

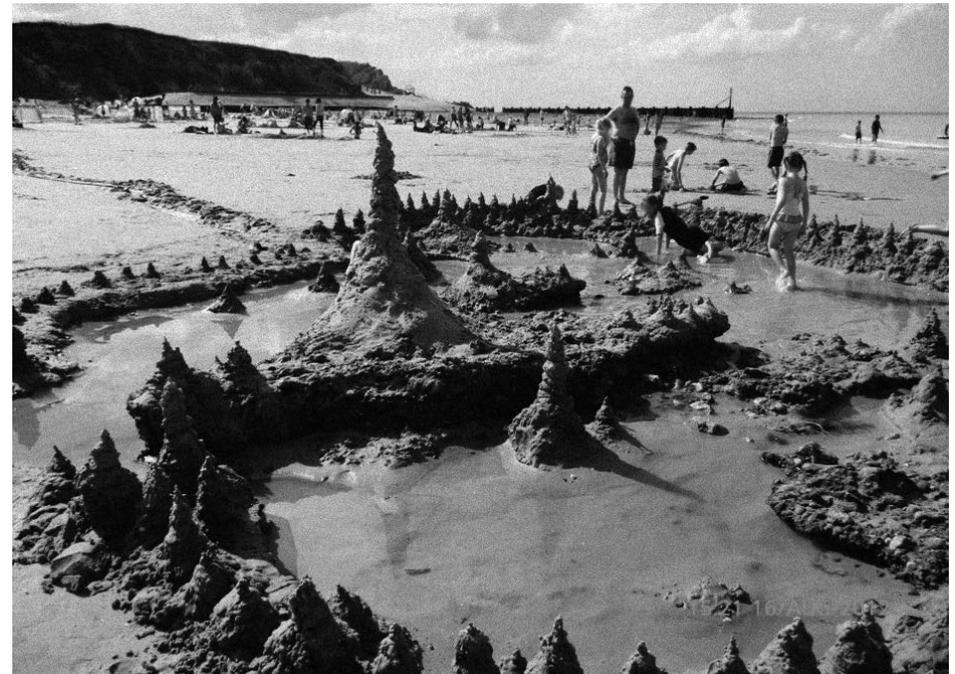
The Geography of Slowdown

The End of the Great Acceleration— and Why it's Good for the Planet, the Economy, and Our Lives

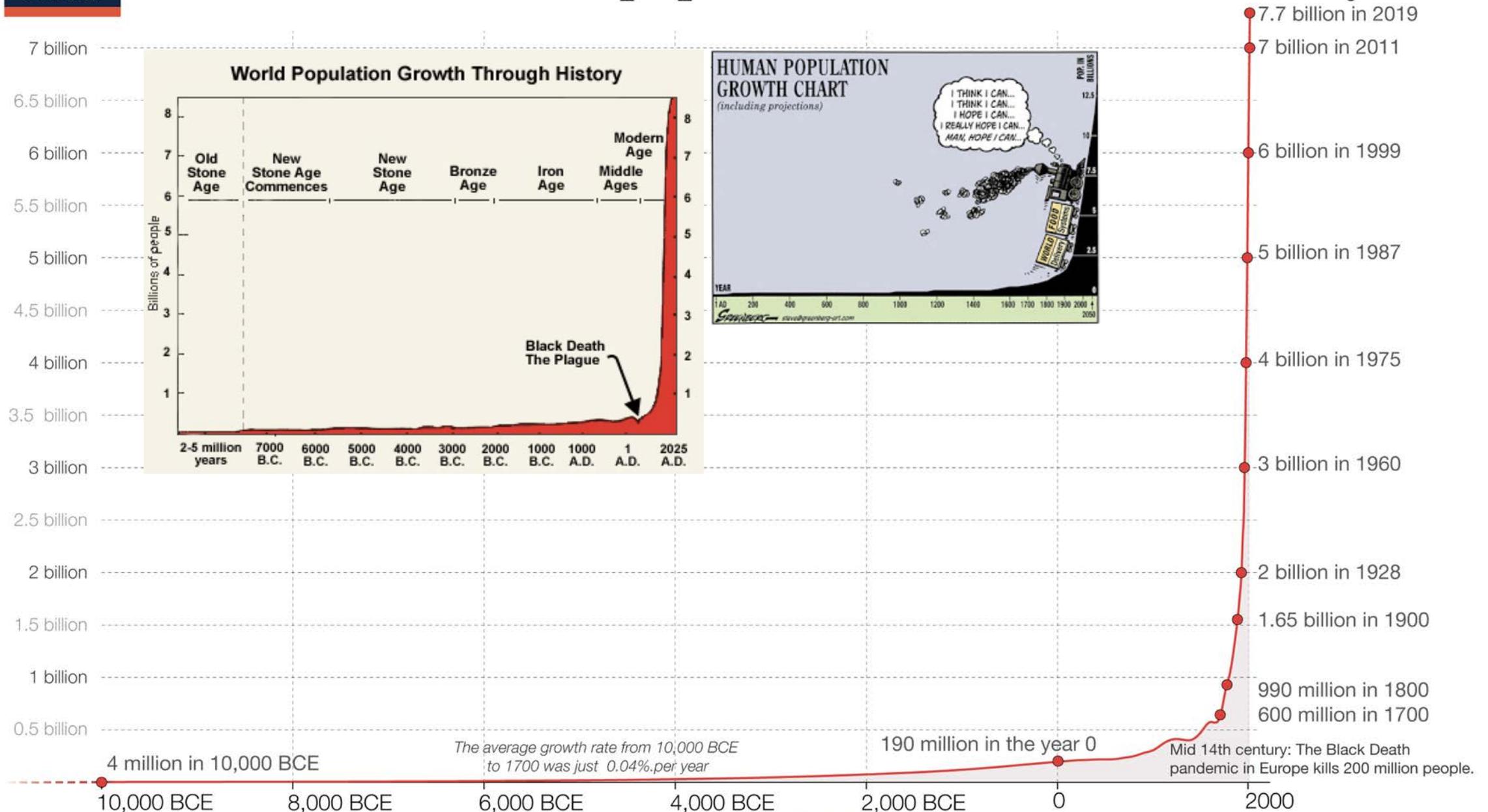
Danny Dorling

Saturday 18th April 2020

Geographical Association Annual
Conference (on-line in a time of Covid19)



The size of the world population over the last 12,000 years

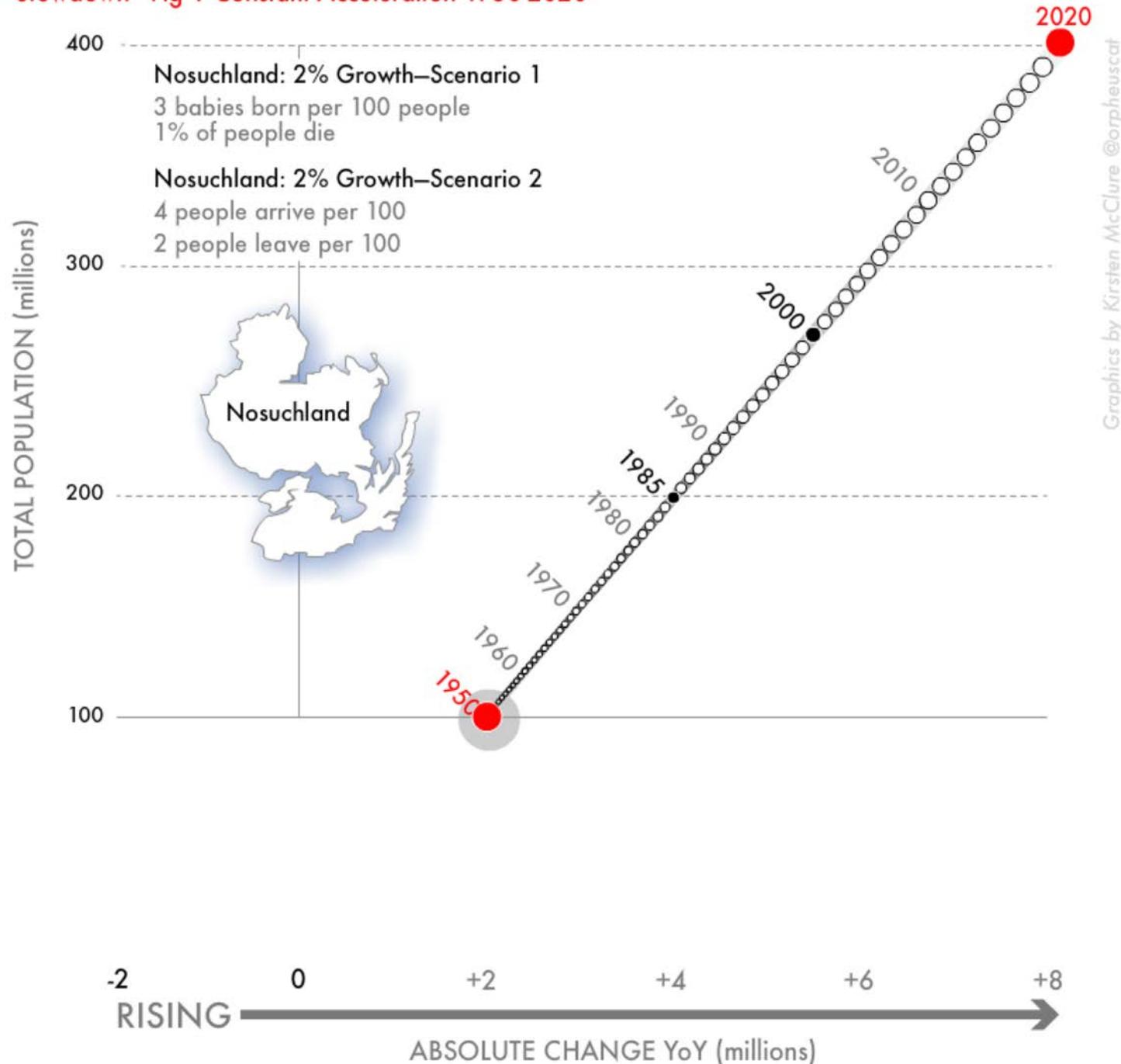


Based on estimates by the *History Database of the Global Environment (HYDE)* and the United Nations. On OurWorldinData.org you can download the annual data.

This is a visualization from OurWorldinData.org, where you find data and research on how the world is changing.

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“Slowdown” Fig 1 Constant Acceleration 1950-2020



In the ‘Origin of Species’, Charles Darwin described how a population explosion occurs and called the time of population explosion “favourable seasons”.

Charles was not to know it, but such circumstances arose for his own species at around the time of his own birth.

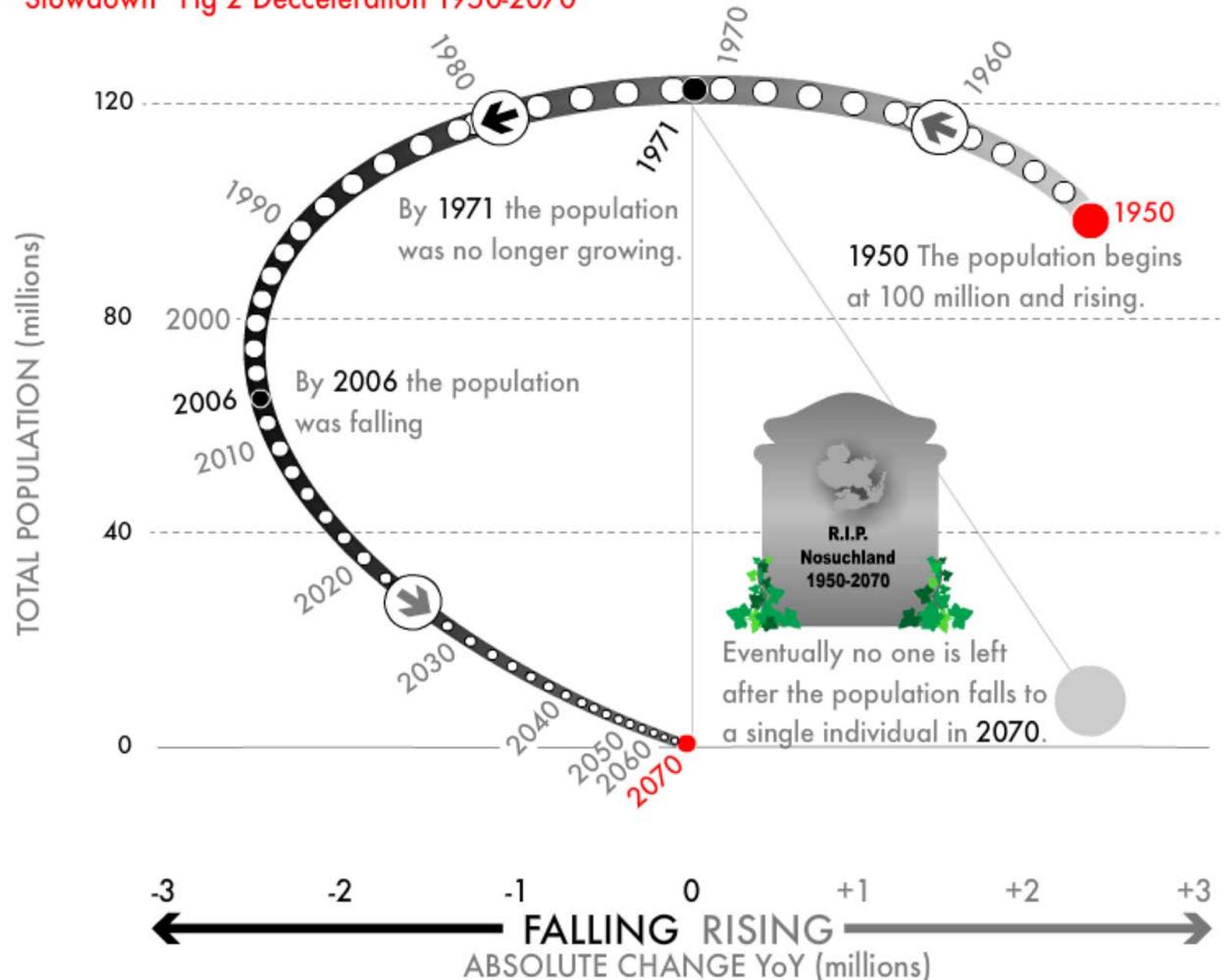
However, the favourable seasons for human population growth were not experienced favourably, with times of great social dislocation from small scale enclosure to global colonisation.

“Slowdown” Fig 2 Deceleration 1950-2070

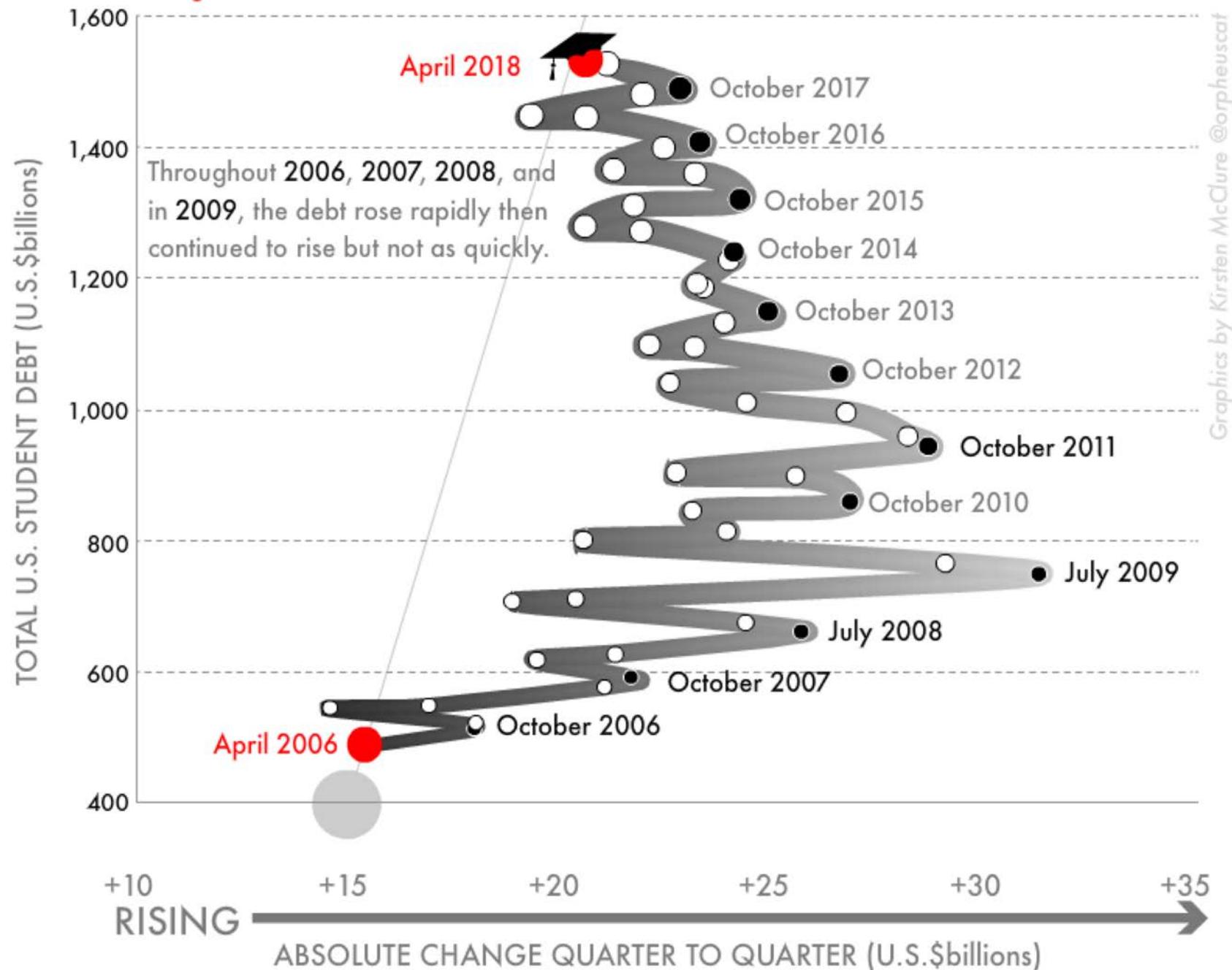
Now those seasons are over, we have experienced the first ever sustained slowdown in the rate of global human population growth.

This has been the case for at least one human generation.

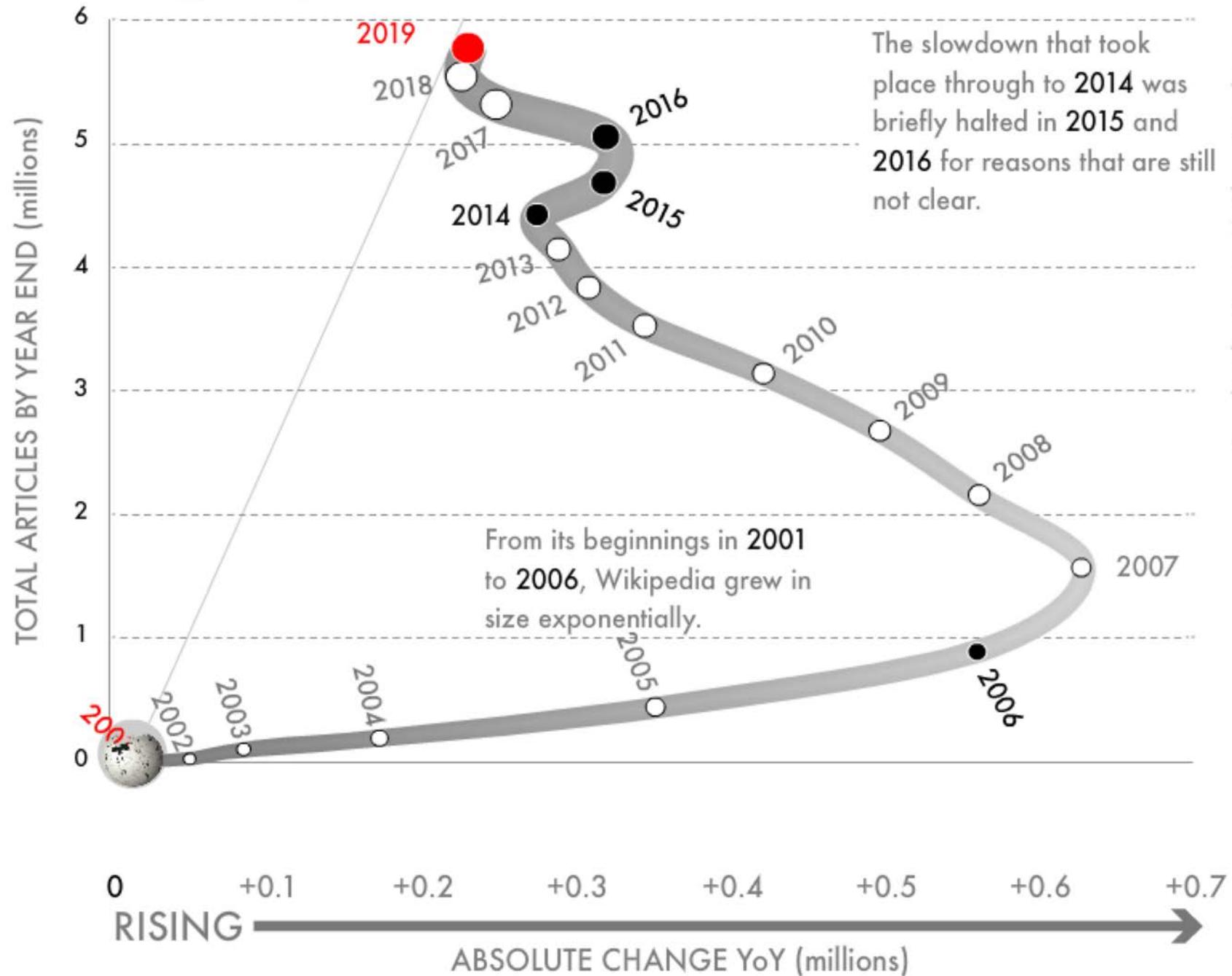
However, we are not just slowing down in terms of how many children we have, but in almost everything else we do other than in the rise in global temperatures that we are recording and that we have to live with.



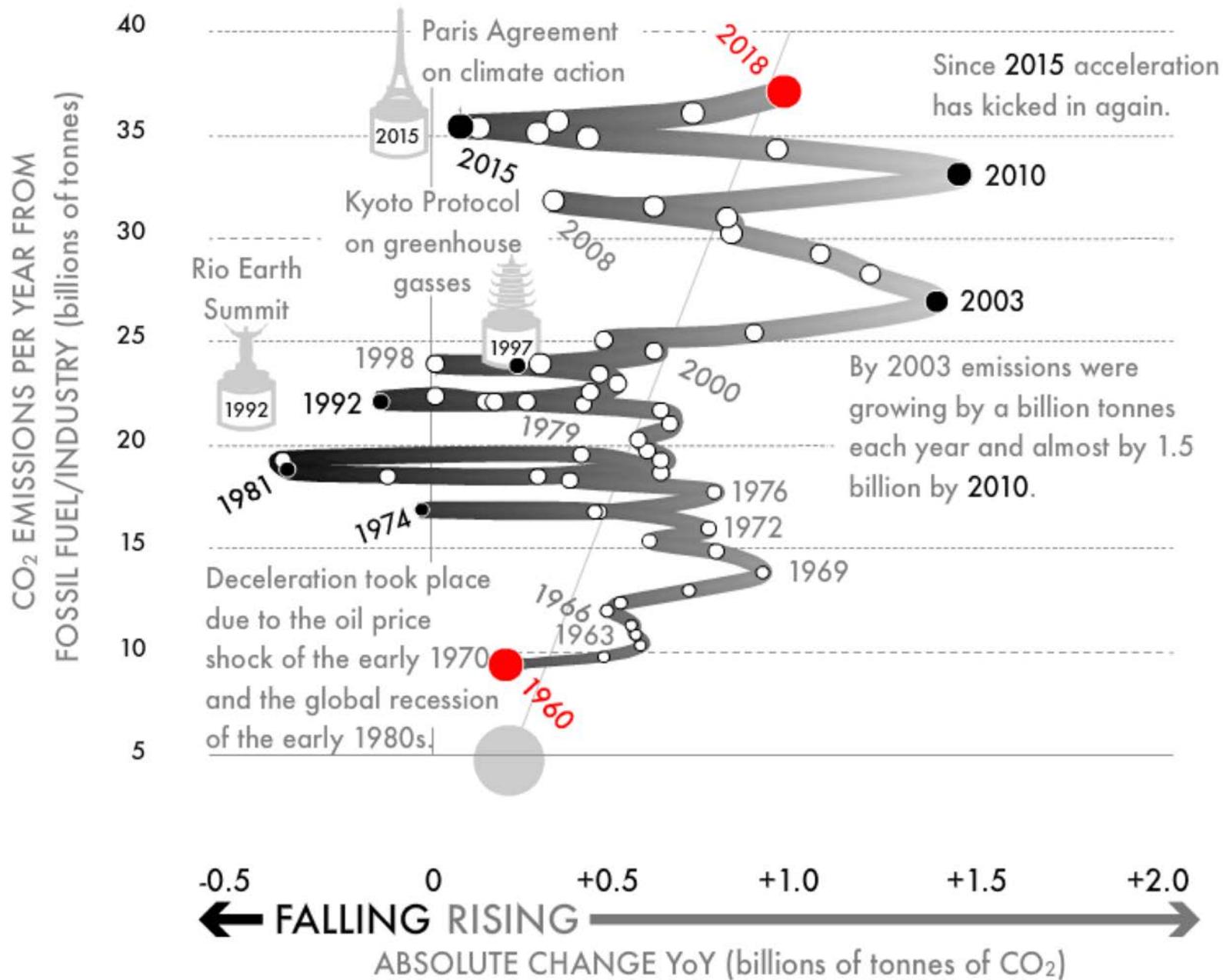
"Slowdown" Fig 6 US Student Debt 2006-2018



“Slowdown” Fig 10 Wikipedia 2001-2019

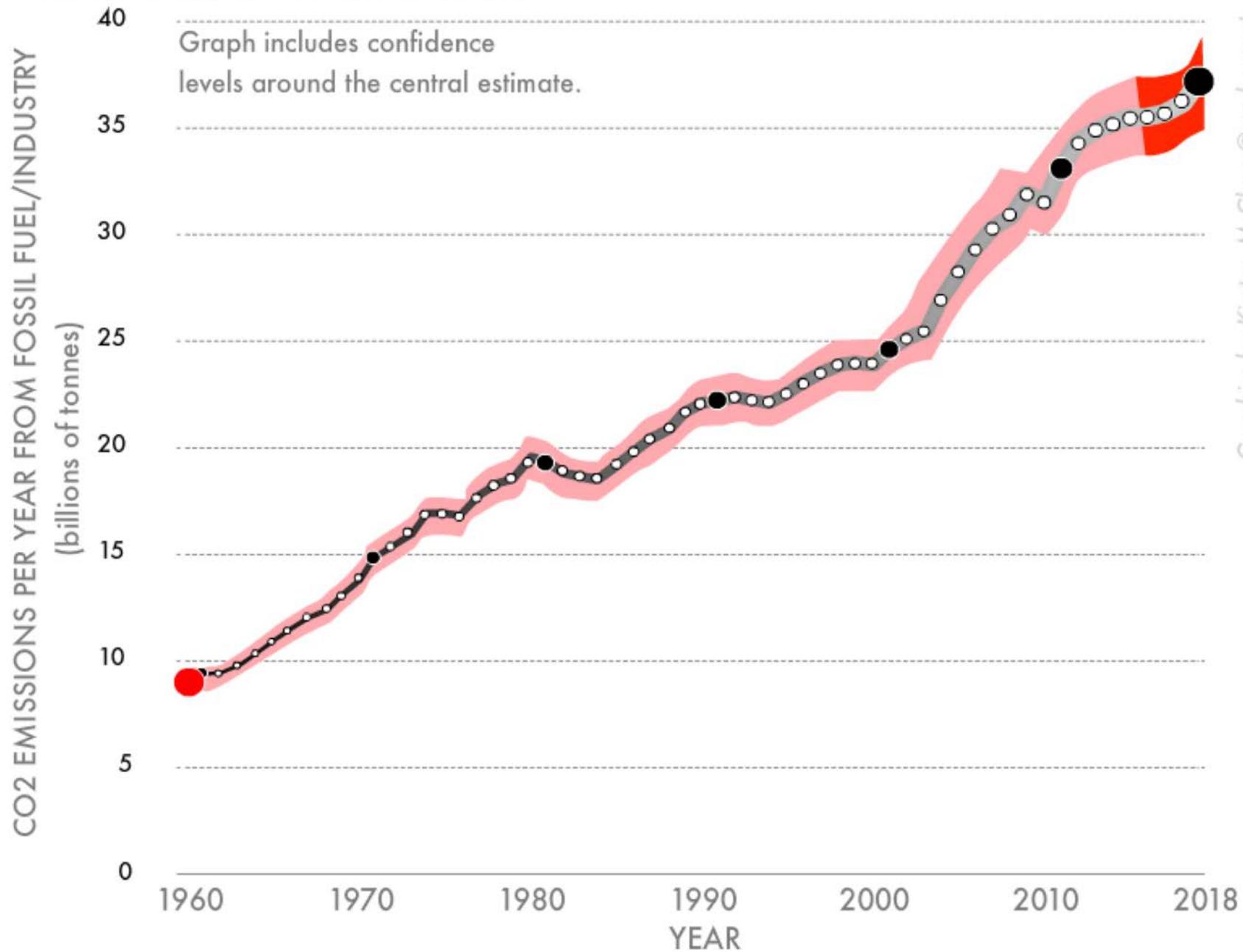


"Slowdown" Fig 16 Emissions 1960-2018



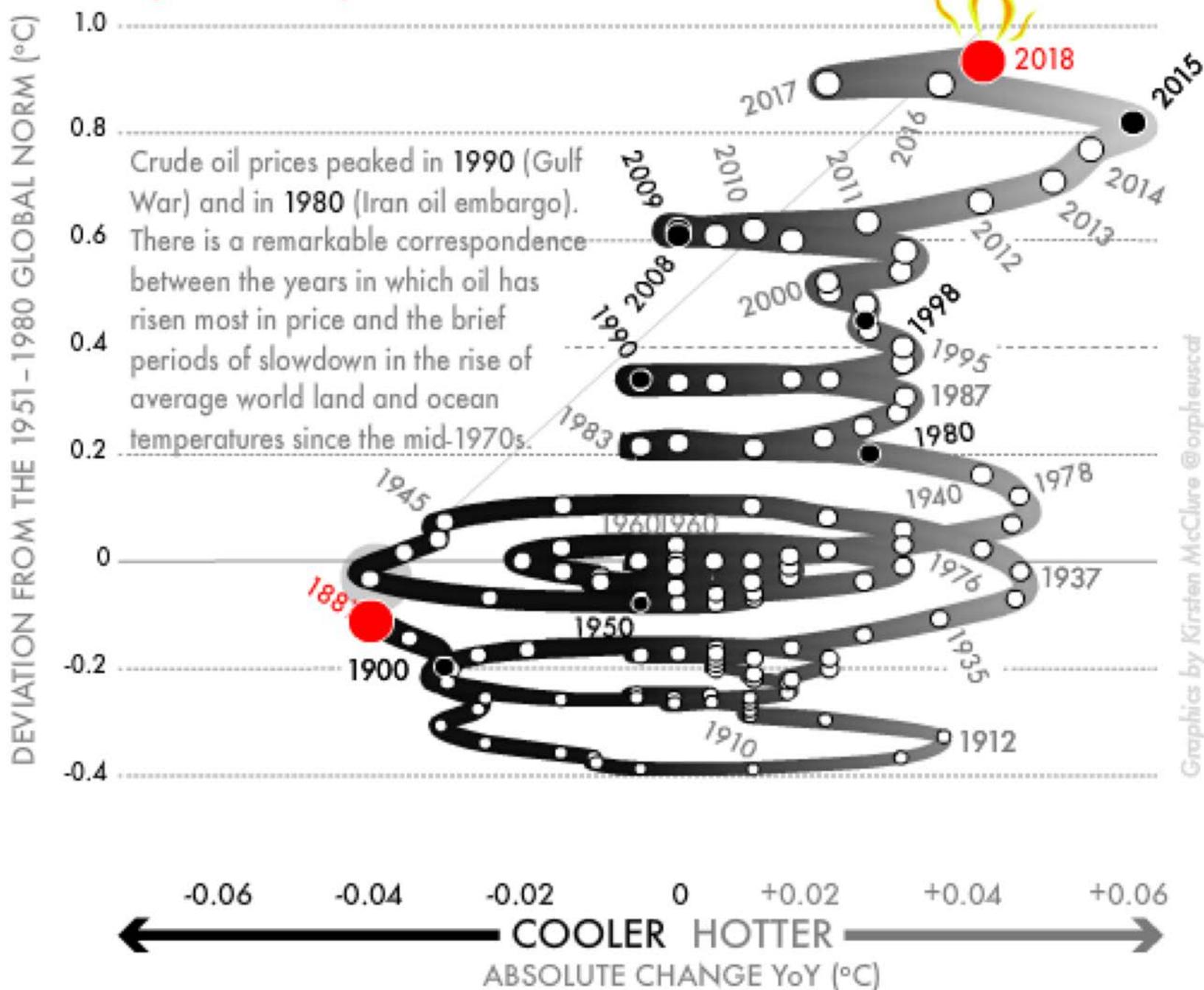
Graphics by Kirsten McClure @orpheuscat

"Slowdown" Fig 15 Emissions 1960-2018

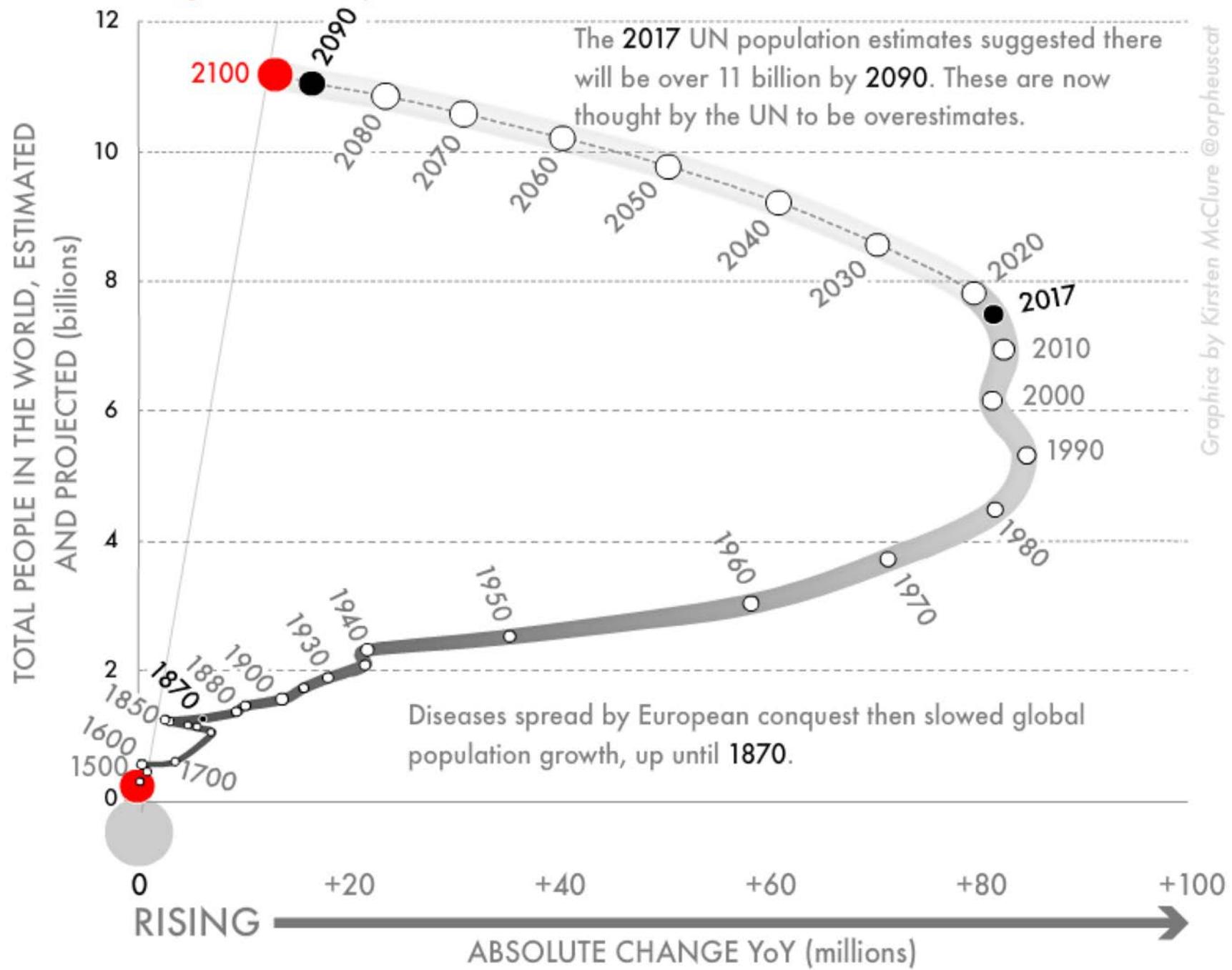


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"Slowdown" Fig 17 Nasa Temperature 1880-2018

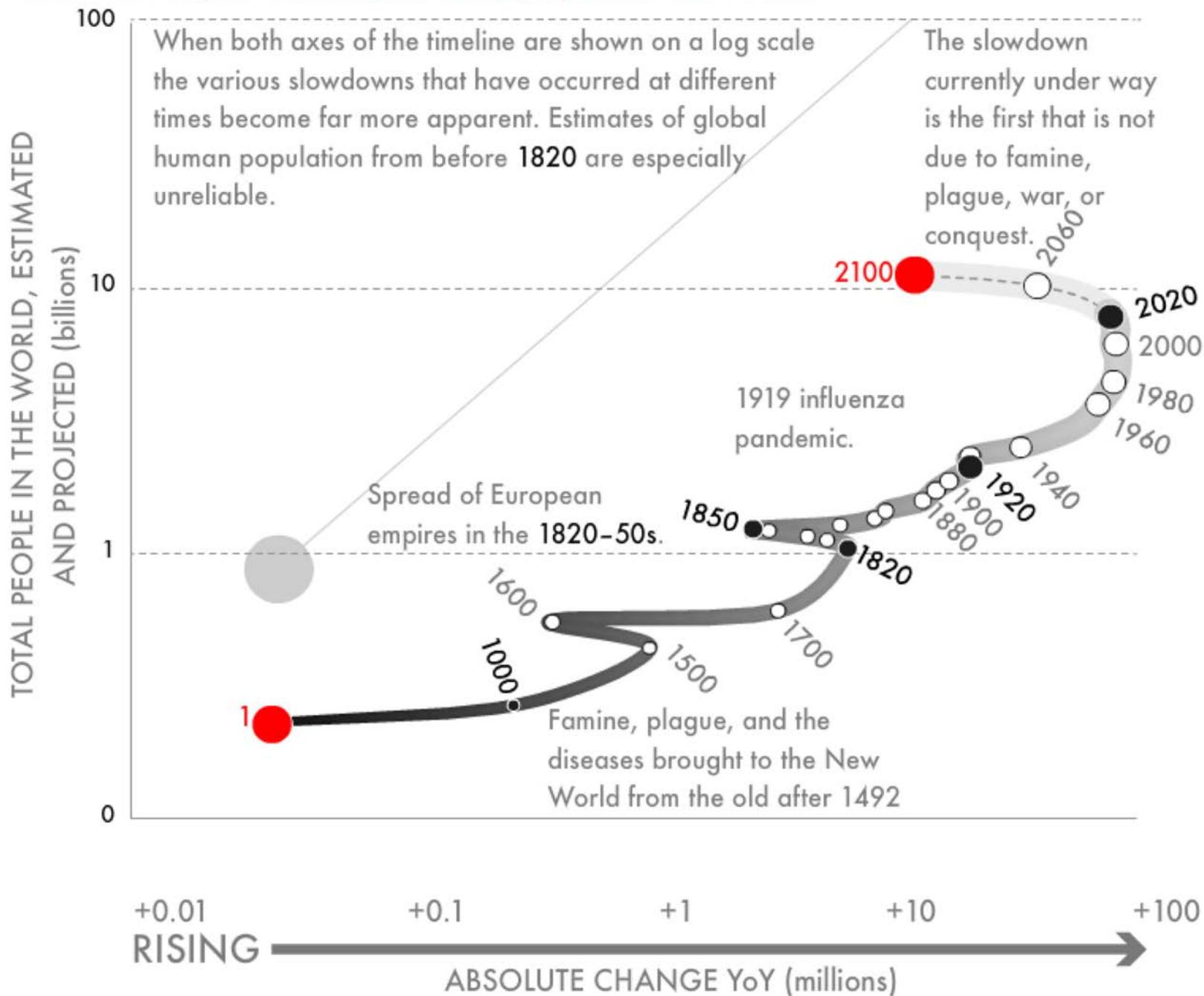


"Slowdown" Fig 21 World Population 1-2100



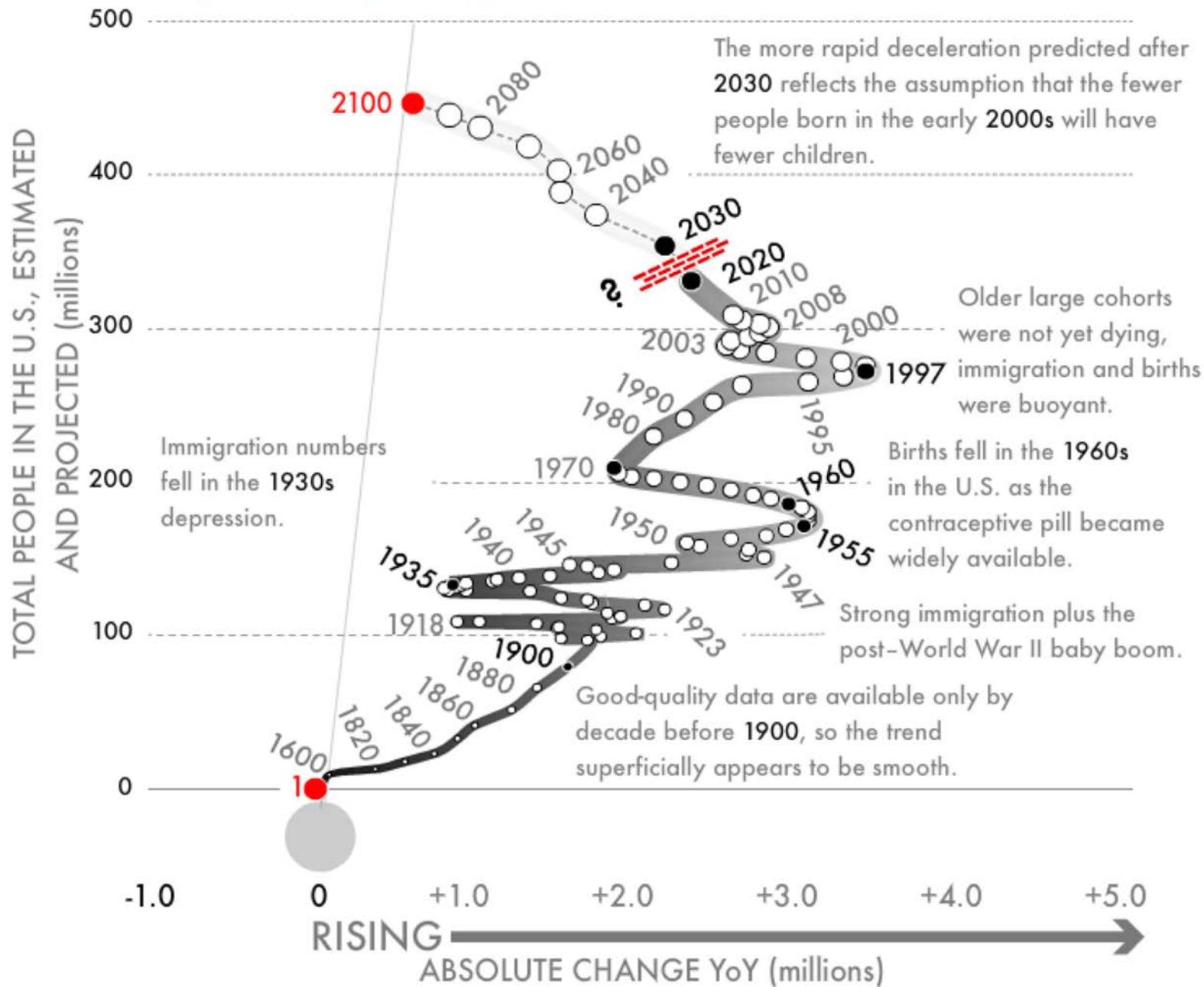
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"Slowdown" Fig 22 World Population (log-log scale) Year 1-2100



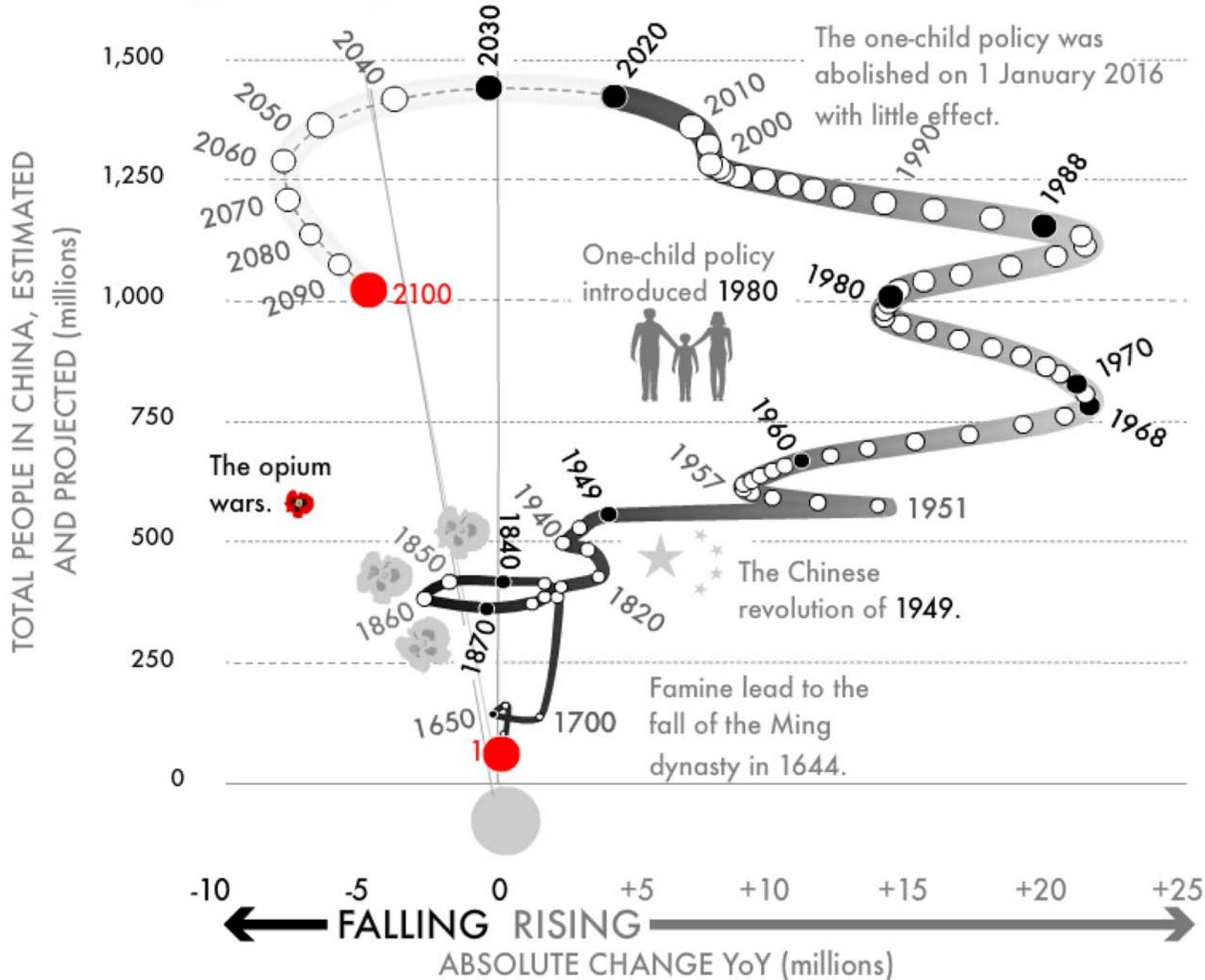
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“Slowdown” Fig 23 USA Population year 1-2100



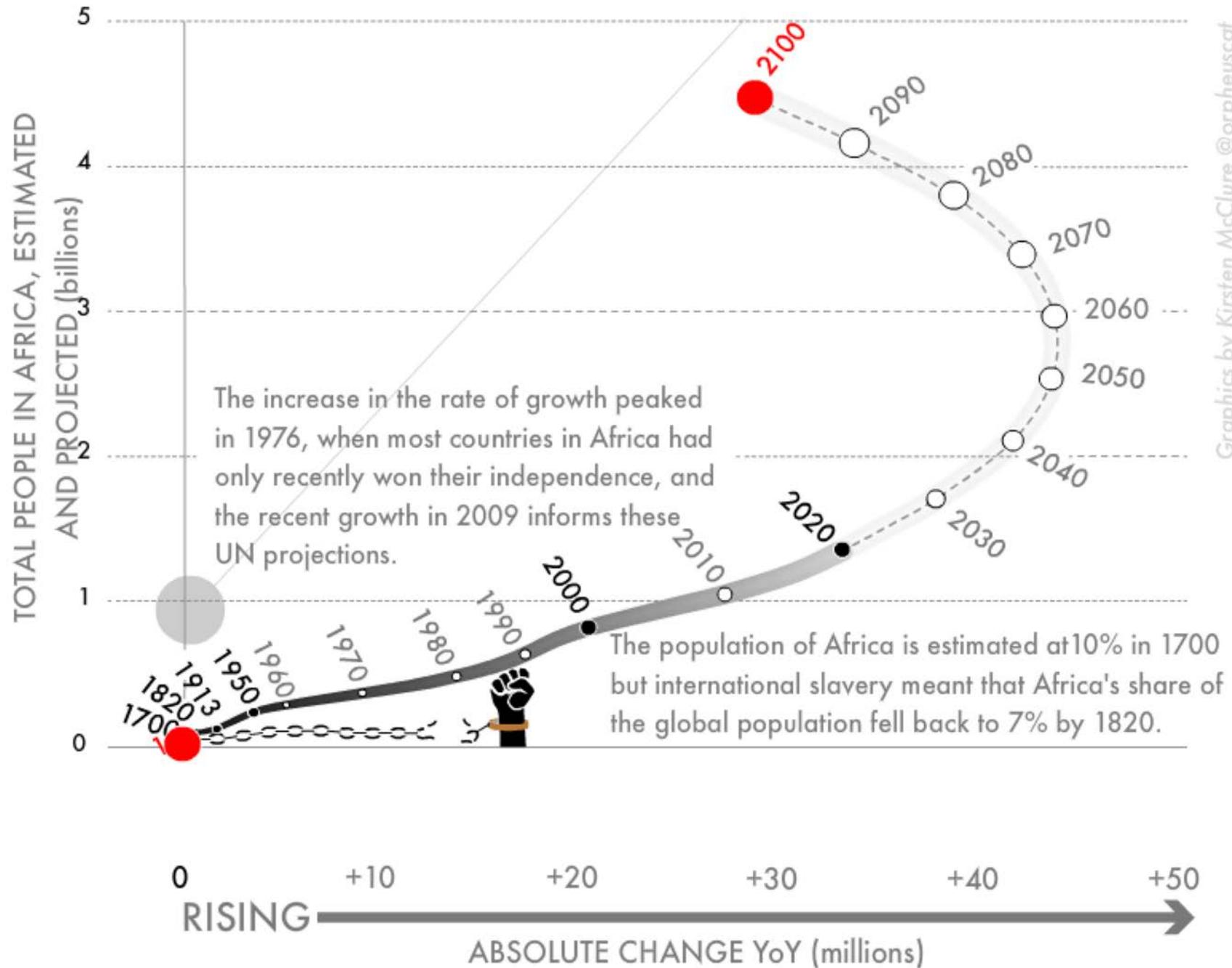
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"Slowdown" Fig 24 China Population year 1-2100



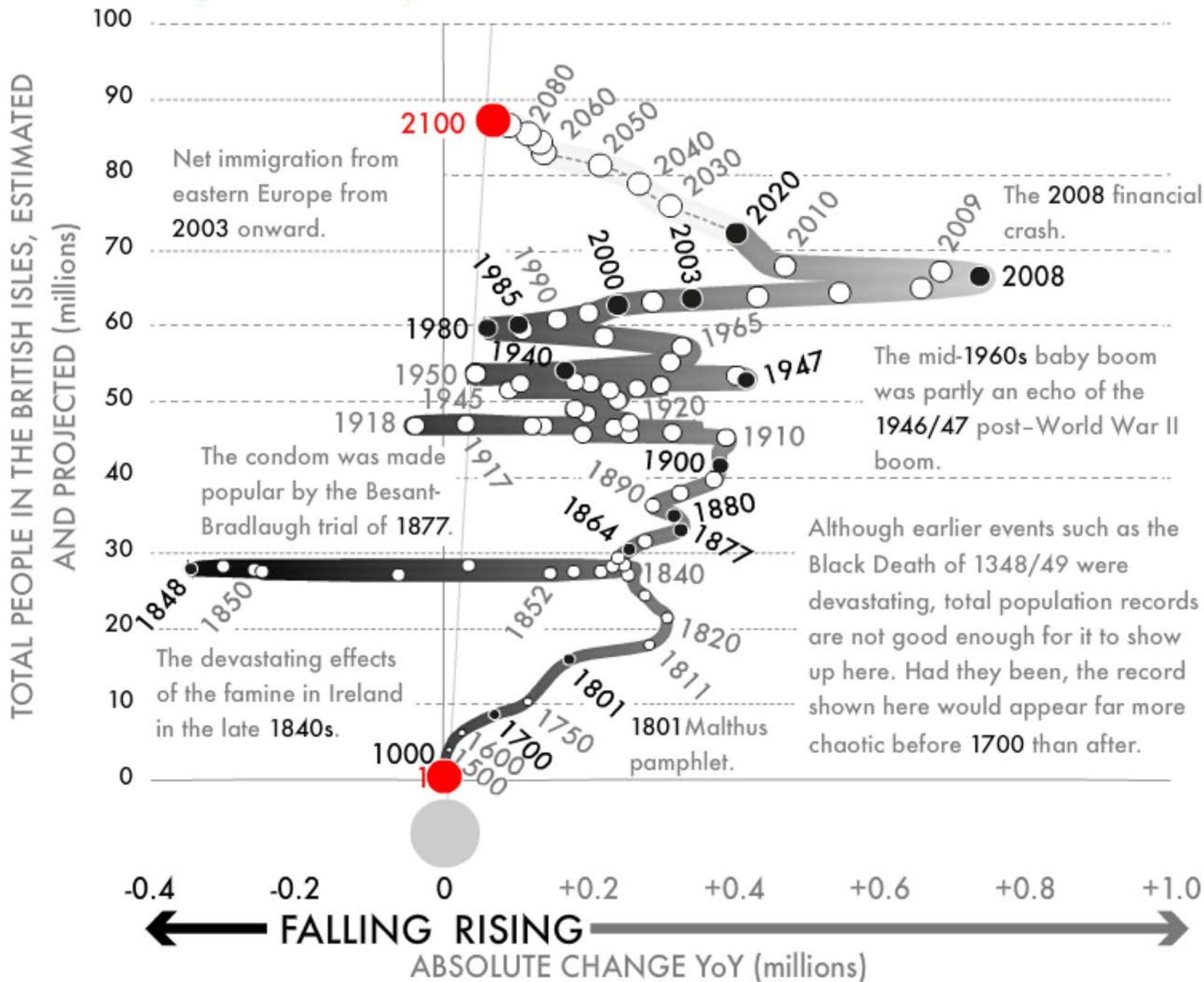
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"Slowdown" Fig 25 Africa Population year 1 to 2100



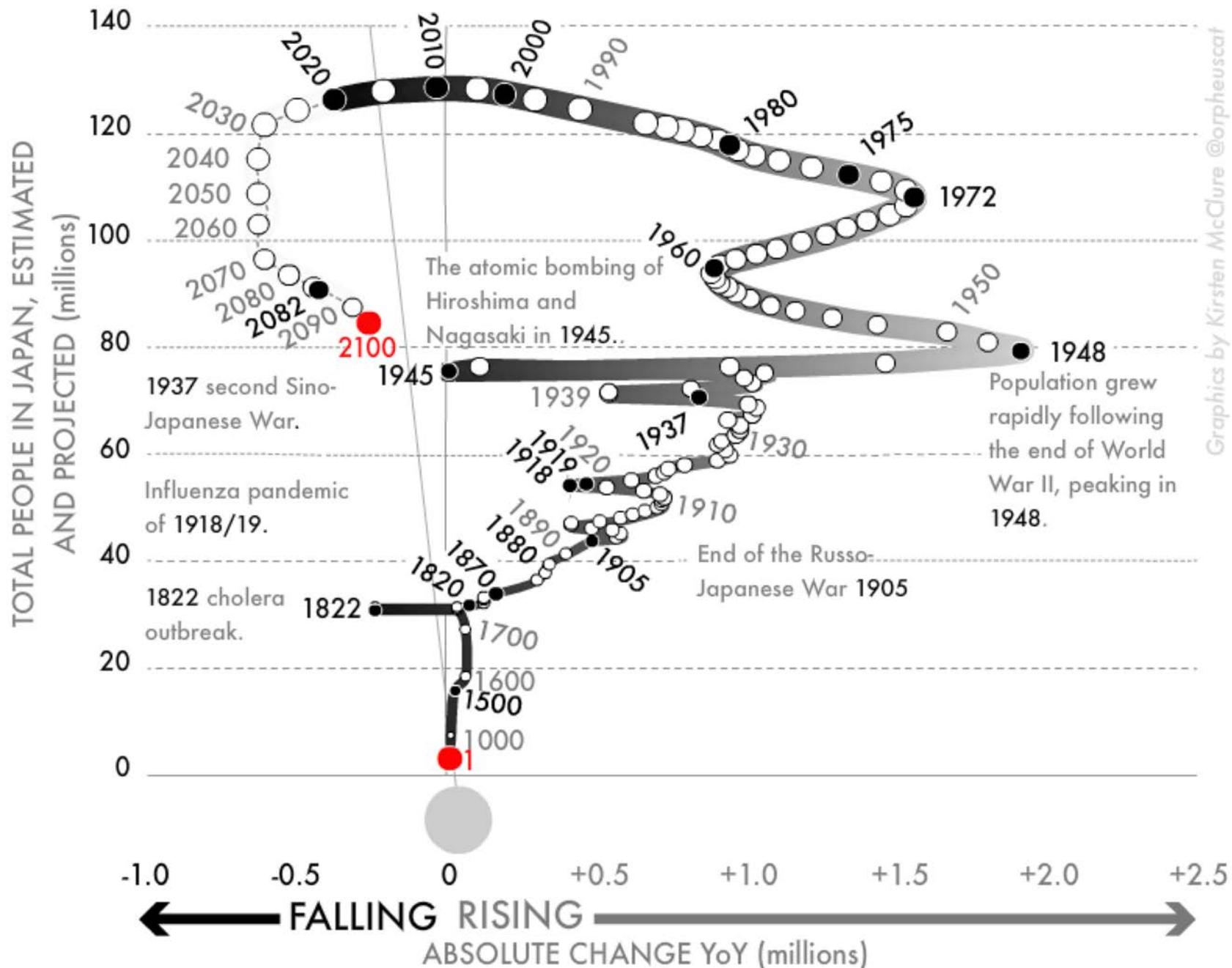
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"Slowdown" Fig 26 British Isles year 1 to 2100



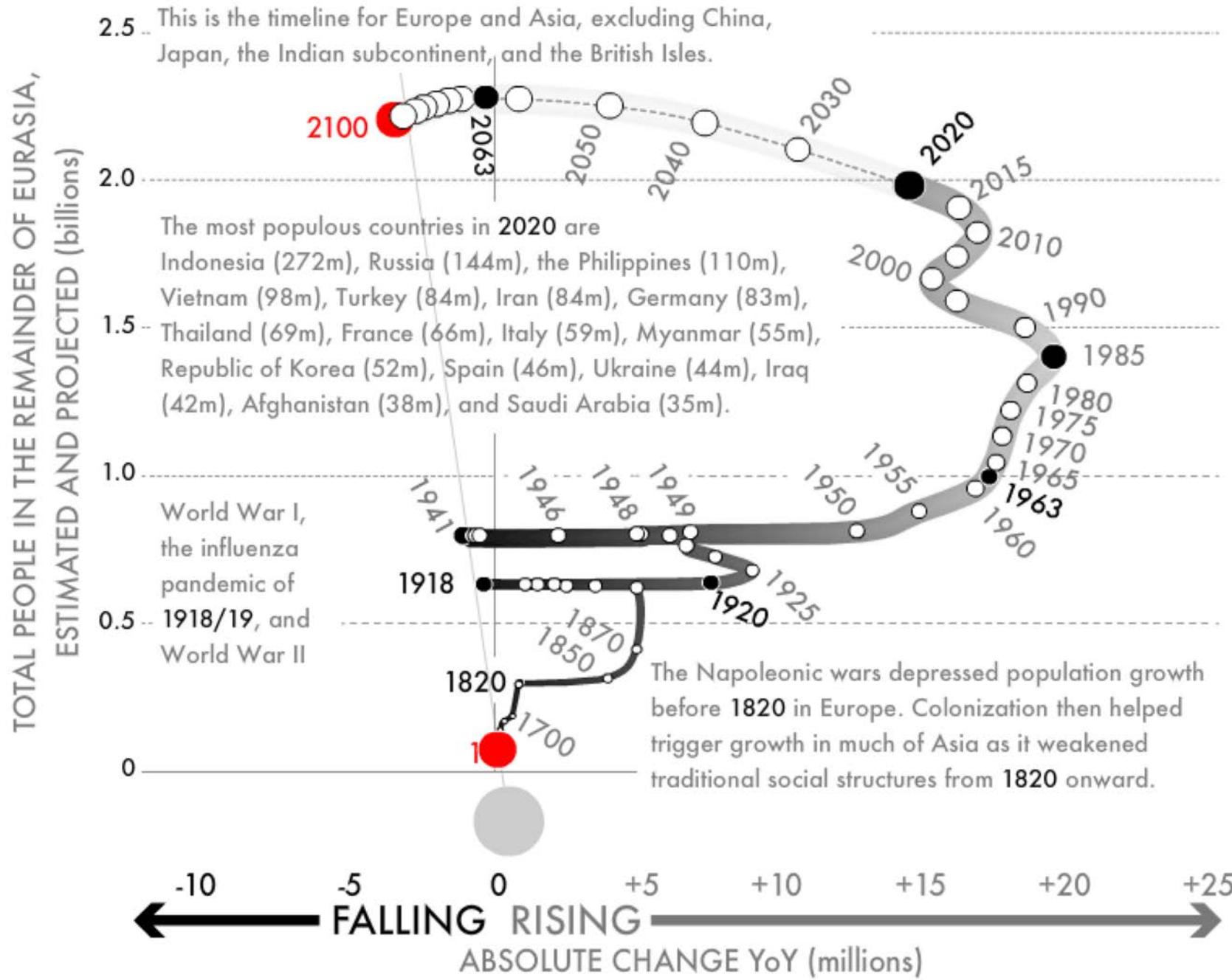
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"Slowdown" Fig 28 Japanese Population year 1-2100



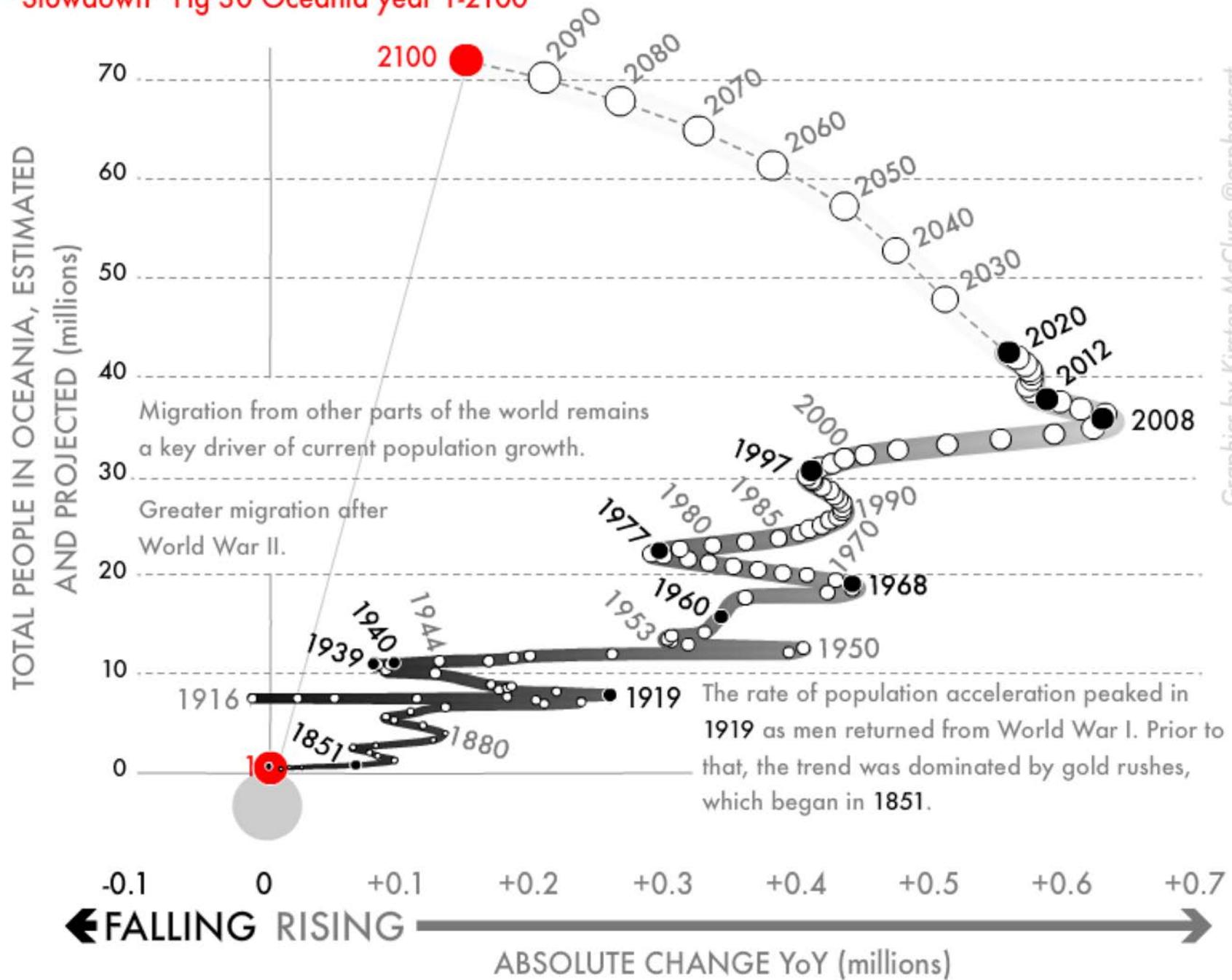
Graphics by Kirsten McClure @orpheuscat

“Slowdown” Fig 29 Remainder of Eurasia year 1-2100



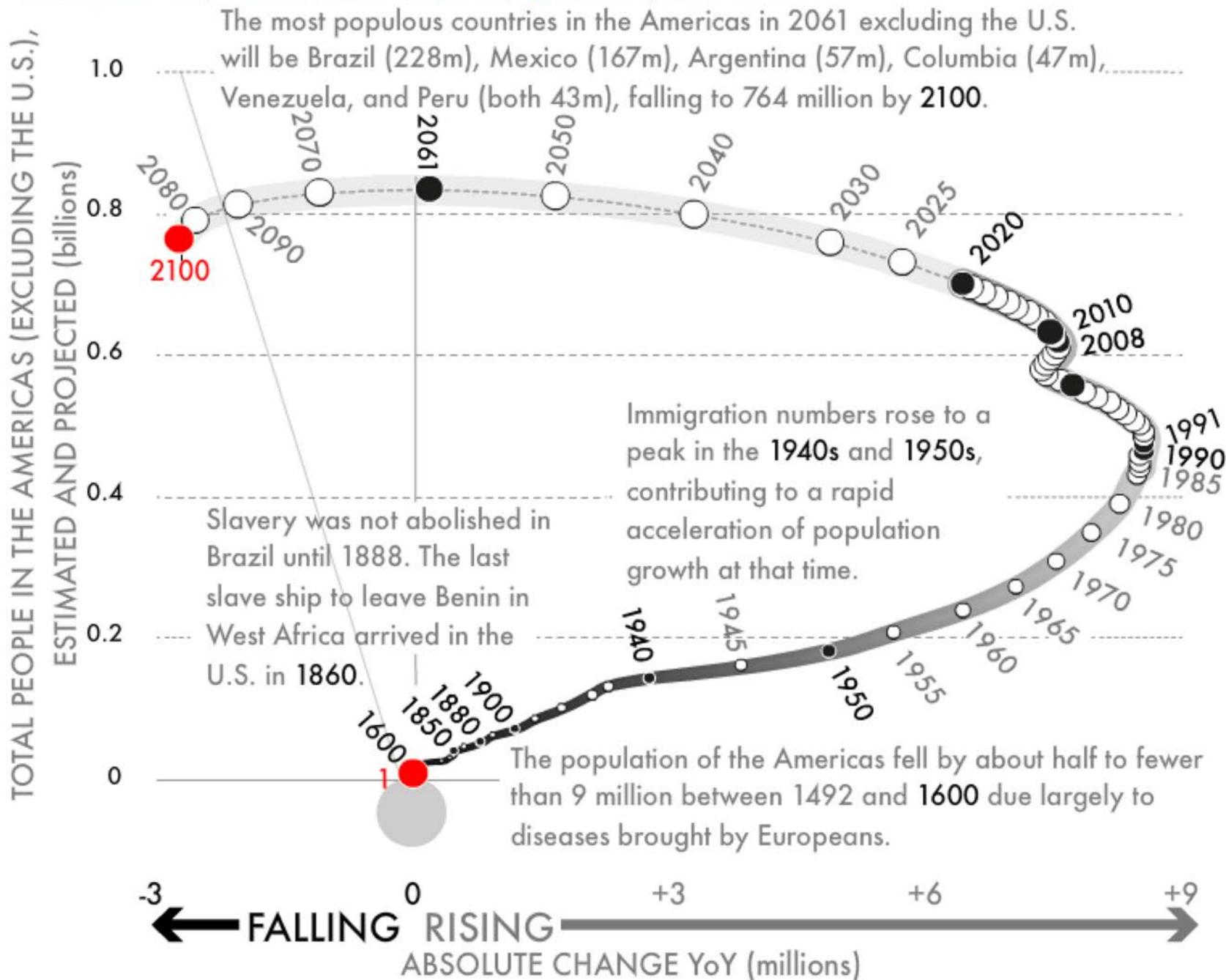
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"Slowdown" Fig 30 Oceania year 1-2100



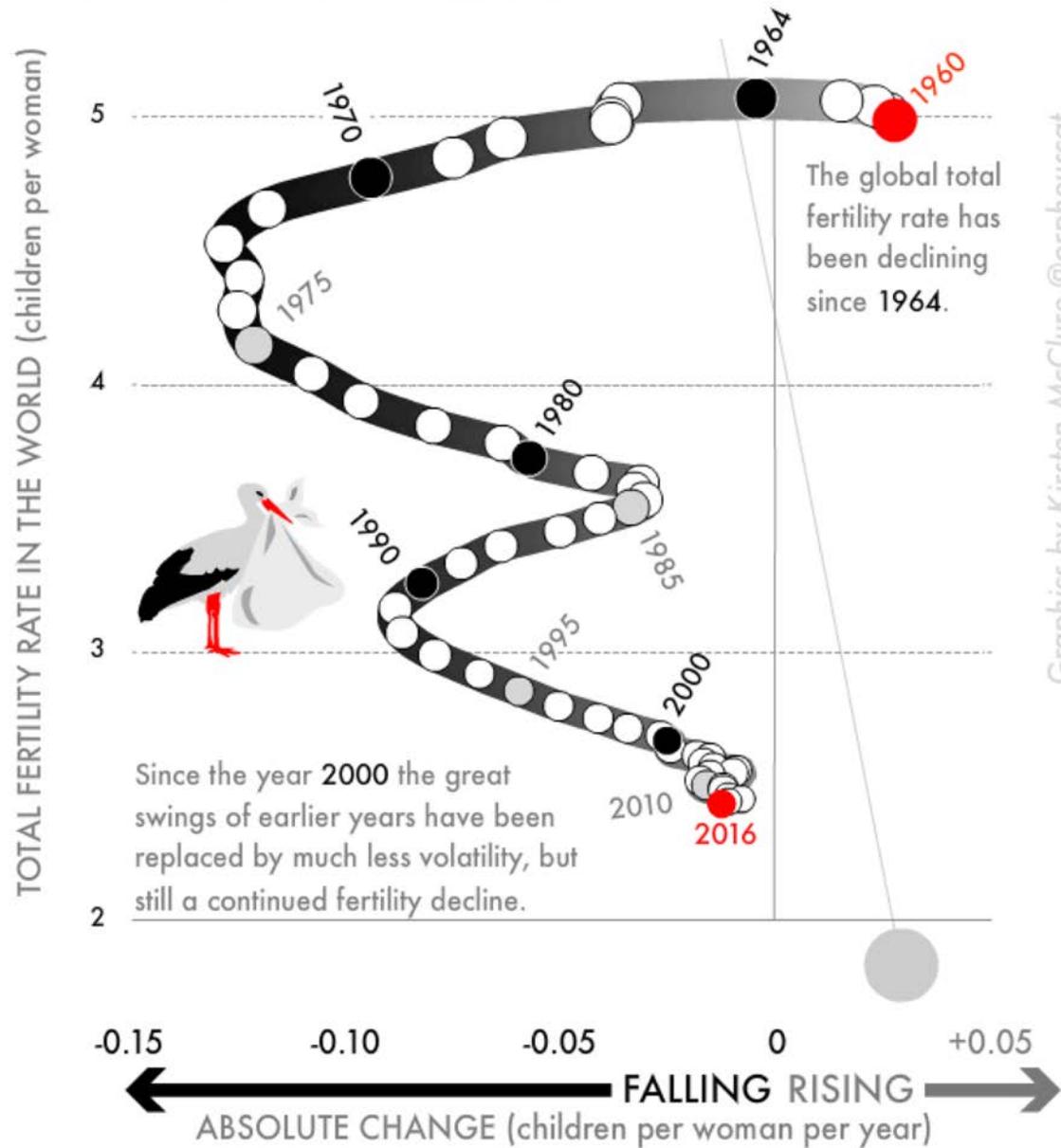
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"Slowdown" Fig 31 Americas less USA population year 1-2100



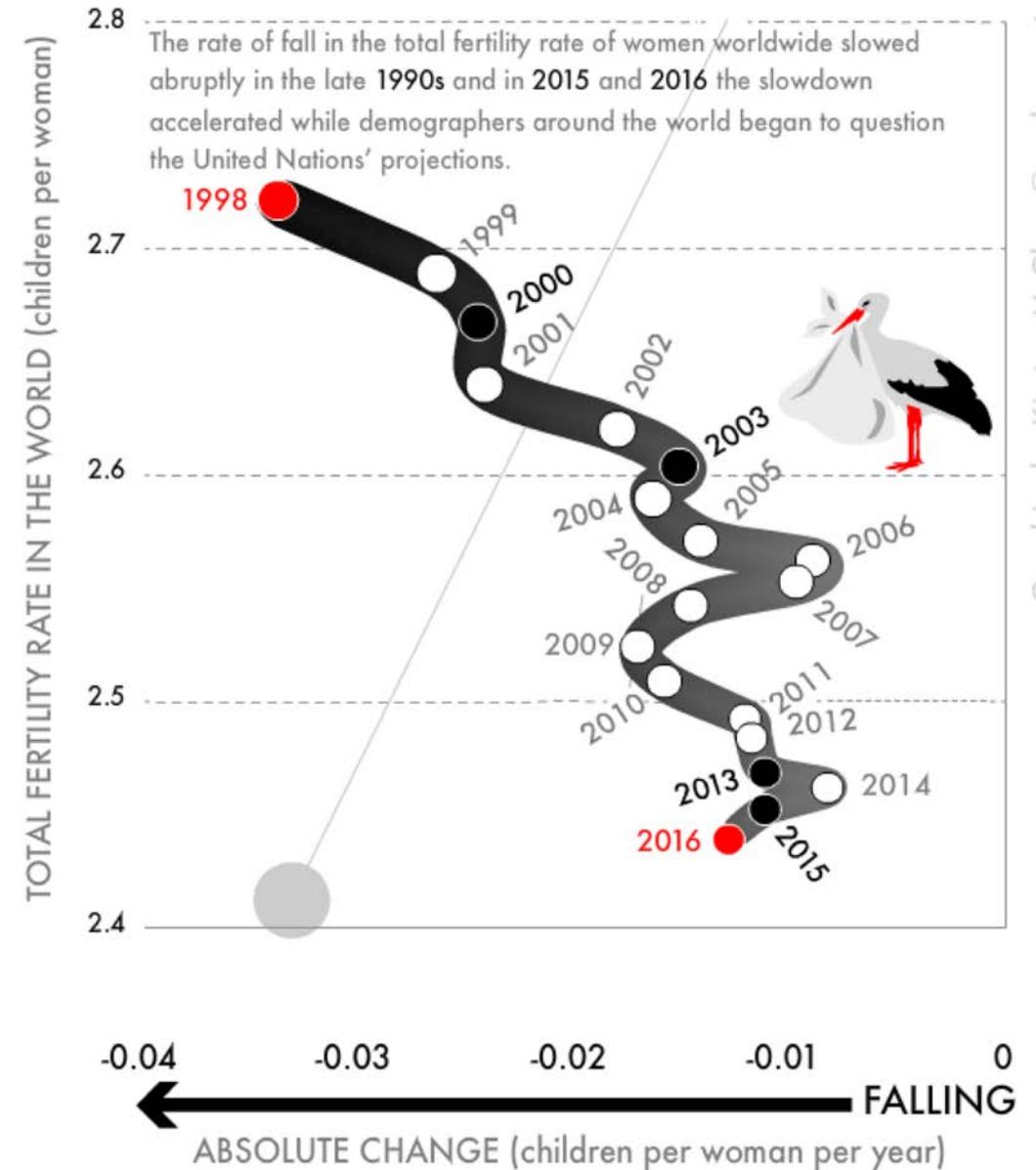
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"Slowdown" Fig 32 World Fertility 1960-2016



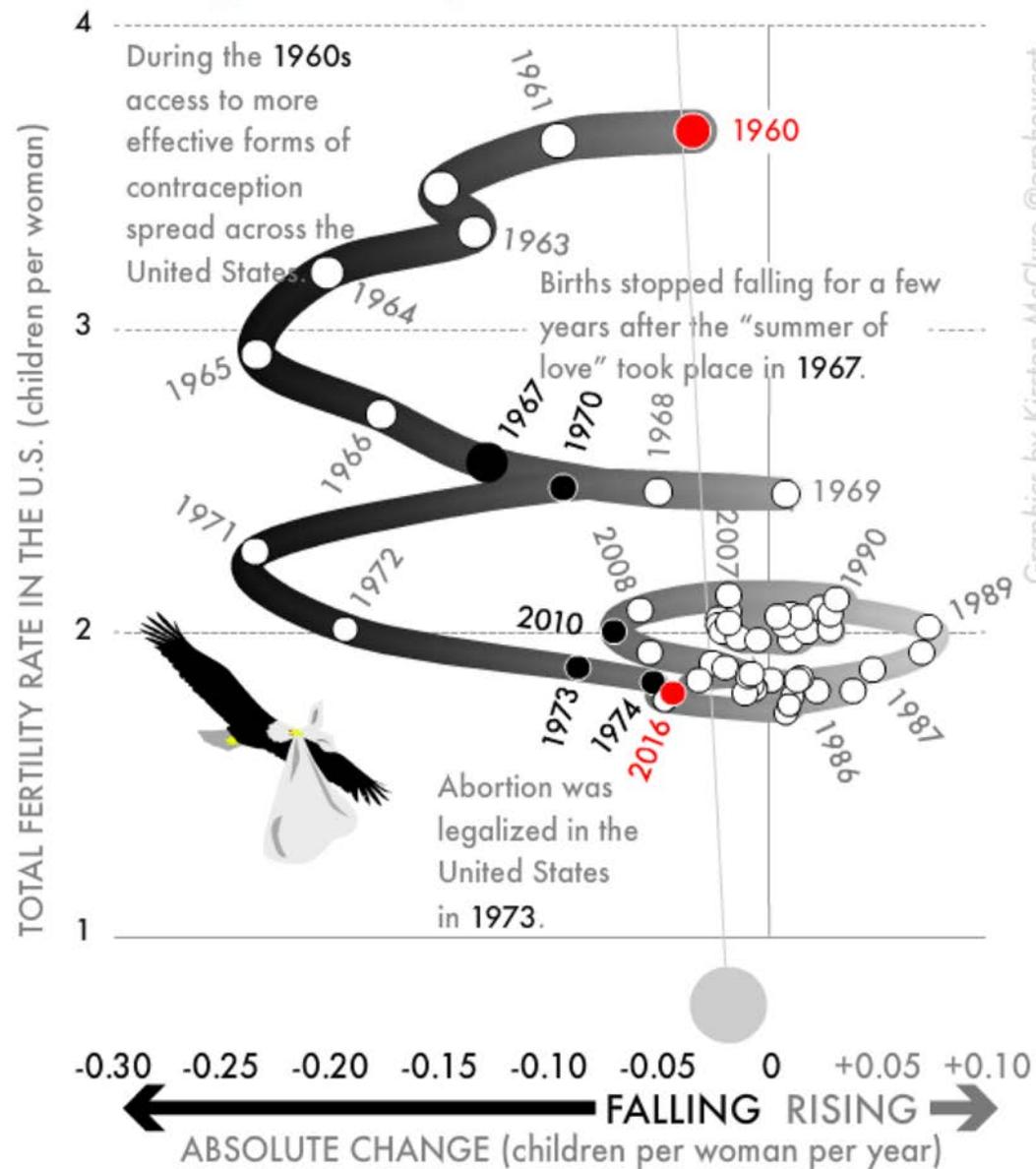
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"Slowdown" Fig 33 World Fertility 1998-2016

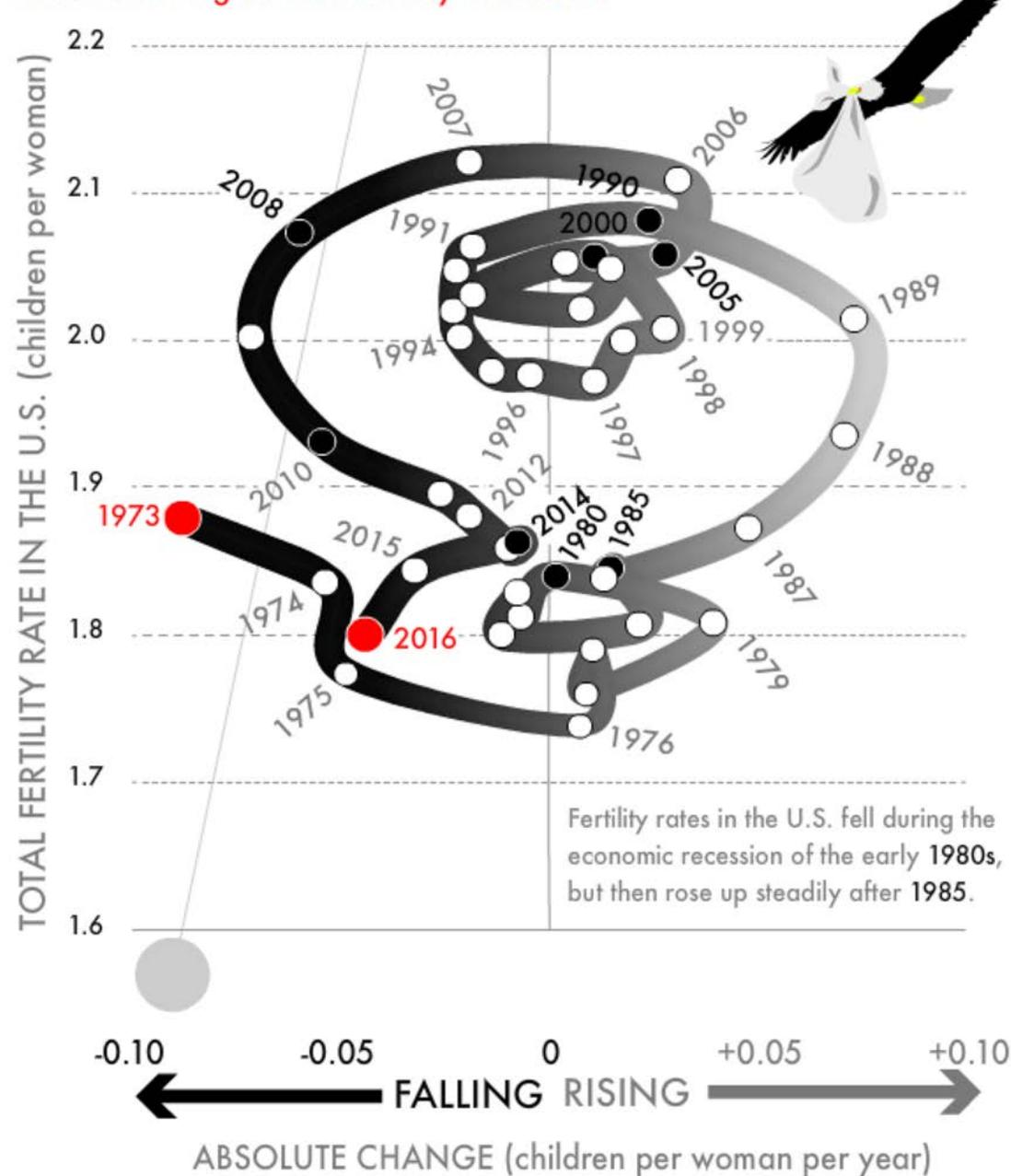


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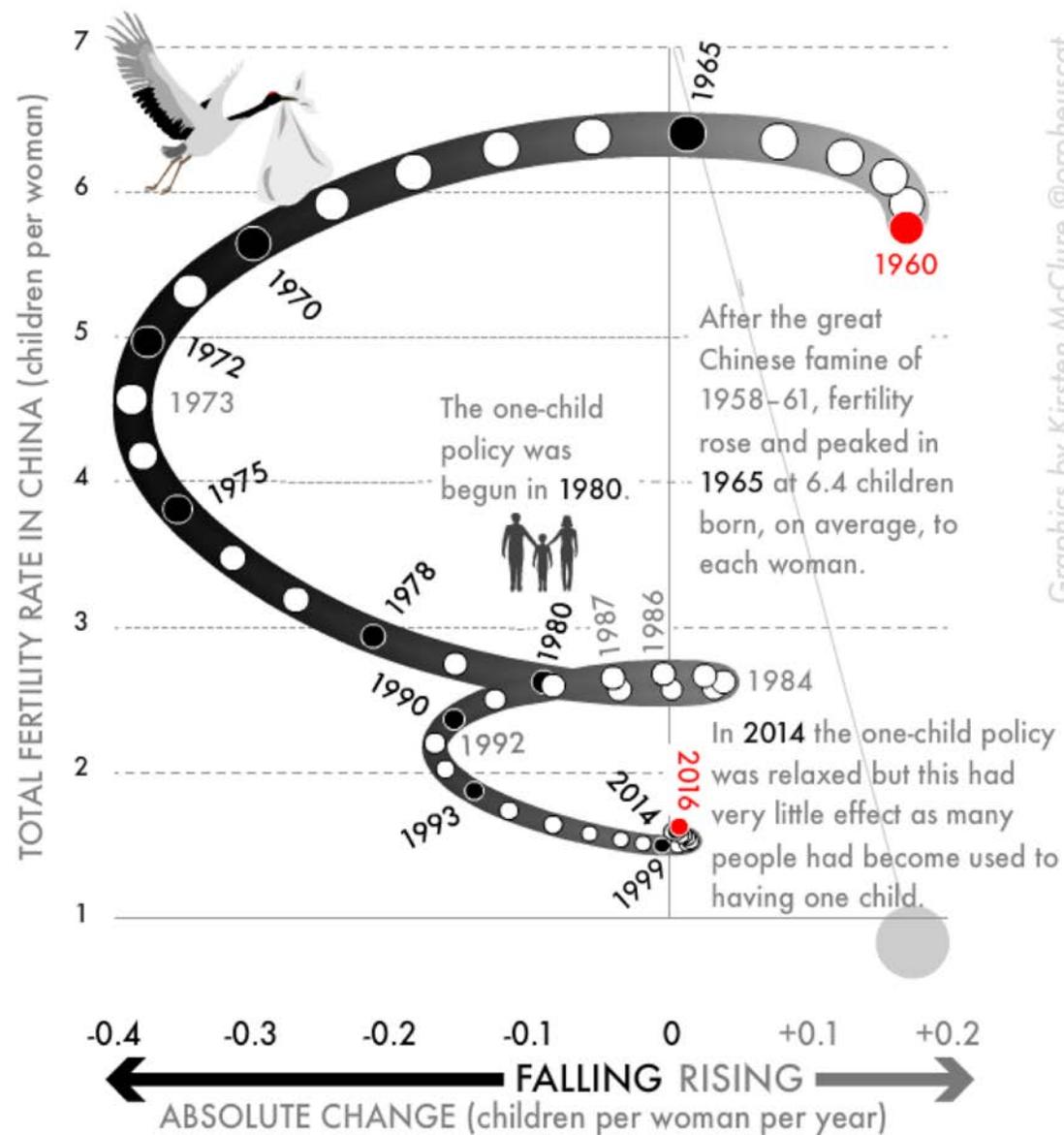
"Slowdown" Fig 34 USA Fertility 1960-2016



"Slowdown" Fig 35 USA Fertility 1973-2016

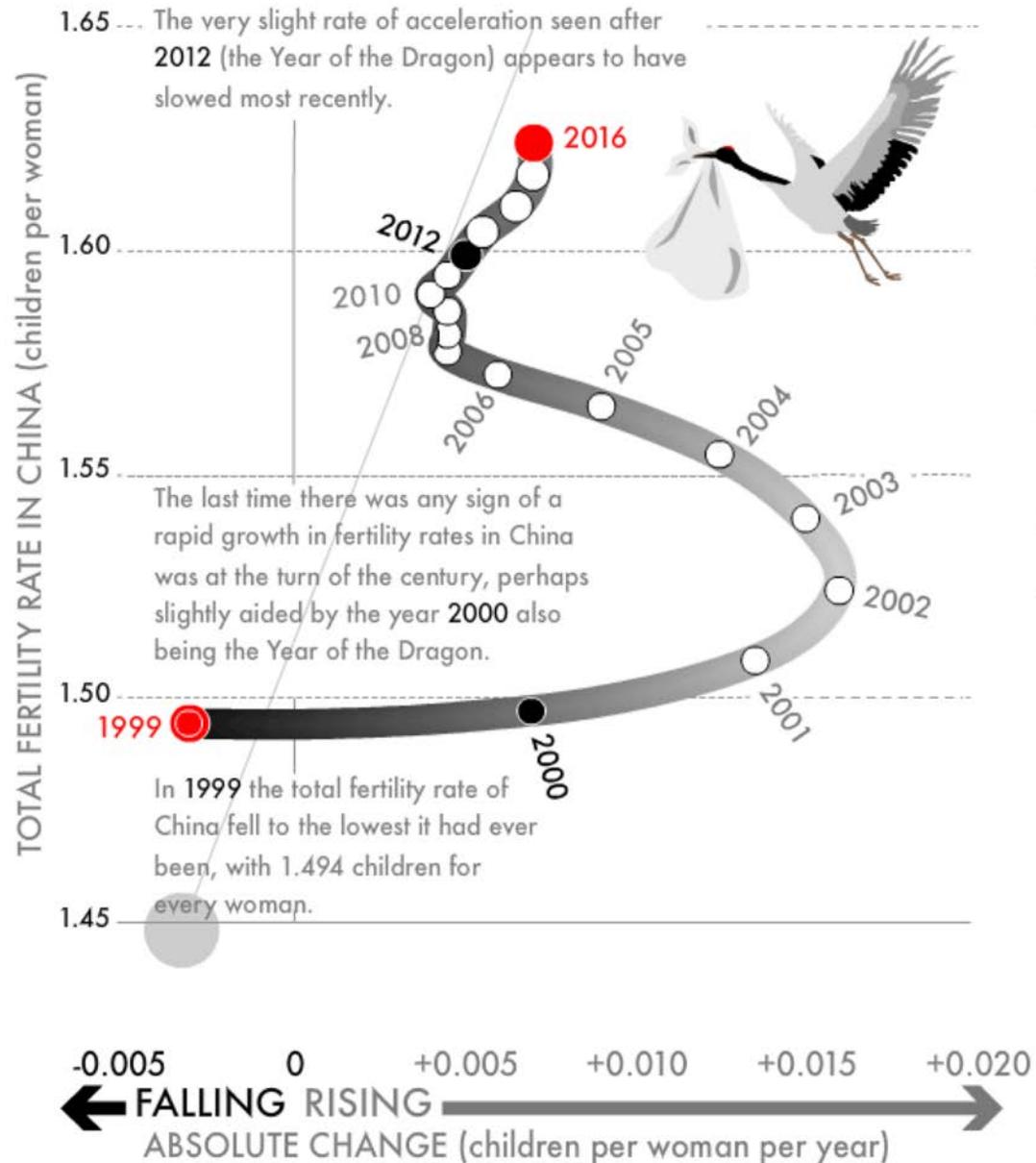


"Slowdown" Fig 36 China Fertility 1960-2016



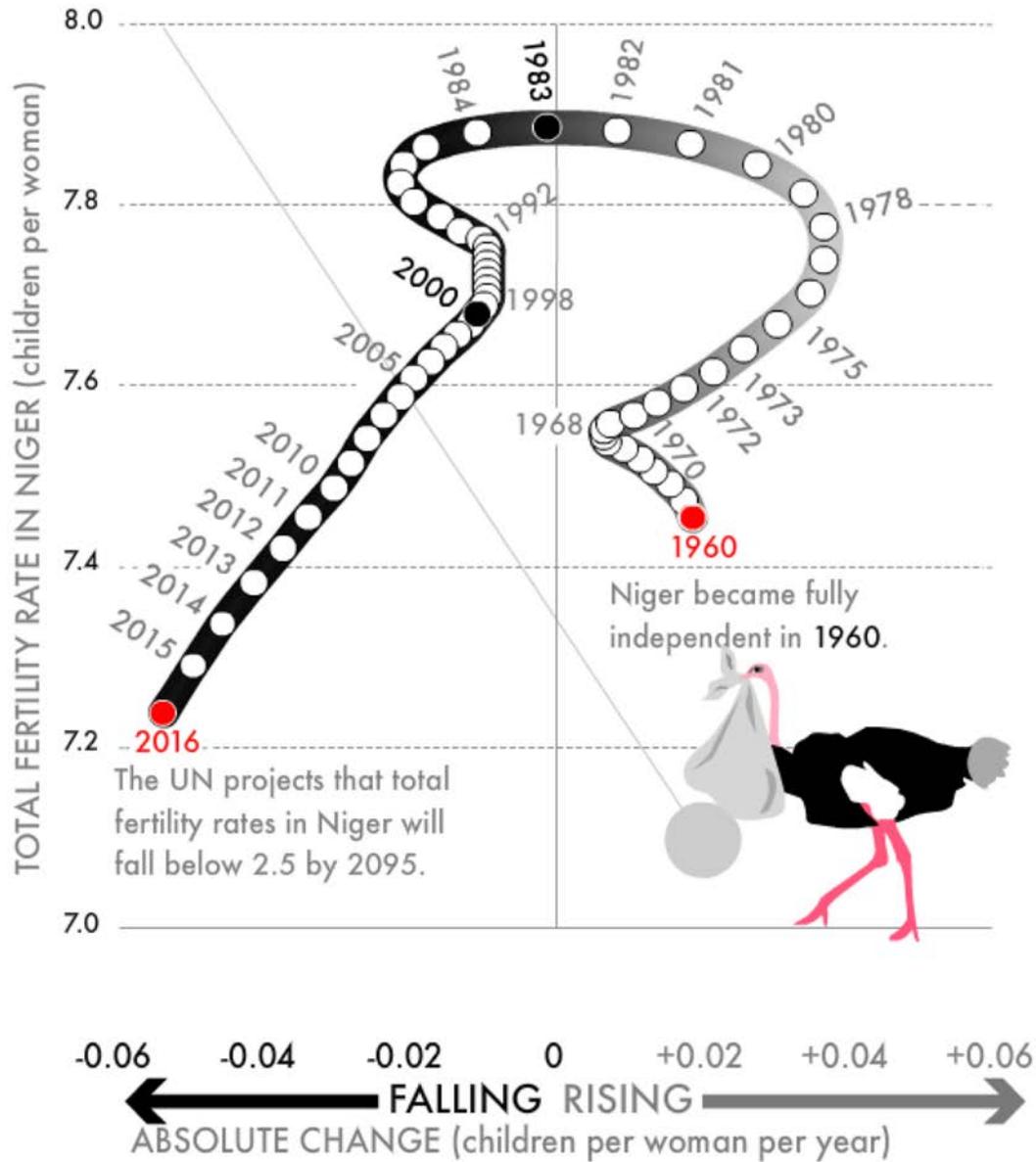
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"Slowdown" Fig 37 China Fertility 1999-2016

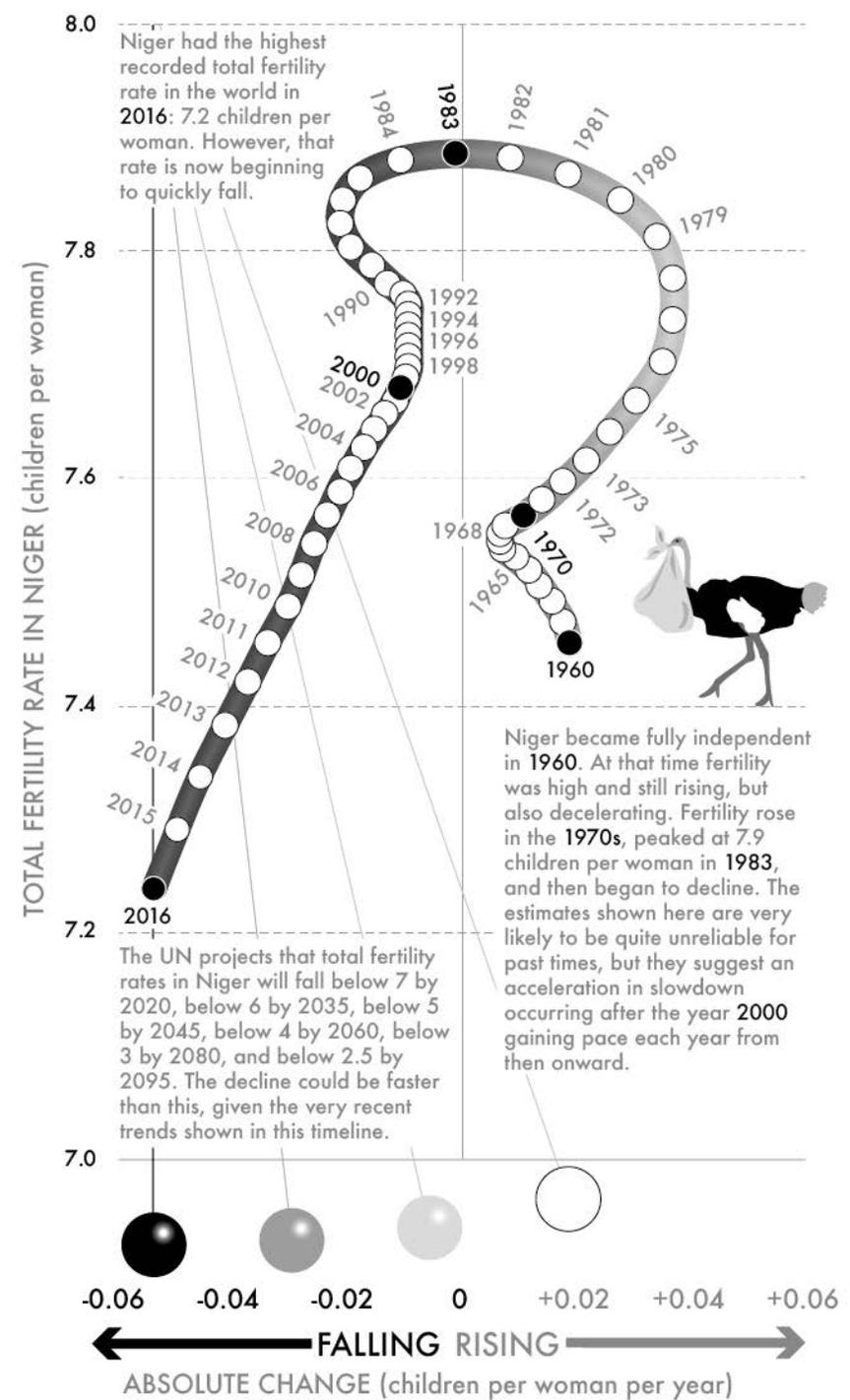


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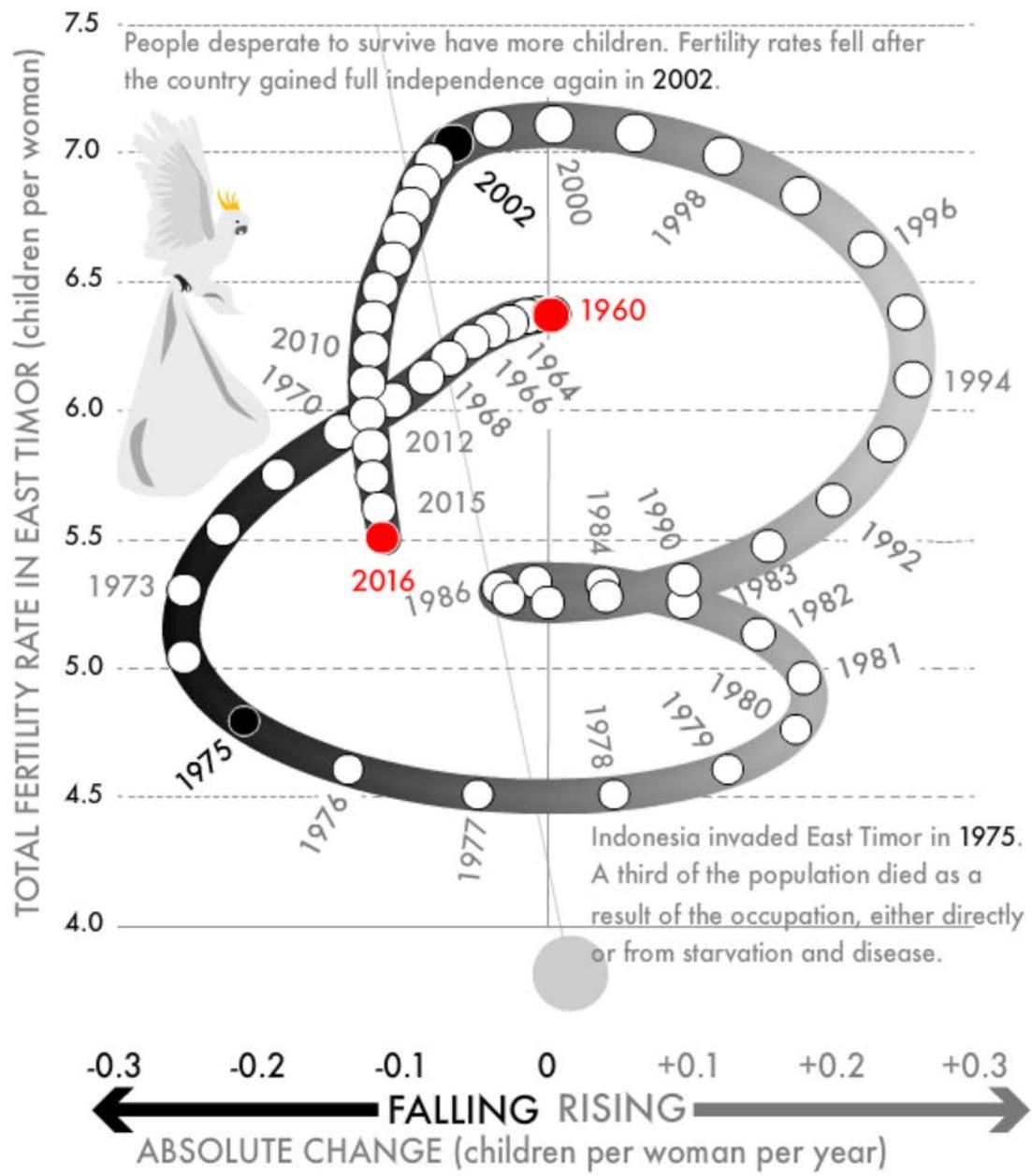
"Slowdown" Fig 38 Niger Fertility 1960-2016



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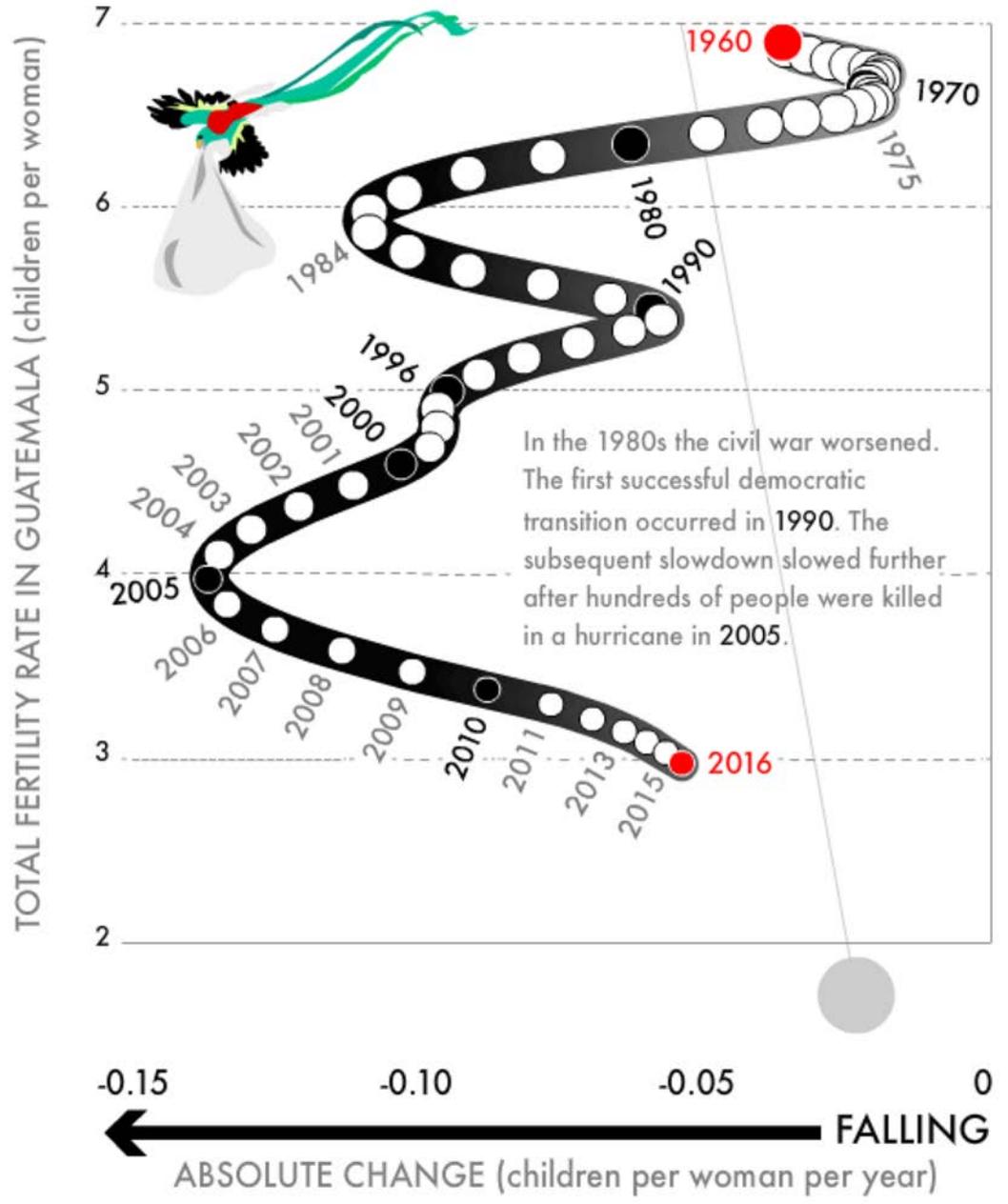


"Slowdown" Fig 39 East Timor 1960-2016



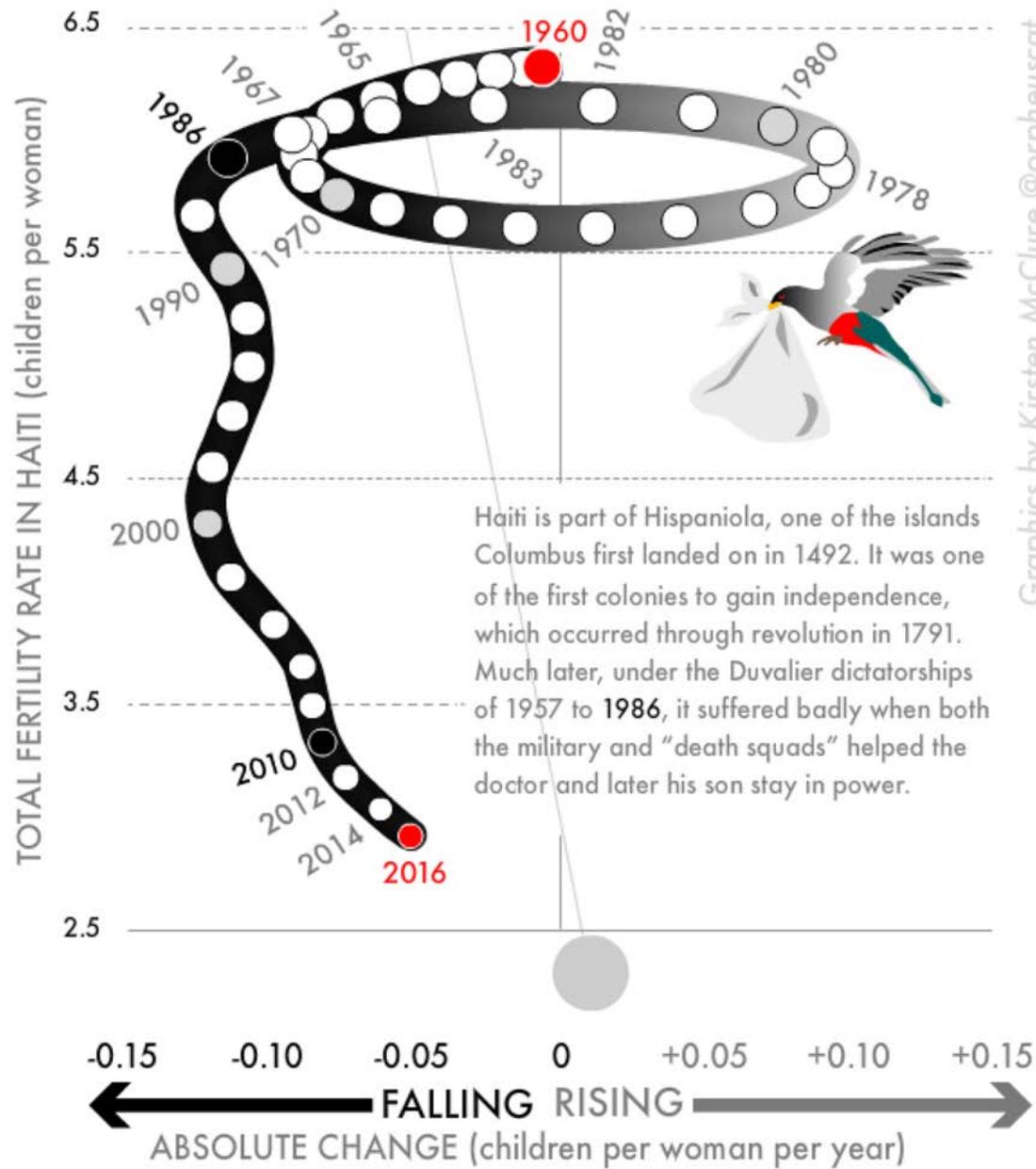
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"Slowdown" Fig 40 Guatemala Fertility 1960-2016

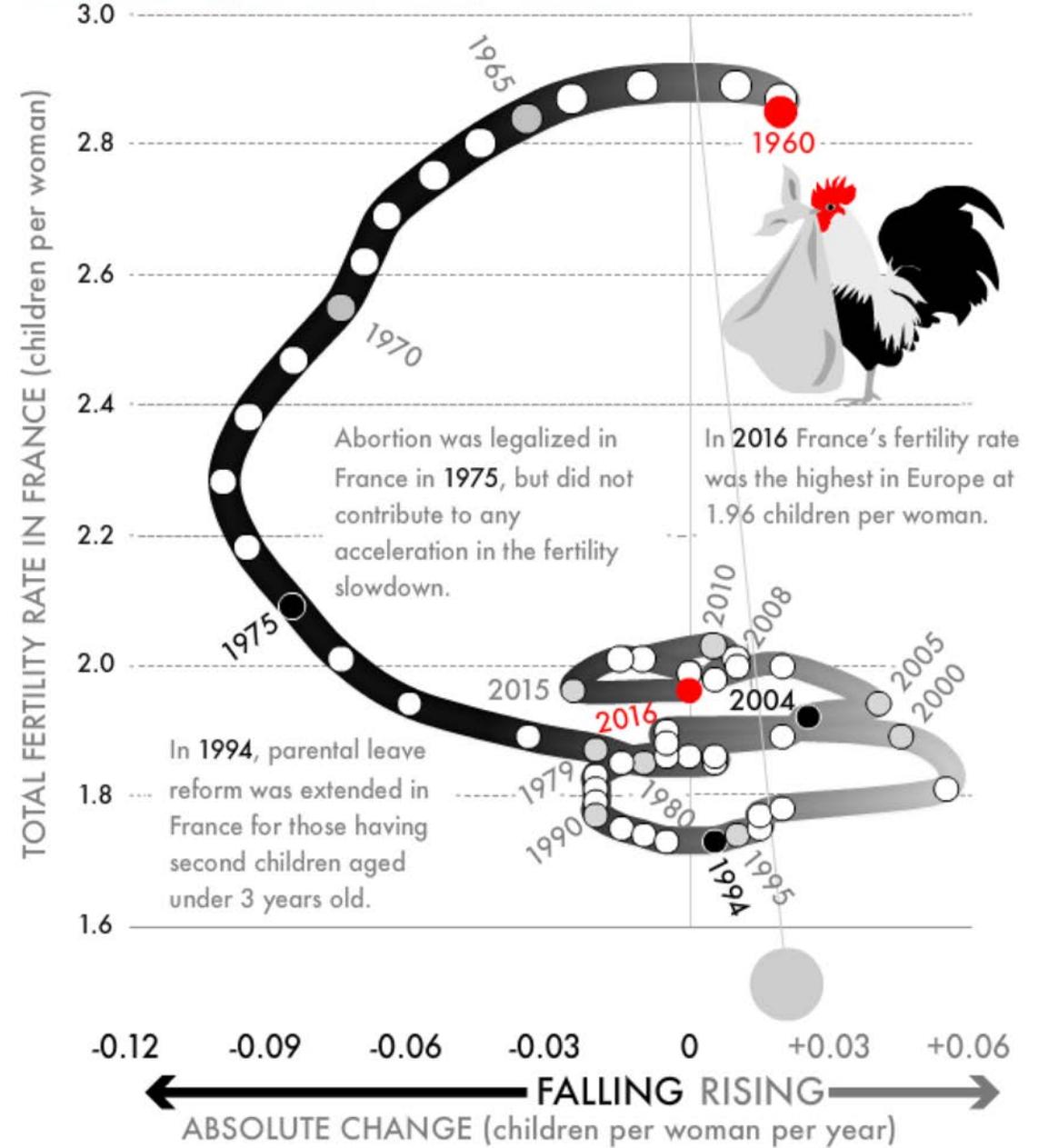


Graphics by Kirsten McClure @orpheuscat

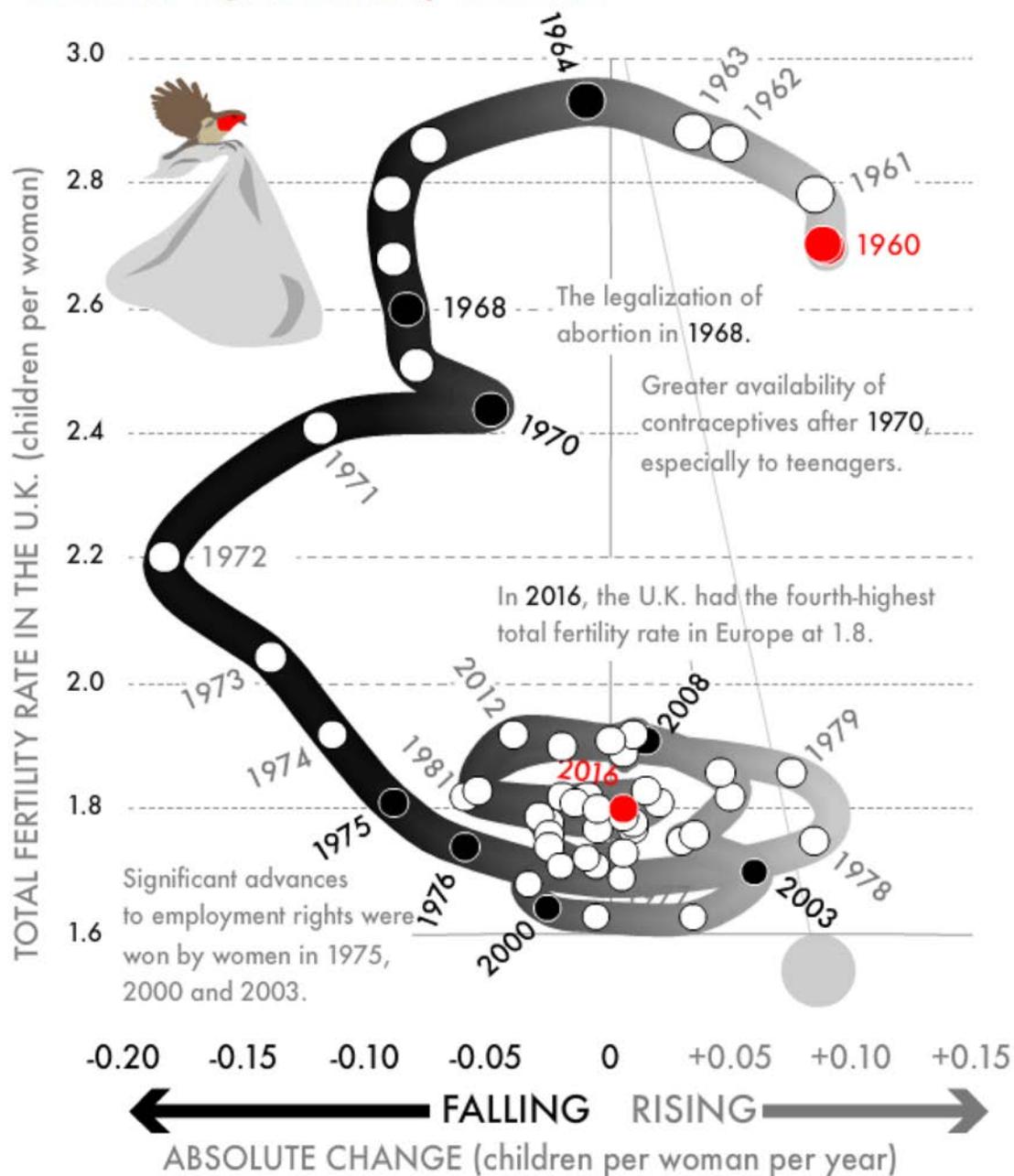
"Slowdown" Fig 41 Haiti Fertility 1960-2016



"Slowdown" Fig 42 France Fertility 1960-2016

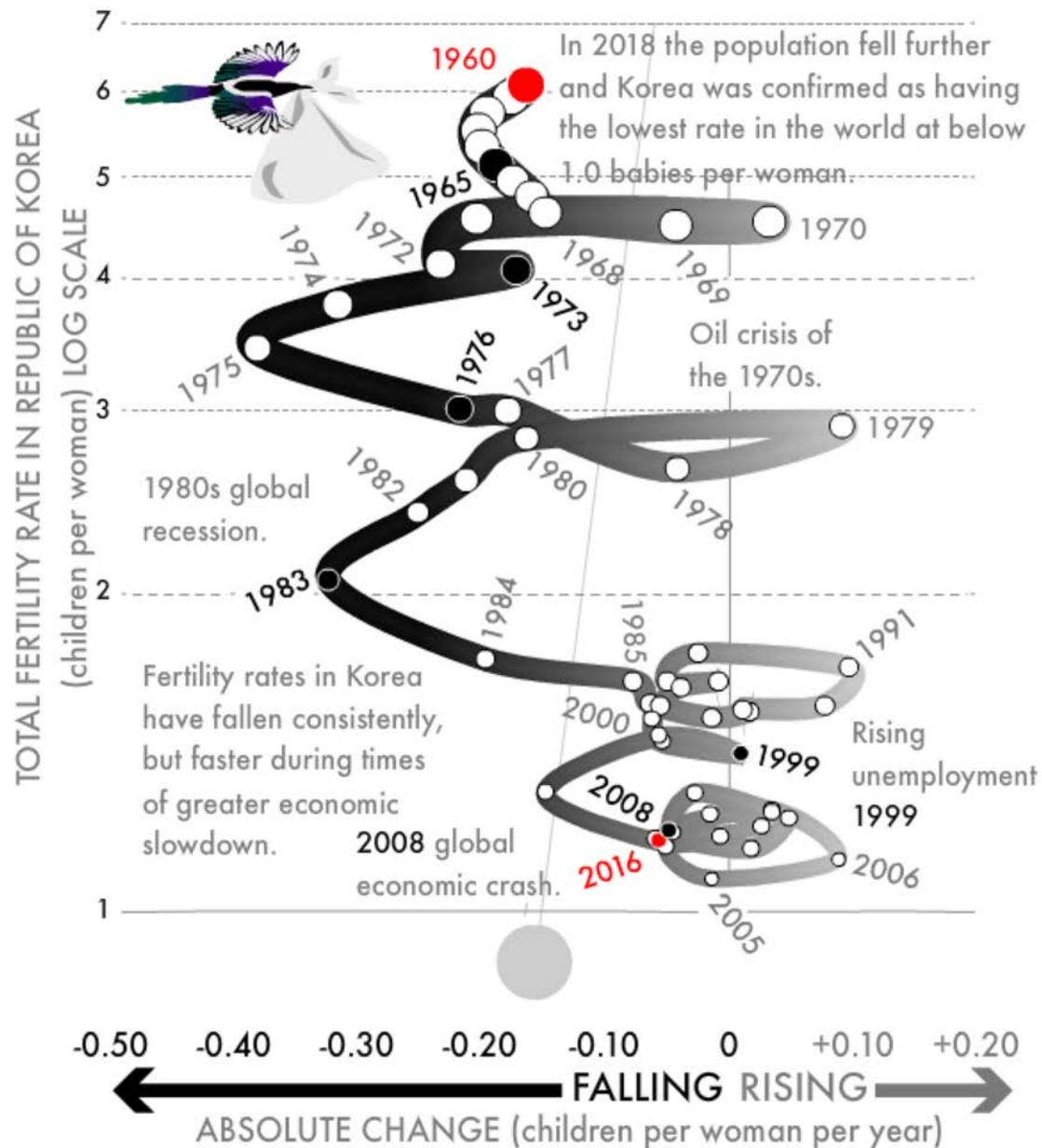


"Slowdown" Fig 43 UK Fertility 1960-2016



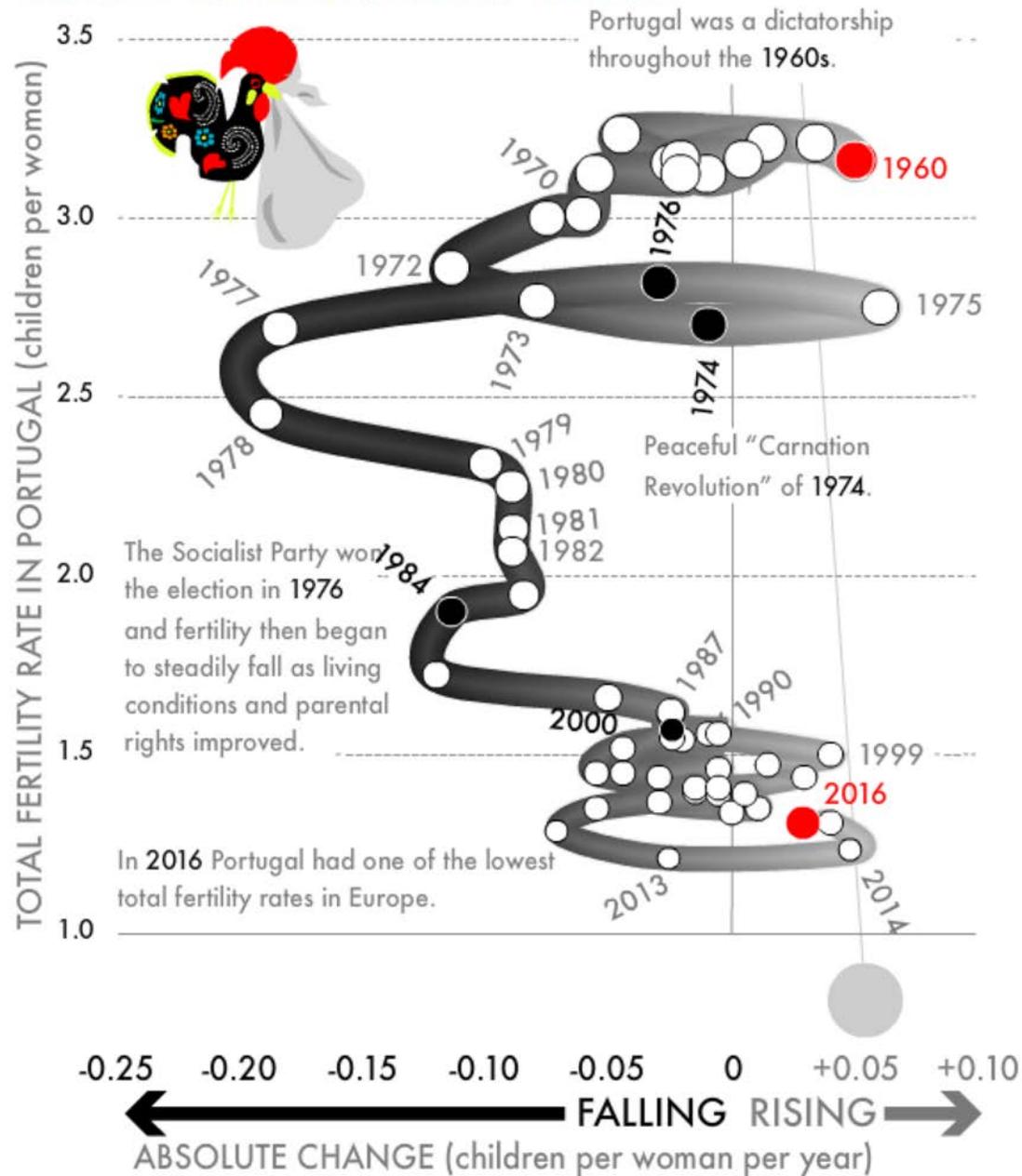
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"Slowdown" Fig 44 South Korea Fertility 1960-2016

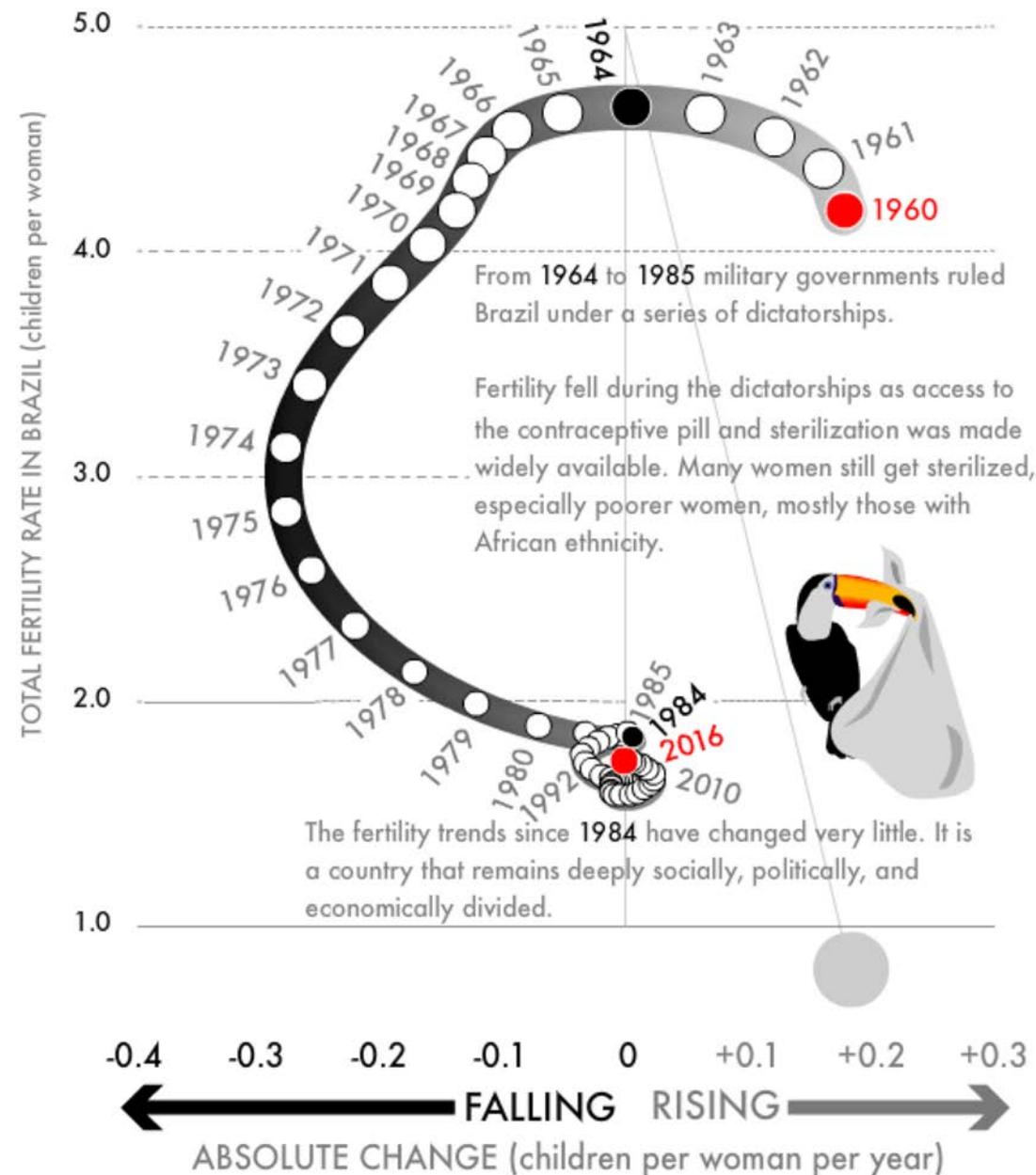


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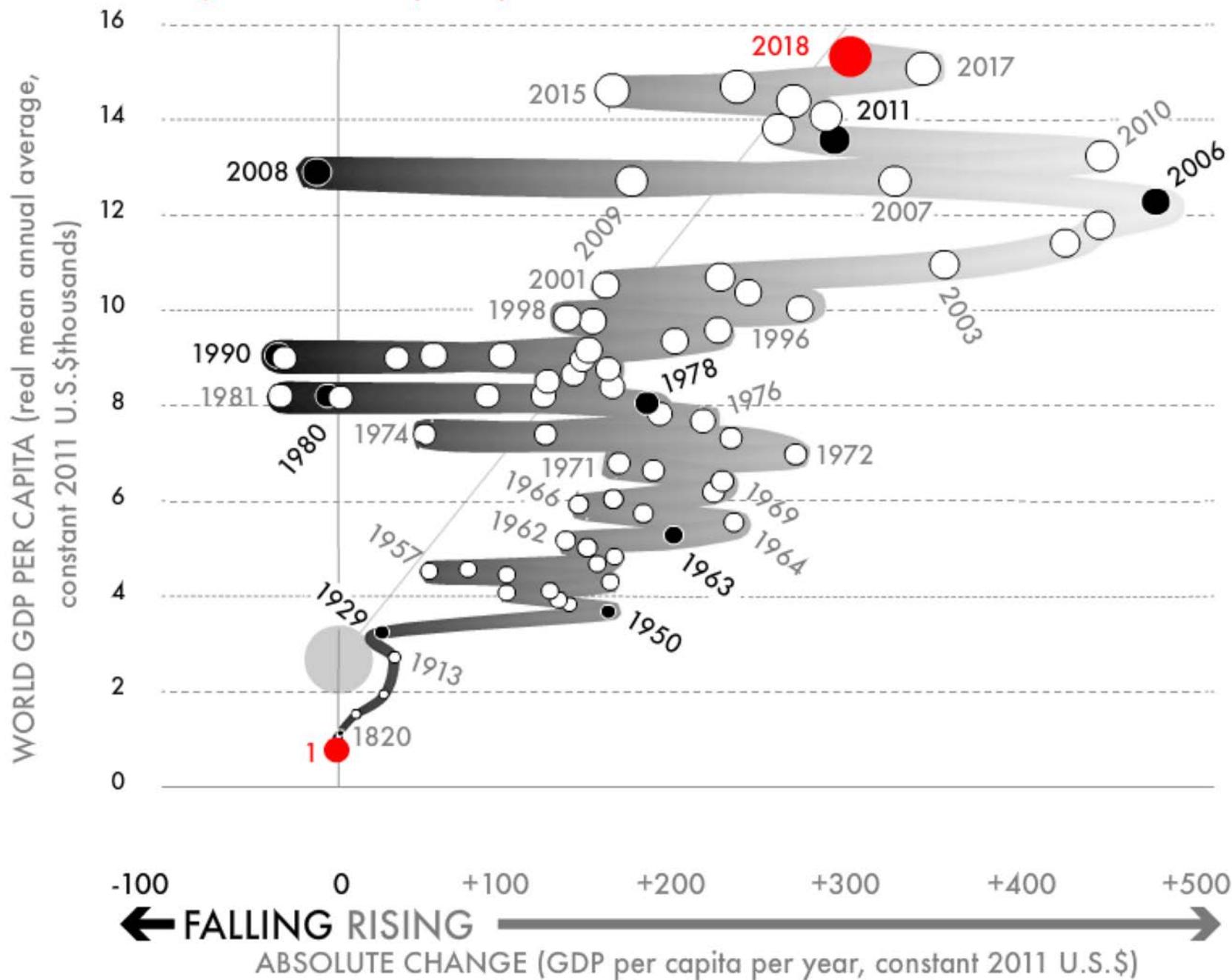
"Slowdown" Fig 45 Portugal Fertility 1960-2016



"Slowdown" Fig 46 Brazil Fertility 1960-2016

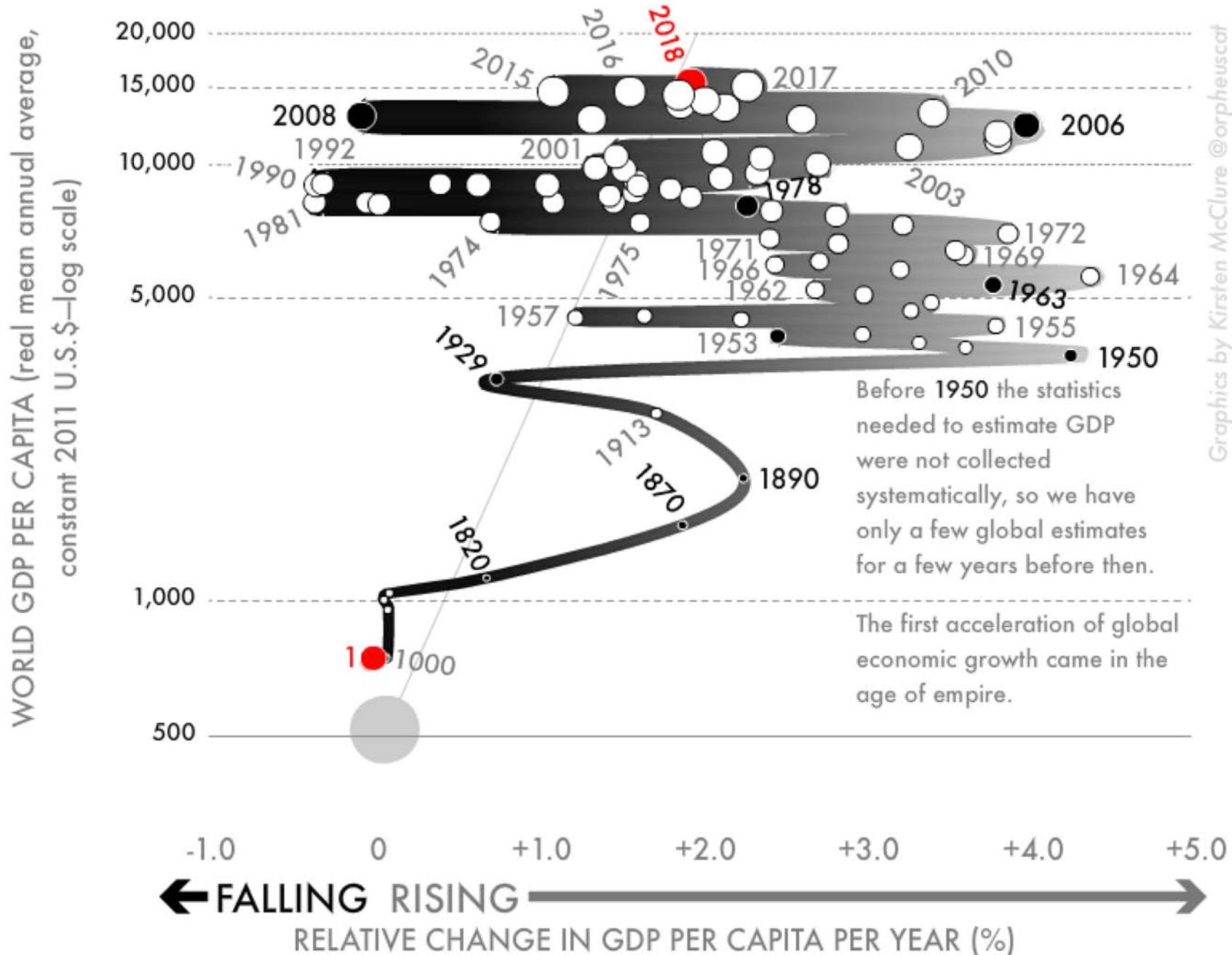


"Slowdown" Fig 47 World GDP per Capita 1-2019

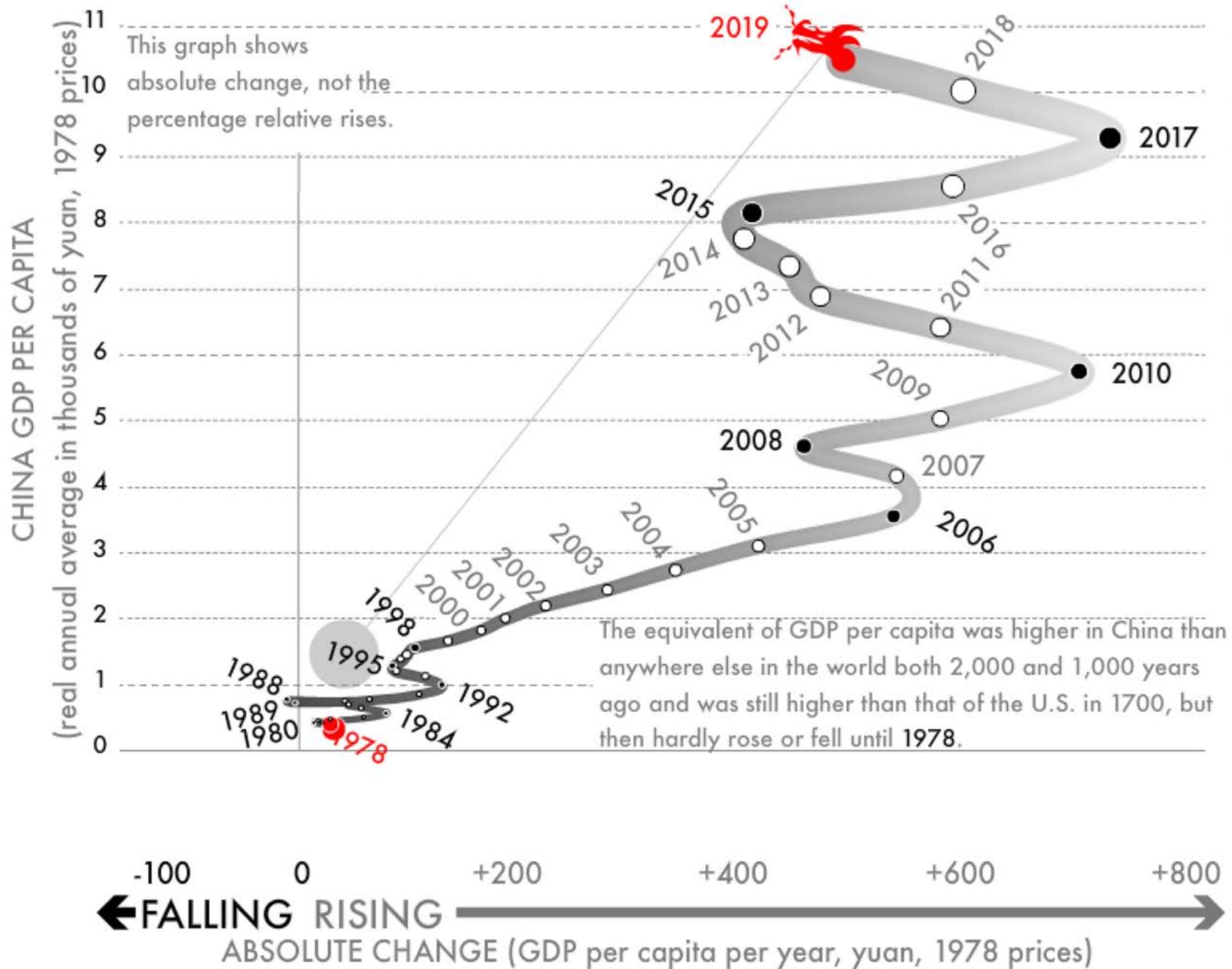


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“Slowdown” Fig 60 World GDP per Capita (vertical log scale) year 1-2018

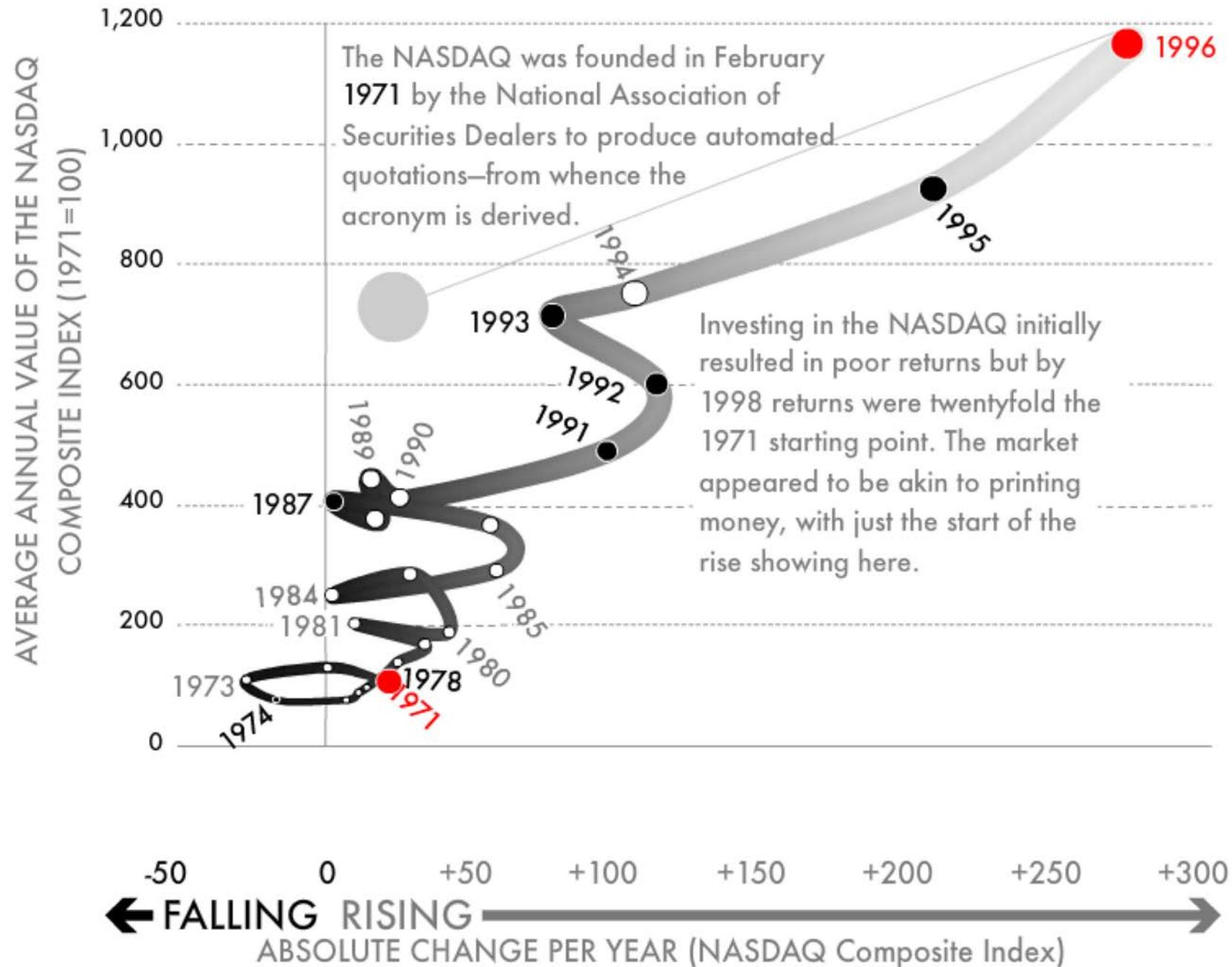


"Slowdown" Fig 49 China GDP 1978-2019



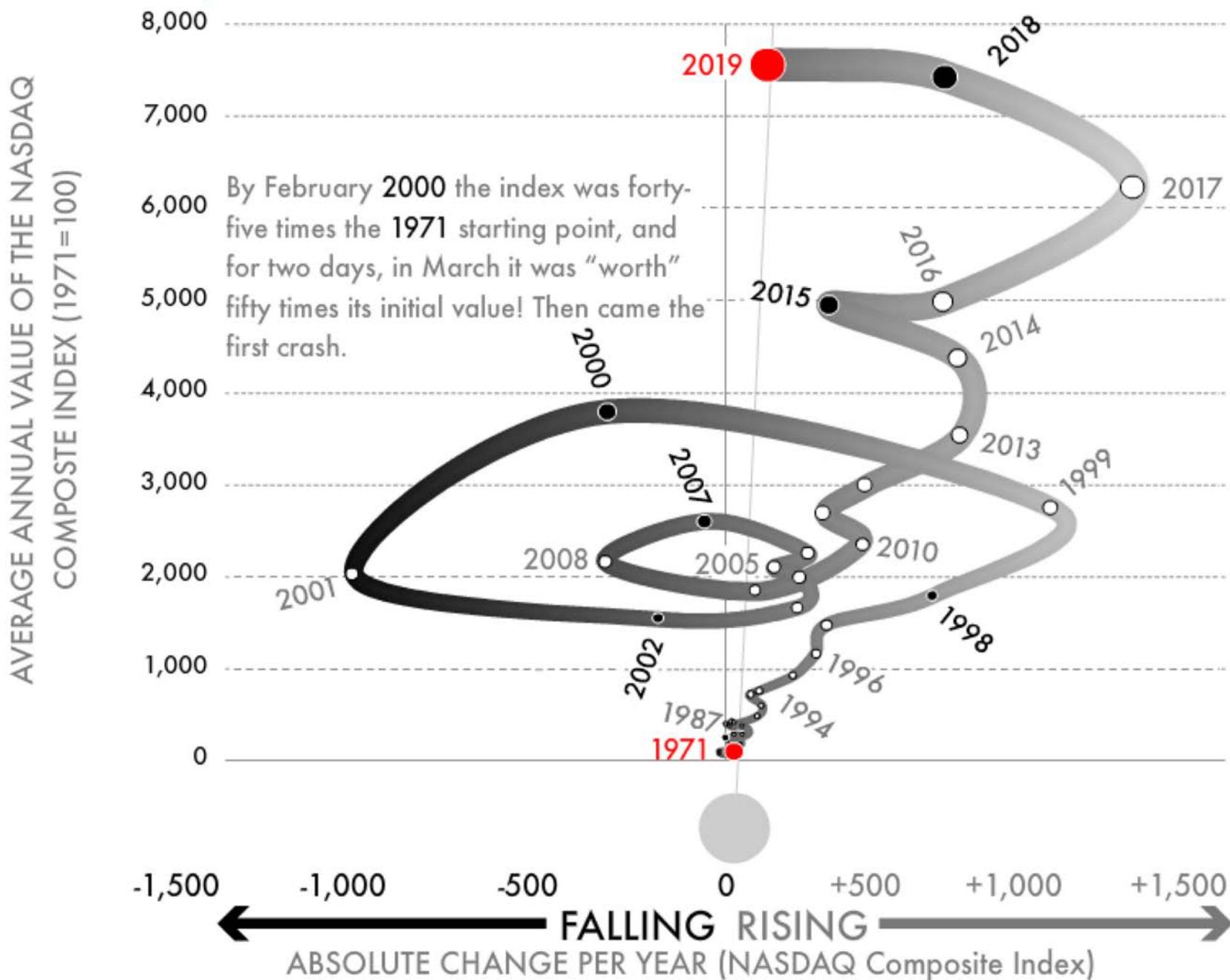
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"Slowdown" Fig 53 NASDAQ Stock Price 1971-1996

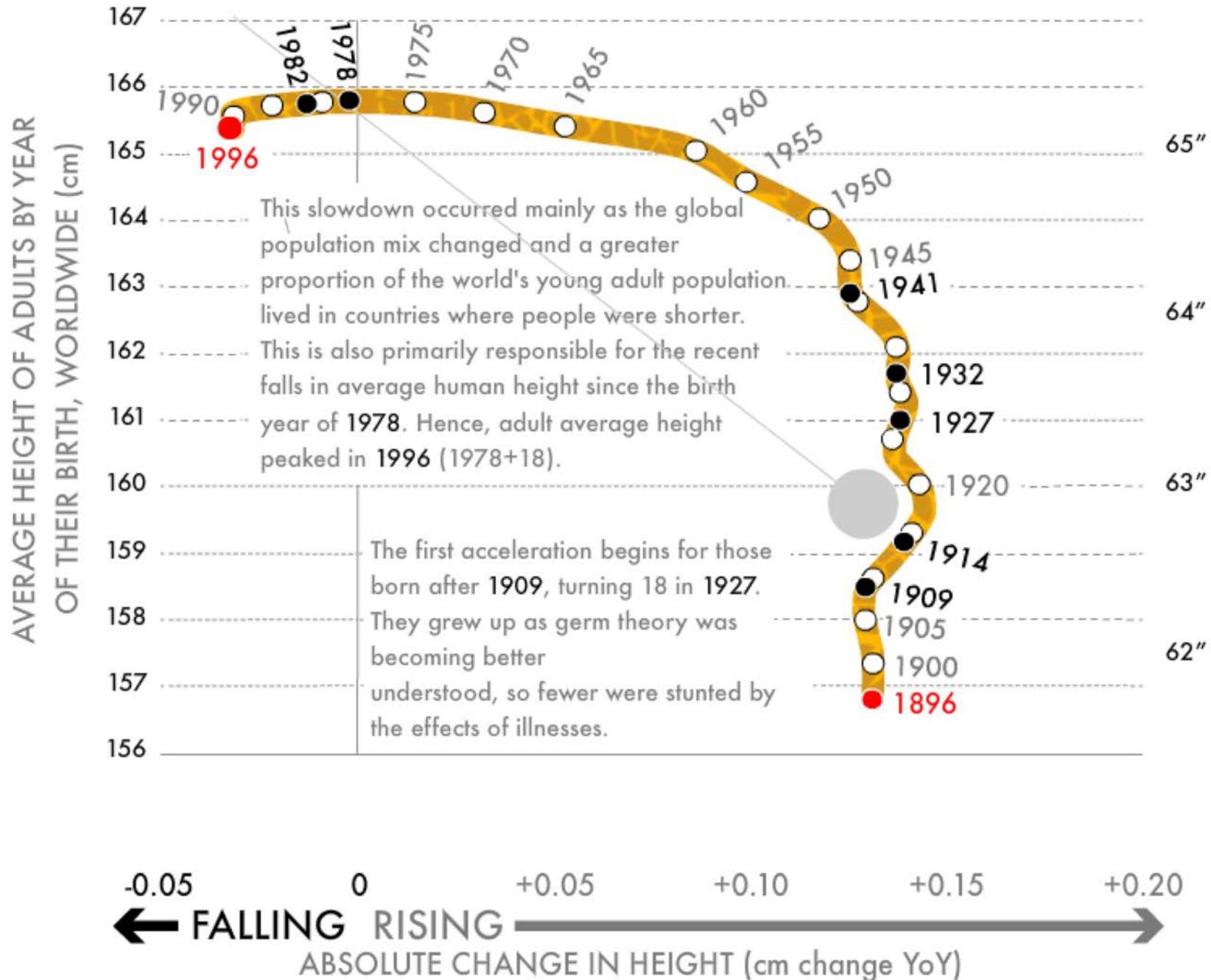


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“Slowdown” Fig 54 NASDAQ Stock Price 1971-2019

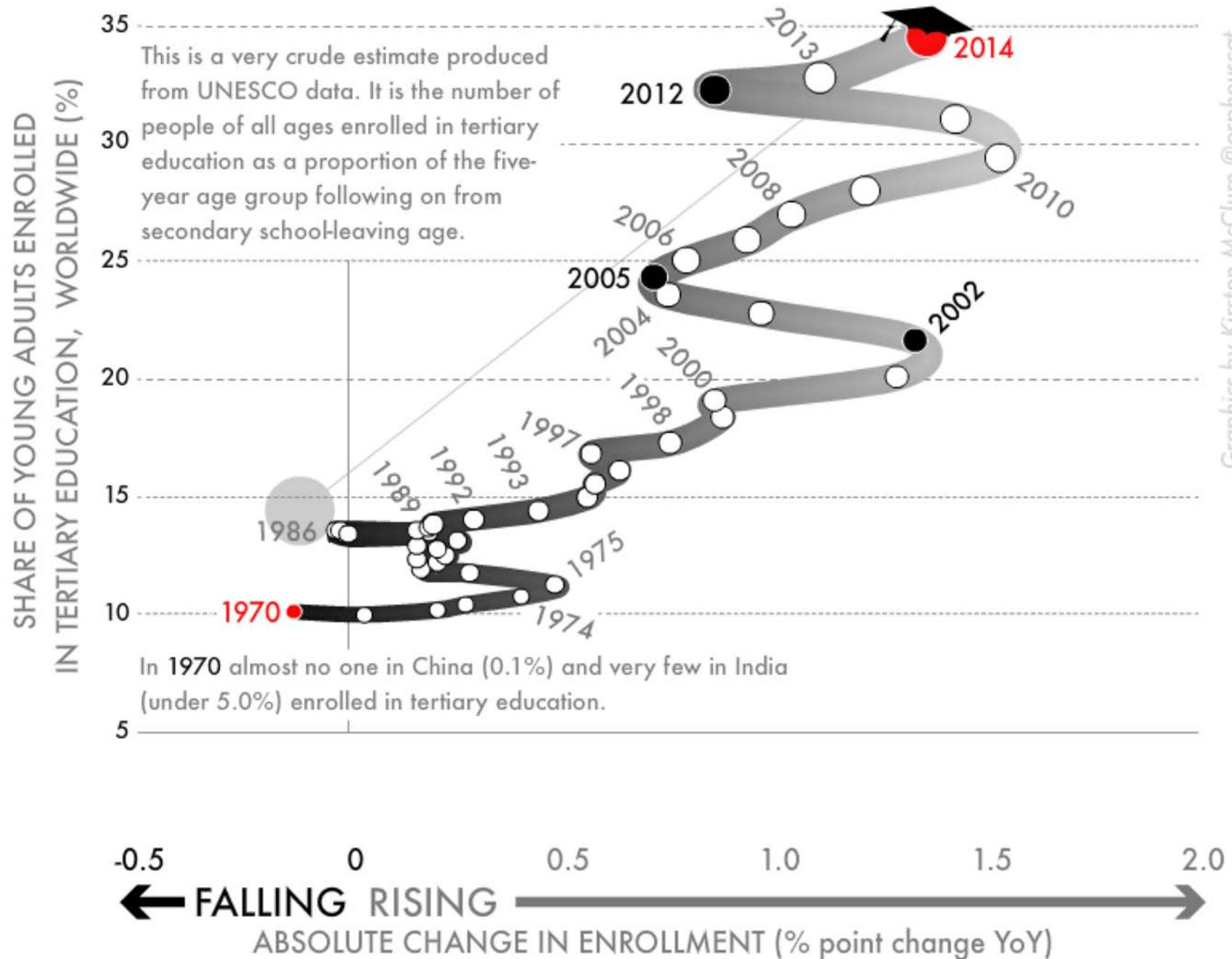


“Slowdown” Fig 55 World Adult Heights of those born in 1896 to those born in 1996

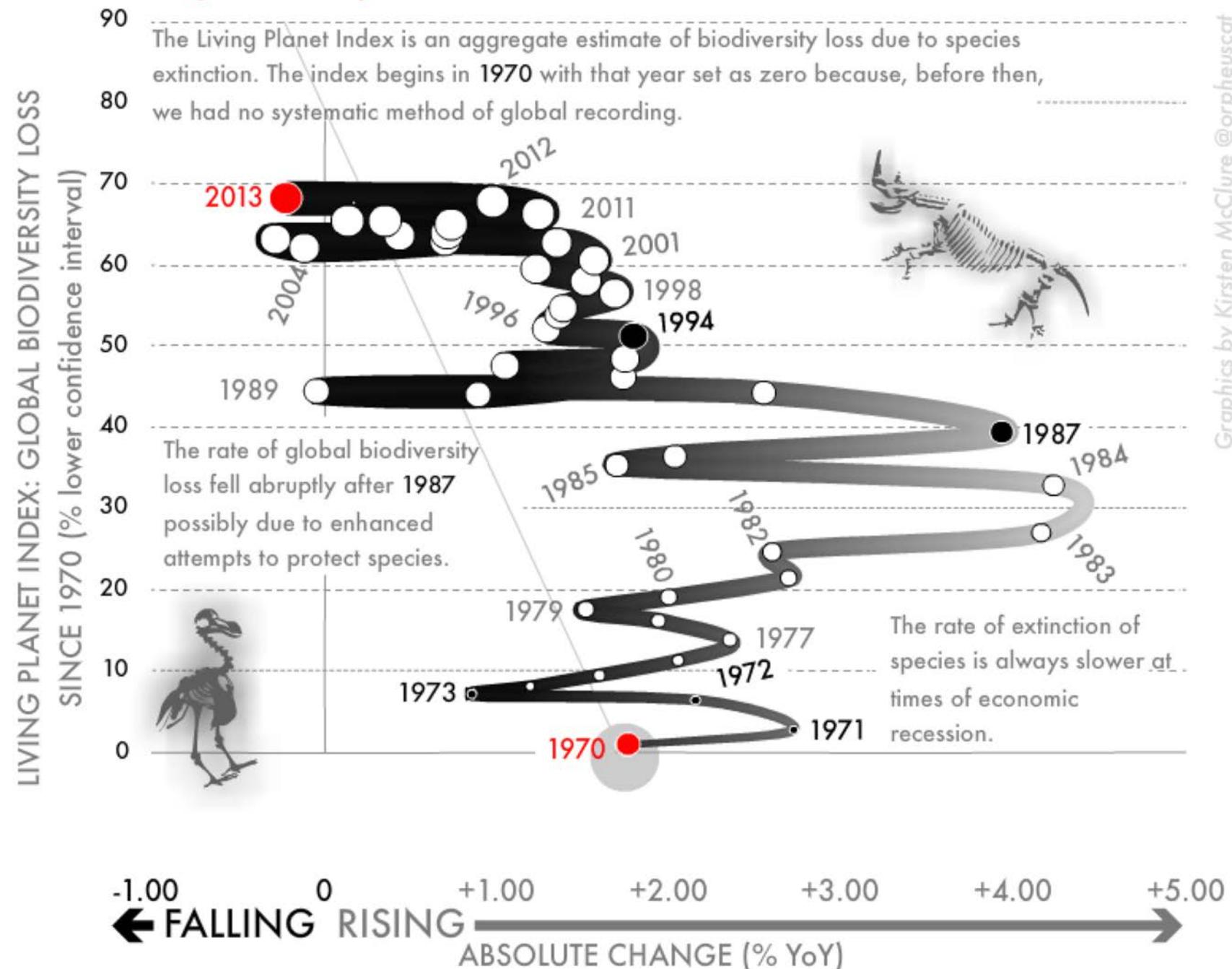


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"Slowdown" Fig 56 World Graduates Share 1970-2014

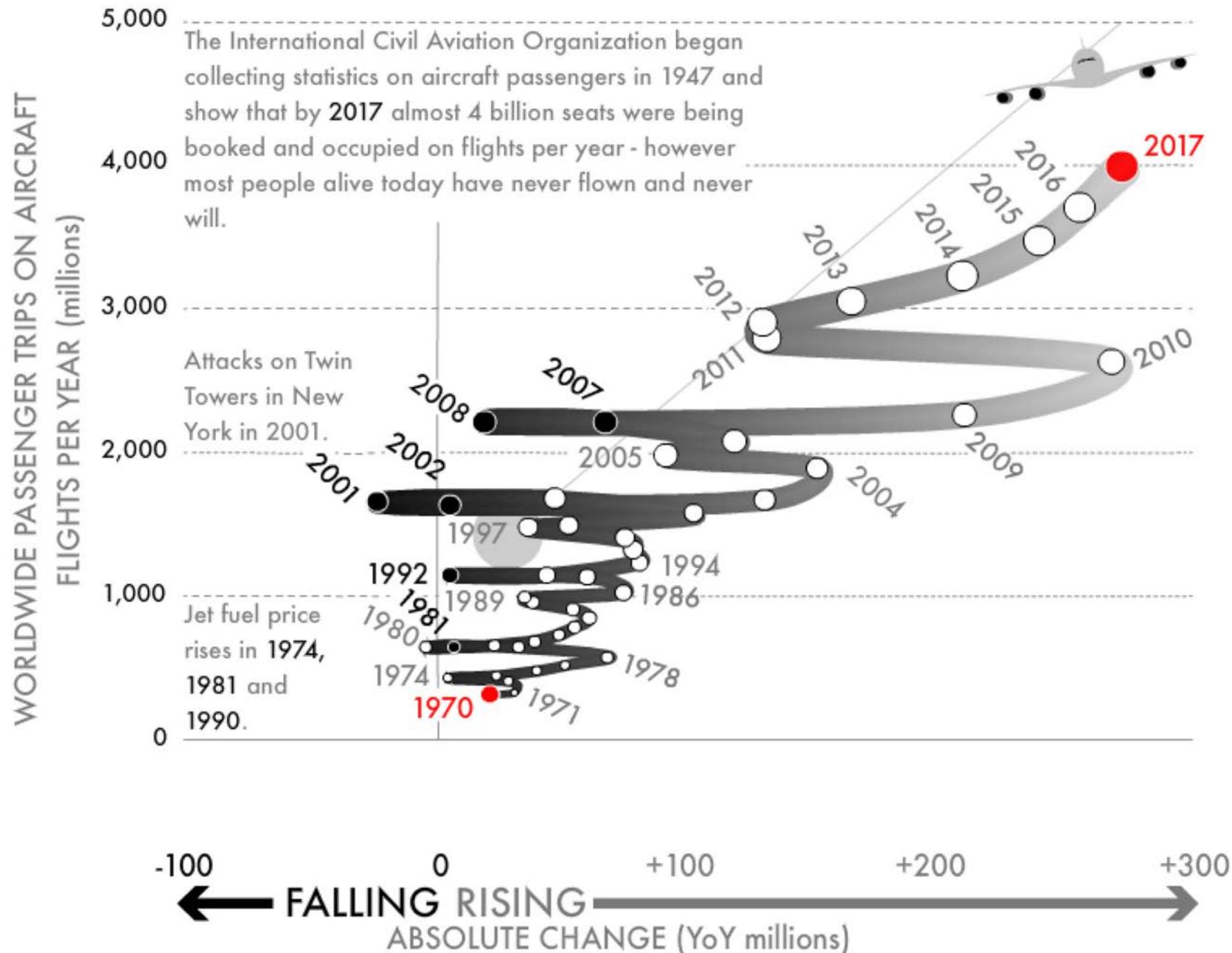


"Slowdown" Fig 61 World Species 1970-2014



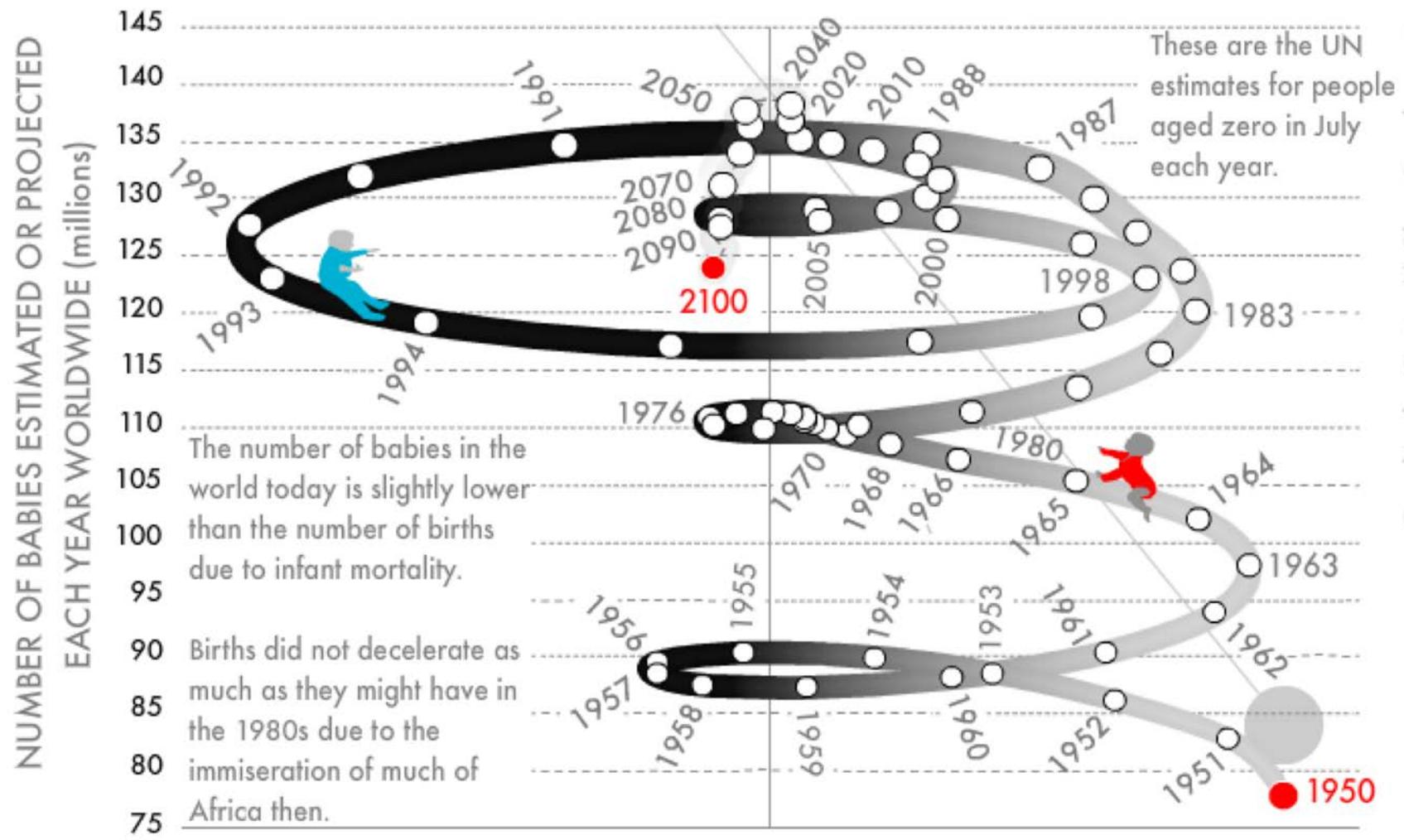
Graphics by Kirsten McClure @orpheuscat

"Slowdown" Fig 62 World Air Passengers 1970-2017



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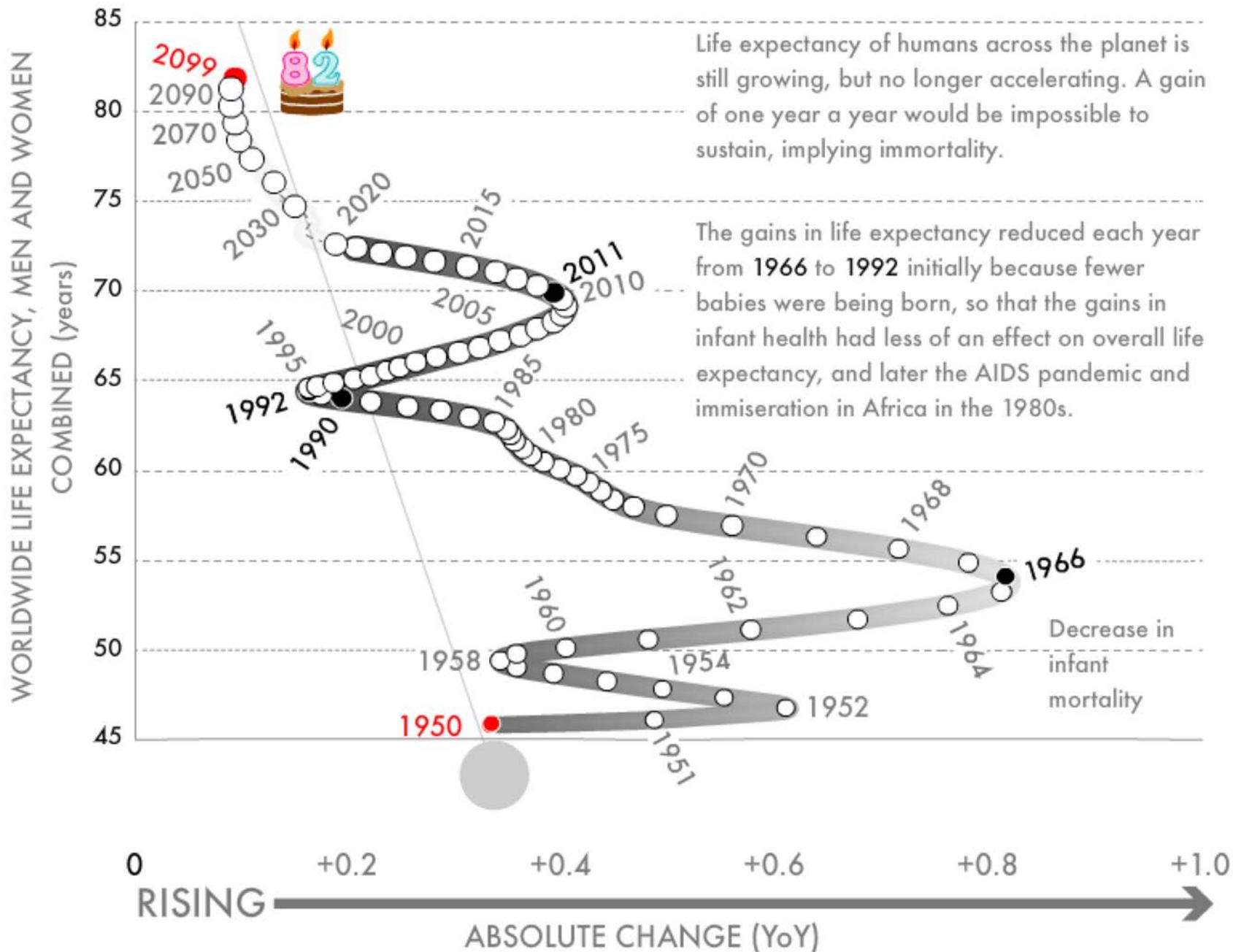
"Slowdown" Fig 63 World Babies 1950-2100



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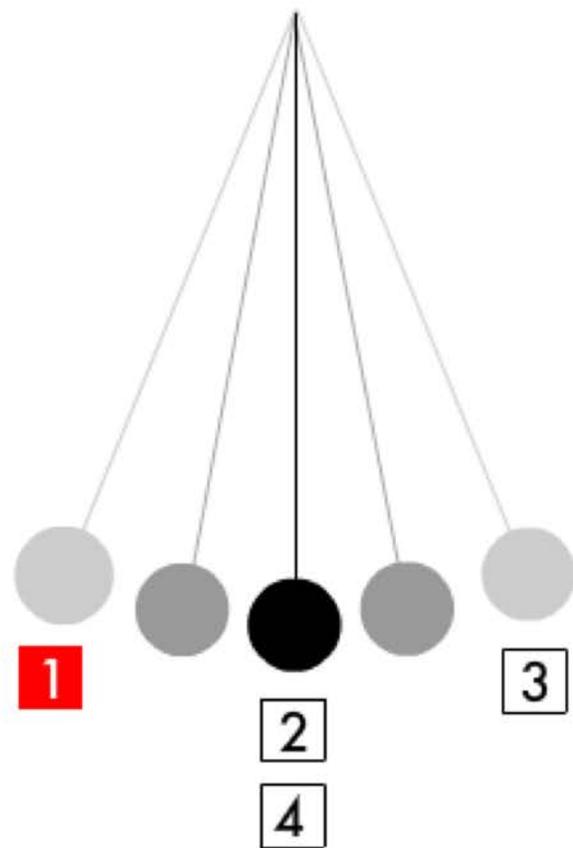
"Slowdown" Fig 64 World Life Expectancy 1950-2099



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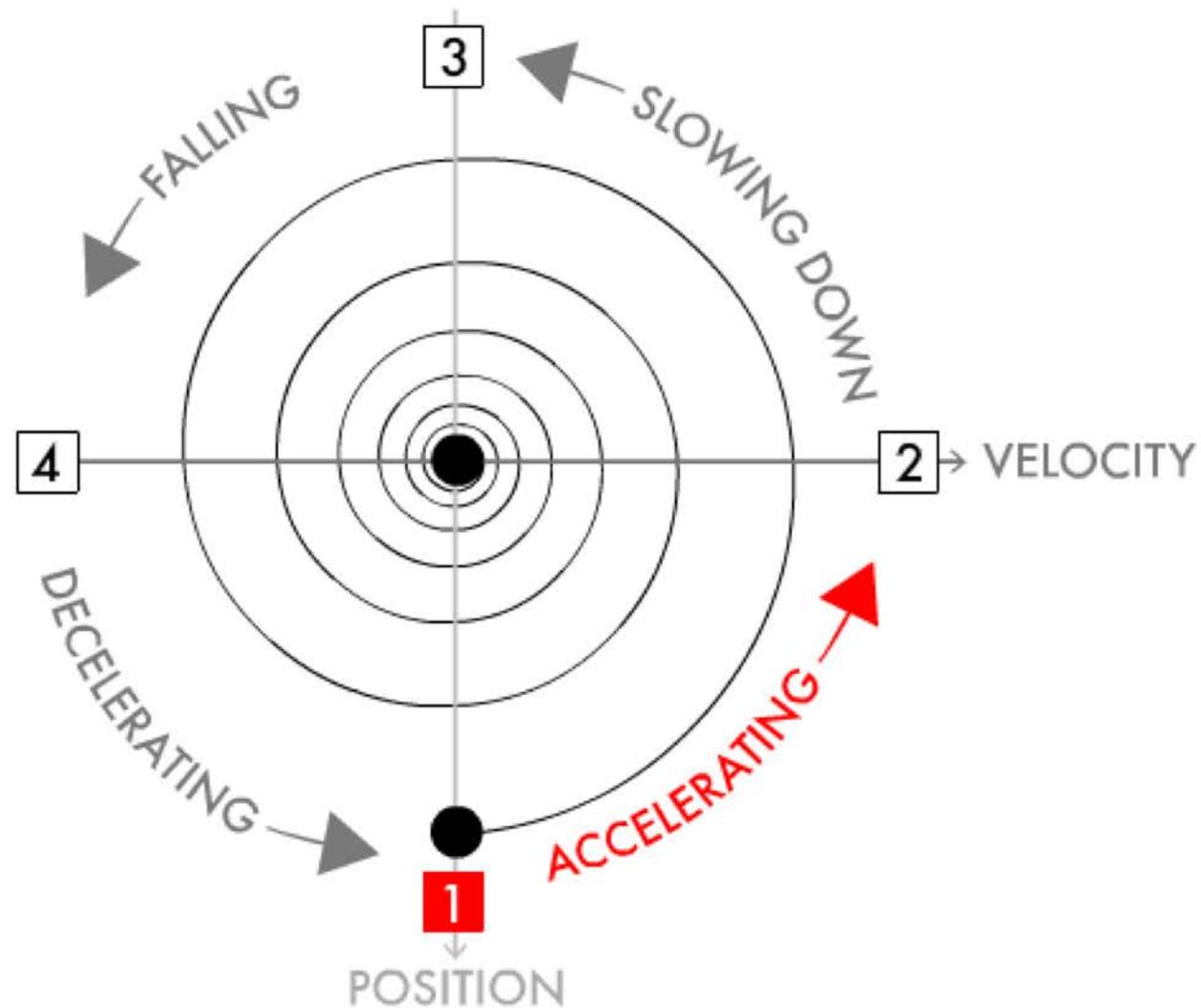
"Slowdown" Figure 67

Pendulum



Graphics by Kirsten McClure @orpheuscat

Phase portrait



Conclusion - **Slowdown**: (The End of the Great Acceleration— and Why It’s Good for the Planet, the Economy, and Our Lives)

Great economic inequalities will be hard to sustain during and following slowdown. As things change less, it will become much more difficult to make money out of a shrinking and aging population who may also become savvier and harder to fool with the allure of the “new”.

Slowdown means goods lasting longer; it means less waste. It means that many of the things that we currently think of as great social and environmental problems will not be problematic in future. We will, of course, have new problems—most of which we cannot even imagine right now.

