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THE DNA AGE

# In DNA Era, New Worries About Prejudice

By [AMY HARMON](#)

Correction Appended

When scientists first [decoded the human genome](#) in 2000, they were quick to portray it as proof of humankind's remarkable similarity. The DNA of any two people, they emphasized, is at least 99 percent identical.

But new research is exploring the remaining fraction to explain differences between people of different continental origins.

Scientists, for instance, have recently identified small changes in DNA that account for the [pale skin of Europeans](#), the [tendency of Asians to sweat less](#) and [West Africans' resistance to certain diseases](#).

At the same time, genetic information is slipping out of the laboratory and into everyday life, carrying with it the inescapable message that people of different races have different DNA. Ancestry tests tell customers what percentage of their genes are from Asia, Europe, Africa and the Americas. The heart-disease drug BiDil is marketed exclusively to African-Americans, who seem genetically predisposed to respond to it. Jews are offered prenatal tests for genetic disorders rarely found in other ethnic groups.

Such developments are providing some of the first tangible benefits of the genetic revolution. Yet some social critics fear they may also be giving long-discredited racial prejudices a new potency. The notion that race is more than skin deep, they fear, could undermine principles of equal treatment and opportunity that have relied on the presumption that we are all fundamentally equal.

“We are living through an era of the ascendance of biology, and we have to be very careful,” said [Henry Louis Gates Jr.](#), director of the W. E. B. Du Bois Institute for African and African American Research at [Harvard University](#). “We will all be walking a fine line between using biology and allowing it to be abused.”

Certain superficial traits like skin pigmentation have long been presumed to be genetic. But the ability to pinpoint their DNA source makes the link between genes and race more palpable. And on mainstream blogs, in college classrooms and among the growing community of ancestry test-takers, it is prompting the question of whether more profound differences may also be attributed to DNA.

Nonscientists are already beginning to stitch together highly speculative conclusions about the historically charged subject of race and intelligence from the new biological data. Last month, a blogger in Manhattan described a [recently published study](#) that linked several snippets of DNA to high I.Q. An [online genetic database](#) used by medical researchers, he told readers, showed that two of the snippets were found more often in Europeans and Asians than in Africans.

No matter that the link between I.Q. and those particular bits of DNA was unconfirmed, or that other high I.Q. snippets are more common in Africans, or that hundreds or thousands of others may also affect intelligence, or that their combined influence might be dwarfed by environmental factors. Just the existence of such genetic differences between races, proclaimed the author of the [Half Sigma blog](#), a 40-year-old software developer, means “the egalitarian theory,” that all races are equal, “is proven false.”

Though few of the bits of human genetic code that vary between individuals have yet to be tied to physical or behavioral traits, scientists have found that roughly 10 percent of them are more common in certain continental groups and can be used to distinguish people of different races. They say that studying the differences, which arose during the tens of thousands of years that human populations evolved on separate continents after their ancestors dispersed from humanity’s birthplace in East Africa, is crucial to mapping the genetic basis for disease.

But many geneticists, wary of fueling discrimination and worried that speaking openly about race could endanger support for their research, are loath to discuss the social implications of their findings. Still, some acknowledge that as their data and methods are extended to nonmedical traits, the field is at what one leading researcher recently called “a very delicate time, and a dangerous time.”

“There are clear differences between people of different continental ancestries,” said Marcus W. Feldman, a professor of biological sciences at [Stanford University](#). “It’s not there yet for things like I.Q., but I can see it coming. And it has the potential to spark a new era of racism if we do not start explaining it better.”

Dr. Feldman said any finding on intelligence was likely to be exceedingly hard to pin down. But given that some may emerge, he said he wanted to create “ready response teams” of geneticists to put such socially fraught discoveries in perspective.

The authority that DNA has earned through its use in freeing falsely convicted inmates, preventing disease and reconstructing family ties leads people to wrongly elevate [genetics](#) over other explanations for differences between groups.

“I’ve spent the last 10 years of my life researching how much genetic variability there is between populations,” said Dr. David Altshuler, director of the Program in Medical and Population Genetics at the Broad Institute in Cambridge, Mass. “But living in America, it is so clear that the economic and social and educational differences have so much more influence than genes. People just somehow fixate on genetics, even if the influence is very small.”

But on the Half Sigma blog and elsewhere, the conversation is already flashing forward to what might happen if genetically encoded racial differences in socially desirable  or undesirable  traits are identified.

“If I were to believe the facts’ in this post, what should I do?” one reader responded on Half Sigma. “Should I advocate discrimination against blacks because they are less smart? Should I not hire them to my company because odds are I could find a smarter white person? Stop trying to prove that one group of people are genetically inferior to your group. Just stop.”

Renata McGriff, 52, a health care consultant who had been encouraging black clients to volunteer genetic information to scientists, said she and other African-Americans have lately been discussing “opting out of genetic research until it’s clear we’re not going to use science to validate prejudices.”

“I don’t want the children in my family to be born thinking they are less than someone else based on their DNA,” added Ms. McGriff, of Manhattan.

Such discussions are among thousands that followed the geneticist [James D. Watson](#)'s assertion last month that Africans are innately less intelligent than other races. Dr. Watson, a [Nobel Prize](#) winner, subsequently apologized and quit his post at the Cold Spring Harbor Laboratory on Long Island.

But the incident has added to uneasiness about whether society is prepared to handle the consequences of science that may eventually reveal appreciable differences between races in the genes that influence socially important traits.

New genetic information, some liberal critics say, could become the latest rallying point for a conservative political camp that objects to social policies like affirmative action, as happened with "The Bell Curve," the controversial 1994 book that examined the relationship between race and I.Q.

Yet even some self-described liberals argue that accepting that there may be genetic differences between races is important in preparing to address them politically.

"Let's say the genetic data says we'll have to spend two times as much for every black child to close the achievement gap," said Jason Malloy, 28, an artist in Madison, Wis., who wrote a defense of Dr. Watson for the widely read science blog [Gene Expression](#). Society, he said, would need to consider how individuals "can be given educational and occupational opportunities that work best for their unique talents and limitations."

Others hope that the genetic data may overturn preconceived notions of racial superiority by, for example, showing that Africans are innately more intelligent than other groups. But either way, the increased outpouring of conversation on the normally taboo subject of race and genetics has prompted some to suggest that innate differences should be accepted but, at some level, ignored.

"Regardless of any such genetic variation, it is our moral duty to treat all as equal before God and before the law," Perry Clark, 44, wrote on a [New York Times blog](#). It is not necessary, argued Dr. Clark, a retired neonatologist in Leawood, Kan., who is white, to maintain the pretense that inborn racial differences do not exist.

"When was the last time a nonblack sprinter won the Olympic 100 meters?" he asked.

"To say that such differences aren't real," Dr. Clark later said in an interview, "is to stick your head in the sand and go blah blah blah blah until the band marches by."

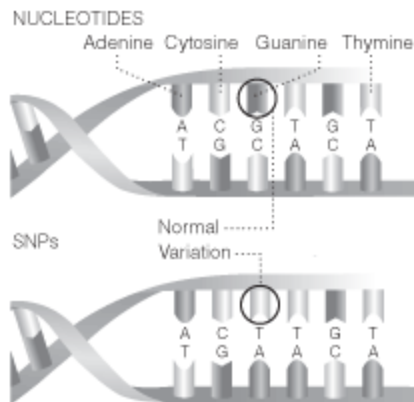
Race, many sociologists and anthropologists have argued for decades, is a social invention historically used to justify prejudice and persecution. But when [Samuel M. Richards](#) gave his students at [Pennsylvania State University genetic ancestry tests](#) to establish the imprecision of socially constructed racial categories, he found the exercise reinforced them instead.

One white-skinned student, told she was 9 percent West African, went to a Kwanzaa celebration, for instance, but would not dream of going to an Asian cultural event because her DNA did not match, Dr. Richards said. Preconceived notions of race seemed all the more authentic when quantified by DNA.

“Before, it was, □I’m white because I have white skin and grew up in white culture,’ “ Dr. Richards said. “Now it’s, □I really know I’m white, so white is this big neon sign hanging over my head.’ It’s like, oh, no, come on. That wasn’t the point.”

Correction: November 13, 2007

A front-page article on Sunday about advances in DNA research that could give racial prejudices a new potency misstated, in some editions, the given name of the director of the W.E.B. Du Bois Institute at Harvard, who advised care in dealing with what he called “an era of the ascendance of biology.” He is Henry Louis Gates Jr., not William.



## Minute Genetic Differences Can Mean A Lot

About 99 percent of the human genetic code is identical in every person on earth. But the remaining fraction differs frequently from individual to individual. In the 3 billion letters of the genetic code, spelled with nucleotides abbreviated A,C,G or T, there are about 10 million known points where some people have a G, for example, and others have a T. These points are known as single nucleotide polymorphisms, or SNPs (pronounced "snips").

The vast majority of SNPs, like the one here in 60 people from Africa, Europe and Asia, are found at roughly the same frequency around the world. Genetic variation is shown here with different shades.

**Most genetic variation is evenly distributed across the world.**



The pale skin of Europeans results largely from a change that inhibits the production of skin pigments. That spelling variation is never found in Africa or Asia. People with this change are shown here with a lighter shade.

**But approximately 10 percent of genetic variation is unevenly distributed. Two examples with extreme stratification that account for physical differences between populations are shown below.**



A change that is found almost exclusively in East Asian populations is believed to account for their reduced ability to sweat. People who have this change, shown here in darker shades, include virtually all individuals of Chinese descent who have been tested.



Sources: International HapMap Consortium/International HapMap Project

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