

Contents lists available at SciVerse ScienceDirect

Studies in History and Philosophy of Biological and Biomedical Sciences

journal homepage: www.elsevier.com/locate/shpsc

Discussion Confusions about race: A new installment

Neven Sesardic

Department of Philosophy, Lingnan University, Hong Kong

When citing this paper, please use the full journal title Studies in History and Philosophy of Biological and Biomedical Sciences

In his criticism of my paper on the concept of race (Sesardic, 2010), Adam Hochman raises many issues that deserve further clarification. First, I will comment on Hochman's claim that I attack a straw man version of racial constructionism. Second, I will try to correct what I see as a distorted historical picture of the debate between racial naturalists and racial constructionists. Third, I will point out the main weaknesses in Hochman's own defense of constructionism about race. And fourth, I will briefly comment on why I think that Hochman unjustifiably dismisses one of the potential sources of racial differentiation that were suggested in my paper.

Before I start, though, a preliminary clarification is in order. Hochman kindly calls my article "one of the strongest defenses of racial naturalism in recent times", which might suggest to the reader that my goal was to offer a full-fledged biological explication of the concept of race. But in fact my ambition was more limited. As I explained:

My aim in this paper was *not* to prove the biological reality of race. Rather, *more modestly*, I have tried to show that typical attempts to disconnect the concept of race from genetics have too quickly and too uncritically been accepted by many "race critics". (Sesardic, 2010, p. 160; italics added)

I will continue defending the same position in this article.

1. A straw man comes to life

Hochman's central claim is that my defense of the biological notion of race fails because I allegedly equivocate between two interpretations of race: a weak interpretation that, according to Hochman, no one actually disputes (which would show that I am here arguing against a mere straw man), and a strong interpretation, which he regards as hopeless on the grounds that it has been conclusively ruled out on empirical grounds.

I will dispute this diagnosis on both counts. In this section I will try to show that the so-called "weak" interpretation is not a straw man. And later, much more importantly, I will argue that the "strong" interpretation of race is not undermined by Hochman's arguments.

Take the following proposition:

(1) Classifying people into commonsense races tells us *absolutely nothing* informative about biological characteristics of these people.

I think this proposition is false. Hochman seems to agree. But he also claims that everyone else rejects (1) as well, that there are no examples of racial constructionists who subscribe to that proposition. Attributing this view to anyone, he argues, just creates a straw man.

Well, let's see. Consider typical statements made repeatedly by leading racial constructionists that race is biologically "meaningless" (AAA, 1994; Fish, 2002, p. 138; Gould, 1996, p. 379; Marshall, 1998, p. 654; Rose, 2002; Schwartz, 2001), that "race as biology is fiction" (Smedley & Smedley, 2005), that "race is the phlogiston of our time" (Montagu, 1964, p. xii; similarly Hirschfeld, 1998, p. 36), that "race" is a concept like unicorn (Fish, 2002, p. 138), that "the reality of human races is [...] destined to follow the flat Earth into oblivion" (Diamond, 1994; a similar claim is also made by physical anthropologist A. Goodman in the 2003 PBS educational documentary "Race: The Power of an Illusion"), etc.

How is the ordinary reader expected to interpret these statements? As accepting (1)? Or as denying it? Or as being agnostic about it? I think it is quite obvious that most people would take these statements as implying (1). The ideas of phlogiston, unicorn and flat earth were rejected because they had no correspondence with reality whatsoever. In equating race with phlogiston, unicorn and flat earth, it is hard to see how Diamond, Goodman, Fish and Montagu could have intended to communicate to their readers anything less than (1). And yet (1) is the view that, according to Hochman, no one defends.

The same applies to the meaninglessness claim. On the face of it, saying that race is biologically meaningless is logically incompatible with denying (1). Denying (1) would entail that race is at least minimally informative about biological characteristics, but a

E-mail address: sesardic@ln.edu.hk

^{1369-8486/\$ -} see front matter @ 2013 Elsevier Ltd. All rights reserved. http://dx.doi.org/10.1016/j.shpsc.2013.03.005

biologically meaningless concept cannot be informative about biology. Hochman tries to avoid this implication by a torturous piece of reasoning:

Race offers a poor, misleading representation of human biological diversity. Does this mean that race is biologically meaningless? Well, it depends on what one means by that. If it means that race fails to capture the most basic features of human biological diversity—our predominantly clinal variation, the richness of diversity within sub-Saharan Africa—then yes, race is biologically meaningless. (Hochman, 2013)

Sorry, but no. Saying that race is biologically meaningless means much more than merely that race "fails to capture the most basic features of human biological diversity". It entails that race is not relevant *at all*, i.e. it entails not merely that race doesn't capture the most basic features of human biological diversity, but that it captures *no* biological features *whatsoever*. For if it did, it couldn't be biologically meaningless. So we end up, as before, with the conclusion that these racial constructionists are indeed saying something that in ordinary English is equivalent to (1). Hochman's "straw man" comes to life again.

But maybe when these people said that race is biologically meaningless they didn't mean it literally! Maybe. Nevertheless, they must have been well aware that, given the way they chose to express themselves, the public was bound to take them to mean something like (1). Why did they do it then? One possibility is that they were guided by what they regarded as the noble goal of fighting racism and that they intentionally overstated their case in the attempt to downgrade the importance of race as much as possible, even if this involved pushing race denial beyond what is justified by current biological knowledge.

Be that as it may, we should be able to agree about this: if many a public statement by racial constructionists looks like (1) and quacks like (1), we may not know for certain that it "really" means (1), but it certainly deserves to be treated as expressing (1). And discussed accordingly.

2. A consensus that never was

Hochman invests a lot of effort trying to show that recent studies pointing to genetic clustering of world populations (Rosenberg et al., 2002; Tang et al., 2005) do not support racial naturalism. I will address this part of his argument in a moment, but let me discuss something else first.

Hochman seems to think that these new studies are the only small dark cloud that recently appeared on the horizon, and that they represent the key obstacle to further advancement of racial constructionism. Before that, he thinks, social constructionism was clearly winning:

The UNESCO Statements on Race of the early 1950s are understood to have marked a consensus amongst natural scientists and social scientists that 'race' is a social construct. Human biological diversity was shown to be predominantly clinal, or gradual, not discreet, and clustered, as racial naturalism implied. From the seventies social constructionists added that the vast majority of human genetic diversity resides within any given racialized group. (Hochman, 2013)

This is a highly distorted picture of how the debate about race historically developed. Undoubtedly there has constantly been an effort to create the appearance of a scientific consensus through race-denigrating proclamations of experts, statements of learned societies and popular science publications. It is also undeniable that there was a lot of political pressure to minimize the biological importance of race. Understandably, many scholars were reluctant to express their opinion publicly if it deviated from the message that most people obviously wanted to hear and the line that many scientists were eagerly pushing.

But despite all this, it is easy to refute the story of the triumph of racial constructionism. It is ironic that Hochman sees the UNE-SCO Statements on Race of the early 1950s as having "marked a consensus amongst natural scientists and social scientists that 'race' is a social construct", because just a cursory glance into these documents would immediately dispel any illusion about the existence of a consensus.

Moreover, even before turning to the contents of the statements, a very obvious question arises: why did UNESCO release *two* statements on race in quick succession, one in 1950, and then another in 1951? Answer: because "geneticists and physical anthropologists immediately attacked the [first] statement vehemently" (Provine, 1986, p. 874). So the aim of the 1950 statement may have been to present the authoritative and collective opinion of science on the sensitive issue of race but "the objections of major scientists constituted a severe blow to the credibility of the whole enterprise" (Provine, 1986, p. 874).

Contrast the two UNESCO statements in one key respect. The 1950 statement says: "For all practical purposes 'race' is not so much a biological phenomenon as a social myth." In the 1951 statement that sentence disappeared (it was presumably one of those "important deletions") while in a newly added text we read: "The physical anthropologist [...] knows that races exist [...] from the scientifically recognizable and measurable congeries of traits which he uses in classifying the varieties of man." This sounds much more like racial naturalism than social constructionism.

Furthermore, some claims in the first statement that survived revisions and remained in the second version were also strongly criticized by a number of leading scientists who read the draft before publication. The resulting "consensus" was more socially manufactured than real.

With later developments as well, reports about a social constructionist consensus should be taken with a large helping of salt. Among other reasons for healthy skepticism about such stories, it is good always to remember the strong pressure that very often came outside of science to create the appearance of a scientific repudiation of race. Even Peter Medawar, a mainstream scientist with moderate views and hardly a crusader against political correctness once said, recommending the publication of John Baker's naturalist treatise on race: "*We all know* that the idea of race or raciality has been *systematically depreciated for political or genuinely humanitarian reasons*, and it was high time that someone wrote about race as Baker does, i.e. in the spirit and style of a one-man Royal Commission" (Kenny, 2004, p. 413; italics added).

3. Numerology about race

Let us look at some of the reasons that, according to Hochman, justified the alleged anti-race consensus. Racial constructionists (including Hochman) put a lot of trust in the well-known conclusion against racial classification, which Lewontin once put this way: "We found that there were practically no genetic differences between [human] groups except skin color and body form and a few things like that" (Lewontin, 2003). His claim was that we classify people into races on the basis of a few superficial genetically mediated characteristics, and that we then found that there are *no other* differences between these groups. But how exactly did we "find" that? (Besides, it is unclear how such a negation of an existential statement could be proved with currently available empirical methods.) Also, is it really true that there are no other differences? Answering these questions is a good way to start our discussion.

The main support for Lewontin's claim comes from the discovery that, with respect to human genetic variation, the between-group variation is much lower than within-group variation. The variation between groups is only 15% of total genetic variation, with the remainder (85%) coming from the variation within groups. Commenting on this argument Hochman says: "[M]ost scientists and philosophers thought [Lewontin] was right. Most still do, I think..."

The unfortunate thing is that many scientists and philosophers agree not only with Lewontin's figures but also with a highly dubious implication that he derives from them. For example, in a fairly recent edition of a widely used textbook in physical anthropology the authors still rely on Lewontin's mantra in dismissing the concept of race: "Anthropologists recognize that race isn't a valid concept, especially from a genetic perspective, because the amount of genetic variation accounted for by differences *between* groups is vastly exceeded by the variation that exists *within groups*" (Jurmain et al., 2009, p. 273).

Hochman appears to think that Lewontin's argument gave strong support for constructionism and that racial naturalism is nowadays making a resurgence largely due to a new factor in the debate, namely the influence of A. W. F. Edwards' 2003 article on the so-called "Lewontin's fallacy", as well as some recent empirical work on genetic differentiation of human groups. But in fact there were good grounds for being suspicious about Lewontin's argument even before these new developments.

First, the calculation of the low between-group contribution to total variance refers to differences that were *averaged* over many genetic loci that were taken into account. With respect to some of the examined loci the between-group contribution is actually much larger than 15%. For example, Lewontin's own values for the between-group contribution for the genes Duffy, Lutheran and Rh are higher than 30% (Lewontin, 1972, p. 396).

And second, it is totally unclear how this kind of strange numerological reasoning (within-group variation is 85%, between-group variation is "only" 15%, ergo...) could ever help us infer that, *just because of this "low" percentage of the between-group variation*, differences between the groups must be so small that they should be treated as *quantité négligeable*. This is a huge logical fallacy.

A similar appeal to numerology is made by Craig Venter. Hochman describes it as the claim that "all humans have genome sequences that are 99.9% identical" and "that 0.1% genetic difference between people is not enough to support racial naturalism". It is puzzling that so many scholars (and, to make things worse, many philosophers) could write about this kind of reasoning without their logical alarm bells being set off. (For an exception and good discussion of this issue see Tal (2013).).

After all, recall that we were being told for years that humans share about 99% of their DNA with chimpanzees. (This estimate has been recently downgraded a little.) But of course this made no one think that the DNA difference of 1% between humans and chimpanzees was so small that it precluded any important biological differences between the two species. Yet we are urged to believe that the discordance of 1% comfortably allowed for the existence of substantial group differences, but that somehow the discordance of 0.1% absolutely excludes any such possibility. Why? On what grounds? This is hocus-pocus with numbers, not an argument.

4. "I can't say breakfast!"

The bulk of Hochman's paper is devoted to difficulties with attempts to delineate the concept of race. For instance, he regards it as a problem for racial classification that forensic anthropologists are able to distinguish between groups that are separated not only racially but also "culturally, linguistically, politically, and temporally, and at a finer grain than a racial taxonomy offers". He adds: "Racial categories are only one way of grouping humans, and an imprecise one at that." Why should this be an objection to race as a biological classification? Surely those who defend that view don't have to be committed to the claim that racial categories are the *only* way of grouping humans, nor should they deny that racial categories are imprecise. They actually never make either of these two manifestly wrong claims.

Also, although Hochman is right that "forensic anthropologists are biased towards racial classification [...] because we, the public, tend to classify (our missing persons) racially", this "bias" doesn't make their findings any less objective or less naturalistic. The fact that they are so successful in classifying people racially shows that there are *real* biological differences underlying "social" race categories. This correspondence of "race" with skeletal and other empirically discovered differences validates the biological underpinnings of that concept, despite the social "bias" without which that knowledge might not have been obtained. Surely the social "bias" cannot produce that kind of result by itself. For example, in former Yugoslavia the public tended to classify people ethnically (Serbian, Croatian, Bosnian,...), but I bet that despite the strong role ethnicity played in that social context there were virtually no morphological differences to be found along these lines.

Speaking about forensic anthropology, Hochman wonders why I quoted some claims from anthropologist Norman Sauer's article (1992) in support of racial naturalism when, in the text itself, Sauer actually disavows the concept of race. Hochman thinks that the most obvious explanation is that "Sesardic favors persuasion over other academic virtues".

This is strange because immediately before giving this unfriendly diagnosis Hochman quoted a conclusion from Sauer's article which clearly shows that the main thrust of Sauer's antipathy toward the concept of race does not come from his scientific expertise but from rather irrelevant considerations that can be legitimately ignored. Sauer says:

Perhaps we could avoid the term "race" in our communications about cases, substituting 'ancestry' or some other word that has less baggage than race. Perhaps we could be more explicit about the social or cultural concepts of race. Certainly we can teach the non-existence of race in the classroom and do our best to clarify the use of races in forensic anthropology. (Sauer, 1992, p. 110)

So, it turns out that what mainly bothers Sauer is ideological connotations of the word "race" and it is this worry that leads to his proposal that "race" be replaced with another word with "less baggage", like "ancestry". This is a typical, purely verbal maneuver that we so often find in discussions about race. Notice that Sauer actually proposes that the non-existence of race be taught in the classroom and that at the same time the use of race in forensic anthropology be *clarified*, not abandoned. The message seems to be: deny the existence of the category but continue using it! This is very similar to what Frank Ramsey once described as the absurd position of the child in the following dialogue: "Say breakfast." (Ramsey, 1990, p. 6)

Interestingly, it is precisely in connection with Sauer (and some other physical anthropologists) that George Gill tried to explain to his puzzled students how these scientists managed to continue with their practice that seems so blatantly to belie their social constructionist beliefs:

Some of my students ask, how can these people, who can on a random sample of skeletons given to them out of context and who can classify them accurately by region (or "race" if forced to use this despised "social construct"), claim that they do not believe in race? My answer is that we can often *function* within systems that we do not believe in. (Gill, 1998, p. 4)

Many other scholars also try to have it both ways, i.e. deny race and at the same time study it. And it is not just racial realists who complain about this apparent incoherence. Sometimes even racial constructionists chastise their colleagues who ardently espouse politically correct views about race, but appear to make use of race in their actual scientific practice. A nice example is the sarcastic way Debra Harry and Jonathan Marks criticized Cavalli-Sforza and his co-researchers:

We learn, on the one hand, that the Human Genome Diversity Project will prove that races do not exist..., and on the other hand, [we see on the cover page of the *History and Geography of the Human Genes*] that its results can be summarized in widely publicized color-coded maps in which "Africans are yellow, Australians red, [Mongoloids blue], and Caucasoids green". (Harry & Marks, 1999, p. 304)

5. Race counting

An old argument that is often used to support social constructionism about race is connected with the question about the "true" number of human races. Hochman also thinks that this is a major difficulty for the biological concept of race. For example, Neil Risch and his collaborators talk about five major continental races: Africans, Caucasians, East Asians, Pacific Islanders and Native Americans (Risch et al., 2002). But each of these five groups could be divided further into subgroups of different ancestry, which would apparently have a good claim to be also called "races". So, how many races are there really: 5, or perhaps 10, or maybe 25, or some other number? Suppose that none of these answers is intrinsically more plausible than any other. Would it follow from this that there is something wrong with the idea that race is a biological concept? Not at all.

Take, analogously, the classification of people into age groups: children, adolescents, young adults, middle-aged people, old people. This seems to be a perfectly valid and objective taxonomy, despite the fact that each of these five age groups could also be subdivided further, or that people could actually be classified into age groups in a different way. But being just one of many ways to categorize people by age does not make the system fade into a realm of mere social constructions.

In some sense it is odd that the objection based on the number of races keeps reappearing because Dobzhansky defused it already half a century ago: "Boyd has recognized five, and Coon, Garn, and Birdsell nine or thirty or thirty-two races. Does it follow that some of these classifications are necessarily wrong? No, all may be right" (Dobzhansky, 1962, p. 266).

In principle we might introduce names for hundreds or even thousands of human groups that we could call races on the grounds of their genetic differentiation. Why do we not do this? Dobzhansky again explains: "Obviously it would not be convenient to give racial names to inhabitants of the different counties of England or of the different departments of France. But *everyone will agree* that the Negroes, the Europeans, and the American Indians are *clearly distinct*" (Dobzhansky, 1951, p. 661; italics added).

Notice that the three groups chosen by Dobzhansky as illustration are defined by the large continental or sub-continental areas of their origin (sub-Saharan Africa, Europe and America). In a similar vein, scientists speak of "three major human races: African, Caucasian and Oriental" (Bodmer & Cavalli-Sforza, 1976, p. 563), or they say that "[t]he emerging picture is that populations do, generally, cluster by broad geographic regions that correspond with common racial classification (Africa, Europe, Asia, Oceania, Americas)" (Tishkoff & Kidd, 2004, p. S26; similarly Risch et al., 2002), etc.

This "continental" approach is characteristic for the ordinary concept of race but it has also been adopted by many scholars who believe that seas, oceans, deserts and major mountain chains give rise to larger inter-group differences because they serve as more effective barriers to gene-flow than do occasional intra-continental divides: "…numerous human population genetic studies have come to the identical conclusion—that genetic differentiation is greatest when defined on a continental basis" (Risch et al., 2002, p. 3).

Yet it remains true that these "major" races cannot be rigorously distinguished from other groups, as they don't have a qualitatively different status from other possible groupings. Simply, there are no races with the capital R, and therefore the question about the "true" number of races has no principled answer. Hochman quotes racial naturalist Armand Leroi who is also very happy to concede that "there is nothing fundamental about the concept of the major continental races" and that the world's population might as well be divided into 10, 100, perhaps 1000 groups (Leroi, 2005). Hochman wrongly takes this as evidence that Leroi must be confused. In fact, racial naturalism does *not* entail that there must be a clear and precise answer to the question about the exact number of human races. After all, as far as I know, no racial naturalist has ever defended this kind of answer in the literature.

Hochman is gratuitously burdening racial naturalism with a dubious implication, and then he takes this as a reason to reject racial naturalism. Perhaps here lies a chance of a possible rapprochement between the two rival positions. If social constructionists stopped imputing to racial naturalists this implausible and rather arbitrary claim they would perhaps no longer see the view of their opponents as so manifestly wrong or untenable.

Taking a broader perspective, I should add that if the impossibility of unequivocal race counting undermines the concept of race, a similar argument could then be made against the concept of species as well. As Ernst Mayr explained, there is no clear-cut answer to the question about the number of species either: "Since most species originate as geographical isolates, one should expect that a certain percentage of such isolated populations are on the borderline between subspecies and species status. The decision whether or not to call such populations species is by necessity somewhat arbitrary. The existence of such borderline cases is what is to be expected if one believes in evolution" (Mayr, 1982, p. 282).

Mayr's point that the ubiquity of borderline cases is to be expected if one believes in evolution is usually well appreciated by philosophers of biology. They often emphasize the fact that biological reality is messy, that the laws of biology "lie" more frequently than the laws of physics do (assuming that laws of biology exist at all!), and that, especially in life sciences, "the integrity of a subject is not thrown in doubt if the phenomena it addresses cannot be isolated with absolute clarity" (Sober, 2000, p. 5). And yet when it comes to the issue of human biological diversity the criteria for admitting a biological concept suddenly stiffen and sometimes become so demanding that the concept is promptly condemned without even looking into empirical details.

At least in some cases resistance to race naturalism springs from people's tendency to read too much into that standpoint. Race naturalists do not have to believe (and usually do not believe) that races are clearly delineated groups, easily distinguishable from one another, readily countable, effortlessly applicable to almost anyone, marked by a recognizable genetic signature, etc. One can be a race naturalist without subscribing to any of these views. Moreover, one can be a race naturalist even if one concedes that race is a crude, course-grained and imperfect category. In fact I don't see why race naturalists shouldn't be able to agree with the following picture: I suggest that typical uses of the concept of geographic race today are simply crude labels imposed upon this geographically structured variation. In that sense, race is culturally constructed, as all labels are, *but it is also based on an underlying reality of biological variation.* (Relethford, 2009, p. 20; italics added)

Relethford explains that crude labels may be correct and useful as far as they go, but that it would be ridiculous to criticize these labels by over-interpreting their true meaning:

My point is that we tend to use crude labels in everyday life with the realization that they are fuzzy and subjective. I doubt anyone thinks that terms such as "short," "medium," and "tall" refer to discrete groups, or that humanity only comes in three values of height! (Relethford, 2009, p. 21)

6. From clusters to races?

I argued that race naturalism received a boost from some recent studies that showed a nearly perfect correspondence between selfidentified race and genetic clusters. The discordance rate in one of those studies (Tang et al., 2005) was around 0.1%, and it seems fair to say that no one would have expected in advance such a high level of agreement between the two taxonomies. Hochman says that not all scholars doing this research interpreted the results of genetic cluster studies as legitimizing the concept of race. That's true. But then again some did.

One reason why Hochman thinks "we should not be impressed" by the high agreement between self-identified race and genetic clusters in that study is that "the populations sampled have such distinct, geographically distant, ancestries". But another study was conducted several years later that sampled 27 worldwide populations from sub-Saharan Africa, Europe, India and Asia. When the number of populations was set to four, the genetic clusters that were inferred from the data were "*identical* to the four continental groups" and all individuals were "correctly assigned to their selfidentified continental groups *without exception*" (Xing et al., 2009, p. 818; italics added).

Hochman claims that a racial reading of clustering studies *ignores* the clinal, or gradual, distribution of genetic structure and diversity. I disagree. No one "ignores" anything here. Different scientists just make different inferences from the known empirical facts. Everyone is perfectly aware of the partially clinal or gradual distribution of genetic diversity. The only question, however, is whether the clinal aspect still leaves room for clustering (and then eventually also for racial taxonomy).

Some scholars believe that the appearance of clusters is just a statistical artifact that is more the result of a study design than the existence of either clusters or races. Others argue that the clusters are perfectly compatible with the clinal variation and that they do reflect the really existing genetic structure. Here is the best known formulation of that view:

For population pairs from the same cluster, as geographic distance increases, genetic distance increases in a linear manner, consistent with a clinal population structure. However, for pairs from different clusters, genetic distance is generally larger than that between intracluster pairs that have the same geographic distance...Loosely speaking, it is these small discontinuous jumps in genetic distance—across oceans, the Himalayas, and the Sahara—that provide the basis for the ability of STRUCTURE to identify clusters that correspond to geographic regions. (Rosenberg et al. 2005)

I should add that Rosenberg et al. claim to be agnostic about implications of this discovery for the status of commonsense races. Yet others embrace genetic clusters as nothing less than recapitulations of ordinary races. Where does all that leave us?

I would argue that at the end of the day this whole study of genetic clusters has considerably strengthened the case for race naturalism simply because it is the first time that it happened that some cutting-edge researchers claim that newly acquired genetic knowledge points to the existence of human groups that largely correspond to main divisions along the lines of traditional continental races. Not all agree with that, of course, but still this kind of scientific validation of the race concept is an important new development, even if it is coming just from a part of the relevant scientific community. Besides, this view can hardly be regarded as a position of a small minority. Asked to comment on different views on this issue the editor of the top journal *Nature Genetics* said in her official capacity: "Risch's point that there is a high and useful degree of correlation between ethnicity/race and genetic structure, is well taken, and one with which *we* agree" (Wade, 2002; italics added).

Another clear sign that the race concept is not exactly on the way out is the fact that the use of race categories in medicine has recently received an endorsement from an unexpected source: the United States Government. In June of 2005, the Food and Drug Administration approved the first drug (BiDil) that was intended for one racial group, African-Americans. The implication of this move was not lost on some critics who (according to the *New York Times*) complained "that endorsing a drug for one race gave official government imprimatur to the discredited notion of race as a biological category". Indeed.

The whole issue is not thereby settled, of course, for it is well known that the introduction of race-based medicine has been opposed by many scholars and medical experts. The point is merely that after the FDA's approval of the drug targeting a particular race it becomes much more difficult than before to deny any biological relevance of race.

This development gains additional importance if we remember that for a long time there has constantly been a strong public pressure on everyone to downgrade or completely dismiss any interesting connection between race and biology. Even if one happened to think that empirical evidence clearly points to the conclusion that racial membership gives useful biological information, one would often still be reluctant to voice this opinion publicly given that, for example, Craig Venter, one of the highestprofile scientists in the world, warned in no uncertain terms that "it is *disturbing* to see reputable scientists and physicians even categorizing things in terms of race".

Why would this be "disturbing"? Well, not because this step would necessarily be highly controversial or dangerous per se but mainly because it is feared that it could open the door to some highly undesirable possibilities:

Some African-Americans fear that if doctors start to make diagnoses by race, then some in the public may see that as a basis for imputing behavioral traits as well. "If you think in terms of taxonomies of race, you will make the dangerous conclusion that race will explain violence," says Dr. Troy Duster, a sociologist at New York University... "Anything that invites the perception of African Americans as biologically different is a huge worry," said Dr. Gregg Bloche, a Georgetown University physician who studies racial disparities in health care. (Wade, 2004)

The widespread presence of such worries and nervousness about potential biologicization of race shows that the decision of many scientists, physicians and politicians to accept the relevance of race for medicine could not have been taken lightly. They must have had specially strong reasons for persevering in their opinion in the face of vehement and often strident opposition from many influential circles. Moreover this is what some of these scholars explicitly say: "[T]here is *a need for stringent criteria* for drawing conclusions regarding the contribution of genes to between-group differences. Generalizations and assumptions are unwarranted and may exacerbate group disparities. *We therefore advocate standards* for statements regarding genetic contributions to between-group differences" (Mountain & Risch, 2004, p. S52; italics added).

7. Keep away: a "particularly pungent" smell!

In my 2010 article I considered three biological bases for potential racial differentiation: genetic, morphological and psychological. Hochman has no qualms discussing the first two (genetic and morphological differences) but he seems to regard the third (psychological differences) as somehow inappropriate or even completely out of bounds. This is odd because the psychological question has been an inextricable and important part of the controversy about race and biology from the very beginning of the contemporary debate (see, e.g. (Provine, 1986)). Moreover, even when it was not mentioned at all, this topic was often the proverbial 800 pound elephant in the room that determined the dynamics of the discussion and especially how the participants expressed their views for the public.

Whether one is ready to admit it or not, the possibility of a biological impact on group differences is not present only at the morphological or physiological level, while being somehow a priori ruled out at the psychological level. It is all part of the same debate. Hochman, however, disagrees. He says that this "third prong" in my criticism of social constructionism "is not really an argument" because I do "not describe any empirical studies" that would speak to the issue.

Well, isn't it an argument if I criticized philosophers and scientists for the widespread practice of offering (and accepting) logically atrocious "proofs" for the non-existence of psychological differences between races? And isn't it an argument if I supported this claim by giving several specific illustrations of renowned scholars defending manifestly fallacious inferences in that context? And isn't it legitimate (and useful) to warn about the closed minds of many scholars who are no longer interested in reading empirical studies because they have committed themselves to a particular view on the basis of demonstrably inadequate reasons?

Those who have read Hochman's article but not mine will probably wonder why I didn't go into a detailed analysis of relevant empirical studies given that I raised the issue of possible psychological differences among races. The explanation I gave in the paper is very simple: typically the hypothesis about inter-racial psychological differences is dismissed with sophistical arguments that wouldn't be tolerated in almost any other area of scholarly debate. Therefore, I argued that people would be more likely to approach the whole issue with an open mind if these widely accepted but fallacious "refutations" of the hereditarian hypothesis were first exposed.

Here is another example to illustrate that very point. A few years ago a multidisciplinary group of prominent scholars from Stanford University published an open letter in *Genome Biology* in which they proposed ten statements that should guide the use of racial and ethnic categories in research into human genetic variation. Their fifth statement was: "We caution against making the naive leap to a genetic explanation for group differences in complex traits, especially for human behavioral traits such as IQ scores, tendency towards violence, and degree of athleticism" (Lee et al., 2008). The only argument given in support of that statement was the following: "Current evidence suggests that for most complex behavioral traits, contribution of *any one gene* to normal variation is small and these traits may be more fully explained by variation in *environmental factors*" (ibidem; italics added).

An attentive reader will easily spot the fallacy here, even without the help of my italicization. In the conflict between two rival explanations of psychological group differences-pure environmentalism vs. genetic explanation (which allows for some influence of environmental factors)-we are warned not to leap to the genetic explanation by being told that the impact of any one gene is small and that a better explanation might be in terms of many environmental factors. Why this switch from the singular (when talking about genetic explanation) to the plural (when talking about environmental explanation)? This is a highly tendentious and illogical comparison that cannot advance the debate in any way. What makes it worse is that this obviously flawed inference has been endorsed by distinguished scientists like Marcus Feldman and Luigi Luca Cavalli-Sforza, and even by the notable philosopher Debra Satz. Now isn't there at least some value in pointing to such fallacious reasoning in the hope that this would move the discussion away from obfuscations and in the direction of really interesting questions that might eventually be empirically resolvable?

No referee, no journal editor, and none of many readers has expressed any concern about the part of my paper on psychological differences. It is unclear why making the point about the wide-spread use of bad arguments in that discussion would be inappropriate. Also, why is there so much repugnance toward the topic that it is called "a particularly pungent red herring"?

But this is not all. Commenting on my take on race and psychology Hochman says that "claims of moral and intellectual superiority should be opposed". Notice how Hochman manages here to turn my neutral and purely *factual question* "Are there psychological differences between races?" into an *ideological statement*, i.e. that some races are morally and intellectually superior to others. Needless to say, even if it happened that racial psychological differences existed, this by itself would not establish racial superiority, whatever that phrase meant.

Finally, Hochman goes even so far as to accuse me of writing the paper in the attempt to legitimize claims of racial superiority. What to say? In discussions about race and biology, morphological and genetic differences between human groups can still be debated with impunity. But raising the same issue about psychological differences among groups apparently crosses the line.

References

- AAA (1994). American anthropological association statement on "Race" and intelligence. http://www.aaanet.org/stmts/race.htm Retrieved 9.01.13.
- Bodmer, W. F., & Cavalli-Sforza, L. L. (1976). Genetics, Evolution and Man. San Francisco: W. H. Freeman.
- Diamond, J. (1994). Race without color. *Discover*, 15(November), 82–89. Dobzhansky, T. (1951). Human races in the light of genetics. *International Social*
- Science Bulletin, 3, 660–663.
- Dobzhansky, T. (1962). Mankind evolving. New Haven: Yale University Press.
- Fish, J. M. (2002). Race and intelligence: Separating science from Myth. Lawrence Erlbaum Associates Publishers.
- Gill, G. W. (1998). The Beauty of Race and Races. Anthropology Newsletter, 39, 3-5.
- Gould, S. J. (1996). The mismeasure of man. WW Norton & Company.
- Harry, D., & Marks, J. (1999). Human Population Genetics versus the HGDP. Politics and the Life Sciences, 18, 303–305.
- Hirschfeld, L. A. (1998). Race in the making: Cognition, culture, and the child's construction of human kinds. MIT Press.
- Hochman, A. (2013). Racial discrimination: How not to do it. Studies in History and Philosophy of Biological and Biomedical Sciences. http://dx.doi.org/10.1016/ j.shpsc.2013.03.003.
- Jurmain, R., Kilgore, L., & Trevathan, W. (2009). Essentials of Physical Anthropology: Wadsworth.
- Kenny, M. G. (2004). Racial science in social context. Isis, 95(3), 394-419.
- Lee, S.-J., Mountain, J., Koenig, B., Altman, R., Brown, M., Camarillo, A., et al. (2008). The Ethics of Characterizing Difference: Guiding Principles on Using Racial Categories in Human Genetics. *Genome Biology*, 9(7), 404.
- Leroi, A. M. (2005). A family tree in every gene. The New York Times, March 14.

Lewontin, R. C. (1972). The apportionment of human diversity. *Evolutionary Biology*, 6, 381–398.

Lewontin, R. C. (2003). PBS Interview (edited transcript). http://www.pbs.org/race/000_About/002_04-background-01-04.htm> Retrieved 25.06.04.

Marshall, E. (1998). DNA studies challenge the meaning of race. *Science*, 282(5389), 654–655.

- Mayr, E. (1982). The growth of biological thought: Diversity, evolution, and inheritance. Belknap Press.
- Montagu, A. (Ed.). (1964). The nature of race. London: Free Press.
- Mountain, J., & Risch, N. (2004). Assessing genetic contributions to phenotypic differences among 'Racial' and 'Ethnic' groups. *Nature Genetics*, 36, 548–553.
- Provine, W. B. (1986). Geneticists and race. *American Zoologist*, 26, 857–887. Ramsey, F. P. (1990). *Philosophical papers*. Cambridge: Cambridge University Press.
- Relethford, J. H. (2009). Race and global patterns of phenotypic variation. American Journal of Physical Anthropology, 139(1), 16–22.
- Risch, N., Burchard, E., Ziv, E., & Tang, H. (2002). Categorization of Humans in Biomedical Research: Genes, Race and Disease. *Genome Biology*, 3, 1–12.
- Rose, S. (2002). The concept of race is biologically meaningless. *Independent*, 28 January.
- Rosenberg, N. A., Pritchard, J. K., Weber, J. L., Cann, H. M., Kidd, K. K., Zhivotovsky, L. A., et al. (2002). Genetic Structure of Human Populations. *Science*, 298, 2381–2385.
- Rosenberg, N. A., Mahajan, S., Ramachandran, S., Zhao, C., Pritchard, J. K., & Feldman, M. W. (2005). Clines, Clusters, and the Effect of Study Design on the Inference of Human Population Structure. *PLoS Genetics*, 1(6), e70.
- Sauer, N. J. (1992). Forensic anthropology and the concept of race: If races do not exist, why are forensic anthropologists so good at identifying them? Social Science and Medicine, 34, 107–111.

- Schwartz, R. S. (2001). Racial profiling in medical research. The New England Journal of Medicine, 344, 1392–1393.
- Sesardic, N. (2010). Race: A social destruction of a biological concept. Biology and Philosophy, 25(2), 143–162.
- Smedley, A., & Smedley, B. D. (2005). Race as biology is fiction, racism as a social problem is real. American Psychologist, 60(1), 16.
- Sober, E. (2000). Philosophy of biology (2nd ed.). Boulder: Westview Press.
- Tal, O. (2013). Two complementary perspectives on inter-individual genetic distance. *Biosystems*, 11, 18–36.
- Tang, H., Quertermous, T., Rodriguez, B., Kardia, S. L. R., Zhu, X., & Brown, A. (2005). Genetic Structure, Self-Identified Race/Ethnicity, and Confounding in Case-Control Association Studies. *American Journal of Human Genetics*, 76, 268–275.
- Tishkoff, S. A., & Kidd, K. K. (2004). Implications of biogeography of human populations for 'Race' and medicine. *Nature Genetics*, 36, S21–S27.
- Wade, N. (2002). Race is seen as real guide to track roots of disease. New York Times, July 30.
- Wade, N. (2004). Race-based medicine continued. New York Times, November 14.
- Xing, J., Watkins, W. S., Witherspoon, D. J., Zhang, Y., Guthery, S. L., & Thara, R. (2009). Fine-Scaled Human Genetic Structure Revealed by SNP Microarrays. *Genome research*, 19(5), 815–825.