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Exposing Race as an Obsolete Biological Concept

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In November 1999, a cover story on "new ideas about race" appeared in the *Valley Advocate*, a free weekly newspaper covering western Massachusetts. I was quoted extensively and, to my surprise, I received many requests from K–12 teachers to help teach their students about the invalidity of racial categories from a biological standpoint. One of the most successful collaborations involved a group of about eighty-five eighth-grade students at Amherst Regional Middle School (ARMS), who were team-taught by four teachers sharing four subjects: English, Math, Social Studies, and Science. Madeline Hunter, the English teacher and primary developer of the curriculum, told me that the team's goal in combining disciplines was to go beyond presenting current knowledge to inspire their students to consider how knowledge is gained and to ask "How do I know what is true?"

The key scientific point I taught in a lesson opening the curriculum was this: while humans have come to live our social lives through racial categories, these categories simply are not useful for classifying human genetic diversity. At this point, differences in wealth, health, or educational attainment between groups we call "races" are the products of history and social life, not biologically determined. For example, racial differences in infant mortality exist because of disparities in health care and nutrition, not genetics.

In a single lesson, we found, students can come to understand that human biological variation is too broad to be classified into "races." The take-home point all students should be taught is that despite common understandings, "race" as a biological category should be put on the scrap heap of outmoded scientific ideas. In learning about the biology of human variation, students learn important lessons about the development and dismantling of racist ideologies in science. Educators in all subjects can also challenge scientifically an incorrect notion about biological difference that is particularly damaging in schools: that intelligence is genetically unequally distributed among different racial groups. This lesson can be quite effective in middle and high schools and may be targeted to younger students.

In the Amherst middle school classroom, I began a lesson on these ideas by asking the students some big questions: "What is race?" "Is it biological?" Before my visit to the school, Jennifer Welborn, the science teacher, had students read two articles on race and science (see Begley 1995, Goodman 1997, in Resource list). So I was surprised to discover that the students were still equally divided between those who said that race was biological and those who countered that race was a social construct.

As I launched into my lesson, I made four points:

- Racial categories are an idea that developed historically.
- The idea of racial categories has real social effects on people's lives.
- Human biological variation is real, in the sense that humans are not genetically identical.
- It was once thought that human biological variation fit into racial categories, but it does not.

I gave students the basic history. When European scientists such as Linnaeus first tried to explain human variation in the seventeenth and eighteenth centuries, they divided humans into a discrete set of racial types. However, this attempt to understand and categorize human differences was a failure: human diversity does not fit into any set of "races." Genetically, scientists later confirmed, individuals in the species *homo sapiens* are about 99.9 percent alike. Racial categories are not biological realities, but social constructions. By the time of Linnaeus, the idea of "race" categories, with some categories superior to others, was an integral part of the dominant European worldview. This idea fit wealthy Europeans' belief in their own essential superiority to other peoples around the globe. It stuck because ideologies about racial superiority and inferiority supported their policies of taking away land (in the Americas) and wealth (in Asia) and rationalized the enslavement of Africans.

Scientists now know that biologically, human diversity does not fit into the racial categories that we have created. To consider racial categories useful biological containers or, worse, an explanation for social differences among us is bad science. Yet even now, I told the students, few people realize this.

I then offered five reasons why the notion of race as biological is wrong and harmful.

First, ideas such as unchanging racial "types" of humans are completely incompatible with evolutionary theory. We now know that living beings change over time; they are not classifiable into unchanging "types" like "races."

Second, there is no clear marker to designate where one "race" begins and another ends. Skin color, the physical characteristic that Americans most often use to falsely distinguish racial groups, itself cannot be classified into clear-cut "types" of "colors." We just imagine that it can!

Third, skin color is correlated with a few other traits, such as hair and eye color (such that many people with dark hair and skin have brown eyes), but not with most of the traits a baby inherits. It is a truism that "race is only skin deep."

Fourth, genetic variation within so-called racial groups is much greater than the variation between them. Contrary to commonly held assumptions, there is actually little genetic variation between the groups we have come to call races. Two individuals who identify as "white" might well be far more genetically different from one another than from someone self-identified as "black." In biological perspective, rather than seeing Europeans and Asians as "races," we may regard them as different-looking subsets of Africans, since the entire human population is descended from ancestors who originated on that continent. Given these genetic realities, the genetic variation among us simply does not fit into "race" categories.

Fifth, human beings cannot be consistently classified by "race." Social classifications based on skin color, the trait we have most often used to imagine where one race starts and another begins, differ over time and place. A person who is considered "white" in Brazil can be considered "black" in the United States; someone who lives as "white" in the United States today might have been considered "Mexican" a generation earlier. Racial groups are impossible to define in a stable and universal way, so no scientific generalizations can be made about them.

In discussion after I presented these ideas, a student who had previously thought that racial categories were biological gave a nice example of why these categories are social. What really made these ideas concrete was a discussion of the label on the back of a TUMS bottle. I brought some calcium products with me, including TUMS, most of which had identical health advisories suggesting that these products would be beneficial specifically to "Asian" and "Caucasian" females. Knowing now that groups like "Asian" and "Caucasian" are not biological realities (indeed, the label "Caucasian" describes no clear-cut population at all; see Mukhopadhyay, Chapter 3), the students took it upon themselves to write the maker of TUMS to find out why certain groups were listed specifically as benefiting from TUMS, while others were not. The students asked to see the biological data that the TUMS manufacturers had used to support the decision that populations were biologically distinct enough to respond to TUMS differently. Dissatisfied with the responses they received, they petitioned the FDA to change the race-specific language on the back of the TUMS bottle. The students recognized the crudeness of recommending a supplement based on racial categories that were biologically suspect, and were challenged to consider how bad science enters public policy. This awareness is part of becoming effective citizens. Around 2003, I noticed that racial labeling on TUMS and many other products was greatly reduced. Although I cannot claim any credit for this accomplishment, it suggests that what students do can make a difference.

I have not always been as successful in teaching this material as I was this first time. However, students often say that the basic information I presented on the lack of a biological basis for racial categories was important and even transformative for them.

For this type of lesson to be successful in another environment, some key conditions need to exist. First, a school system must provide space for deep questioning of taken-for-granted ideas. A lesson like this interweaves science with social issues. We discussed how science is social and political. The students appreciated that science is not merely objective, but a human enterprise. While the content of this lesson is unlikely to appear on standardized tests, the biological critique of racial categories can easily be incorporated into standardized lessons. The science curriculum involves understanding experimental design, and an investigation of whether racial groups really do respond differently to calcium can be used as a concrete example. This basic information can be presented to students in any subject.

Second, success requires enthusiastic and energetic teachers. Their excitement about learning this new information encouraged their students to become engaged as well. Finally, the teachers had confidence in their students and validated students' knowledge and opinions. Along the way, students were given tools to unpack a core concept that affects all of our lives. Students were then able to channel their energy and enthusiasm toward a formidable challenge: telling others about the biological invalidity of "race."

RESOURCES

American Anthropological Association Statement on Race: www.aaanet.org/stmts/racepp.htm.

Sharon Begley. 1995. "Three Is Not Enough." *Newsweek*, February 13, 67–69.

Alan H. Goodman. 1997. Bred in the Bone?" *The Sciences*, March/April, 20–25.

Race: Are We So Different? www.understandingrace.org/home.html.

Race: The Power of an Illusion. Three-part documentary, from California Newsreel: www.newsreel.org; also www.pbs.org/race.

Race: A Teacher's Guide: www.understandingrace.org/resources/for_teachers.html.

DISCUSSION QUESTIONS

1. **Principle:** Have you thought, in the past, that "race" categories are biological realities? What might your students believe?
2. **Strategy:** How might you incorporate this lesson or its ideas into your curriculum? How could you prepare to lead this discussion yourself?
3. **Try tomorrow:** What minefields can you imagine encountering if you taught this information in your classroom? How could you prepare for these?