

## *Editorial*

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### FUNDAMENTALISM IN SCIENCE

The issue of moral policing in science has resurfaced again very recently with Jim Watson's comments about Africans. Apparently, he has commented that black people were less intelligent than white people, and that the idea of "equal powers of reason" being shared across racial groups was a delusion. In a newspaper interview he has stated that Western policies towards African countries were wrongly based on an assumption that black people were as clever as their white counterparts when "testing" suggested the contrary. His views have also been reflected in his recently published book, named *Avoid Boring People and other Lessons from a Life in Science*, in which he writes: "There is no firm reason to anticipate that the intellectual capacities of peoples geographically separated in their evolution should prove to have evolved identically. Our wanting to reserve equal powers of reason as some universal heritage of humanity will not be enough to make it so." He also claimed that genes responsible for creating differences in human intelligence could be found in near future.

As expected, there were vehement protests from various sectors ranging from scientists to common men, politicians to littérateurs. The newly formed Equality and Human Rights Commission has condemned Watson's remark that he is "inherently gloomy about the prospect of Africa" because "all our social policies are based on the fact that their intelligence is the same as ours – whereas all the testing says not really", and that there was a natural desire that all human beings should be equal but "people who have to deal with black employees find this not true". Human rights campaigners called on Dr Watson, a Nobel Prize winner for his role in the discovery of the structure of DNA in the 1960s, to apologize publicly for his comments, describing his comments as "scientifically unethical and unjustifiable". As a consequence, Watson has been removed from his prestigious position in Cold Spring Harbor Laboratory, his orations have been cancelled, many other activities surrounding him have been suspended, and he has apologized. The furor echoes the controversy created in the mid-1990s by a book in the name of *The Bell Curve*, that suggested differences in intelligence were genetic and discussed the implications of a racial divide in intelligence. The work was heavily criticised across the world, in particular by leading scientists who described it as a work of "scientific racism".

Let us however examine the matter more closely and seriously rather than providing clues to justify some knee-jerks in either direction. It does not take a lot of integrity to understand that an apology (*I cannot understand*

*how I could have said what I am quoted as having said. There is no scientific basis for such a belief*) as tendered by Dr. Watson, does not mean anything what-so-ever. Also, the denouncement by Human Rights groups that Watson's remarks are 'scientifically unethical and unjustifiable' does not also bear much sense from the epistemological and scientific points of view.

While many people applauded the punishment meted to Watson, others suggested that Watson was the victim of *political correctness*. Watson, the latter group argued, is just the latest casualty in an environment that does not allow people to ask dangerous questions and test dangerous hypotheses. Dr. Watson has only expressed a hunch. In science, a hunch is considered important and integral to its advancement and progress, even if the hunch is later proven to be wrong. There should not be any problem with a hypothesis, no matter how offensive it might seem, provided the hypothesis is conceptually clear. But problem of hypotheses involving intelligence and race is that intelligence and race are themselves neither purely scientific nor unaffected concepts.

Human intelligence is a complex collection of cognitive capacities, and its concept has, for example, been the subject of controversy for many years in many fields. While we still have much to learn, we do know that intelligence involves a huge number of our genes, which interact with each other and with the environment in complex ways, and our knowledge in this regard is still in its infancy.

The practice of testing intelligence has been, as a matter of fact, even more

controversial. Some critics have even charged that IQ tests measure nothing more than one's ability to do well in IQ tests; while that probably is an overstatement, it reveals a deep distrust on the available methods for measurement of intelligence.

The concept of race presents difficulties of greater order. The debate between "race realists" (those who believe that the concept of race picks out something real in nature) and "social constructionists" (those who argue that race is created by our way of categorizing nature) shows no signs of confluence, although that itself is not surprising; it belongs to a species of the ancient, unresolved socio-philosophical polemics.

We may examine the issue through genetic biology. Geneticists have long been claiming that all human beings, regardless of race, share more-or-less 99.9 per cent of their functional genes. And this possibly suggests that, despite obvious differences in how members of different races look, race really must be only skin deep. Curiously enough, recent evidence from genetics seems to have rather undetermined stand about this argument. With the decoding of complete human genome, scientists have now concluded that we are *not* as similar genetically as we thought we were: people share perhaps 99 per cent, rather than 99.9 per cent, of their genes. Also, it is known from reports on the human genome, the chimpanzee genome and the macaque genome that changes in about 200 critical genes can well support speciation in primates.

So, does it mean that about 1% genetic difference can account for race classification

in human beings? Is race then a *biological* reality? We do not know to be sure. But we do know that there are many small genetic differences among human populations, especially among those that evolved in isolation from each other. Therefore, the actual question is: what is the significance of such differences in biological contexts? Indeed, biological differences will always exist, but it will be up to us to give meaning to those differences, to decide whether, and in what context, they are significant. For example, biological differences may be overtly significant in medicine, in that certain populations are at increased risk of developing certain diseases. Many race realists are physicians who fear that deletion of the notion of race will make diagnostic medicine more difficult. Yet, is race a robust predictor of susceptibility to disease? It does not appear to be so. It is now quite evident that population based eugenics has higher inductive and predictive significance than eugenics in the succession of health and disease.

Similarly, while different populations are likely to display different cognitive capacities, we have no reason to believe that

those differences will conform to our social view of races. And it appears scientifically untenable to group together all the populations of a continent, especially the continent of Africa, whose populations contain all the genetic variations that exist in humanity.

While we know so little about genetic and polymorphic bases of human race, if anything like this indeed exists, Watson (and that matter anyone) mean while should be allowed to place and substantiate his views, however, dangerous those may be. On the other hand, no body is debarring other biologists to critically study and analyse the proposed hypothesis from biological contexts. If pure biology proves the hypotheses wrong, in any case, his comments shall be dumped into the trash bin. Receiving punishment for forwarding a wrong hypothesis is a much greater offence than forwarding a potentially wrong hypothesis itself. Doing mistake is a much less of a problem than imposing terror with whatever underlying intention may be. Fundamentalism, in any form and attire, is the main challenge against all lofty human faculties. Scientists cannot shy away from this struggle and play a safe neutral role any longer.

#### REFERENCES

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