

Eliminating Race: A Philosophical Discussion

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Abstract

In this paper I face the issue of eliminativism about race. I suggest that a partial as opposed to a blank eliminativism is the epistemically correct philosophical position, by remarking that there are different concepts of “race” and for each of them different philosophical and scientific considerations apply. I first introduce the eliminativist position and show that different forms of eliminativism exist; I then examine how distinct kinds of eliminativism apply to the concept of “bio-genomic” and “social race”, respectively, across different scientific fields. I conclude that while the concept of “bio-genomic race” should be fully eliminated because it does not refer and is not useful in any scientific context, the concept of “social race”, even in case we hold an anti-realist ontological position about it, is notably useful in some scientific fields and therefore should not be eliminated under some eliminativist positions for both epistemic and ethical reasons.

Keywords: Bio-Genomic Race, Social Race, Eliminativism, Epistemological Issues.

1. Introduction

The concept of “biological race” is a controversial concept that many scholars from different disciplines consider as an unscientific idea and a dangerous myth bringing along racism. In Robert Sussman’s words:

Unfortunately, along with the belief in the reality of biologically based human races, racism still abounds in the U.S. and Western Europe. How can this be when there is so much scientific evidence against it? Most educated people would accept the facts that the earth is not flat and that it revolves around the sun. However, it is much more difficult for them to accept modern science concerning human variation. Why is this so? It seems that the belief in human races, carrying along with it the prejudice and hatred of «racism», is so embedded in our culture and has been an integral part of our worldview for so long that many of us assume that it just must be true (Sussman 2014: 2).

Scholars like Sussman think that race should be eliminated from *all* scientific discourses because any use of it in a biological sense may reinforce racist thoughts (see e.g. Marks 2017; Yudell 2021). However, race is still widely used in different scientific fields like biomedical research, clinical practice, epidemiology, and in public health programs. In this paper I face the problem of eliminativism of race from science, and I claim that a blank eliminativism is not a justifiable approach since race appears to have a reliable epistemological value in different scientific contexts (Lorusso and Bacchini 2021; 2023). In social epidemiology and in clinical practice, race shows important epistemic and diagnostic values that we cannot ignore if we want to address the health disparities and the differences in disease risks between racial groups in racialized societies. I suggest that, to face correctly the philosophical issues about the use of race in science, we should embrace a *partial* rather than a *blank* eliminativism about race, that is, a kind of eliminativist position that does not entail a complete elimination of the concept of “race” from science.

Let us start by defining what eliminativism is. We may first introduce a very basic form of eliminativism:

Basic eliminativism: If “X” is a concept and “X” does not refer, “X” should not be used in science. The term ‘X’ and all cognate terms should be eliminated from scientific discourses thereby.

According to *basic eliminativism*, there is only one question we must raise to determine whether we must eliminate “race” from science, and this question is: “Does “race” refer?” In case “race” does not refer, we should be ready to adopt a *blank eliminativism* about “race”: we should eliminate “race” from scientific discourses. The term ‘race’ and all cognate terms should be eliminated from scientific discourses thereby. We should be ready, however, to acknowledge that there is perhaps *more than one* concept of “race”. It is possible that there are two or more than two different concepts of “race”, and that the related terms are just homographic. Many race scholars hold a specific version of:

“Race” concept pluralism: There are at least two very different concepts of “race” in scientific discourses nowadays. The first one can be called ‘the concept of “bio-genomic race”’ and it presupposes that a clear-cut genetic division of the human species exists and can be identified; the second one can be called ‘the concept of “social race”’, which presupposes that distinct racially defined groups exist and are socially constructed.

Indeed, many authors have subscribed to *“race” concept pluralism* (see, for instance, Hardimon 2013, Kaplan and Wither 2014).

Now, *“race” concept pluralism* comes often coupled with a specific view about the ontological status of the two concepts of “races” it distinguishes:

The non-reference thesis about the concept of “bio-genomic race”: The concept of “bio-genomic race” could only refer if it were true that a clear-cut division of the human species in discrete human clusters exists. But, because it turns out that such a division does not exist, then the concept of “bio-genomic race” does not refer.

The reference thesis about the concept of “social race”: The concept of “social race” could only refer if it were true that a socially distinct human groups exist. Now, because it turns out that such a division exists, then the concept of “social race” does refer.

If we apply *basic eliminativism* to the “race” *concept pluralism*, and we embrace both *the non-reference thesis about the concept of “bio-genomic race”* and *the reference thesis about the concept of “social race”*, we should conclude that a partial eliminativism of race must be chosen rather than a blank one:

Partial eliminativism about “race”: We should eliminate the concept of “bio-genomic race” from scientific discourses. The term ‘race’ and all cognate terms should be eliminated from scientific discourses when they stand for the concept of “bio-genomic race”. On the other hand, we should not eliminate the concept of “social race” from scientific discourses. Thus, the term ‘race’ and all cognate terms should be maintained in scientific discourses when they stand for the concept of “social race”.

There is another way, however, to argue in favour of *partial eliminativism about “race”*. First, one might embrace:

The non-reference thesis about the concept of “social race”: The concept of “social race” does not refer. Contrary to appearances, it is on the same footing as the concept of “bio-genomic race”.

The effect of *the non-reference thesis about the concept of “social race”*, coupled with *the non-reference thesis about the concept of “bio-genomic race”*, preempts any appeal to “race” *concept pluralism* as a way to avoid *blank eliminativism about “race”*, provided that one subscribes to the view of eliminativism offered by *basic eliminativism*. If one adheres to *basic eliminativism*, *blank eliminativism about “race”* follows.

But a way to get away from *blank eliminativism about “race”* is rejecting *basic eliminativism* in favour of more complex views of what eliminativism is: we must acknowledge that different forms of eliminativism exist and the basic eliminativism based on the reference thesis fails to address the usefulness of race in scientific disciplines.

Consider, for example:

Well-tempered eliminativism: If “X” is a concept and “X” does not refer, “X” should not be used in science unless it is epistemically useful. If employing the term ‘X’ and all cognate terms is epistemically useful, they shouldn’t be eliminated from scientific discourses, even if “X” does not refer.

Pragmatic eliminativism: If “X” is a concept and “X” does not refer, “X” should not be used in science unless it is epistemically, socially, or practically useful. If employing the term ‘X’ and all cognate terms is useful in any sense—if, for example, using them is clearly beneficial to the wellbeing of some people, without being comparably harmful to any other—they shouldn’t be eliminated from scientific discourses, even if “X” does not refer.

If one adopts either *well-tempered eliminativism* or *pragmatic eliminativism*, one can escape *blank eliminativism about “race”* also if no sub-species of the concept of “race” refers. But, of course, one must show that the concept of “race” supposed to be preserved despite its no referring is useful in at least one of the senses provided by the view of eliminativism that is accepted.

In this essay, I will argue in favour of *partial eliminativism about “race”*. First, I will bring evidence for “race” *concept pluralism*. Second, I will defend *the non-reference thesis about the concept of “bio-genomic race”*. Third, I will reconstruct what are the main reasons to hold *the reference thesis about the concept of “social race”*. Under whatever view of eliminativism—*basic*, *well-tempered* or *pragmatic*—*blank eliminativism about “race”* should be rejected, in virtue of *the reference thesis about the*

concept of “social race” and the usefulness of such concept in some scientific context. This does not mean, however, that no form of eliminativism about “race” is needed. Because the concept of “bio-genomic race” does not refer, *partial eliminativism about “race”* follows when *basic eliminativism* is adopted. *Partial* (rather than *blank*) *eliminativism about “race”* follows also in case *well-tempered eliminativism* or *pragmatic eliminativism* are adopted, provided that the concept of “bio-genomic race” turns out to be *not* relevantly useful.

So, I will argue in favour of the thesis that the concept of “bio-genomic race” turns out to be not relevantly useful under these views of eliminativism. Then, I will explain the reasons for a different view of the ontological status of the concept of “social race”—a view according to which the concept of “social race”, like its bio-genomic counterpart, does not refer. One may think that, under *the non-reference thesis about the concept of “social race”*, since *the non-reference thesis about the concept of “bio-genomic race”* is true anyway, *blank eliminativism about “race”* follows. But this is false if one subscribes to a different view of eliminativism. So, I will claim that we have reasons to prefer *well-tempered* and *pragmatic eliminativism* to *basic eliminativism*. If we adopt either *well-tempered* or *pragmatic eliminativism*, however, even in case that *the non-reference thesis about the concept of “social race”* is accepted, it is *partial eliminativism about “race”* the position we should hold, not *blank eliminativism about “race”*. In fact, it is possible to show that the concept of “social race” is relevantly useful in science.

2. Pluralism About the Concept of “Race” and Why the Concept of “Bio-Genomic Race” Does Not Refer

Being pluralist about the concept of “race” means to acknowledge that there is not a unique concept of “race” but different concepts. We may identify at least two concepts of “race”: the concept of “bio-genomic race” and the concept of “social race”. According to the concept of “bio-genomic race”, races are human clusters that can be univocally identified by specific genetic differences. According to the concept of “social race”, races are instead social constructions; in other words, they exist only as social though not as biological entities.

Distinguishing at least between the concept of “social race” and the concept of “bio-genomic race” seems mere good sense, because if we believe we are two different races in a bio-genomic sense we intend to say that you have some genes that make you similar to a particular group of people genomically identified, and on the other hand I have some genes that make me similar to another particular group of people bio-genomically identified, while if we believe that we are two different races in a social sense we intend something very different, that is, that I conceive my identity as socially characterised by my being a member of particular group of people, and the same holds for you.

Many scholars hold a pluralist approach about race, like for instance Kaplan and Winther (2014) who distinguish among three concepts of “race”—“bio-genomic”, “biological”, and “social race”—and, respectively, three kinds of realisms—bio-genomic, biological, and social—about race. While according to bio-genomic realism and social realism races exist as human groups genomically or “phenomically” (assessed through anthropometrics measures) and socially determined, respectively, biological realism affirms that “a stable mapping exists between the social groups identified as races and groups characterized genomically or, at least, phenomically” (Kaplan and Winther 2014: 1040).

The concept of “bio-genomic race”, therefore, could only refer if it were true that a clear-cut division (or, in other words, a univocally determined genome-based structure) of the species *Homo Sapiens* exists. But because such a division does not exist, the concept of “bio-genomic race” does not refer and therefore we should eliminate it under basic eliminativism.

What is the biological evidence that anthropologists and, later, population geneticists have provided in favour of the non-reference thesis about the concept of “bio-genomic race”? Back to 1942, in his book *The Concept of Race*, anthropologist Ashley Montagu points out that the usage of the term ‘race’ in his time is the same sense in which it was used in the 19th century, namely, “a subdivision of a species the members of which resemble each other and differ from other members of the species in certain traits” (Montagu 1942: 14), which represents a definition of race based on visible physical traits. Interestingly, Montagu stresses that “many differences exist between different groups of human beings is obvious, but the *anthropological conception* of these is erroneous, and the anthropological approach to the study of their relationships is unscientific and pre-Mendelian” (Montagu 1942: 7). According to Montagu, the many attempts to biologically renew the concept of race, or, by using his words, “to pour new wine in the old bottles”, are just doomed to fail because the shape of the bottles does not change, and this shape is made up by unscientific ideas of race which nothing have to do with the real genetic variation between human groups. Twenty years later, physical anthropologists Frank Livingstone and Theodosius Dobzhansky famously claimed that “there are no races, there are only clines” (1962: 279), to stress the biological evidence that the genetic variation between human populations is mostly smooth and continue rather than sharp and discrete. Later, in 1974, the geneticist Richard Lewontin in his book about human genetic variation wrote that “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” (Lewontin 1974: 156). Montagu, Livingstone, Dobzhansky, and Lewontin explained with their work that it is not that biological—i.e., genetic—differences between human groups do not exist, because they do exist; the point is rather *how* scientists decide to interpret, represent through a specific research design/statistical methods, and use these genetic differences, like for instance to make the false claim that a clear cut division of the human species in races exists and that each race is characterized by specific physical features reflecting a different genetic ancestry. In other words, biological evidence of the existence of genetic differences between human groups does not support the referring of the concept of “bio-genomic race”.

Many other geneticists after Lewontin have pointed out that genetic differences between human groups do not justify a racial division of the human species. Baker and colleagues (2017), for instance, have recently claimed that there are *two* main arguments against the existence of race in a genetic sense: “*One*, apportionment of genetic variance into hierarchical groups relies on arbitrary thresholds and leads to incoherent classification. *Two*, the description of human genomic variation as clustered has led some to equate ancestry with continent and hence with race and has been countered with the argument that variation is clinal” (Baker et al. 2017: 6, italics added).

To put it in other words, genetic evidence suggests that biological races do not exist in the sense of a unique racial classification of the human species, since there is no agreement about types and numbers of the human “races” (see e.g.

Barbujani 2005; Barbujani and Pigliucci 2013): the concept of “bio-genomic race” is not supported by the biological theory. As aptly put by Nielsen:

The definition of categories depends on the researcher’s choice of sample design. The categories we estimate are *consequences of the way we have designed our research*. [...] The traditional race categories are *Eurocentric constructs* that only coincide with genetically constructed categories if genetic variability within Africa is ignored (Nielsen 2021: 161, italics added).

Under *basic eliminativism*, the concept of “bio-genomic race” must therefore be eliminated. Interestingly, along with the eliminativist positions about race there have been attempts to replace the term ‘race’ with alternative terms considered as scientifically valid and non-racist. In his book *Man’s Most Dangerous Myth: The Fallacy of Race* (1942), Montagu himself proposes to replace the term ‘races’ with the term ‘major groups’, to refer to the four main groups in which the human species could be divided, and years after his book, scholars suggested to use different terms in scientific research to replace the term ‘race’, like for instance the terms ‘genetic ancestry’ (see e.g. Fujimura and Rajagopalan 2011) and ‘racialized population’¹ (Hochman 2021). In human genetic studies, many scholars avoid using the term ‘race’, preferring terms like ‘genetic ancestry’ or ‘continental ancestry’ (see e.g. Baker et al. 2017; Constantinescu et al. 2022). A term like ‘genetic ancestry’, however, can be as dangerous as the term ‘race’ if used to indicate that continentally labelled (i.e. “African” or “European”) or racially labelled (i.e. “Black” or “White”) groups of individuals with a homogeneous and well-determined genetic pool exist. Genetic ancestries, like races, cannot be univocally identified. In fact, ancestries, along with ancestry-specific allele frequencies, *vary in time*.

Being defined by DNA, ancestries are subject to evolutionary change, i.e., ancestries are subject to birth-death cycles and ancestry-specific allele frequencies can change over time. Ancestries are related through a phylogeny which describes ancestral and descendent relationships. As such, it is appropriate to ask how many ancestries existed at a specified period of time and what the ancestry-specific allele frequencies were at that time. Over the timespan of anatomically modern humans, most ancestries emerged after the Out-of-Africa migrations and no ancestries are near fixation. Almost no samples are ancestrally homogeneous; taken together, these findings indicate that ancestries should not be thought of as types. However, during peopling of the world, ancestries remained distinct long enough to acquire correlation with language (Baker et al. 2017: 6).

Baker et al. have provided evidence that continent, ethno-linguistic group, race, and ethnicity all carry ancestral heterogeneity, meaning that ancestry cross-classifies ethno-linguistic group as well as continent and race. What about skin colour as a label carrying ancestral homogeneity? Many studies have shown that “skin coloration in humans is adaptive and labile. Skin pigmentation levels have changed more than once in human evolution. Because of this, skin coloration is of no value in determining phylogenetic relationships among modern human groups” (Jablonski and Chaplin 2000: 57). Using the term ‘ancestry’ to refer to a fixed and well-determined property of individuals belonging to a certain group

¹ According to Hochman, races do not exist, but only racialized populations do, therefore a person does not belong to a race, and is rather just thought of as belonging to a race.

reinforces the idea that relevant genetic differences with consequences on phenotypes can be identified between groups, which not only is false, but also reinforces a harmful employ of the concept of “race” in science and society. The problem, here, is not with the term ‘race’, but with the *idea of race* hidden behind concepts considered as scientifically valid and politically correct.

Since there is evidence that the concept of “bio-genomic race” does not refer, the *non-reference thesis about the concept of “bio-genomic race”* is true. It follows that, under *basic eliminativism*, at least *partial eliminativism about “race”* holds. Actually, under *basic eliminativism*, we may have to embrace a *blank eliminativism about “race”*—i.e. in the case that also the *non-reference thesis about the concept of “social race”* were true.

Should we adopt some weaker versions of eliminativism like *well-tempered eliminativism* or *pragmatic eliminativism*, however, we should still subscribe to some form of eliminativism about “race”, since the concept of “bio-genomic race” turns out to be *not* relevantly useful. There is no epistemic or pragmatic gain in using the non-referring concept of “bio-genomic race”. It is a matter of fact that such a concept has been abandoned by human population geneticists more than 60 years ago, because considered biologically incorrect and of no utility, and has been easily replaced by the concept of “human population”. Nowadays virtually no human population geneticist uses this concept or think it could be somehow useful, even those who aim to emphasize genetic differences between human populations across continents through statistical methods (see e.g. Rosenberg 2002). Yet, even in the field of medical genetics, where a specific kind of social race (i.e. *self-identified race*) is used as a proxy for bio-genomic race, the concept of “bio-genomic race” is of no use and could be easily replaced by the concept of “genetic ancestry”, as several scholars suggested (see e.g. Fujimura and Rajagopalan 2011)—except that the concept of “genetic ancestry”, as said, is problematic as well.²

Moreover, its use produces socially harmful consequences, because it reinforces the racist prejudices that humans differ in innate characteristics that have to do with their capacities, talents, inclinations, and predispositions. There is no utility in suggesting that there may be innate characteristics involved in causing cognitive, behavioural, moral, or medical differences between different races. This is simply dangerous.

Of course, under *basic eliminativism*, a complete ban over the ‘race’ term would be needed if the *non-reference thesis about the concept of “social race”* were correct. In the next section I will present the concept of “social race” in general, and then I will introduce a particular kind of social race, namely “self-identified race”, as it is used in medical genetics and epidemiology. We will see that even for the concept of “social race” we may adopt two different ontological positions, a realist and an anti-realist position. While most scholars (see, as an exception, Andreasen 2000; Spencer 2014, 2019) deny a biological reality of race, many scholars hold a realist approach about social races and think that the concept of “social race” refers. Independently of the particular ontological position we wish to adopt, the concept of “social race” is very useful in some scientific contexts; in section 4, I will show that in the field of social epidemiology, “social race” is useful and not replaceable by any other variable, given its being the unique proxy for the effects of structural racism on health. Therefore, even in case we decide to

² About a hidden use of the concept of “genetic ancestry” in medical genetics, see below: Section 4.

adopt an anti-realist position and claim that the concept of “social race” does not refer, we may adopt *well-tempered* or *pragmatic eliminativism* and therefore decide to continue to use social race in those specific scientific contexts in which social race is useful and justified from an epistemological point of view.

3. The Concept of “Social Race” as a Referring Concept

Many scholars believe that race exists as a social construct. Sally Haslanger, for instance, is a realist social constructivist and believes that race, like gender, has a socio-political reality: race is a socio-political construct in the sense that is a thing that exists in the social world and so, somehow, depends on us (Haslanger 2019). According to Haslanger, social categories like races are special social kinds that she calls “structures”, which are well-established and stable categories that are created by complex and repeated patterns of interpersonal social relations (see Haslanger 2012). In her constructivist account of race, Haslanger also defines races as “racialized groups”, where “a group is racialized (in a context) if and only if its members are socially positioned as subordinate or privileged along some dimension—economic, political, legal, social, etc.—(in that context), and the group is ‘marked’ as a target for this treatment by observed or imagined bodily features presumed to be evidence of ancestral links to a certain geographical region” (Haslanger 2006: 93; see also Haslanger 2000: 44).

On her view, physical features like skin colour represent socially determined “schemata”: “being White (in a context) is a matter of being seen as conforming to a meaningful bodily schema associated with European ancestry—such schemata I call ‘colour’—and being treated (in that context) as positioned in a social hierarchy appropriate for persons of that ‘colour’” (Haslanger 2006: 93). Moreover, Haslanger thinks that, besides the fact that structural hierarchical features associated to race are stable, the social role or experience of *being a member of a race* (that is, in the example above, “being White”) may vary across places and times and other social hierarchies like gender, class, sexuality, culture, nationality, etc., because “racial hierarchies interact with those social hierarchies and therefore the concrete impact of being White varies depending on other aspects of one’s social position” (Haslanger 2000: 93).

Chike Jeffers, like Haslanger, is a social constructivist about race with a realist approach: he denies biological reality but thinks that physical appearance and ancestry are very significant “as a matter of social reality that we produce and maintain through widespread patterns of thought and behaviour” (Jeffers 2019: 41). According to a social constructivist realist approach, therefore, it does not matter that we may prove empirically that biological differences between races connected to ancestral origin or physical appearance do not exist in the world to claim that races have a reality. The fact that such differences *are believed* to exist, and people treat other people as members of a certain race, is sufficient to make races real. Therefore, within this philosophical approach, the concept of “social race” refers, and we have no reason to eliminate completely the concept of “race” from science under *basic eliminativism*. *Basic eliminativism* is consistent with the survival of race in scientific discourses, because in a sense race exists.

However, there are scholars who are anti-realist about the concept of “social race” as well. Lorusso and Bacchini (2021), for instance, have claimed that race is like witchcraft in the sense that the concept of “race” does not pick out anything real. Realist social constructivist, of course, may argue that “social race” refers

because some people do believe that race exists, and *this yields real social consequences*. However, Lorusso and Bacchini rebut that we should consider race as something whose ontological status must be completely in the hands of population genetics. If population genetics decrees that there are no such things as human races, then human races do not exist, no matter that some people believe they do and this is socially relevant. In analogy, since we have agreed that the ontological status of witchcraft must be completely in the hands of scientific disciplines that study the human mind and its physical counterpart, and “modern theories of mental dysfunction led to the elimination of witches from our serious ontology, we have concluded that there are no witches, plain and simple (Churchland 1984: 44)” (Lorusso and Bacchini 2021: 282).

In a like spirit, Jonathan Kaplan (2024) has claimed, like David Hochman before him, that only *racialized populations* exist in our societies, not races: in their views, people do not belong to any social category called ‘race’, because this social category does not exist, and what we can just say is only that people are thought and treated as a race, or in other words that they are racialized (Hochman 2021; 2022).

What is important to stress here is that, even if we decide to adopt the *non-reference thesis* about the concept of “social race”, we might need not to radically eliminate race. We should only do so under *basic eliminativism*. However, under *pragmatic* or *well-tempered eliminativism* we should not eliminate it completely from scientific discourses because, as I am going to show in the next section, social race is extremely useful in some scientific contexts. As nicely put by Haslanger, without social categories like race and gender our explanatory resources would be impoverished and therefore we should hold a non-eliminativist theory of these categories (Haslanger 2012). In the next section I will discriminate between two different scientific contexts in which social race is used and show how social race is totally useless and dangerous when used in the field of medical genetics, but extremely useful when used in social epidemiology.

4. The Concept of “Social Race” as a Useful Concept (Even in Case it Did Not Refer)

Let us now analyse the concept of “social race” as it is used in medical genetics and see whether it is useful. In race-based medical genetics, interestingly, a concept of “social race” is considered to be relevant both for risk assessment and race-based treatments (e.g. Risch et al. 2002; Burchard et al. 2003; Borrell et al. 2021; Oni-Orisan et al. 2021). The specific concept of “social race” used in medical genetics is the concept of “self-identified race”, which refers to the racial category people identify themselves as. In race-based medical genetics, the concept of “self-identified race” is used as a proxy for a specific genetic ancestry correlated to the risk of complex diseases: in other words, a concept of “social race” is here used *as a proxy for a concept of “bio-genomic race”* referring to discrete genetic clusters characterized by specific risk related genotypes: “There is a remarkably strong correlation between a person’s continent of ancestral origin and self-identified race. Thus, we believe that race has both a genetic and a social component” (Oni-Orisan et al. 2021: 1163). However, there are important epistemological problems in this use of self-identified racial categories in medical genetics. In particular, this use of self-identified racial categories in medical genetics is based on three premises that have been shown to be very problematic:

1. Self-identification as any of the OMB³ races is very highly correlated with membership to a specific human continental population, therefore to a specific genetic ancestry;
2. A genetic ancestry can be univocally determined;
3. Genetic ancestry correlates strongly with hypothetical genetic variants which contribute to the risks of complex diseases.

To begin with premise 1, self-identified race is not a good proxy for genetic ancestry because self-identification as a certain racial category strongly depends on many complex socioeconomic and psychological factors, which may also vary in one person's lifetime (about this topic see Lorusso and Bacchini 2015; Yudell et al. 2016; Saperstein and Penner 2012). In addition to this main problem, premises 2 and 3 are undermined by what we have just said above about the concept of "bio-genomic race", that is, that the concept of "genetic ancestry" is itself problematic.

So, first of all, we have here a case of a concept of "social race" used as a proxy for a concept (the concept of "bio-genomic race") that does not refer and is of no use if it is intended to be ultimately correlated with genetic risk to distinct complex diseases. So, this concept of "social race" should be eliminated under *Basic eliminativism* as well as under *Well-tempered* or *Pragmatic eliminativism*. In particular, there is no epistemological gain, and rather inconsistent correlations are believed to hold on the basis of premises 1, 2 and 3; moreover, using this way a concept of "social race", as if it was grounded on a univocally determined genetic ancestry correlated to relevant phenotypic traits, can be deemed practically harmful because it reinforces an erroneous idea of race. This is further reason to eliminate this concept of "social race" from medical genetics.

Let's analyse now the case of social epidemiology, where the main question is: Is there any difference in health outcomes between social races? In epidemiology race is considered as a useful variable that can highlight patterns of a different disease distribution between racial groups; in social epidemiology, in particular, race is considered as a fundamental socio-biological variable within the "ecosocial" theory of explanation of population patterns of health, disease, and well-being (Krieger 2001). The first critical distinction between medical genetics and ecosocial models in the explanation of health differences between social races is that within ecosocial models those differences are explained by means of social, economic, and cultural differences between those groups, instead of by means of innate genetic differences. A second distinction, within ecosocial models, is between race as a variable used to capture the present and past biological consequences of 'structural racism' (sometimes also called 'systemic' and thought to include that called 'institutional')⁴ and race as a variable used to study other socio-economic variables, commonly associated to race in a racialized society. Ecosocial models aim to comprehend the embodiment of economic and social inequities, systemic racial discrimination, unjust

³ Office of Management and Budget (OMB) races represent sociopolitical categories used by U.S. government for collecting and presenting data on race for all Federal reporting. OMB races are five: American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; White.

⁴ Even if there is not a unique definition of structural racism, "all definitions make clear that racism is not simply the result of private prejudices held by individuals, but is also produced and reproduced by laws, rules, and practices, sanctioned, and even implemented by various levels of government, and embedded in the economic system as well as in cultural and societal norms" (Bailey et al. 2021: 768).

race relations, differential adverse exposures and so on (Krieger 2005): the “race we live” every day is responsible to the embodiment of social inequalities that cause health differences between human groups through harmful changes in gene expression (see e.g. Bailey et al. 2021; Krieger et al. 2020; Happe 2013; Kuzawa and Sweet 2009). Under this perspective, race has a biological reality because a shared idea of race identity, and consequently socially constructed racial groups, exist in our society: it is not necessary to belong to a certain race in virtue of particular biological (like genetic, for instance) properties in order to be thought and treated as a certain race, and the fact that we are treated as a certain race may determine biological properties like a specific predisposition to diseases.

It is a cultural and social idea of race that makes race a useful variable in epidemiology, not specific racial genotypes. While in medical genetics genetic differences between races are considered causes of health inequalities, in ecosocial theories of explanation of diseases distribution, differences in psychosocial exposures are taken as the main causes of biological differences between races, making these socially determined groups biologically distinct, and race a useful variable to comprehend health inequalities.

Of course, this is only true in a racialized and racist society, i.e. a society in which race and racist discrimination play an important role in interpersonal relationships, institutions, social, political, and health policies. In a society where racial reasoning and racism were completely eradicated, race would not be a useful variable anymore.

Consider for example the U.S. racialized social system, where the role of perceived interpersonal discrimination has an important impact on people health over individuals’ life course: in such system, negative social experiences like perceived racist discriminations get “under the skin” via interactions with biological processes that support individuals’ capacities for responsivity and adaptation to stress (see e.g. Goosby et al. 2018; Priest and Williams 2018). Together with *perceived racism*, *perceived racial identity* also represents an important psychosocial factor that may be included into a modern concept of “environment” within epidemiological models of explanation of predispositions to multifactorial diseases in social epidemiology. In fact, while there are several studies that show how a strong black race identity can be a protective factor against the dangerous effects of racism on health (in a society where blacks are discriminated), others focus on the protective effect of a white race identity as opposed to a black one in a racialized society and even in a racialized neighbourhood (Sellers et al. 2003).

Because race identity is as important as racism to investigate risk factors between racial groups, we may ask whether it is correct to be an anti-realist about social races and only consider racialized groups. Hochman’s anti-realist claim that “there are no races but only racialized populations” works well in the case we wish to take into account those biological aspects related to a structural racism acting on a person that is named and treated as a race; however, in case we wish to consider those biological aspects related on one’s race identity, we should hold a realist position about social races. In fact, race identity has to do with one’s self-ascription as a particular race, not as a racial ascription of groups perpetuated by other groups; such a self-ascription may have an independent role within the ecosocial models that consider race as a fundamental variable to understand complex mechanisms of interactions between social relations and health issues. In the U.S. most people strongly believe *to be of a certain race* rather than being simply “racialized” by other people; of course, one could reply that people believe to be of a certain race because

they have been racialized in the past; but even if their race identity is caused by a chronic process of racialization and racial discrimination, we cannot deny its existence (for a discussion on this topic, see Kaplan, forthcoming). A self-ascribed race identity also contributes to shape racial categories in a racialized society like the U.S., and carries important information about the health status and risk factors associated to a person. In other words, the social and cultural construction of a personal race identity together with the process of racialization of a person both capture those social and cultural aspects and experiences that are associated with biomedical outcomes, those aspects and experiences that make race so important in biological explanations and medical practice.

Let's see now what social race may represent epistemically in the modern aetiological framework of social epidemiology and in the modern epigenetics theories. The aetiological framework of social epidemiology, articulated first in 1920 and then refined in 1950, considers a *host-agent environment*: while the "host" is the individual with her intrinsic vulnerability, the agent is every exposure that acts upon the host during her life course. The host is more or less susceptible to the ubiquitous agents in our environment because of the fact that environmental factors are capable of changing individual resistance, conferring to the host a personal agency towards the environmental agents (Cassel 1976). These ideas found contemporary molecular epigenetics theories, where the 'agents' are named 'exposures', and the agency of the host is given by the past environmental experiences that can be embedded in the genome through the mechanism of epigenetic inheritance. In the postgenomic era, the concept of "soft inheritance" has a fundamental role: the genome is not seen any more as the main character in the play of determining specific risks of disease, and the main focus is on its permeability to environmental exposures.

In the novel epigenetic framework, biological memories of environmental experiences are embedded in the human genome and may be transmitted transgenerationally. Within this framework, race has two different epistemic roles: to begin with, it is a variable that can help understanding the *intrinsic vulnerability* that the host has inherited through mechanisms of epigenetic transgenerational inheritance; in addition, it is a fluid variable that may change in the life course of every individual, conferring to the host a specific *vulnerability* or in some case a *resistance* to racism-related psychosocial exposures. A third role of race, as I said above, is due to the fact that race strongly correlates with socioeconomic variables and therefore it can be used to understand the complex relationships between racism-related exposures, socioeconomic factors, and health.

A recent work in social epidemiology studies the role of historical redlining⁵ in determining present-day risk of preterm birth in New York City (NYC). Preterm birth is one of the most important and studied effects of structural racism on health and is deeply studied in social epidemiology because of its public health significance: "it exhibits marked and incompletely understood racial/ethnic inequities, is a primary determinant of infant death, and is an important pathway for

⁵ "Redlining is a racially discriminatory practice in which Home Owners' Loan Corporation maps rated areas in relation to how credit-worthy they were deemed for mortgages. The grades ranged from A ("best"—green) to B ("still desirable"—blue) to C ("definitely declining"—yellow) to D ("hazardous"—red, giving rise to the term "redlining"). A and B areas were predominantly White and affluent; C and D areas had residents of color, especially African Americans" (Krieger et al. 2020: 1047).

intergenerational harm, whereby exposures adversely affecting pregnant women can compromise their children's health, from infancy to adulthood" (Krieger et al. 2020: 1046-1047).

Krieger and colleagues have shown a clear association between redlining and preterm birth in New York City, constructing a conceptual model that aims to explain the possible pathways existing among historical redlining, neighbourhood trajectories, and preterm birth inequities. According to such a model, redlining policy introduced in the 1930s in New York City by the Home Owners' Loan Corporation (HOLC) color-coded maps brought to the creation of very specific neighbourhood trajectories of home ownership, residential segregation, investment that cause differential resources for living like environmental pollution, housing, transportation, employment, education, health care facilities, food stores, bank branches, social service agencies, parks and recreational facilities, etc.—thus determining the embodiment of different kinds of exposures: material, access to and quality of health care, health behaviours, psychosocial exposures which have been determining inequities in the risk of preterm birth.

To resume, in ecosocial models of social epidemiology, social race is a useful variable to investigate stress-related biological mechanisms that link structural racism to health and other complex routes that go from race identity to health. No other variables can be used for this purpose, therefore in social epidemiology eliminativism about social race is not a good philosophical stance even in case we adopted *The non-reference thesis about the concept of "social race"*. Consider the possibility that we wish to follow Hochman's thought and hold an anti-realist ontological position about social race, i.e. claim that they do not exist. Even in this case, we may refuse to eliminate social race from science: for, given the epistemic value of social race and our adoption of well-tempered eliminativism, social race should be used if epistemically useful.

Sociologist and data scientist Shawn Trivette has recently stressed the fact that we cannot address structural racism and its symptoms if we decide to ban any discourse about race from our society. Trivette (2022) discusses the danger of the so-called ban on Critical Race Theory (CRT) in the U.S. where lawmakers in Tennessee and other States are "pushing some bills that would ease the removal of books from school libraries, limit diversity initiatives in higher education, and restrict the teaching of diversity and equity concepts at the college level" (Trivette 2022: 1; about the ban of CRT in Tennessee, see also Kruesi 2021); according to Trivette, American society should not stop thinking and talking about race simply because race and racism are still embedded in that society and therefore Americans have the moral duty to understand race if they want to understand American society and face racism: "Being a good person does not mean an absence of racist views. Being a good person means working through our often-complicated views of race, recognizing that we are all implicated in the systems that produce racially unequal outcomes, and doing the work necessary to fix those outcomes" (Trivette 2022: 1). While adopting a racist behaviour requires to possess an idea of race, to possess an idea of race does not imply a racist behaviour; to understand our and others' idea of race is important to face social inequalities between human groups due to systematic racism.

The same point can be made *mutatis mutandis* about using a concept of "social race" in scientific discourses: a scientist using such a concept is not necessarily a racist scientist, contrary to what sociologist Jonathan Marks has recently claimed in his book *Is Science Racist?* (2017). Scholars who hold a blank eliminativism about

any concept of “race” (including “social race”) are prone to think that the use of any concept of “race” in scientific discourses necessarily implies a necessity to be racist scientists or, at best, bad scientist promoting an unscientific concept causing the perpetuation of racism in societies. The opposite is true: being a good scientist means to be a scientist who uses the race concept in a conscious way, with the aim of clarifying the causal networks in which race acts directly or indirectly to determine health disparities between racial groups. A conscious and justified use of race in science helps fighting racism, since it helps eliminating popular ideas of race and imaginaries of race that belong to every individual, based on a dangerous mix of concepts like “type”, “heredity”, “blood”, “skin colour”, “culture”, “nation”, “identity”, “personality”, “intelligence”, “socio-economic status”. Science has a fundamental role in weakening false beliefs and imaginaries of race and therefore in eradicating racism, in a virtuous mechanism of co-production between science and society.

5. Conclusions: Why Should We Prefer Well-Tempered or Pragmatic over Basic Eliminativism?

Of course, one may raise the question of why we should prefer *well-tempered* or *pragmatic eliminativism* over *basic eliminativism*. Shouldn't we proceed and eliminate all concepts deserving to be eliminated, no matter what are the consequences? And, in this case, what concept deserves more to be eliminated than one that does not refer?

Indeed, to move back to the witchcraft example, there are good reasons to ask that the move from the diagnosis that a concept does not refer to the decision to eliminate it should not be automatic. Suppose that you agree with Lorusso and Bacchini (2021) that witchcraft does not exist in any sense. According to them, not even the concept of “social witchcraft” can be said to refer, because modern theories of mental dysfunction—not sociology—are the only competent authorities for deciding whether there is such a thing as witchcraft or not. Still, even if we decide that “there are no witches”, we would lose an important part of our explanatory capacity with regard to women burned at the stake in medieval and early modern Europe, or negatively discriminated in contemporary Africa, if we dropped completely the concept of “witch”. Actually, the concept of “witch” is simply necessary for expressing the truth that some people are falsely believed to be witches. If we could no longer express this truth and the like, it would be impossible to correctly explain why many women were burned at the stake. Because we value epistemic usefulness, then, we should prefer *well-tempered* over *basic eliminativism*. Moreover, sometimes employing a non-referring concept is socially or pragmatically useful. If we could save many women from burning at the stake by merely employing the concept of “witch” for truthfully describing their condition—i.e., the conditions of being believed witches—we should opt for employing the concept. If this intuition is correct, we must note that it can be applied to the race case, too, since—as we have seen—employing the concept of “social race” is a necessary condition to see the effects of racism, which in turn is a necessary requirement for eradicating racism itself.

In conclusion, we should then embrace *partial eliminativism about “race”* whatever ontological position we take about social race, that is, no matter we hold *the non-reference thesis about the concept of “social race”* or not. We should reject *blank eliminativism about “race”* also in case we think that the concept of “social race”, like that of “bio-genomic race”, does not refer.

References

- Andreasen, R.O., 2000. Race: Biological reality or social construct?. *Philosophy of Science*, 67(S3), S653–S666.
- Baker, J.L., Rotimi, C.N., & Shriner, D., 2017. Human ancestry correlates with language and reveals that race is not an objective genomic classifier. *Scientific reports*, 7 (1), 1-10.
- Bailey, Z.D., Feldman, J.M., and Bassett, M.T., 2021. How structural racism works—racist policies as a root cause of US racial health inequities. *New England Journal of Medicine*, 384 (8), 768–773.
- Barbujani, G., 2005. Human races: classifying people vs understanding diversity. *Current genomics*, 6 (4), 215–226.
- Barbujani, G. & Pigliucci, M., 2013. Human races. *Current Biology*, 23 (5), R185–R187.
- Burchard E.G., Ziv E., Coyle N., et al., 2003. The importance of race and ethnic background in biomedical research and clinical practice. *New England Journal of Medicine*, 348, 1170–1175.
- Borrell, L.N., et al., 2021. Race and genetic ancestry in medicine—a time for reckoning with racism. *New England Journal of Medicine*, 384 (5), 474–480.
- Berger, C.R. and Calabrese, R.J., 1975. Some explorations in initial interaction and beyond: toward a developmental theory of interpersonal communication. *Human Communication Research*, 1, 99–112. doi: 10.1111/j.1468-2958.1975.tb0 0258.x
- Cassel, J., 1976. The contribution of the social environment to host resistance. *American Journal of Epidemiology*, 104, 107–123.
- Constantinescu, A.E., et al., 2022. A framework for research into continental ancestry groups of the UK Biobank. *Human genomics*, 16 (1), 3.
- Churchland, P.M., 1984. *Matter and consciousness*, 1st ed. Cambridge: MIT Press.
- Edwards, A.W.F., 2003. Human genetic diversity: Lewontin’s fallacy. *BioEssays*, 25, 798–801.
- Fleck, L., 1935. *Genesis and development of a scientific fact*. Chicago: University of Chicago Press.
- Fujimura, J.H. and Rajagopalan, R., 2011. Different Differences: The Use of “Genetic Ancestry” Versus Race in Biomedical Human Genetic Research. *Social Studies of Science*, 41 (1), 5–30.
- Gannett, L., 2001. Racism and Human Genome Diversity Research: The Ethical Limits of “Population Thinking”, *Philosophy of Science*, 68 (3): S479–92. Supplement: Proceedings of the 2000 Biennial Meeting of the Philosophy of Science Association. Part I: Contributed Papers.
- Glasgow, J., Haslanger, S., Jeffers, C., & Spencer, Q., 2019. *What is race? Four philosophical views*. Oxford: Oxford University Press.
- Goosby, B.J., Cheadle, J.E. & Mitchell, C., 2018. Stress-Related Biosocial Mechanisms of Discrimination and African American Health Inequities. *Annual Review of Sociology*, 44, 319–340.
- Gravlee, C.C., 2009. How race becomes biology: Embodiment of social inequality. *American Journal of Physical Anthropology*, 139, 47–57.
- Happe, K., 2013. *The Material Gene: Gender, Race, and Heredity after the Human Genome Project*. New York: NYU Press.

- Hardimon, M.O., 2013. Race concepts in medicine. *Journal of Medicine and Philosophy*, 38 (1), 6–31.
- Haslanger, S., 2000. Gender and Race: (What) Are They? (What) Do We Want Them To Be? *Noûs*, 34 (1), 31–55.
- Haslanger, S., 2006. What Good Are Our Intuitions: Philosophical Analysis and Social Kinds'. *Proceedings of the Aristotelian Society Supplementary Volume*, 80, 89–118.
- Haslanger, S., 2012. *Resisting reality. Social construction: The 'debunking' project*. Oxford: Oxford University Press.
- Haslanger, S., 2019. Tracing the sociopolitical reality of race. In: J. Glasgow, S. Haslanger, C. Jeffers, and Q. Spencer, eds. *What is race? Four philosophical views*. Oxford: Oxford University Press, 150–175.
- Hochman, A., 2021. Janus-faced race: Is race biological, social, or mythical?. *American Journal of Physical Anthropology*, 175 (2), 453–464.
- Hochman, A., 2022. Has social constructionism about race outlived its usefulness? Perspectives from a race skeptic. *Biology & Philosophy*, 37 (6), 48.
- Jablonski, N.G. and Chaplin, G., 2000. The evolution of human skin coloration. *Journal of human evolution*, 39 (1), 57–106.
- Jasanoff, S., 2004. The idiom of co-production. In: S. Jasanoff, ed. *States of Knowledge. The Co-production of Science and Social Order*. London: Routledge, 1–12.
- Jeffers, C., 2019. Cultural constructionism. In: J. Glasgow, S. Haslanger, C. Jeffers, and Q. Spencer, eds. *What is race? Four philosophical views*. Oxford: Oxford University Press, 176–202.
- Kaplan, J.M. and Winther, R.G., 2014. Realism, antirealism, and conventionalism about race. *Philosophy of Science*, 81 (5), 1039–1052.
- Kaplan, J.M., 2024. Race and Racialized Populations: Ascriptions, Power, and Identity. Forthcoming in *Argumenta*.
- Krieger, N., 2001. Theories for social epidemiology in the 21st century: an ecosocial perspective. *International journal of epidemiology*, 30 (4), 668–677.
- Krieger, N., 2005. Stormy weather: race, gene expression, and the science of health disparities. *American journal of public health*, 95 (12), 2155–2160.
- Krieger, N., et al., 2020. Structural racism, historical redlining, and risk of preterm birth in New York City, 2013–2017. *American journal of public health*, 110 (7), 1046–1053.
- Kruesi, K., 2021. Tennessee Bans Teaching Critical Race Theory in Schools, ASSOC. PRESS (May 25, 2021), <https://apnews.com/article/tennessee-racial-injustice-race-and-ethnicity-religion-education-9366bceabf309557811eab645c8dad13> [https://perma.cc/QHS7-JAUP, Accessed 3 May 2024].
- Kuzawa, C.W. and Sweet, E., 2009. Epigenetics and the embodiment of race: developmental origins of US racial disparities in cardiovascular health. *American Journal of Human Biology: The Official Journal of the Human Biology Association*, 21 (1), 2–15.
- Levins, R. and Lewontin, R., 1987. *The dialectical biologist*. Cambridge, MA: Harvard University Press.
- Lewontin, R.C., 1974. *The genetic basis of evolutionary change*. New York: Columbia University Press.
- Livingstone, F.B. and Dobzhansky, T., 1962. On the non-existence of human races, *Current anthropology*, 3 (3), 279–281.

- Lorusso, L. and Bacchini, F., 2015. A reconsideration of the role of self-identified races in epidemiology and biomedical research. *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, 52, 56–64.
- Lorusso, L. and Bacchini, F., 2021. Race as witchcraft. An argument against indiscriminate eliminativism about race. In: L. Lorusso and R.G. Winther, eds. *Remapping Race in a Global Context*, London: Routledge, 281–308.
- Lorusso, L. and Bacchini, F., 2023. The indispensability of race in medicine. *Theoretical Medicine and Bioethics*, 44 (5), 421–434.
- Marks, J., 2017. *Is science racist?*. Cambridge: John Wiley & Sons.
- Montagu, M.A., 1945. *Man's most dangerous myth: The fallacy of race*. New York: Columbia University Press.
- Nielsen, R., 2021. Modern population genetics and race. In: L. Lorusso and R.G. Winther, eds. *Remapping Race in a Global Context*. London: Routledge, 157–163.
- Oni-Orisan, A., et al., 2021. Embracing genetic diversity to improve black health. *New England Journal of Medicine*, 384 (12), 1163–1167.
- Ossorio, P. and Duster, T., 2005. Race and genetics: controversies in biomedical, behavioral, and forensic sciences. *American Psychologist*, 60 (1): 115–28.
- Priest, N. and Williams, D.R., 2018. Racial discrimination and racial disparities in health. In: B. Major, J.F. Dovidio, and B.G. Link, eds. *Oxford Library of Psychology. The Oxford Handbook of Stigma, Discrimination, and Health*. Oxford: Oxford University Press, 163–182.
- Risch, N., Burchard, E., Ziv, E., & Tang, H., 2002. Categorization of humans in biomedical research: genes, race and disease. *Genome biology*, 3 (7), comment2007-1.
- Rosenberg, N.A., et al., 2002. Genetic Structure of Human Populations. *Science*, 298 (5602), 2381–2385.
- Saperstein, A. and Penner, A.M., 2012. Racial fluidity and inequality in the United States. *American journal of sociology*, 118 (3), 676–727.
- Sellers, R.M., Caldwell, C.H., Schmeelk-Cone, K.H., & Zimmerman, M.A., 2003. Racial identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social behavior*, 302–317.
- Spencer, Q., 2014. A Radical Solution to the Race Problem. *Philosophy of Science*, 81 (5), 1025–1038.
- Spencer, Q., 2019. How to Be a Biological Racial Realist. In: J. Glasgow, S. Haslanger, C. Jeffers and Q. Spencer, eds. *What is race? Four Philosophical Views*. Oxford: Oxford University Press.
- Sussman, R.W., 2014. *The myth of race: the troubling persistence of an unscientific idea*. Cambridge, MA: Harvard University Press.
- Trivette, S., 2022. Commentary: We cannot address racism if we can't talk about race. Tennessee Lookout, <https://tennesseelookout.com/2022/03/03/commentary-we-cannot-address-racism-if-we-cant-talk-about-race/> [Accessed 6 May 2024].
- Yudell, M., Roberts, D., DeSalle, R., et al., 2016. Taking race out of human genetics. *Science*, 351 (6273), 564–565.
- Yudell, M., 2021. Considering racial terminology in public health research. *European Journal of Public Health*, 31 (1), 5–6.