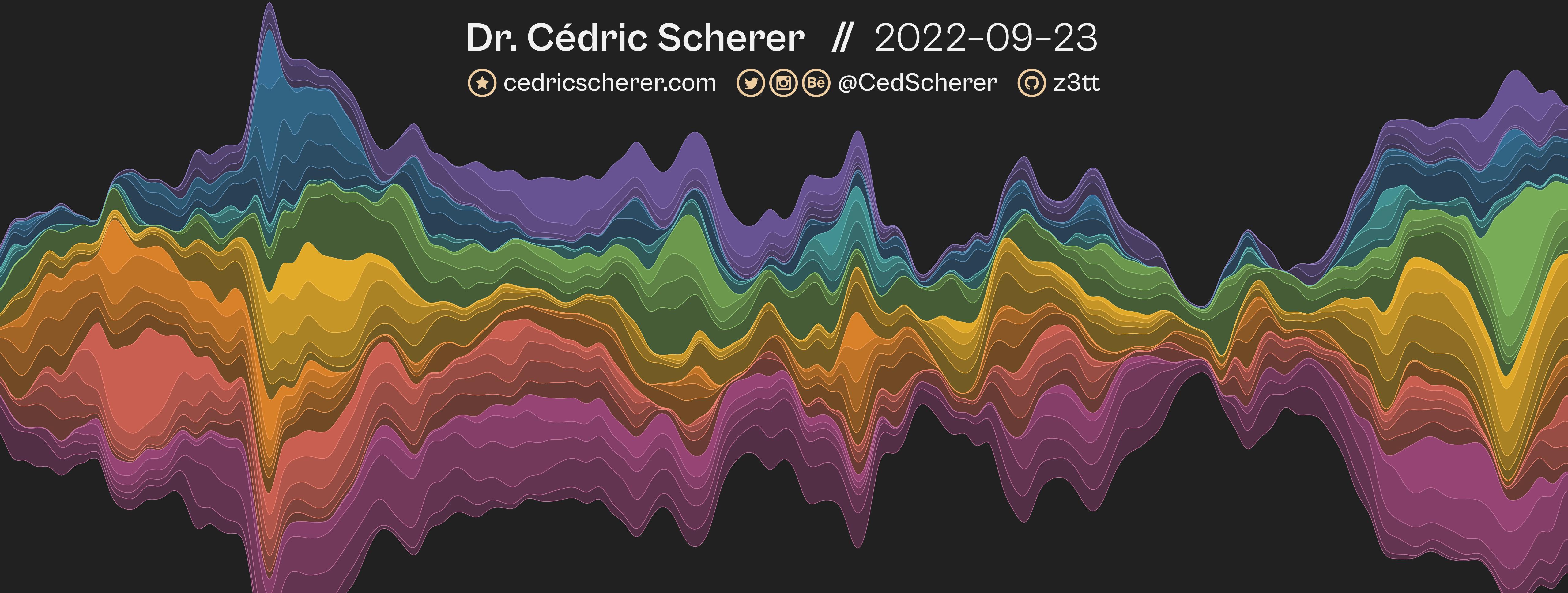


Effective Data visualization

Group Exercise “Data Communication”

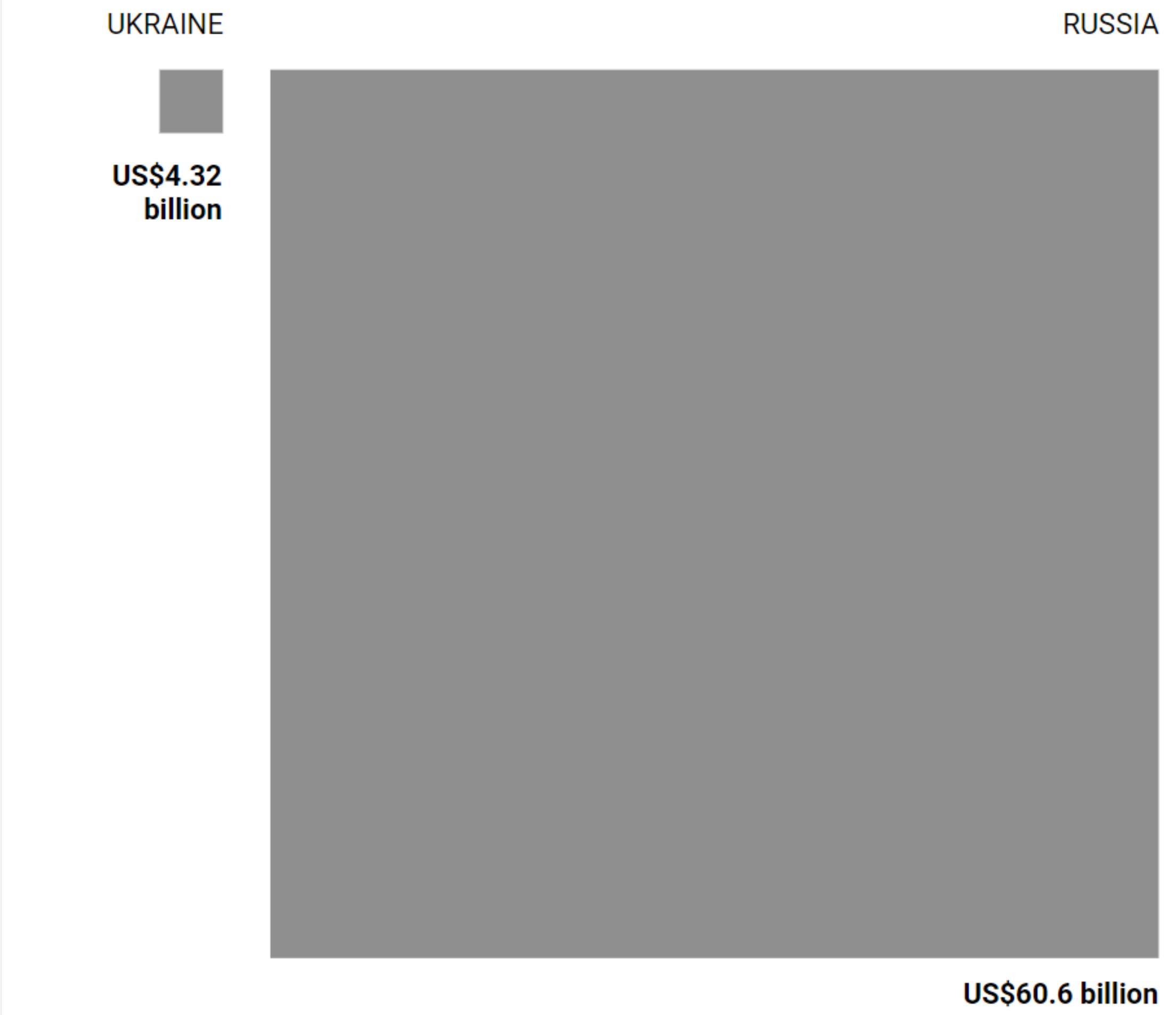
Dr. Cédric Scherer // 2022-09-23

★ cedricscherer.com    @CedScherer 



DEFENCE BUDGETS: RUSSIA VS UKRAINE (2020)

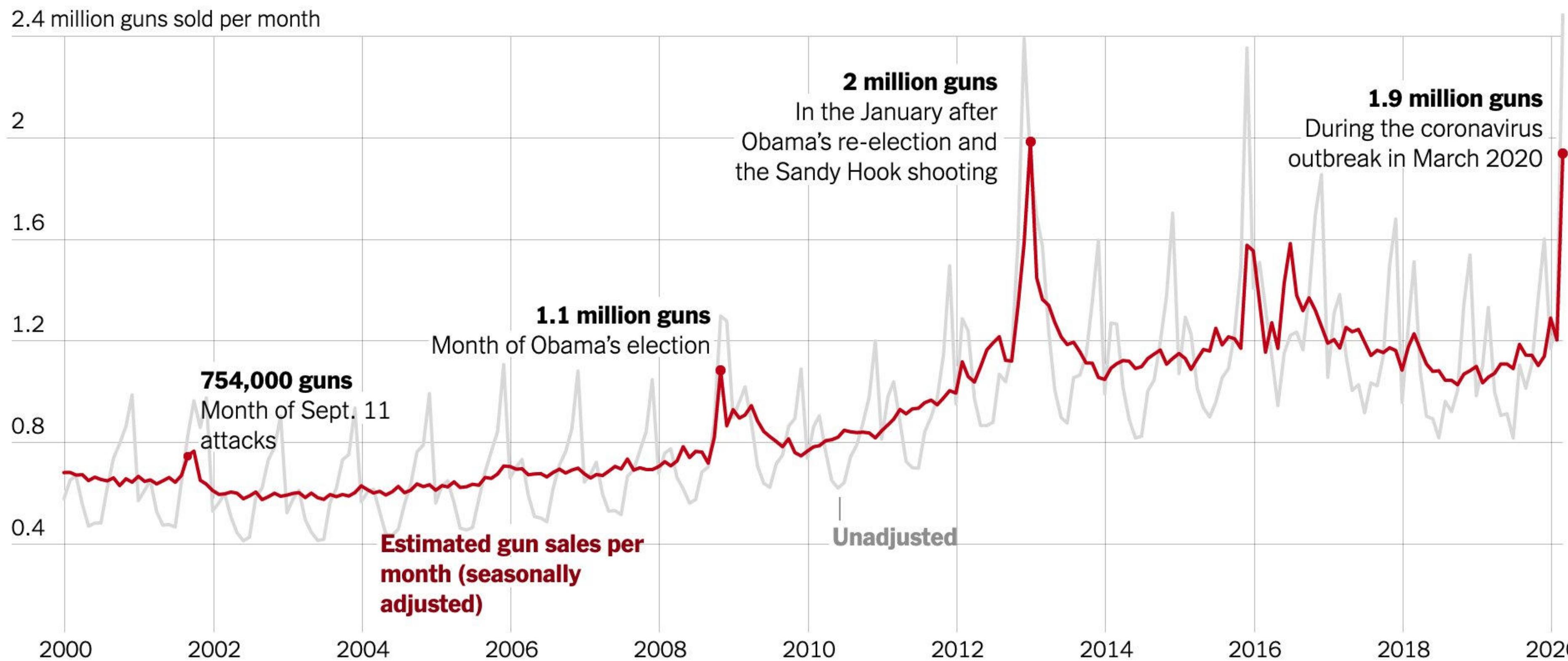
The national balance of forces is overwhelmingly in Russia's favour. Russian military spending in 2020 amounted to US\$60.6 billion in 2020. Ukraine's was less than a 10th of that amount.



[“Russia attacks Ukraine” by SCMP Graphic \(South China Morning Post\)](#)

About 2 Million Guns Were Sold in the U.S. as Virus Fears Spread

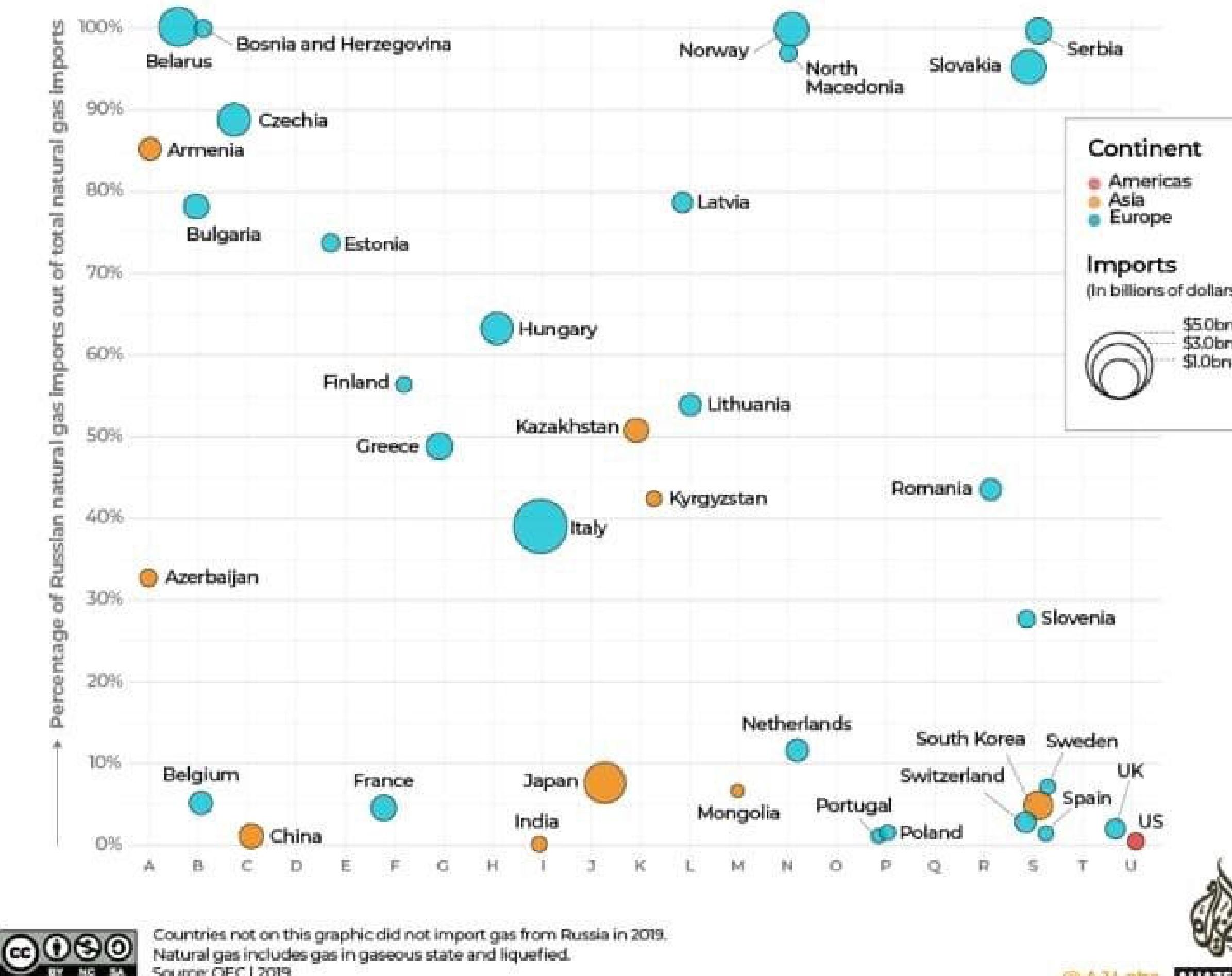
By [Keith Collins](#) and [David Yaffe-Bellany](#) April 1, 2020



ENERGY

Which countries directly import the most Russian natural gas?

Russia is the world's third highest exporter of natural gas after Australia and Qatar.
In 2019, 37 countries bought Russian gas worth \$24.5bn.

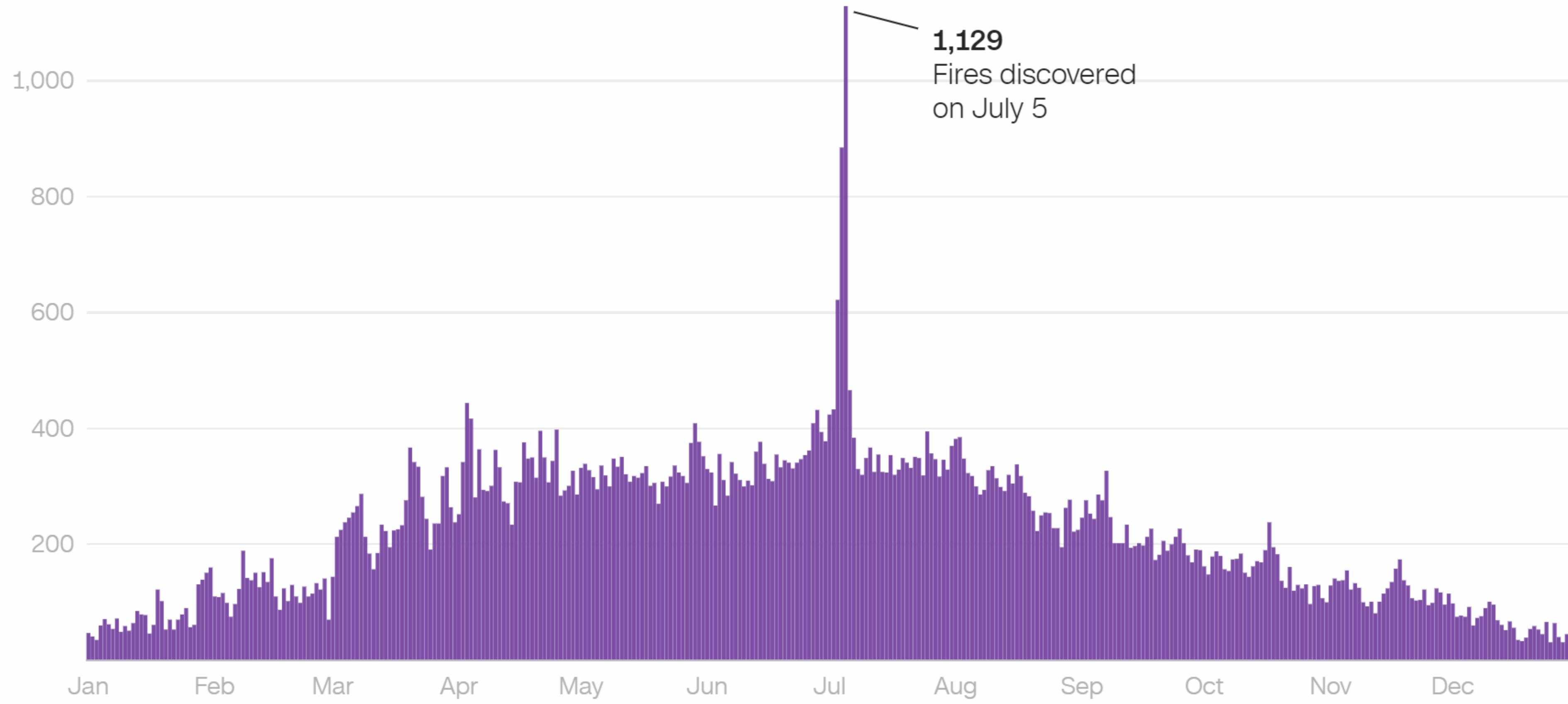


Countries not on this graphic did not import gas from Russia in 2019.
Natural gas includes gas in gaseous state and liquefied.
Source: IEA, GECI, 2020.



© AJ Labs

Total wildfires discovered each day of the year since 2014



Human-caused fires, excluding prescribed fires. 2022 fires included through June 30. All incident times Eastern.

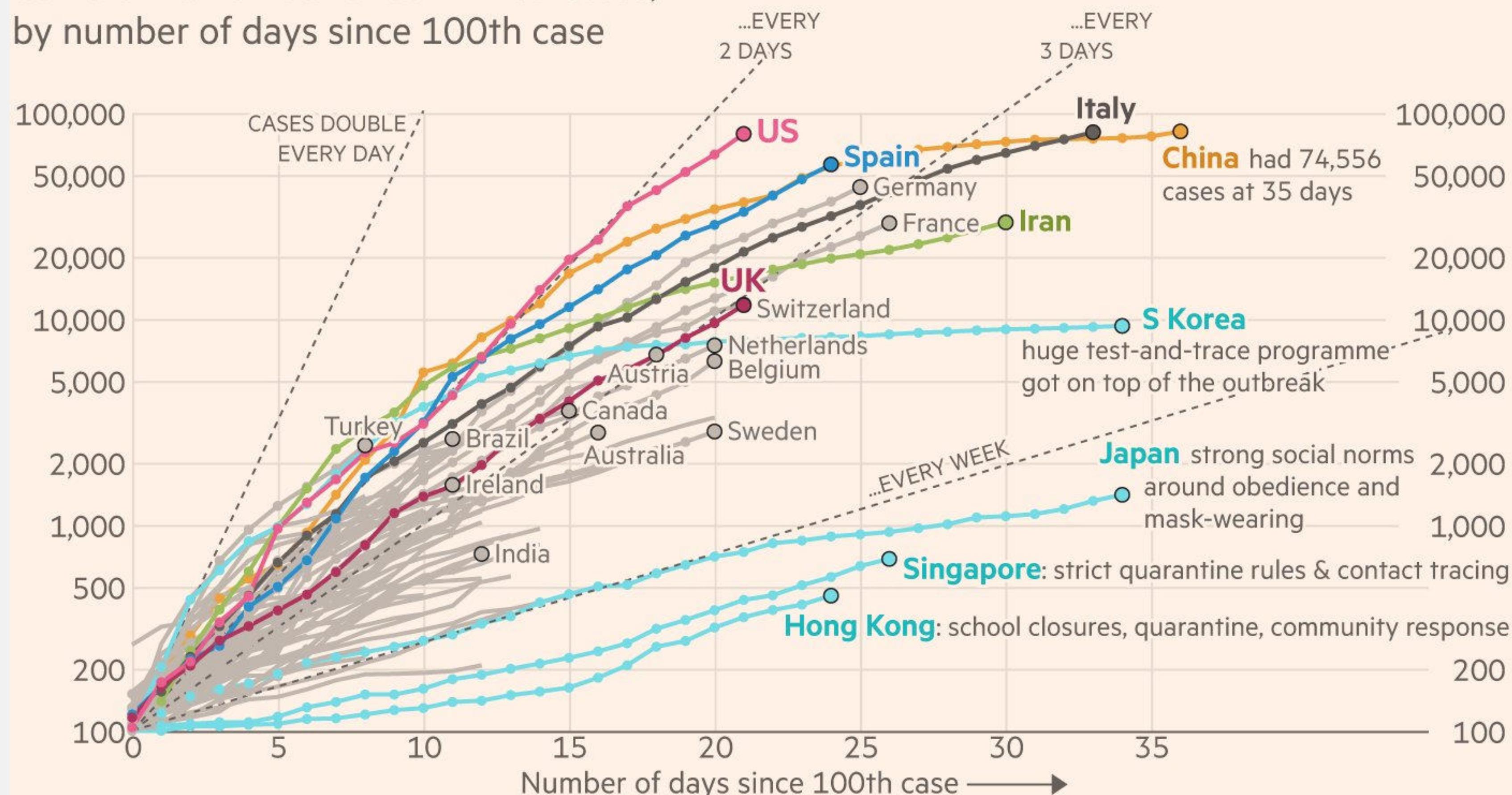
Sources: CNN analysis of data from the National Interagency Fire Center

Graphic: John Keefe, CNN

[“Western cities get creative after megadrought leads some to cancel firework displays” by John Keefe \(CNN\)](#)

Most western countries are on the same coronavirus trajectory. Hong Kong and Singapore have limited the spread; Japan and S Korea have slowed it

Cumulative number of confirmed cases,
by number of days since 100th case



FT graphic: John Burn-Murdoch / @jburnmurdoch

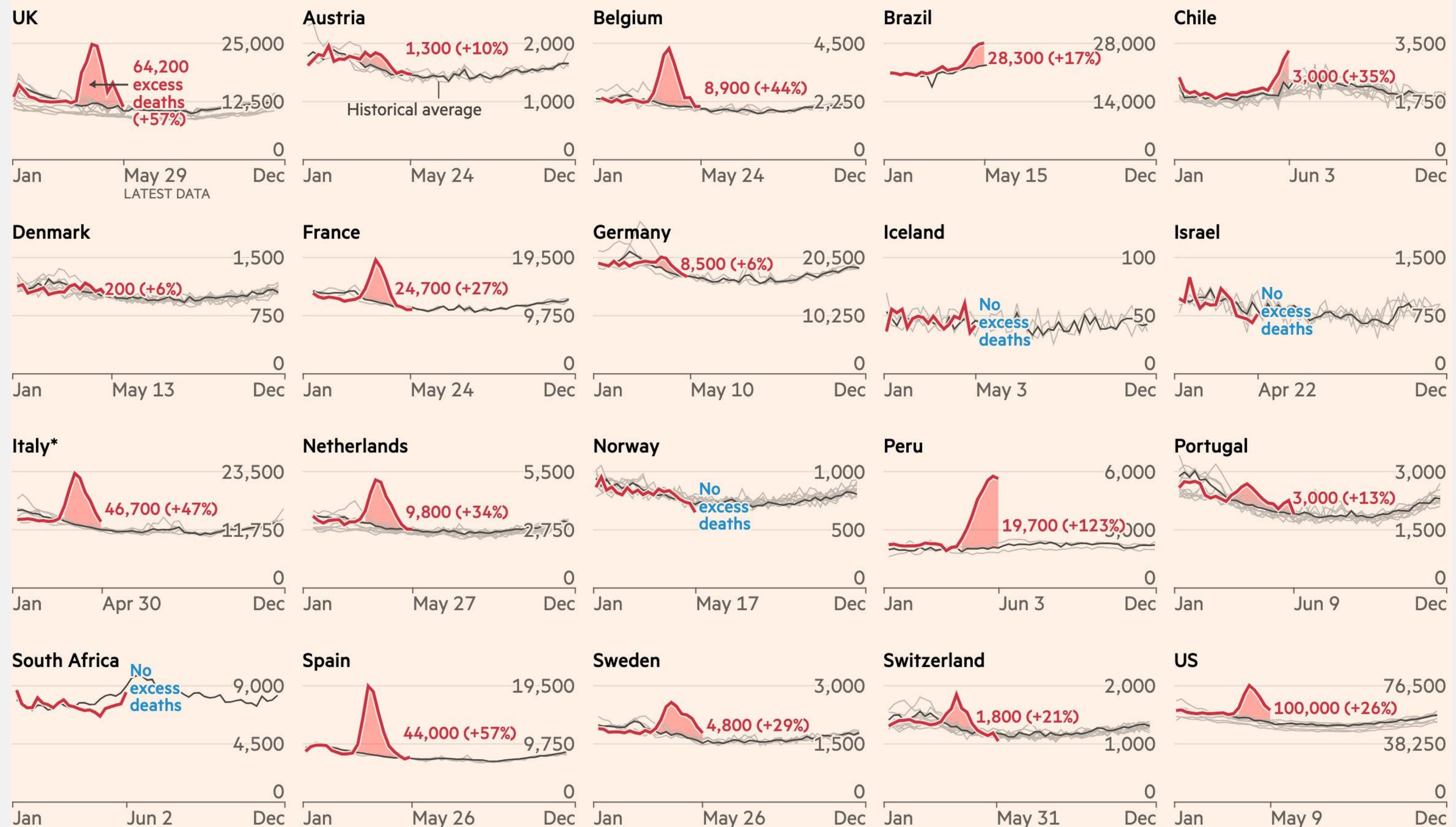
Source: FT analysis of Johns Hopkins University, CSSE; Worldometers; FT research. Data updated March 26, 19:00 GMT

© FT

COVID Trajectories by John Burn-Murdoch (Financial Times)

Death rates have climbed far above historical averages in many countries that have faced Covid-19 outbreaks

Number of deaths per week from all causes, 2020 vs recent years:  Shading indicates total excess deaths during outbreak



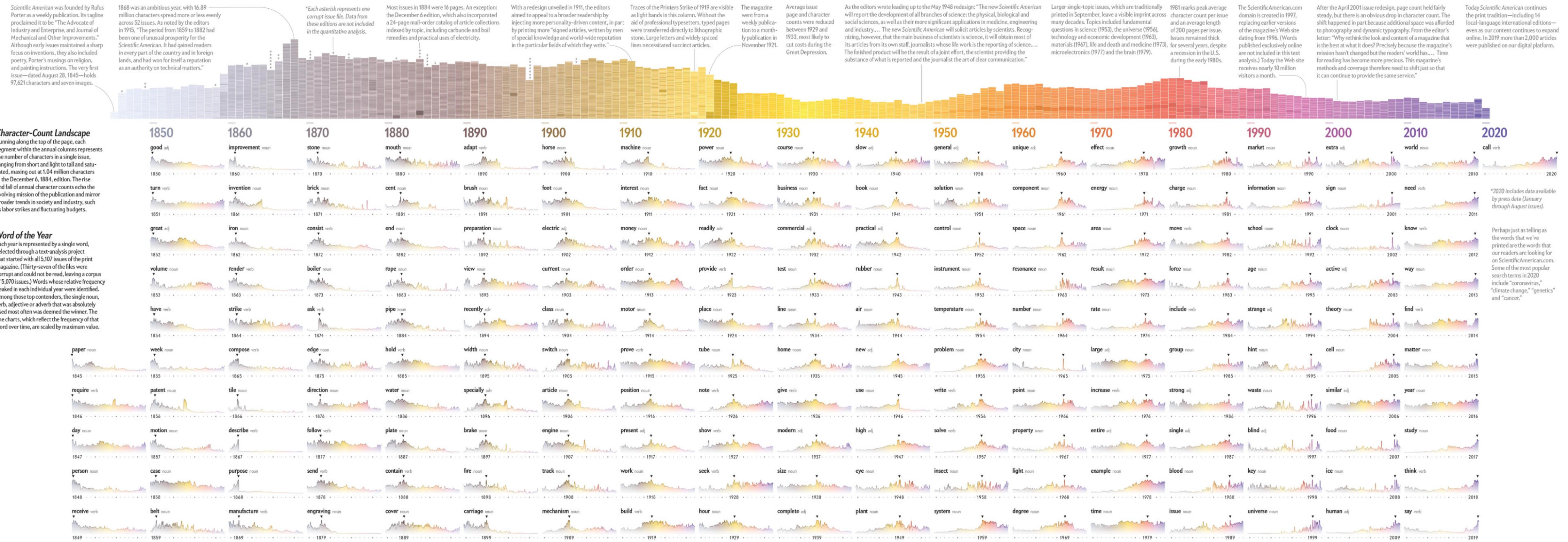
*Italian figures may not exactly match the source data as they were scraped from a PDF

Source: FT analysis of mortality data. Data updated June 10

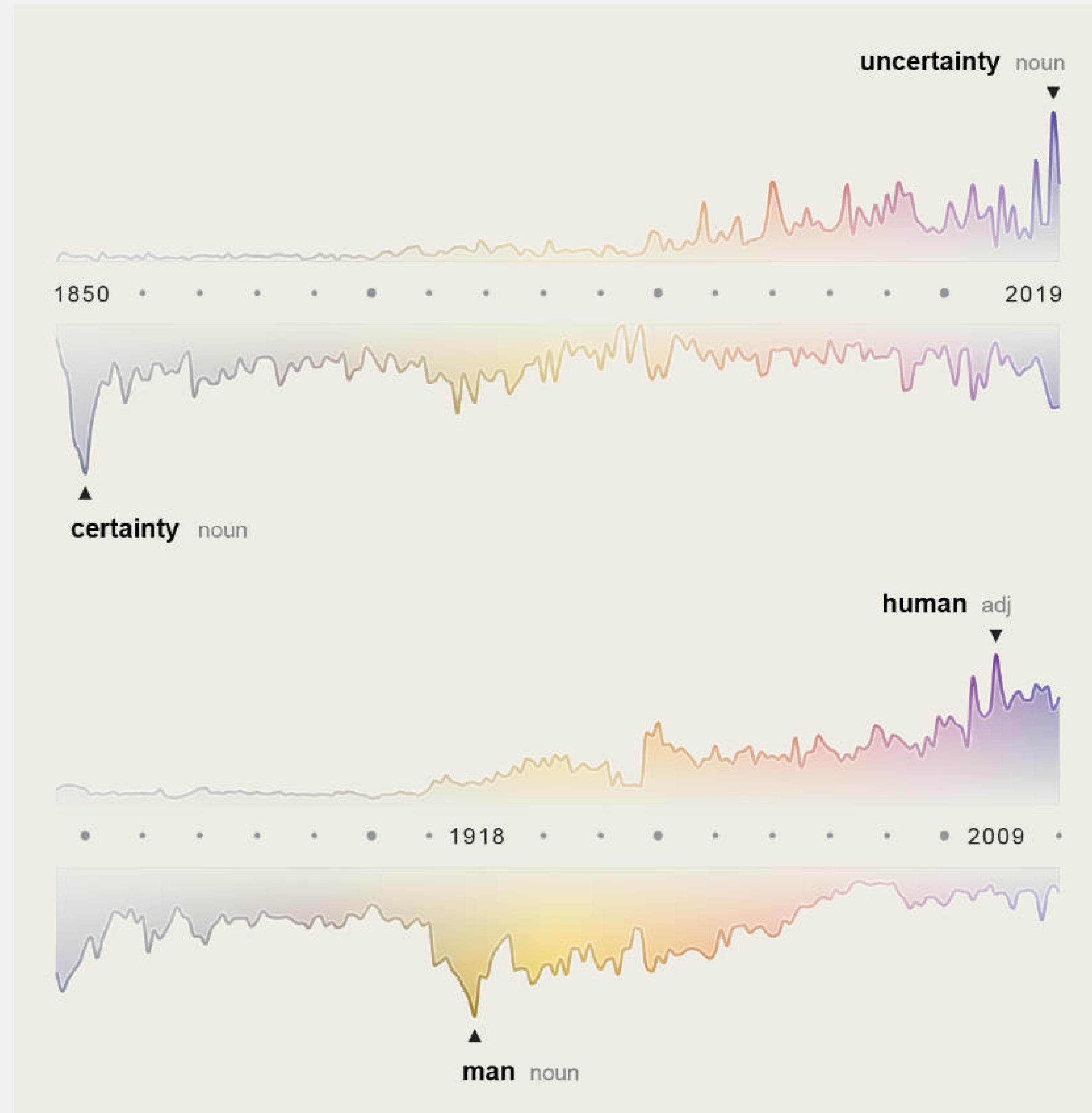
FT graphic: John Burn-Murdoch / @jburnmurdoch

© FT

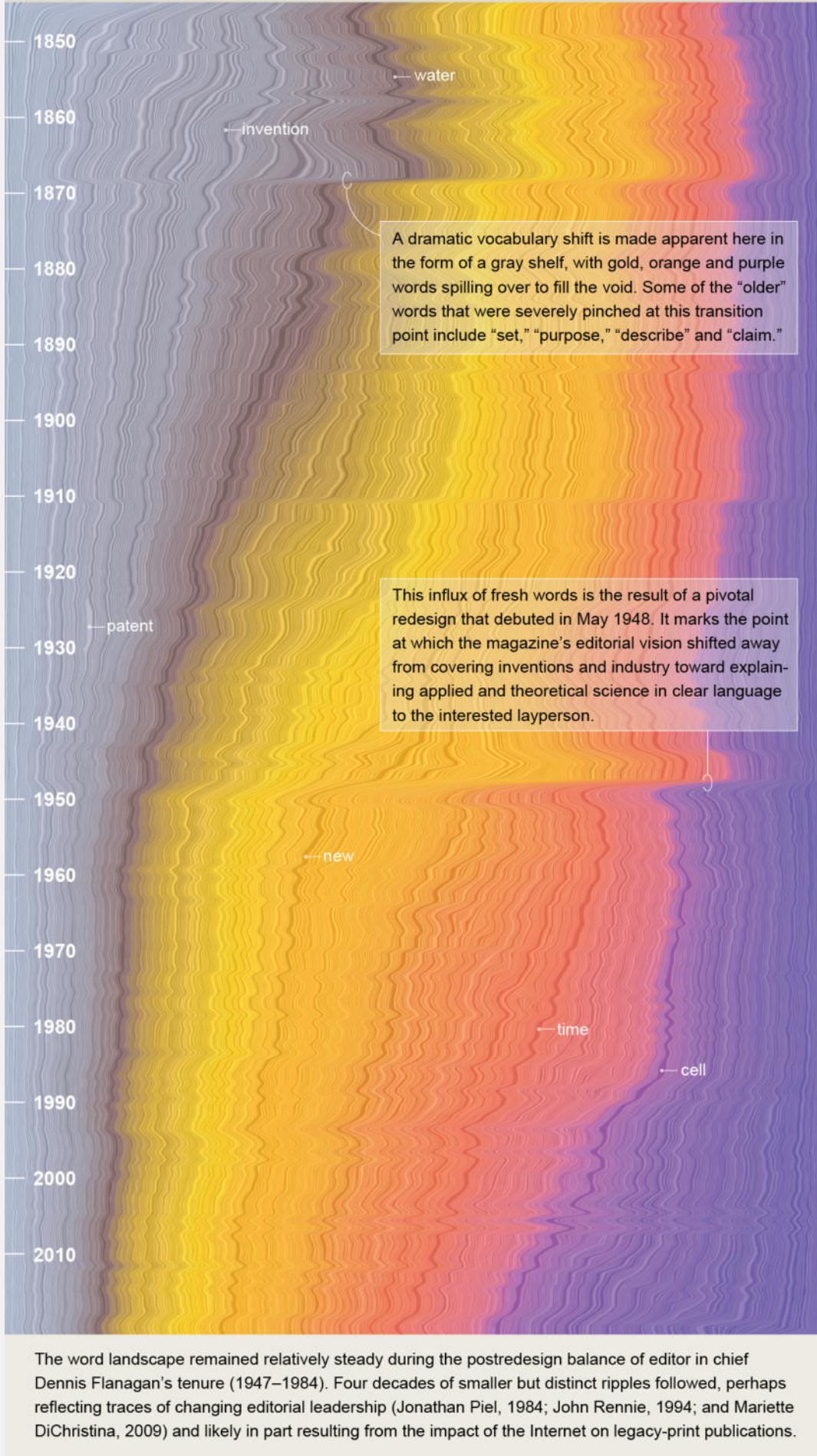
Excess Death Trajectories by John Burn-Murdoch (Financial Times)



"The Language of Science" by Moritz Stefaner, Lorraine Daston, Jen Christiansen



The most popular words used in the pages of *Scientific American* are displayed here by frequency, from 1845 (top) through 2020 (bottom). Before visualizing the full corpus of our archives, we culled words shorter than three letters, numbers and so-called stop words such as "then" and "or." The remaining top 1,000 words were gathered for each of the 175 years and merged across the years for a total of 4,420 prevailing words. Each layer represents one word, and the thickness of the layer corresponds to the fraction of text occupied by that word, by year. The color and horizontal position of each layer are based on the year in which the respective word's relative frequency peaked: Words routinely used in the early days of the magazine (gray) slowly give way to words used more often in recent years (purple). (The range of brightness of neighboring layers alternates for improved legibility.) The jarring visual effect of those horizontal stripes signals sudden changes in vocabulary. The three annotation bubbles here offer some historical context for both rapid shifts and consistent periods. —J.C.



“The Language of Science” by Moritz Stefaner, Lorraine Daston, Jen Christiansen



Driving Safety, in Fits and Starts

AMERICANS drive a staggering number of miles — close to three trillion every year, according to the government. (That is half a light-year, or 120 million trips around the world.) And although traffic accidents remain a major public safety problem, the biggest killer of people ages 5 to 34, vehicle travel is far safer than it was a few decades ago. Several factors appear to account for the sharp decline in fatalities. Technology (like anti-lock brakes and air bags) and road behavior (like wearing seat belts and driving sober) have both improved greatly since 1950. Americans almost always drive more each year than the previous one — at least until recently, when the recession curtailed road habits. And the auto fatality rate has been decreasing since the 1960s, when cars with massive engines carried their unbuckled passengers on primarily two-lane roads.

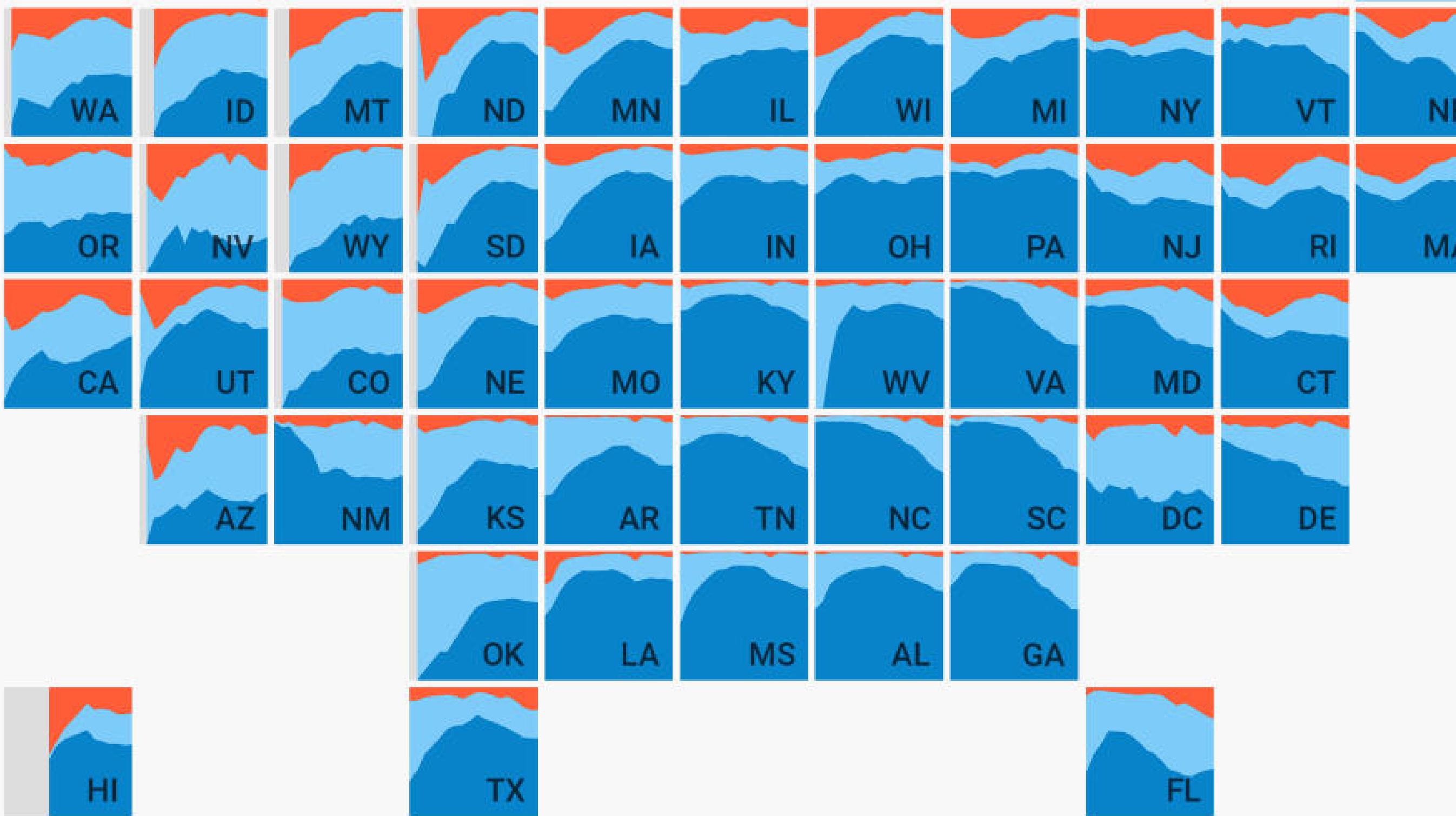
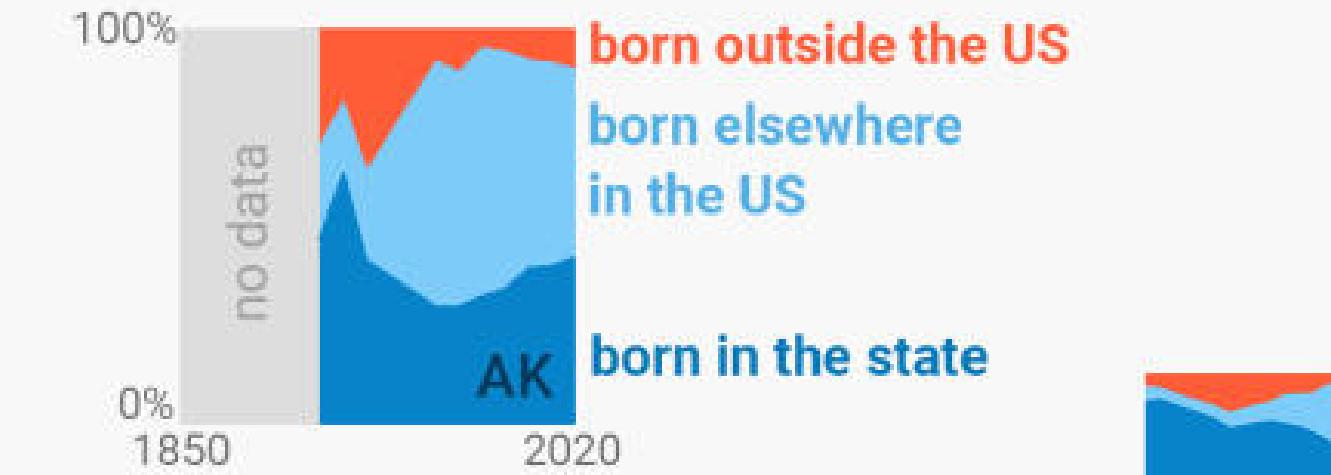
The safety data is usually charted as deaths per miles traveled. But what happens when the metrics are teased apart, and familiar data is charted in an unfamiliar way? Plotting the two most important variables against each other — miles traveled versus deaths per 100,000 population — yields a pattern that looks like a plateau followed by a steep drop. It evokes the theory of punctuated equilibrium, proposed by the paleontologists Stephen Jay Gould and Niles Eldredge, which suggests that instead of continuous gradual evolution, change occurs abruptly after periods of virtual standstill. “You see fatalities drop after a breakthrough in new technologies or behaviors, and then plateau until the next one,” said David L. Strickland, administrator of the National Highway Traffic Safety Administration. “It takes time for new safety technologies to work their way into the whole fleet of cars on the road.”

The New York Times Published: September 17, 2012 By HANNAH FAIRFIELD

Sources: National Highway Traffic Safety Administration; Federal Highway Administration

“Driving Safety, in Fits and Starts” by Hannah Fairfield (New York Times)

Where are Americans born?



1POINT21
INTERACTIVE

source: Steven Ruggles, Sarah Flood, Sophia Foster, Ronald Goeken, Jose Pacas, Megan Schouweiler and Matthew Sobek.
IPUMS USA: Version 11.0 [dataset]. Minneapolis, MN: IPUMS, 2021. <https://doi.org/10.18128/D010.V11.0>

"Where are Americans born?" by @ErinDataViz



"Reservoirs are drying up as consequences of the Western drought worsen" by Zach Levitt (Washington Post)