

SCIENCE

# What Happens When Geneticists Talk Sloppily About Race

The field widely agrees that race is a social construct, but gets into trouble when it ignores semantics.

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In a recent op-ed in *The New York Times*, “How Genetics is Changing Our Understanding of Race,” the geneticist David Reich challenged what he called an “orthodoxy” in genetics. Due to concerns of political correctness, he argued, scientists are unwilling to do research on—or, in some cases, even discuss—genetic variation between human populations, despite the fact that

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genetic variations do exist. “It is simply no longer possible to ignore average genetic differences among ‘races,’” he wrote.

The piece was widely circulated, drawing condemnation from some social scientists who were appalled by its implications and praise from people who believe that discussion of racial differences has become taboo. Predictably, it rang the bell for another round of an ongoing media fight over why there’s a gap between black and white IQ scores. Ezra Klein referenced the piece in *Vox*, and debated it with Sam Harris. Andrew Sullivan riffed on campus leftists and culture war.

At a time in America when white supremacists openly march in cities, perhaps it’s inevitable that any writing invoking notions of genetic variation is going to stoke fiery political debate. But for all the turmoil surrounding Reich’s op-ed, the actual science in it is remarkably uncontroversial. Reich describes race’s complex relationship to ancestry in a way

that geneticists—myself included—widely agree upon. Where the op-ed gets into trouble speaks to a broader danger in genetics, one that makes the field particularly susceptible to being exploited for political and pseudoscientific ends: poor communication.

Race is a concept defined by society, not by genes. It's true that people around the world differ genetically due to their *ancestry*, and that people's racial identity may be statistically correlated with their ancestry, albeit unreliably. But "race" does not mean "ancestry," and it's a loaded term for scientific outreach: Biological races are not a current scientific concept and often reinforce historical biases.

In his op-ed, Reich explicitly acknowledges that race is a social construct. At several places in the text, he goes to great pains to distance himself from racism, and to point out that traditional ideas of race are contradicted by genomic data (including his own work). For instance, he notes that

the ways different people and societies think about race are inconsistent:

In the United States, historically, a person is “black” if he has any sub-Saharan African ancestry; in Brazil, a person is not “black” if he is known to have any European ancestry. If “black” refers to different people in different contexts, how can there be any genetic basis to it?

Reich goes on to point out that how Americans racially categorize themselves correlates only weakly with genetics. There are complex social reasons for this, including a historical legacy of race-purity laws based on pseudoscientific ideas (for example, the one-drop rule, which classified Americans as black if they had even a single black ancestor). And so, for example, some Americans now identify as black due to a single grandparent from sub-Saharan African ancestry, or an equivalent proportion of their DNA. A

2015 analysis of 23andMe data, co-authored by Reich, found that around one in 10 self-identified African Americans have less than 50 percent of their genome attributable to African ancestry, and around one in 50 have less than 2 percent. The probability that someone of a given ancestry will report as a particular identity varies with, among other things, their age, their gender, and the number of other people of that identity who live nearby.

DNA evidence from ancient remains undermines any notion that racial categorizations—or even phrases like “African ancestry”—represent descent from some Platonic ideal of ancestral populations. Human populations appear to have repeatedly split, merged, and interbred. As Reich writes:

My laboratory discovered in 2016, based on our sequencing of ancient human genomes, that “whites” are not derived from a population that existed

from time immemorial,  
as some people believe.  
Instead, “whites”  
represent a mixture of  
four ancient populations  
that lived 10,000 years  
ago and were each as  
different from one  
another as Europeans  
and East Asians are  
today.

One of the reasons race is not a firm concept for geneticists is due to this mixing process, which geneticists call admixture. Bursts of migration and interbreeding have recurred throughout human evolution. Your genome is a fine mosaic of your ancestors’—and you have a lot of ancestors.

All of this is textbook genetics—as Reich clearly knows, seeing as he did some of the research that demonstrated these claims. But his op-ed starts losing clarity when, thanks to some unfortunate language, the distinct concepts of “races” and “populations” seem to become admixed themselves. As an example, in discussing his lab’s

use of self-reported race in tracking down genetic risk factors for prostate cancer, Reich places socially constructed terms (like “African-American”) right alongside the results of statistical inferences about genome history (such as “probably West African in origin”). He’s apparently trying to defend the use of both, but in the process somewhat blurs his earlier distinctions between race and ancestry.

Then there’s that passage I mentioned above in which he uses the word “races” in quotes:

I have deep sympathy for the concern that genetic discoveries could be misused to justify racism. But as a geneticist I also know that it is simply no longer possible to ignore average genetic differences among “races.”

The quotes around “races” are ironic. They’re there to subvert the apparent precision of the word, acknowledging—or at least

trying to acknowledge—that many non-scientists nevertheless have some intuition that their perception of race can, loosely speaking, line up with guesses about ancestry. The root of Reich’s concern seems to be that if geneticists simply dismiss that intuition, we’ll lose credibility, as larger-scale genetic studies reveal increasingly subtle correlations between ancestry and human-trait variation. (Notably, in his new book, *Who We Are and How We Got Here*, from which much of the op-ed is drawn, the analogous sentence doesn’t use the word “races” at all: Reich instead uses “populations.”)

Readers can easily miss all this, especially if Reich’s words are excerpted or twisted to another author’s own ends. The science writer Nicholas Wade, whose writing on race has been widely panned by geneticists, brushed away the flimsy shield of ironic punctuation in a response to Reich in the *Times*: “At last! A Harvard geneticist, David Reich, admits that there are genetic differences between human races,



even though he puts the word race in quotation marks.” In *New York* magazine, Andrew Sullivan talked quite un-ironically of “differences between the races.”

Reich’s op-ed includes not just vague words, but vague rhetorical logic. It seems to be creating a false balance between, on the one hand, some specifically named people who have expressed what Reich refers to as “insidious” views on race (such as Wade and James Watson, a co-discoverer of the structure of DNA ) and, on the other hand, “well-meaning people” who, according to Reich, are perpetuating some kind of “orthodoxy” that resists research on genetic variation. This argument, fleshed out with examples in Reich’s book, is that truculent and overly PC anthropologists, unobstructed by timid geneticists, are suppressing discussion of genetic variation. As Reich characterizes the position in his op-ed: “Average genetic differences among people grouped according to today’s racial terms are so trivial when it comes to any meaningful

biological traits that those differences can be ignored.”

I simply don't know any geneticists who believe this, and few who'd let it pass unchallenged. Many will point out, reasonably enough, that racial categories are an unreliable proxy for ancestry, with horrible social baggage. They'll also point out that average differences between ancestral populations are typically very small compared to the variation within those populations, for most traits that scientists have tried to measure quantitatively. But scientists have continued to explore human variation, outside the grips of any orthodoxy.

In the days after the op-ed appeared, there were several rebuttals from fields outside genetics. In some cases, the corrective reactions of geneticists to these (admittedly sometimes flawed) rebuttals seemed swifter, noisier, and more vigorous than the corrective reactions of geneticists to Reich's op-ed itself.

Reich, too, published a follow-up in the *Times*, in which he clarified some of the language, but reiterated the argument against timid geneticists.

It's common for natural scientists to eschew questions of linguistic semantics, preferring to steer debate to technical issues. This relates to how we define ourselves professionally: Science as a discipline seeks objective truth via empirically testable hypotheses, not subjective questions of public perception. "Now we're just talking semantics" is a line that often signals imminent consensus, in friendly arguments among members of my profession.

But when speaking publicly about race, language matters. Regularly in American history, slavery, discrimination, and other forms of racism have been justified using distortions of science and pseudoscientific ideas. The U.S. program of eugenics was second only to Nazi Germany's, which it directly inspired and informed.

In the op-ed, Reich emphasizes the importance of “laying out a rational framework for discussing differences among populations.” Otherwise, he writes, we “leave a vacuum that gets filled by pseudoscience.” That’s true, but if geneticists use the pseudoscientific terms ourselves, even carelessly, then we help this process along.

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