Realism, Antirealism, and Conventionalism about Race

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This paper distinguishes three concepts of "race": bio-genomic cluster/race, biological race, and social race. We map out realism, antirealism, and conventionalism about each of these, in three important historical episodes: Frank Livingstone and Theodosius Dobzhansky in 1962, A. W. F. Edwards's 2003 response to Lewontin's 1972 paper, and contemporary discourse. Semantics is especially crucial to the first episode, while normativity is central to the second. Upon inspection, each episode also reveals a variety of commitments to the metaphysics of race. We conclude by interrogating the relevance of these scientific discussions for political positions and a post-racial future.

> There are no races, there are only clines. (Livingstone 1962, 279)
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> If races did not exist they would have to be invented. (Dobzhansky 1968, 78)
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> Human racial classification is of no social value and is positively destructive of social and human relations. (Lewontin 1972, 397)
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> But it is a dangerous mistake to premise the moral equality of human beings on biological similarity because dissimilarity, once revealed, then becomes an argument for moral inequality. (Edwards 2003, 801)

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1. Introduction. Sharp ontological lines are being drawn in the debates surrounding genomics and race. Some claim that our finest genomic data and methodology indicate that human races are biologically *real* entities (e.g., Neven Sesardić, Quayshawn Spencer). Others follow the well-established *antirealist* perspective that has been developed since Richard Lewontin's influential 1972 paper "The Apportionment of Human Diversity" (e.g., Joshua Glasgow). And, along with others (e.g., Kenneth Weiss and Stephanie Fullerton), we articulate a *constructivist conventionalism*, arguing that our best genomics forever underdetermines the existence of biologically real human races (Kaplan and Winther 2013; Winther and Kaplan 2013; see Spencer 2012 for critique). In other words, either realism or antirealism can be justified given particular choices and norms about how to interpret the biological data and which mathematical methods to use.

In this paper, we distinguish three kinds of racial realism:

1. *Bio-genomic cluster/racial realism* claims that population structure exists in *Homo sapiens*, assessed through genomic or "phenomic" (e.g., anthropometrics) measures (e.g., Theodosius Dobzhansky, Neil Risch).[1]
2. *Biological racial realism* affirms that a stable mapping exists between the social groups identified as races and groups characterized genomically or, at least, phenomically.[2] That the groups are biological popu-

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[1] We introduce a forward slash here because this kind of realism is not necessarily about a "race" concept (see Winther and Kaplan 2013, n. 1). As made evident in the workshop on "Genomics and Philosophy of Race," some influential and socially responsible population geneticists have no desire to become involved in debates over race. However, genomic work of this sort is often *taken to be* about race, and it is not clear that the slippage is avoidable (see, e.g., Reardon 2005; Feldman 2010; Morning 2011; Donovan 2014).

[2] We call this "biological racial realism" because the term has a history in these debates. Some of the confusion in the current literature stems from failing to distinguish what we call "bio-genomic cluster/race" from what has often been called "biological race." Acknowledging the existence of population structure need not in any way imply a hereditarian commitment to the reality of biologically based properties and differences constituting (or explaining) either the existence of socially identified races or, especially, the "racial"

lations explains why the particular social groups, and not others, are so identified. Furthermore, for some, but by no means all, biological racial realists, the existence of biological populations (and of the biologically grounded properties of their constituent individuals) explains and justifies at least some social inequalities (e.g., the "hereditarians"; Jensen 1969; Herrnstein and Murray 1995; Rushton 1995; Lynn and Vanhanen 2002).

3. *Social racial realism* defends the existence of distinct human groups in our ordinary discourse and social interactions. Such groups are often identified and stabilized by "surface" factors such as skin color or facial features. Moreover, while this is not strictly necessary for social racial realism, group membership is often correlated with access (or not) of goods, services, and wealth.

We argue that conventionalism rather than realism is the proper stance toward what we call "bio-genomic cluster/race." Whether it is legitimate, as a matter of biological practice, to divide the human species into smaller populations depends on the purposes, methods, and metrics at play (Winther and Kaplan 2013). Biological racial realism demands a one-to-one mapping between biologically defined groups and social groups and insists that biological facts explain some of our social practices and judgments surrounding "race." We reject the existence of such a correspondence and hence are antirealists about biological race. Commitments to realism, antirealism, or conventionalism about either bio-genomic cluster/race or biological race are broadly independent of questions regarding the reality of races understood as populations with socially ascribed meanings—entities that are real because those populations are socially identified, entrenched, and maintained (Kaplan and Winther 2013; Winther and Kaplan 2013). While we recognize that a post-racial future is possible and even desirable, for now, realism about social races is the best description of the practices, expectations, and norms of many contemporary societies, though possibly not all.[3] In short, we are conventionalists about bio-genomic cluster/race, antirealists about biological race, and realists about social race.[4]

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characteristics about which debate revolves: e.g., IQ or health (disparities). We thank an anonymous reviewer for drawing our attention to this.

[3] A post-racial future in which race is no longer associated with differential access to social goods and services, but perhaps continues to have some social relevance, is distinct from one in which people no longer "see" race at all, at least as a social organizing principle.

[4] More generally, each of these concepts of "race" and racial realism corresponds to a set of debates and discourses on race, as Doc Edge pointed out to us. Bio-genomic cluster/race concerns, e.g., which population genetic measures and methods should be used to identify human clusters and groups, whether there is an appropriate level(s) of human

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2. (Anti)Realisms about Race. I. Livingstone and Dobzhansky. Arguments surrounding whether human races are biologically real remain intractable, in part, because of a persistent confusion about what is at stake. Debates about the biological reality of human races have always been less about the biology and more about which social meanings, expectations, and actions we attribute to race.

Consider the 1962 back-to-back exchange in *Current Anthropology* between Frank Livingstone, an anthropologist responsible for groundbreaking work on sickle-cell anemia and for popularizing the application of population genetics reasoning to human populations, and Theodosius Dobzhansky, who was one of the founders of modern genetics as well as Lewontin's mentor. Livingstone argues that "there are no races, there are only clines." He claims that "the explanation of the genetic variability among human population" would best be approached "in terms of the concepts of cline and morphism" (rather than "the discrete packages labeled races") using "the mathematical theory of population genetics" to uncover the contributions of, for example, "mutation, natural selection, gene drift, and gene flow" to the actual gene frequencies, and gene associations, in particular populations. In humans, race has "been overworked as an explanation of this variability" (Livingstone 1962, 279), and its continued use threatens to obscure rather than elucidate both the extant variation and its evolutionary sources (281).

Dobzhansky (1962), however, contends that race, as a biological concept, demands that we be able to identify populations differing in "the frequencies of one or more, usually several to many, genetic variables" and that there were, obviously, human populations that met this requirement. Further, since clines "are steeper where natural, or social, impediments to travel and

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population structure that makes sense to privilege and emphasize, and whether clinal variation is a better description. Biological race discourse addresses the biological correlates of social racial groupings and social inequalities. Finally, discourse about social race is about the influence social identification and treatment have on inequality—issues of affirmative action and "color blindness" are, for instance, important in this third set of debates. A further project would investigate these broad overlapping discourses rather than the narrower commitments of realism, antirealism, and conventionalism about each of the three concepts.

intermarriage interpose obstacles to gene exchange, and more gradual where the gene exchange is unobstructed," and these same factors result in the correlation of "different variable characters, and the gene frequencies underlying them," races are "more easily nameable" than Livingstone's analysis suggests (280). Livingstone responds that a definition of "race" making reference to any "genetically unique" "breeding population" (281) does not "accord with the general use of the term" (280).

Livingstone takes "race" to mean discrete populations bound by common ancestry with notable genetic and phenotypic differences resulting from isolation, and finding only clines, he rejects the existence of races; the use of "race" in humans points toward biological racial realism, a realism that is to be rejected. Dobzhansky takes the proper semantic use of "race" to demand only a difference in gene frequencies, and finding such differences, he affirms the existence of races; a bio-genomic cluster/racial realism is thus endorsed. In short, Livingstone cares about whether biology can vindicate "the general use of the term"; Dobzhansky is interested in how the term can be deployed within biology. Since 1962, substantially more evidence in support of the empirical claims made by both authors has accumulated, but there is no settling *the reality* of race in this debate, because they were using two distinct concepts of race, biological and bio-genomic, respectively.[5]

3. (Anti)Realisms about Race. II. Edwards and Lewontin. Elsewhere we have reviewed methodological and statistical details of Edwards's 2003 critique of Lewontin's 1972 antirealist conclusions about biological race (Kaplan 2011; Winther 2011, 2014; Kaplan and Winther 2013; see also Andreasen 2007; Tal 2012). Here we focus on normative concerns. These are foregrounded because the methodological differences between Lewontin and Edwards may not be as significant as some believe, and because they may even be asking different questions. Briefly, Lewontin (1972, 396) claims that at typical loci most of the variation is within groups rather than between groups (85.4% among individuals within populations; 8.3% across popula-

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[5] Below we note some ways in which echoes of Livingstone's position can be found in, e.g., Glasgow (2009) and Hochman (2013), and echoes of Dobzhansky's position in Sesardić (2010) and Spencer (2012, 2013). Moreover, the historically situated assumption that there is significantly more variation across broad racial groups rather than within can be seen clearly in the writings of some of the key participants in the 1966 American Association for the Advancement of Science symposium "Science and the Concept of Race" (Mead et al. 1968). Ginsburg and Laughlin (1968) write as if the human species were very genetically diverse (but, we know now, it is not; see Li and Sadler 1991); Kilham and Klopfer (1968) confidently state that different breeds of domesticated animals are far more alike genetically than are human races (they are not; e.g., Vilà, Maldonado, and Wayne 1999); Dobzhansky's position can be seen in the epigraph above, which continues, "Since they do exist they need not be invented, they need to be understood."

tions within the three continental races; 6.3% across continental races).[6] Edwards (2003) concurs and adds that in spite of small group differences at individual loci, pooling information across loci allows for efficient clustering. Lewontin now affirms that using information from many loci to cluster (e.g., Rosenberg et al. 2002) is fundamentally a sound procedure: "The continental clustering in these large sets of data derives mainly from small differences in allele frequencies at large numbers of markers, not from diagnostic genotypes. This clustering reflects the history of human migrations" (Feldman and Lewontin 2008, 92). However, this was never the question about the "average *amount* of genetic diversification between and within geographical groups" (90) that has interested him all along. The broad methodological agreement, as well as the focus on different questions, suggests that the most important disagreements between Lewontin and Edwards lie in normative domains, beyond data and statistical methods.

Lewontin contrasts the vast importance tied to social ascriptions of racial identity with the tiny amount of genetic difference actually found among broad races as typically defined. His finding that only a very small fraction (about 6%) of the total human genetic diversity was "assignable" to what we usually thought of as races serves to undermine our ordinary understanding of racial differences as biological (1972, 397). Racial categories are thus of "virtually no genetic or taxonomic significance" (397). He makes the normativity explicit thus: "The taxonomic division of the human species into races places a completely disproportionate emphasis on a very small fraction of the total of human diversity. That scientists as well as nonscientists nevertheless continue to emphasize these genetically minor differences and find new 'scientific' justifications for doing so is an indication of the power of socioeconomically based ideology over the supposed objectivity of knowledge" (Lewontin 1974, 156). That is, genetics cannot be responsible for the creation, maintenance, and importance of our current socially important racial categories. Put differently, the contingency and weakness of the mapping between genetic differences and social races undermine the continued use of genetics in explaining and justifying social races (see, e.g., Lewontin 1970, 1972, 1974, 1993, 1995; Feldman and Lewontin 1975; Lewontin, Rose, and Kamin 1984; see also Kaplan 2000). Politics and science intertwine (see also Lewontin epigraph above). Biological racial realism fails, under Lewontin's analysis, because there is no one-to-one mapping from bio-genomic clusters/races to social races.

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[6] See Jobling, Hurles, and Tyler-Smith (2004, table 9.1, 278) for a presentation of apportionment percentages found by three other important studies (including Barbujani et al. 1997) in addition to Lewontin (1972). The means of all four studies, for autosomal loci, are as follows: 84.3% (within population), 4.5% (between groups within continental populations), and 11.19% (between continental populations). Note the significantly higher across-race apportionment.

The normativity of Lewontin's stance stems from his tireless critique of hereditarianism. Jensen (1969), Herrnstein and Murray (1995), Rushton (1995), Lynn and Vanhanen (2002), Wade (2014), and others have argued that many important current social and political inequalities, both within and between nations, are due in large part to hereditary differences in the (average) "native" abilities between races as usually conceived.[7] While there remains no knock-down argument against this position, Lewontin's critiques are trenchant.[8] Moreover, Lewontin interprets the market penetration of biological racial realism in intellectual and political life as evidence of the "power of socioeconomically based ideology" (1974, 156) and wishes to resist it, in part because of its scant genetic justification (similarly, see the various reviews of Wade [2014], including Coop et al. [2014], a letter signed by around 140 geneticists denouncing Wade's "guesswork" and "conjectures").

Edwards takes Lewontin and other antirealists to task for letting their politics influence their science. He submits that premising—or at least mapping—moral equality on genetic similarity runs the risk of backfiring, should genetic dissimilarity among broad human populations turn out to exist (see Edwards epigraph above). In order to avoid this consequence, Edwards strongly distinguishes discovering bio-genomic cluster/race from any social or political uses to which one could put such knowledge: "A proper analysis of human data reveals a substantial amount of information about genetic differences. What use, if any, one makes of it is quite another matter" (Edwards 2003, 801). Edwards's analysis seems motivated by a high-level normative concern to not allow moral or political positions to impact science. We interpret this as Edwards defending a bio-genomic cluster/racial realism while remaining ontologically noncommittal about, and perhaps uninterested in, biological race or social race.

Rereading this debate with the bio-genomic cluster/race versus biological race distinction in mind, and focusing on normative concerns, helps clarify many of the outstanding issues. Lewontin does not deny that there is population structure in humans, or even that bio-genomic clusters/races can be found (cf. Feldman and Lewontin 2008, which seems to support a realism about bio-genomic cluster/race), but is rather trying to block the usual inference from purported genetic differences—mistakenly considered to be sig-

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[7] For instance, see the recent controversy surrounding Jason Richwine's association with a Heritage Foundation report against immigration given his dissertation's claims regarding the lower IQs of "Hispanic" immigrants (Parker and Preston 2013).

[8] Hereditarians may suggest that differences in native abilities lie hidden in the 6% (or 11.19%; see n. 6) of variation among continental races found by Lewontin (1972) (and others), or in the correlational structure across loci, waiting to be discovered by further mechanistic and statistical genomic study. Lewontin and others might here wish to ask what role the hereditarians would ascribe to the approximately 8% (or 4.5%) of variation among populations within continental races (e.g., Lewontin 1995).

nificant—to justifications for the existence and importance of social races.[9] Edwards seems motivated by moral and political principles as well (including about how science should be practiced) but worries that Lewontin adopts the wrong strategy in not keeping his science and his political principles clearly separate.

While the Livingstone-Dobzhansky debate is much more about semantics than about normativity, the conclusions about (anti)realisms parallel one another. Similarly to Lewontin, Livingstone is an antirealist about biological race; Dobzhansky and Edwards are both explicit realists about bio-genomic cluster/race.

4. (Anti)Realisms about Race. III. Contemporary Discourse. The bio-genomic cluster/racial realist (e.g., Dobzhansky and Edwards) is concerned with whether, as a matter of biological practice, we ought to recognize human subpopulations as legitimate biological entities, and not with biology's ability to explain and to justify current social practices surrounding race. Using the same standards biologists employ in other domains to identify subpopulations worthy of biological attention, can we pick out legitimate human subpopulations? In the contemporary literature, Sesardić (2013) writes as if this were the primary question of interest for biological racial realism, though we believe that more properly this question pertains to bio-genomic cluster/racial realism. Spencer is explicit that his defense of biological race in the case of humans is meant to appeal to this kind of question (Is "race" in humans a "genuine" scientific kind?), and he explicitly distances his position both from "ordinary" understandings of what kinds of things races are and from social concerns (Spencer 2012, 196–97). We read him as a bio-genomic cluster/racial realist. When Hochman (2013) attacks the realism of human races, arguing that the population structure of the human species would not justify treating similar populations as worthy of attention in nonhuman populations, he is critiquing bio-genomic cluster/race. Long and Kittles (2003) launch a similar attack.

This debate surrounding the reality of bio-genomic clusters/races can be practiced roughly independently of concerns about the biological reality of races understood as the robust, socially ascribed populations usually thought of as races in our ordinary discourse. That is, a realist about bio-genomic cluster/race merely affirms that there are subpopulations of humans that are biologically legitimate subpopulations in the (weak) sense that biologists would pick

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[9] Lewontin correctly reminds us that clustering generally requires sampling from geographically distinct populations and would be problematic if undertaken with historically "mixed" populations; after all, "human history has confounded the biological processes of differentiation" (personal communication, December 7, 2013; Weiss and Fullerton [2005] make a similar point). Indeed, this is why Cavalli-Sforza et al. (1988) collected gene frequencies from 42 populations of "world aborigines."

them out as worthy of interest in otherwise similar nonhuman species. Under our constructivist conventionalist analysis, we argue that some biologists would recognize subdivisions within the human species as interesting and worthy of attention in a similar nonhuman species; other biologists would not recognize any such subdivisions (Kaplan and Winther 2013; Winther and Kaplan 2013).

But all of this skirts the issue of whether populations picked out thusly deserve to be called "races." Since "race" has an established use when referring to human populations, one should refrain from using the term where that application is not the one intended. Slippage between bio-genomic usages and social usages has serious consequences.[10] One realist argument notes that insofar as some of these populations are not entirely orthogonal to socially identified races, biology can pick out, as a legitimate category of interest, race-like populations, especially at the level of continents (see Risch et al. 2002). That is, this realist argument notes that, while the match is not perfect, populations socially identified as races overlap significantly with some populations that can be picked out using, for example, modern genomic clustering techniques and hence that at least some bio-genomic clusters/races are also social races (see Kaplan 2011; Kaplan and Winther 2013).[11]

But some antirealists argue that many populations picked out by these biological approaches will not resemble social races. That is, many bio-genomic clusters/races will be much smaller or narrower populations than races as usually conceived, and some will simply be different. And any associations between bio-genomic clusters/races and social races will thus be unstable as social racial classifications change over time (see, e.g., Weiss and Fullerton 2005). Other antirealists stress the clinal nature of variation and deny that clusters found are sufficiently independent of the statistical methods used to develop them to properly count as biologically meaningful in a robust way (e.g., Serre and Pääbo 2004). Finally, because socially manufactured racial ascriptions have enormous impacts on the lives of the people so ascribed but do not map neatly onto bio-genomic cluster/race, many social race realists and biological antirealists disregard debates about bio-genomic cluster/race. Essentially all socially important goods and services are distributed unequally with respect to populations picked out on the basis of racial ascriptions as

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[10] Pigliucci and Kaplan's (2003) suggestion that human subpopulations with genetic differences due to local adaptations maintained by selection be referred to as "ecotypes" rather than "races" evokes Livingstone's concerns about accurately describing the sources of variation, as well as concerns about the dangers of conflating various meanings of the polysemic term "race."

[11] Another, very different, realist argument notes that insofar as our social categories themselves create and reinforce biological and biomedical differences, those social categories will be populations of real biological interest, although here the causal arrow points from the social to the biological (see Gravlee 2009; Kaplan 2010).

embodied in our everyday discourse.[12] Given this fact, to ask whether these populations are also bio-genomically legitimate subpopulations, under some understanding of how genomic and "phenomic" practices properly pick out subpopulations, is pointless. That is, identifying bio-genomic clusters/races sheds no light on the importance of socially ascribed racial categories in our lives.

In the end, the hope that biology would permit us to determine, once and for all, whether races are biological entities is dashed. This failure does not represent a failure on the part of our best biology, but a failure to take seriously that the questions posed to our best biological practices are, in this case, inextricably mired in assumptions and practices from other disciplines and society at large. The answer we give to the question "Are 'races' biologically real?" probably tells us more about our own beliefs (about what the question means, about what work the answer is supposed to do) than it does about the biological nature of populations. Even our bio-genomic cluster/racial classifications may turn out to be (often ugly) depictions of our socially entrenched biases and expectations, rather than pristine renditions of objective biological reality.

5. Conclusions: Politics and Post-racial Futures. Mills (1988) provides a useful taxonomy of some of the positions one might hold regarding the existence of races; these range from the denial of their existence (Glasgow 2009) to the belief in biologically real deep racial "essences." We find Mills's "objective constructivist" position to be the most plausible: (social) races are real, and their reality emerges from, and is continually reinforced by, our (contingent, but no less powerful for that) social practices. Of course, the reinforcement is itself contingent. A post-racial society is possible and desirable.

With respect to the existence of population structure in the human species and the best way(s) to determine and classify that structure, we have argued for a constructivist conventionalism. There are many questions one can ask, and a given question can be approached from multiple perspectives and with a plurality of aims and methodologies. Answers to clearly stated questions, once well specified, are not arbitrary. For instance, there is a nonam-

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[12] The literature on the importance of race as socially ascribed categories (not dependent for their force on biological correlates) is vast. We motion here toward, e.g., Omi and Winant (1986), Appiah (1989), and Appiah and Gutmann (1996). The contingency of the categories that are identified as "races" and the ways in which a person's race, as a socially meaningful classification, can (and does) depend on their location (including global context; see, e.g., López Beltrán 2011) further complicates this picture (see, e.g., Hudson 1996; Harawa and Ford 2009; Ousley, Jantz, and Freid 2009). Marshall (1968) explicitly ties the difficulties in understanding "race" as a scientific concept to the instability of the concept as applied socially.

biguous, correct answer to a clustering analysis given a particular distance metric, clustering methodology (with explicit assumptions), and concrete population (Kaplan and Winther 2013; Winther and Kaplan 2013). However, nothing makes one question or another the obviously correct one. The bio-genomic constructivist conventionalism we defend has affinities with the "deep conventionalist" position with respect to biological categories more generally, as articulated by Barker and Velasco (2013).

Further, in the context of bio-genomic cluster/race, such a conventionalist position is demanded by our best evidence, and will remain the best position, with respect to these kinds of questions. This does not imply that conventionalism about related positions is required. There is no straightforward link between a defensible realism about bio-genomic clusters/races and defending biological racial realism, and so a conventionalism about the first does not demand a conventionalism about the latter. Rather, we strongly hold antirealism to be the appropriate ontological stance toward biological races (Winther and Kaplan 2013, 71–72). Nor is there any reason to suppose that the conventionalism demanded by issues surrounding bio-genomic cluster/race would apply to social race. Here, we suggest, one can (and should) be a realist about race as an objective (albeit socially constructed and historically contingent) fact about the social world, while maintaining that discoveries surrounding the population structure in humans are largely irrelevant to the major issues engendered by the social categories of race.

We conclude with a reflection on the politics of the ontology of race. Biological racial realism is typically coupled with positions on the "right" of the political spectrum; antirealism about biological race is frequently linked with the "left." The contingency of these associations has not been well recognized. Although biological racial realism has been used to argue that the massive inequalities between the life prospects of members of the different races are not signs of injustice (e.g., Jensen, Lynn, Murray, Rushton, Vanhanen), nothing about biological racial realism demands such a right-wing position. Indeed, a Rawlsian liberal would have no difficulty condemning the extraordinary differences in average life prospects between the races even if she endorsed biological racial realism. Moreover, while race "pride" or consciousness movements are typically leftist, some of these adopt biological racial realism (often implicitly). Similarly, although biological racial antirealism is associated with liberal positions calling for state action to correct social and economic injustices that are, it is argued—and which we also believe—responsible for the current inequalities, this need not be the case. Conservatives sometimes adopt the view that the choices, decisions, and behaviors of individuals, against a claimed backdrop of equality of opportunity, are the source of current inequalities, and they use biological equality as an additional cudgel to support laissez-faire approaches.

Again, while we are conventionalists about bio-genomic cluster/race, we are not conventionalists about biological race. Rather, we are antirealists about biological race. But rejecting biological racial realism need not be tied to any particular political project; nor, for those who disagree with our assessment of the evidence, should supporting such realism be so associated.

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