

**Why You Are Not the Indian I Had in Mind:
Dispelling Biological Classification of Race Through Genetics**

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Throughout the years, society has labeled and classified race amongst humans. The famous American-Canadian author and professor, Thomas King, suggests that the act of labeling others is deeply rooted in culture and “the truth about stories is that’s all we are. You can’t understand the world without telling a story” (2005). Many people hold onto stories about race because it helps them to digest the world. While most of society agrees race is a visual divide of humans based on skin color, facial features, and geographic locations; humanity has long been a population known for migration, exploration, and intermixing. With this idea in mind, scientists throughout history have argued both for and against the idea of race as a biological construct. “In 1956, Evolutionary biologist J.B.S. Haldane posed a question to a group of anthropologists at the Royal Society. . . ‘Are the biological differences between human groups comparable with those between domestic animals such as greyhounds and bulldogs?’” (Norton et al., 2019). This analogy questioned whether race was a sociocultural construct or whether biological differences existed. For centuries humans have divided themselves, but as science began to explore the genetic makeup of humanity, these differences never “provided any evidence for discrete boundaries between human groups. . . and many of them simply reflect the environment, not biological history” (Curnoe, 2014). King’s exploration of socially constructed race can be examined by researching organizational structures of organisms and the age of modern *homo sapiens*, analyzing the data from the Human Genome Project, and comparing alleles and population groups; and in doing so, the ideas of race as a biological construct dissolve.

Organization of Organisms

While journaling his experiences with race and identity, Thomas King writes, “race is a construction and an illusion. Never mind that it does not exist in either biology or theology” (2005). The organization of life validates King’s statement. Every organism can be classified through a hierarchical system that arranges life from a broad domain down to a precise species. Species, the smallest and narrowest division, is defined as “one or more populations whose members are capable of interbreeding in nature to produce fertile offspring and do not interbreed with members of other species” (Solomon et al., 2018). *Homo sapiens* is the category for all human beings, which provides the genus and species with no further breakdown possible. While observing the phylogenetic species concept, which also categorizes organisms, the biological idea of race is again refuted. In this concept, for “a population to be declared a separate species, it must have undergone evolution long enough for statistically significant differences to emerge” (Solomon et al., 2018). The Smithsonian Museum of Natural History points out that the modern human has only been around for about 300,000 years, and that humans share 99.9% of DNA with each other (2019). However, recent studies have shown that evolution of a new species takes around one million years (Uyeda, 2011). Modern *homo sapiens* are young and therefore have “not experienced enough generations in which to accumulate substantial genetic differences” (Ossorio, 2016).

The Human Genome

At the White House on June 26 in 2000, the Human Genome Project’s completion of the first survey of the Human Genome was released to the public. The genomes of five people, representing the various “races” of humanity, were mapped and analyzed, revealing “there is no way to tell one ethnicity from another” and that “all human beings, regardless of race, are more

than 99.9 percent the same” (Collins & Venter, 2000). The Human Genome Project focused on sequencing human genes, which code for specific amino acid sequences to provide the information needed to create life. Genes are contained in DNA strands, which consist of pentose sugar, phosphate, and the complementary bases adenine and thymine, and guanine and cytosine. These complementary bases are arranged into 64 nucleotides triplets, or codons, which correspond to specific amino acids and stop codons (Solomon et al., 2018). As the Human Genome Project continued, scientists were stunned to find only 35,000 human protein-coding genes (2020). This number was much smaller than the researchers had anticipated. Further studies showed that when examining the DNA from two individuals, variation is “on the order of one single nucleotide polymorphism (SNP), or single letter change in our DNA, per 1,000” and that genetic variation is often greater between two people within a “race” than two people from separate “races” (Goodman, 2020). The minor differences across the genomes, infrequent single base pair changes, and no identifiable genetic racial patterns validate King’s experiences with being confused as white, Mexican, “East Indian,” and his fear of not being perceived as a North American Indian (2005).

Alleles and Population Groups

SNP differences occurring in a gene, give rise to alleles that determine one of two possible expressions of a trait; they are “alternative forms of a gene” (Solomon et al., 2018). In 2002, a team of researchers analyzed the alleles of various population groups. They discovered that over 92% of alleles were present in two or more regions, and of the alleles studied, nearly half of were seen across all major geographical regions (Chou, 2020). If separate biologically defined racial groups exist, there should be trademark alleles characteristic of a particular group that are absent in another, however there is no evidence to support this idea. Region specific

alleles, while present, are extremely rare and only occurred in 1% of the people in the distinct region (Chou, 2020). Since the majority of alleles are spread across the globe, “genetic differences among human populations derive mainly from gradations in allele frequencies rather than from distinctive ‘diagnostic’ genotypes” (Rosenberg et al., 2002). It is this lack of trademark racial alleles that led King’s brother to ask, “I know he’s Indian, said my brother, and you know he’s Indian, but how is anyone else going to be able to tell?” (2005).

Conclusion

The concept of race is a social construct fashioned by humans, rather than an identifiable difference in the genetic makeup of races. *Homo sapiens* cannot be further subdivided into separate species, as all humans can produce viable offspring with each other, and modern humans are 700,000 years away from being able to evolve into a genetically new species. When examining the human genome, not only is there only a 0.1% difference among the mapped samples, but studies also reveal that two individuals from separate races tend to be more genetically similar than individuals within a race. Genetic similarity was further reinforced when studies of alleles could not identify alleles specific to just one race. Study after study has failed to identify evidence to support the hypothesis that there are biologically defined differences specific to all individuals within a race. As King noted, “In the end, there is no reason for the Indian to be real. The Indian simply has to exist in our imaginations” (2005, p.54). Biologically speaking, the only race is the human race. Any further division is in the eye of the beholder, a social idea based on stereotypical beliefs meant to divide.

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