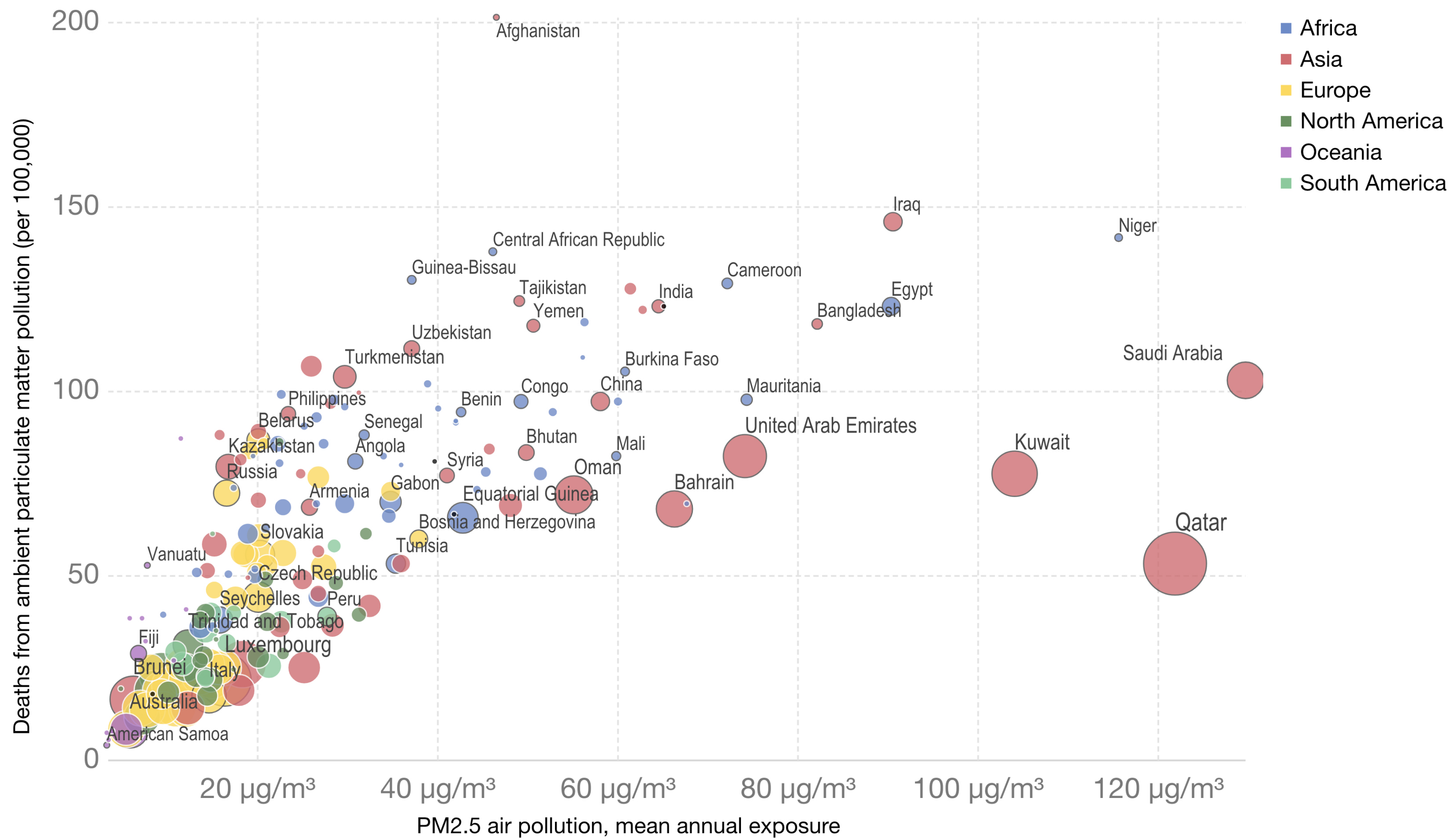


Death Rates from PM2.5 V Exposure

Death rate from particulate matter air pollution vs PM2.5 concentration



Age-standardized death rate from particulate matter (PM2.5) exposure per 100,000 people versus the average mean annual exposure to particulate matter smaller than 2.5 microns (PM2.5), measured in micrograms per cubic meter.



Source: IHME, Global Burden of Disease

OurWorldInData.org/air-pollution/ • CC BY-SA

Caption

Several “Big Data” sets are mashed-up and visualized here, shifting us to a more global scale and kind of analysis. The Global Change Data Lab plots national death rates from PM2.5 (the y-axis) against mean annual PM2.5 exposure (the x-axis). Nations are color coded by continent, and coded again for GDP (the size of the circle). The on-line interactive visualization allows you to create and foreground different patterns, but even the static version here can prompt insight. Data visualizations like this are used to produce and explore patterns in otherwise unreadably, inhumanly large data. They can (and should) be critiqued as limited by modeling assumptions, reductive in many ways, and otherwise subject to the vicissitudes of all measurement, but this can also prevent anthropologists from reading for their productive potentials—not least as generators of new questions.

Design Statement

This particular data visualization signifies the potentials held by large public health data sets less for finding answers, and more for their ability to generate new questions and goad imagination. Working with Gregory Bateson’s understanding that information is a “difference that makes a difference,” we can see how operationalizing the carefully characterized and organized differences that constitute large data sets—annual exposures to PM2.5 in different nations, their differential death rates, and their differential wealth — can produce new comparisons, hypotheses, and questions. Why is Afghanistan almost (literally) off the chart? The Gulf states appearing as large (wealthy) reddish circles toward the right of the graph, representing the highest PM2.5 exposures, show lower than expected death rates. Is it because PM2.5 in Saudi Arabia, Kuwait, or Qatar is mostly cleaner fine sand particles rather than hydrocarbon-laden particles from cars and industrial facilities? Or because they are wealthy enough to be managing the situation somehow?

Project Statement

I am an anthropologist and historian of truth-making practices in (some of) the sciences, primarily genomics and air pollution research, but also including the science of signs, semiotics. My essay here makes occasional reference, including in its title, to the productive overlaps, borrowings, and cross-talk that have taken place in both the life sciences and the sign sciences, and their collusion in biosemiotics. The images traverse the scales my scientists work on and between, planes of immanence from the molecular to the planetary where collective work happens. Friendship with the sciences is both motto and method; I want my writing to increase interest in and care for the sciences, and their much-needed truths. Considering how much criticism (some of) the sciences also merit, this can be a challenge sometimes, but I consider it an essential part of an ethnographic responsibility.



Fortun, Mike. 2019. “Death Rates from PM2.5 V Exposure”

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<https://tinyurl.com/y63opp8e>

Semiotic Bridges and Toxic Transductions

