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COMMENTARY

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AAPA Statement on Race and Racism

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1 | EXECUTIVE SUMMARY

Race does not provide an accurate representation of human biological variation. It was never accurate in the past, and it remains inaccurate when referencing contemporary human populations. Humans are not divided biologically into distinct continental types or racial genetic clusters. Instead, the Western concept of race must be understood as a classification system that emerged from, and in support of, European colonialism, oppression, and discrimination. It thus does not have its roots in biological reality, but in policies of discrimination. Because of that, over the last five centuries, race has become a social reality that structures societies and how we experience the world. In this regard, race is real, as is racism, and both have real biological consequences.

Humans share the vast majority (99.9%) of our DNA in common. Individuals nevertheless exhibit substantial genetic and phenotypic variability. Genome/environment interactions, local and regional biological changes through time, and genetic exchange among populations have produced the biological diversity we see in humans today. Notably, variants are not distributed across our species in a manner that maps clearly onto socially-recognized racial groups. This is true even for aspects of human variation that we frequently emphasize in discussions of race, such as facial features, skin color and hair type. No group of people is, or ever has been, biologically homogeneous or "pure." Furthermore, human populations are not — and never have been — biologically discrete, truly isolated, or fixed.

While race does not accurately represent the patterns of human biological diversity, an abundance of scientific research demonstrates that racism, prejudice against someone because of their race and a belief in the inherent superiority and inferiority of different racial groups, affects our biology, health, and well-being. This means that race, while not a scientifically accurate biological concept, can have important biological consequences because of the effects of racism. The belief in races as a natural aspect of human biology and the institutional and structural inequities (racism) that have emerged in tandem with such beliefs in European colonial contexts are among the most damaging elements in human societies.

2 | AAPA STATEMENT ON RACE AND RACISM

2.1 | Introduction

The concept of race has developed hand-in-hand with racist ideologies over the last five centuries, and biological anthropology has played an important role in the creation and perpetuation of both the race concept and racist ideologies. Racist political doctrines should

The AAPA Statement on Race and Racism was written by the AAPA subcommittee tasked with revising the previous AAPA statement on the Biological Aspects of Race that was published in the *American Journal of Physical Anthropology*, vol. 101, pp 569-570, 1996. The Committee on Diversity (COD) subcommittee was comprised of (in alphabetical order): Rebecca Ackermann, Sheela Athreya, Deborah Bolnick, Agustín Fuentes (chair), Tina Lasisi, Sang-Hee Lee, Shay-Akil McLean, and Robin Nelson. The statement was unanimously accepted by the AAPA Executive Committee at its meeting on March 27, 2019 at the 88th Annual Meeting in Cleveland, Ohio and is available on the AAPA website at http://physanth.org/.

not receive support from scientific endeavors, but in practice racism has been co-constructed with inaccurate depictions of human variation provided by scientists. Over our history, the AAPA, and many of its members, have been complicit in producing and reifying racist ideologies via the misuse, falsification, or biased production of scientific information. We acknowledge this history and stress that we should not paper over it even as we seek to end these practices and prevent the reemergence of misconceptions about race in the future.

While science is often represented as objective, apolitical, and unbiased, many ostensibly biological concepts of race have cultural stereotypes, biases, and ethnocentric views embedded within them. We acknowledge that outdated and inaccurate ideas about race, and racism, still inform scientific research today, and are sometimes embedded in what otherwise appears to be "modern," technologically-advanced science. We stand against such practices.

As scientists, we strive to eliminate the influences of bias, racial profiling, and other erroneous ways of thinking about human variation from our study designs, interpretations of scientific data, and reporting of research results. This is not simply due to concerns about how non-scientists use scientific research; it is also about how scientists themselves conceive, implement, analyze, and present their research. We offer this statement as a baseline for what we know about race and racism in order to help us do better science and better convey what we know about human biological variation to broader audiences.

2.2 | What race is and what it is not

Racial categories do not provide an accurate picture of human biological variation. Variation exists within and among populations across the planet, and groups of individuals can be differentiated by patterns of similarity and difference, but these patterns do not align with socially-defined racial groups (such as whites and blacks) or continentally-defined geographic clusters (such as Africans, Asians, and Europeans). What has been characterized as "race" does not constitute discrete biological groups or evolutionarily independent lineages. Furthermore, while physical traits like skin color and hair texture are often emphasized in racial classification, and assumptions are often made about the pattern of genetic diversity relative to continental geography, neither follows racial lines. The distribution of biological variation in our species demonstrates that our socially-recognized races are not biological categories.

While human racial groups are not biological categories, "race" as a social reality — as a way of structuring societies and experiencing the world — is very real. The racial groups we recognize in the West have been socially, politically, and legally constructed over the last five centuries. They developed in tandem with European colonial expansion and the emergence of American and European societies with well-documented histories of being shaped and structured by racial hierarchies, power inequities, economic exploitation, dispossession, displacement, genocide, and institutional racism. These practices are rooted in assumptions of innate, natural differences between Europeans and other peoples, and systems of racial classification are intimately tied to histories of European settler colonialism, empire, and slavery. Classifying human beings into different races has never been wholly innocent, unbiased, or apolitical; racial classification has long served to justify exploitation, oppression, discrimination, and structural racism. Notably, racial categories have changed over time, reflecting the ways that societies alter their social, political and historical make-ups, access to resources, and practices of oppression.

2.3 | Documented patterns of human biological variation and the processes shaping it

2.3.1 | a) Genomic variation

Humans share the vast majority (99.9%) of our DNA. Individuals nevertheless exhibit substantial genetic and phenotypic variability, including individuals in the same community. No group of people is, or ever has been, biologically homogeneous or "pure." Furthermore, human populations are not — and never have been — biologically discrete, isolated, or static. Socially-defined racial categories do not map precisely onto genetic patterns in our species: genetic variability within and among human groups does not follow racial lines.

Most genetic variants vary clinally, changing gradually across geographic space regardless of racial boundaries. We also see more genetic diversity in African and African diasporic populations than in other populations, and the genetic variants found outside Africa are largely a subset of those found within it. Moreover, diversity generally decreases in populations located further from Africa. Because the human lineage first emerged on the continent of Africa, longer population histories there allowed more genetic variation to accumulate in Africa, and repeated reductions in diversity occurred outside Africa as people dispersed and new populations were founded. Diversity patterns today also reflect subsequent migrations and genetic exchange, with geographic distance, topography, and sociopolitical forces all affecting the frequency/scope of interactions and the distribution of genetic variants in both cosmopolitan and non-cosmopolitan populations around the world. Natural selection and adaptation to local environments have influenced populations as well.

Genetic ancestry tests can identify clusters of individuals based on patterns of genetic similarity and difference, but the particular clusters we infer depend on the individuals included in the analysis. Genetic ancestry tests also tend to equate present-day peoples and contemporary patterns of genetic variation with those that existed in the past, even though they are not identical. In this regard, ancestry tests often oversimplify and misrepresent the history and pattern of human genetic variation, and do so in ways that suggest more congruence between genetic patterns and culturally-defined categories than really exists.

2.3.2 | b) Physical variation

Physical, or phenotypic, variation in our species reflects interactions between an individual's genome and their environment. Genome/environment interactions and gene flow across our species produce the plethora of phenotypes we see in humans today, including traits such as skull morphology (head form, nose form, dental traits) and aspects of body form.

Most phenotypic variation is continuous, and therefore understood in terms of the frequencies and distributions of traits. Adaptation, population history, and neutral evolutionary forces have all shaped the frequencies and distribution of the variation we observe today and in the past. Most traits are also polygenic (influenced by multiple genes, or loci), and our understanding of the genetics underlying them is incomplete.

Environment plays an important role in structuring human phenotypic variation. Environment, in the broadest sense, refers to everything from the uterine environment to things like diet or air quality during growth and development, and throughout the life course. As one example, environmentally-specific ultraviolet radiation levels have played an essential role in driving the evolution of variation in human skin color. Furthermore, in addition to being correlated with environmental factors and geography, human phenotypic variation can be distributed within and across groups according to sex, age and even various local-level environments such as socioeconomic class or caste.

Because the environment generally changes gradually as latitude/longitude changes, most phenotypic variation in humans is clinally distributed across geographic space. As a result, human phenotypes vary in frequency across a range of populations, and are not simply present or absent by population or continent. This is true even for aspects of human variation that have been seen as closely associated with race, such as facial features, skin color and hair type. For example, skin color, a trait traditionally associated with racial categories, is a product of long-term evolution involving more than 37 genetic loci, local environmental factors, migrations and gene flow among populations. As such, skin color shows a clinal distribution that cannot be separated into disparate categories. Similar phenotypes have arisen in both closely and distantly related groups adapting to similar environments, including genetic variants for light skin pigmentation which have, for example, evolved both within and outside the continent of Africa.

Like human genetic variation, phenotypic variation in our species does not follow racial lines. Race constitutes an arbitrary and artificial division of continuous variation, and thus does not provide an accurate representation of human phenotypic variation or population similarities and differences.

2.3.3 | c) The influence of human evolutionary history

Both the genomic and phenotypic variation that exists in our species reflects the fact that all humans living today belong to a single species, *Homo sapiens*, and share common descent. Our genus (*Homo*) evolved between 2.5 and 3 million years ago in Africa, and migrated around and out of Africa by ~1.8 million years ago. Early *Homo* consisted of a number of different forms (possibly species), some of which overlapped in time and space, but all of which were clearly human (and not ape-like), with tool cultures and adaptations for highly proficient bipedal locomotion. Evidence suggests that early species such as *Homo erectus*, as proficient hunter gatherers, were functionally hairless, and presumably exhibited biological variation, including skin color variation, consistent with variation seen across the circumequatorial world today. Our species, *Homo sapiens*, arose through a complex process of migration, interaction, and gene exchange over the last few hundred thousand years or more. Genetic and morphological evidence suggest that gene flow occurred repeatedly among diverse populations in the Late Pleistocene; many of these lineages provided elements to our genetic make-up that were crucial to our success as a diverse, adaptable species. We are all, in essence, hybrids, with humanity emerging from many tangled lineages —lineages that cannot be separated into discrete units with clear reproductive barriers. Over human evolutionary history, genetic and phenotypic variation shows gradual and continuous distributions over geography (clines), shaped by adaptations to new environments that arose as a result of migration and gene flow.

2.4 | The dilemma of race and racism

The groupings of people that exist in our species are socially-defined, dynamic, and continually evolving — amalgamations of socially- and biologically-interacting individuals with constantly-shifting boundaries, reflecting the myriad ways that individuals, families, and other clusters of people create ties, move, trade, mate, reproduce, and shift their social identities and affiliations through time. Race does not capture these histories or the patterns of human biological variation that have emerged as a result. Nor does it provide a clear picture of genetic ancestry. It does, however, reflect the legacy of racist ideologies, as well as the sociopolitical considerations, cultural identities, and social experiences prevalent in the eras during and since the start of European settler colonialism. Race should therefore be seen as a paradigm for sorting individuals and populations into units based on historical contexts and social, cultural, and political motives.

While "race" is not biology, racism does affect our biology, especially our health and well-being. Racism is prejudice against someone because of their race in the context of a belief in the inherent superiority and inferiority of different racial groups, which is reinforced by institutional and historical structures. Interpersonal experiences of racism and structural racism include, but are not limited to, overt oppression, physical subjugation, dispossession or displacement, decreased access to health care, economic and educational discrimination, histories of segregation, and material deprivation. A substantial body of research demonstrates the many ways that racism can affect how our bodies, immune systems, and even our cognitive processes react and develop. This means that "race," while not a scientifically accurate biological concept, can have important biological consequences because of the effects of racism. The belief in "races" as natural aspects of human biology, and the structures of inequality (racism) that emerge from such beliefs, are among the most damaging elements in the human experience both today and in the past.

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