacy has increased from 20% two centuries ago to 80% today, and the figure is rapidly rising. The same is true for basic education — in *every* nation for which reliable data are available, the average years of child schooling has increased from 1980 to the present, dramatically in many cases. The average years of schooling in Cambodia today (four) is comparable to that of the U.S. in 1900. Average working hours ar decreasing worldwide, and average leisure time is increasing. By and large, jobs available today are significantly more interesting and fulfilling than in years past.

    Many yearn for the "good old days" of the mid-20th century when parents spent more time with children, but this too is ar illusion. In 1924, only 45% of American mothers spent two or more hours with their children every day; by 1999, 71% did In 1924, only 60% of fathers spent one or more hours; by 1999, 83% did. Today, both single and working mothers spend more time with their children than stay-at-home mothers did in 1965. Along this line, out-of-wedlock births are a problem (and unfortunately not analyzed in detail by Pinker): in the U.S., over 40% of children are now born to single mothers, wit similar rates in Western Europe. But these rates now appear to have topped out and are declining. In Japan, only 2% of children are now born out of wedlock.

Science, humanism and progress

Pinker emphasizes several times that we cannot predict the future; some of these favorable trends may reverse at any time. What's more, some very serious challenges remain, among them climate change and converting to clean energy, nuclear weapon proliferation, terrorism, as well as dealing humanely with workers who are displaced due to relentless technological advances. But he passionately argues that the proper way to address such issues is not with pessimism and fatalism, as is so characteristic of both the political left and right wings today, but instead to move forward with the same tools that have been at the root of the enormous progress that has already been achieved, namely science and technology together with the values of humanism rooted in the Enlightenment.

Pinker observes that science is the one beacon that has repeatedly proven itself through the ages, outlasting many philosophical, religious and political movements. And what has made science work is its devotion to careful, objective, data-

driven testing of hypotheses. This applies whether the field is physics, chemistry and engineering, or psychology, sociology and economics.

But science alone cannot answer ultimate questions, such as what high-level goals should society strive for? To this end Pinker appeals to humanism and the Enlightenment. He decries a wide range of other worldviews, including religious fundamentalism, "post-truth" nonsense, the disastrous detour into postmodernism and science relativism typical of the left wing, and the even more disastrous detour into authoritarian populism and science denial typical of the right wing.

What is left unanswered, in this reader's view, is how to achieve the scientific, humanistic promised land that Pinker so passionately seeks. For example, Pinker decries Nietzche's philosophy, arguing that it is behind both scientific relativism and authoritarian populism. But these philosophical discussions are unlikely to move many readers, let alone the general public. What institutions can take up the charge, particularly at the level of families, neighborhoods and social groups? Pinker rejects a forms of religion, but forgets that he himself was raised in a free-thinking religious culture and derived his humanistic values fror that culture. It would seem better to make peace with modern enlightened, humanistic religion, and join with its effective youth and family-oriented social structures to better rear and educate the upcoming generation to forge a better world.

In any event, Pinker's book is a monumental trove of data, a testament to human progress, and a roadmap on how to continue this progress into the future. Readers ignore its findings at their peril!

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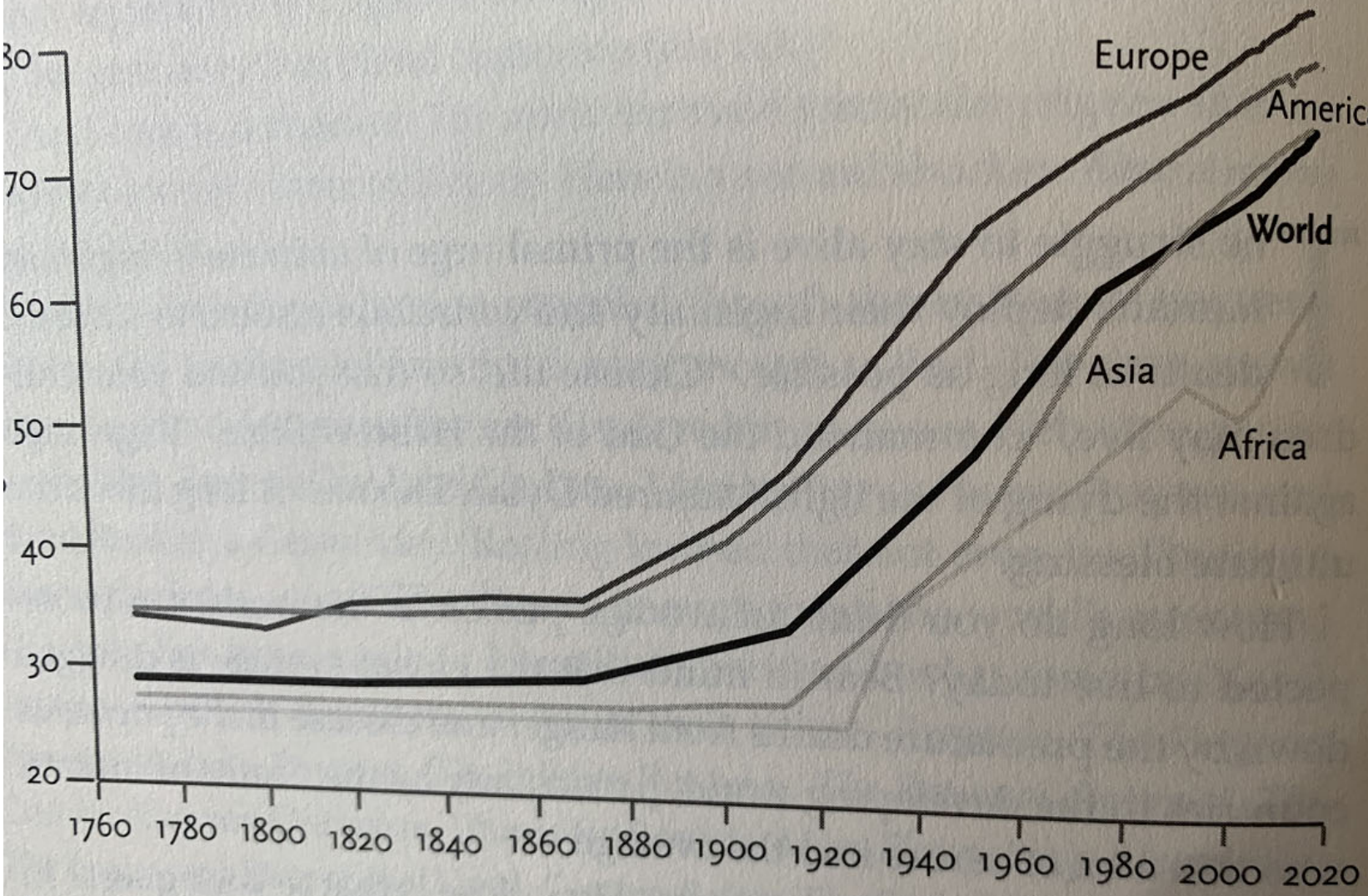

Figure 5-1: Life expectancy, 1771–2015

Sources: *Our World in Data*, Roser 2016n, based on data from Riley 2005 for the years before 2000 and from the World Health Organization and the World Bank for the subsequent years. Updated with data provided by Max Roser.

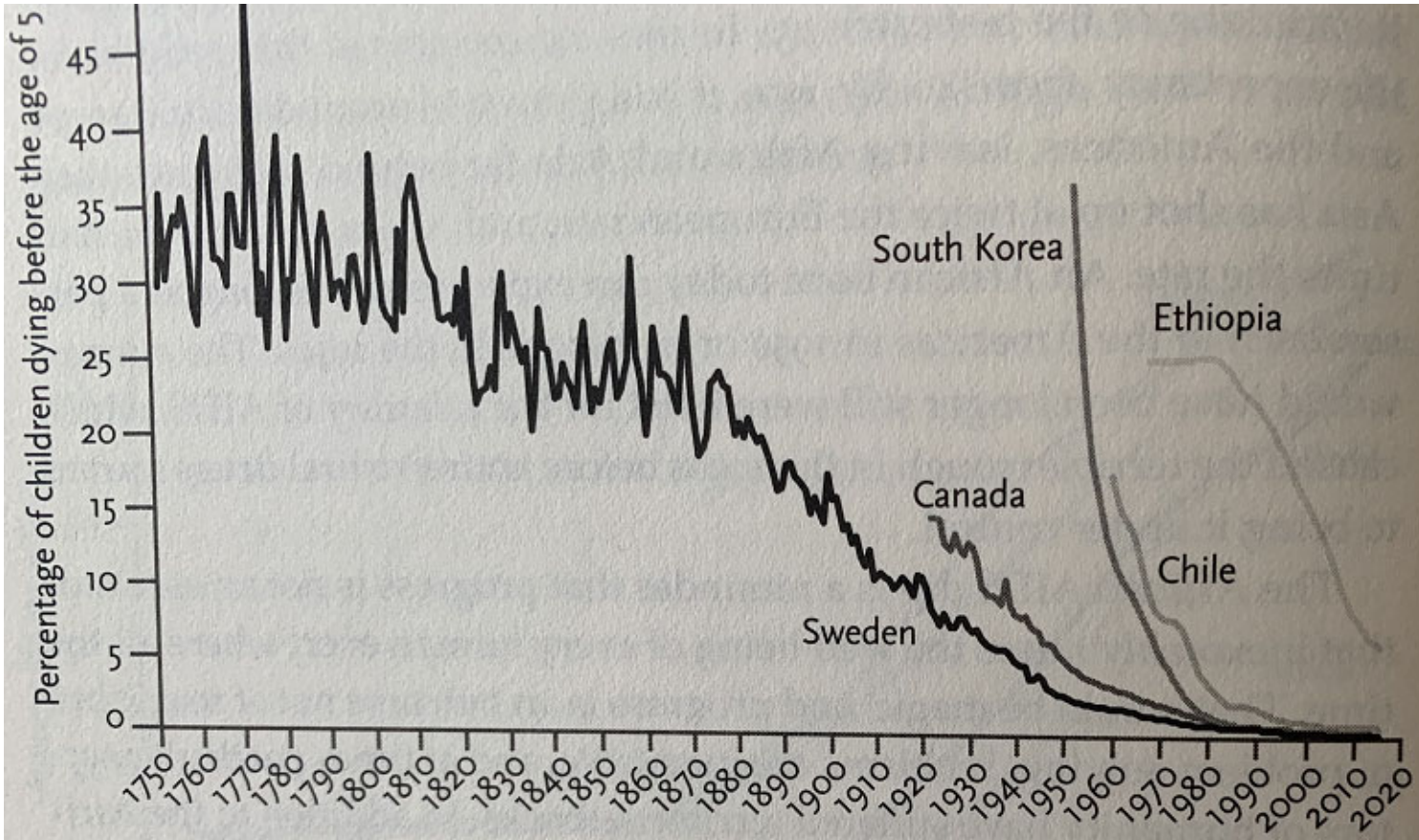

Figure 5-2: Child mortality, 1751–2013

Sources: *Our World in Data*, Roser 2016a, based on data from the UN Child Mortality estimates, http://www.childmortality.org/, and the *Human Mortality Database*, http://www.mortality.org/.

Then a remarkable thing happened. The rate of child mortality plunged a hundredfold, to a fraction of a percentage point in countries, and the plunge went global. As Deaton observ "There is not a single country in the world where infant or chil ity today is not lower than it was in 1950."[8] In sub-Saharan Africa, child mortality rate has fallen from

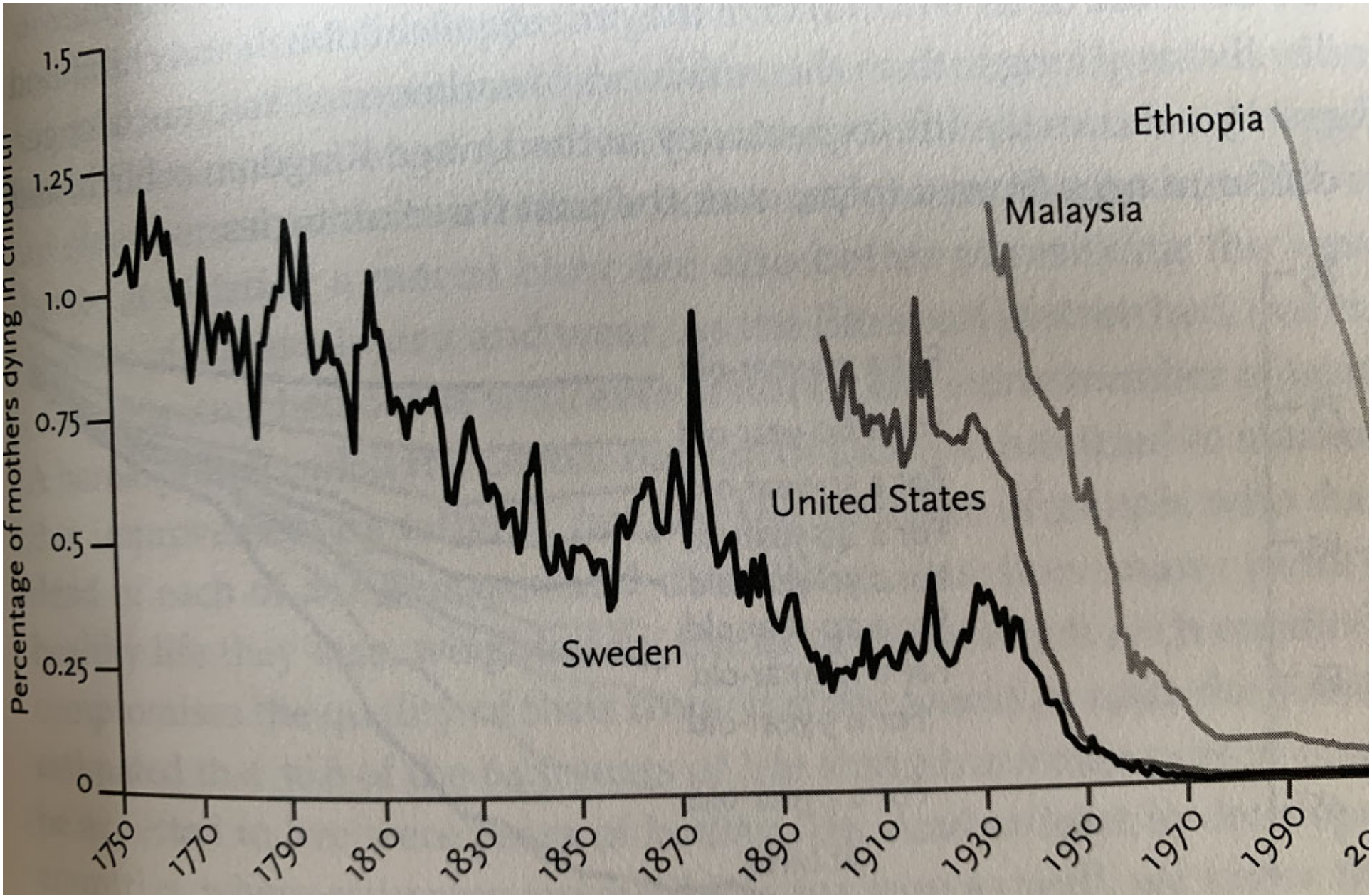

Figure 5-3: Maternal mortality, 1751–2013

Source: *Our World in Data*, Roser 2016p, based partly on data from Claudia Hanson of *Gapminder*, https:

And how much thought have you given lately to Karl Landsteiner? Karl who? He only saved *a billion lives* by his discovery of blood groups. Or how about these other heroes?

Scientist	Discovery	Lives Saved
Abel Wolman (1892–1982) and Linn Enslow (1891–1957)	chlorination of water	177 million
William Foege (1936–)	smallpox eradication strategy	131 million
Maurice Hilleman (1919–2005)	eight vaccines	129 million
John Enders (1897–1985)	measles vaccine	120 million
Howard Florey (1898–1968)	penicillin	82 million
Gaston Ramon (1886–1963)	diphtheria and tetanus vaccines	60 million
David Nalin (1941–)	oral rehydration therapy	54 million
Paul Ehrlich (1854–1915)	diphtheria and tetanus antitoxins	42 million
Andreas Grüntzig (1939–1985)	angioplasty	15 million
Grace Eldering (1900–1988) and Pearl Kendrick (1890–1980)	whooping cough vaccine	14 million
Gertrude Elion (1918–1999)	rational drug design	5 million

The researchers who assembled these conservative estimates calculate that more than *five billion* lives have been saved (so far) by the hundred or so scientists they selected.[5] Of course hero stories don't do justice to the way science is really done. Scientists stand on the shoulders of giants, collaborate in teams, toil in obscurity, and aggregate ideas across worldwide webs. But whether it's the scientists or the science that is ignored, the neglect of the discoveries that transformed life for the better is an indictment of our appreciation of the modern human condition.

As a psycholinguist who once wrote an entire book on the past tense I can single out my favorite example in the histo

ough not necessarily to eradicate the virus) by 2030. Figure 6-1 shows at between 2000 and 2013 the world also saw massive reductions in the umber of children dying from the five most lethal infectious diseases. n all, the control of infectious disease since 1990 has saved the lives of nore than a hundred million children.[14]

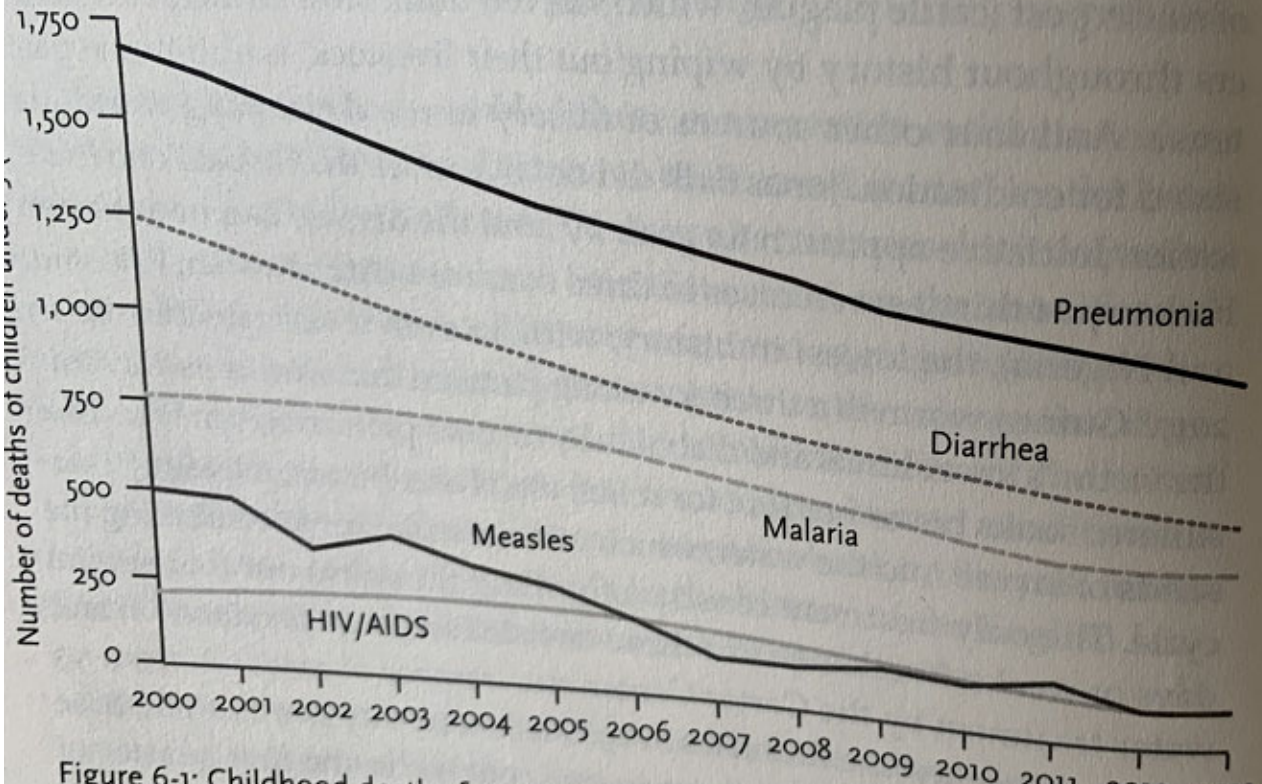

Figure 6-1: Childhood deaths from infectious disease, 2000–2013

Source: Child Health Epidemiology Reference Group of the World Health Organization, Liu et al. 2014, supplementary appendix.

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