



GUEST EDITORIAL

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Skin Color and the Nature of Science

Skin color is the trait most commonly associated with race. Consider just the “black” in the Black Lives Matter name or the “white” in white nationalist rallies. Skin color and the concept of race are ideologically charged—and socially divisive. But scientifically, what is the nature of this relationship?

A study led by Sarah Tishkoff published not long ago in *Science* contradicts many widespread views of skin color and further dispels the very concept of human races in biology. The group identified at least eight genes for skin color, but the genes do not cluster neatly into predictable groups, or races. They further found that the genes do not align with conventional racial groups:

- The same depigmentation gene that led to “white” skin in the lineage of most Europeans (*SLC24A5*) is also common in East Africa, where skin color is much darker.
- Another pair of genes linked to lighter skin, hair, and eye color among Europeans actually originated in Africa, where among the San people in southern Africa, it also contributes to lighter skin tones.
- By contrast, a gene for darker pigmentation now common in Africa appears to be widespread in non-African groups as well: Indians, Melanesians, and Australian Aborigines.
- Some darker skin colors result not by increasing dark pigments but by reducing yellow and red pigments.

The routes to skin color are many and varied, and not exclusively determinant of any geographic or ancestral group. Trying to define race by skin color genetics is hardly “black and white.”

Even disregarding skin color, the concept of human races is biologically ill-founded. (See the excellent overview by Amelia Hubbard in the September 2017 issue of *ABT*.) Genetic variation and heterogeneity abound, frustrating any effort to form clear and meaningful categories. Yet a deeper question to puzzle over may be: Why does skin color or genetic heritage become relevant when characterizing other persons or their behavior? Why do *biological* criteria seem to matter at all in justifying *social* categories?

Unfortunately, the persuasive role of biology is rooted in misconceptions about genetics. Genes are generally (although mistakenly) regarded as unalterable and unqualified causal determinants. There is a widespread (mis)belief that *therefore* genes and lineage embody a core—and apparently fixed—personal *identity*. Call it *genetic essentialism*. “Genes ‘R’ us,” is the all-too-common assumption. Many textbooks and teachers (I fear) oversell the developmental role of genes, and thus contribute indirectly to misperceptions of race—and hence unjustified cultural conceptions of racial identity—as “essential,” *biologically* determined, and “given by nature.”

Of course, our society does recognize different races. No one should obscure that fact. But human races are not *biological* realities. They are *cultural* notions. That difference in context matters immensely.

When race is construed as biological, it easily becomes, in turn, an inherent feature of nature, apparently validated by the authority of science. Humans often tend to see nature as having intention or purpose (whether by an omniscient guide or by the vague hand of a secular “Nature”). Accordingly (cognitively), the notion that something is “natural” assumes an *additional* aura that things *ought* to be just as we find them. “Natural” means that something cannot *and should not* be changed. That is, when the concept of race is treated descriptively as biological, it is thoroughly *naturalized* and acquires an implicit value.

Once race is viewed as woven into the inevitable fabric of the world, it seems to need no further explanation—or justification—as a category. Accordingly, a cultural explanation of race seems superfluous. The social context becomes invisible, and hence unquestioned. And that invisibility has political overtones, with science as an unwitting accomplice. The mere image of science (quite apart from validated science) can broker power.

When race is acknowledged as a cultural construct, one is forced to consider also the social psychology and politics behind the label. Why does the category of race arise at all? By whose authority, and with what consequences? Why do we sort people, characterized as “same” versus “other”? For example, in what ways does race function as a naturalized substitute for class, conveniently diverting attention from economic conditions and social policies? These are the questions that ultimately need addressing to help heal our currently splintered society. Appealing to genetic differences in skin color or “underlying” genes is simply misguided.

Unaddressed, biological misperceptions short-circuit the critical discussion. Exposing the sleight of hand involved in naturalizing race thus becomes a critical lesson in understanding the nature of science in a social setting. Teaching about the fallacies of skin color and race really does matter in the big picture. It unmask the power play of appealing to pseudoscientific claims. Likewise, failing to teach about the flawed pretenses of the race-as-biology view means that imitators of science can ultimately triumph over genuine science.

Again, it is not just that common ideas about skin color and race are ill informed. It is that many people regard those erroneous views as justified by science, and then use science improperly to advance social values or ideology. Here, naturalizing race misappropriates scientific authority—with significant and adverse political consequences. And that is why attention to the nature of science and explicitly teaching about the error of naturalizing race is so important.

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