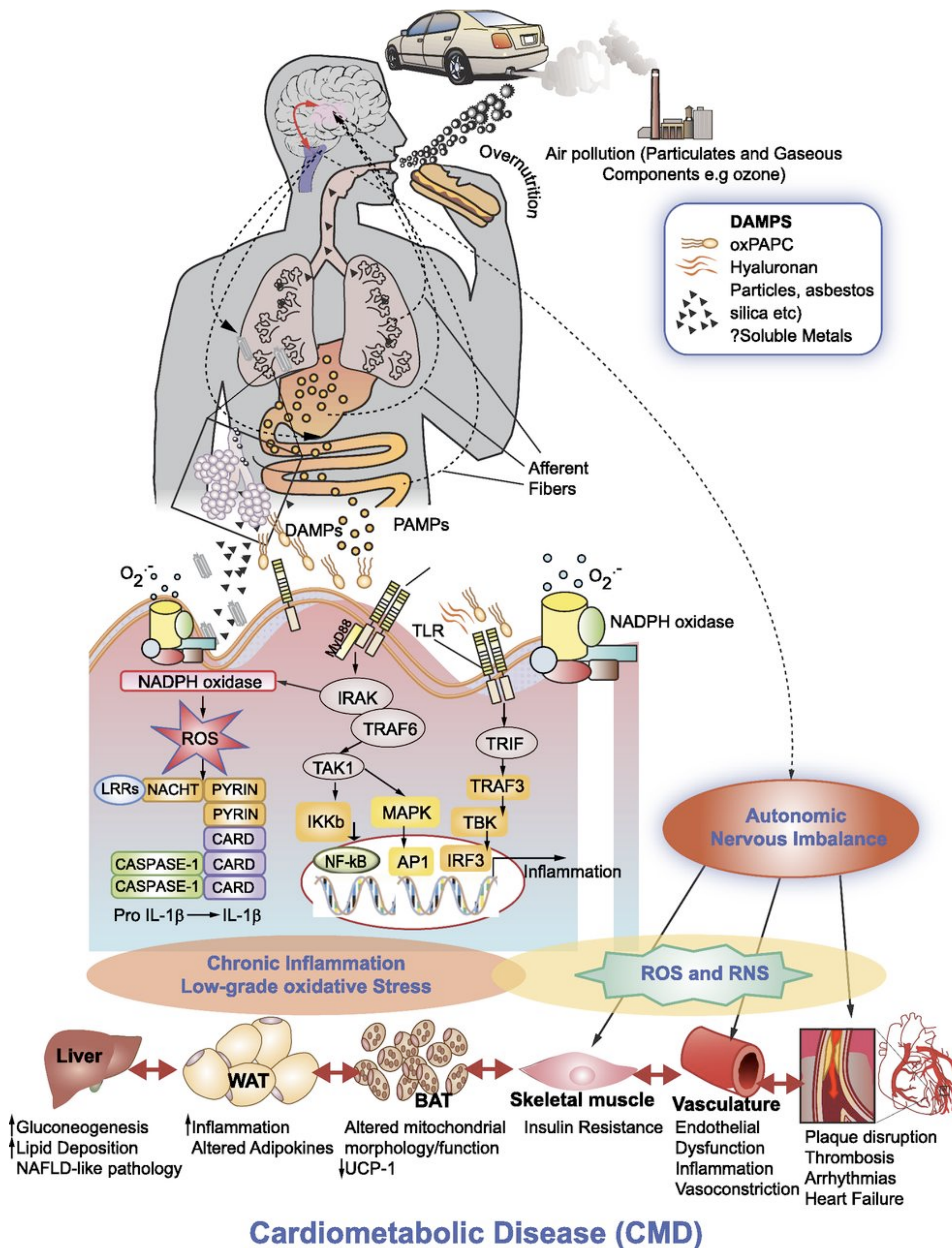


Air Pollution, TLRs, Diabetes



Caption

This image depicts what the authors of this Diabetes article call a "hypothetical framework" through which TLRs transduce air pollution into chronic disease conditions like diabetes and heart disease. You would not have found an image like this—bringing cars, factories, cheese steak sandwiches, cytokines, and livers together in a single frame of complex disease causation—in a major biomedical journal even just five years ago. The isolated TLR in the previous poster is nearly lost in a complex translational shuffle. I chose this image – not a useful visualization in the lab, but more a mechanism of visual communication – for its depiction of new patterns of complexity, on multiple scales. They are the collective result of new inter- and trans-disciplinary research efforts among immunologists, cardiologists, diabetes researchers, geneticists, biochemists, toxicologists, epidemiologists, and others.

Design Statement

This image directs attention to changing patterns in how toxicity and its associated disease states are understood: toxic causes (factories, cars, eating habits) multiply into new patterns, imbricated with new patterns of in-body objects (organs, tissues, receptors, molecules). Those interconnected patterns point in turn to another: scientists representing an increasing number of disciplines (pulmonologists, immunologists, geneticists, epidemiologists), each with their own technologies, styles, interests, and research traditions, coming into new patterns of collaboration, shaped by changing patterns of (largely) public research support. Overall it conveys how a community of practice I study (environmental health scientists) understand and visualize their "object of concern" – here, how "cardiometabolic diseases" is a multi-scale, emergent product of complex ecologies and systems. "As humans," their caption reads in part, "we did not evolve to be continually exposed to dietary and inhalational stimuli over the years, and such chronic exposure in vivo may have very different effects that we insufficiently understand."

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. "Air pollution, TLRs, Diabetes"

In "Semiotic Bridges and Toxic Transductions." In Visualizing Toxic Subjects, curated by James Adams and Kim Fortun. The Center for Ethnography. May.

<https://tinyurl.com/yyfml572>

Semiotic Bridges and Toxic Transductions

