

ANN MORNING'S *The nature of race. How scientists think and teach about human differences* addresses three simple, yet intriguing questions: what do scientists mean exactly by the word race? What concept of race is propagated by US institutions involved in public education? And how are these concepts received and elaborated by lay people? There is both a professional and a personal side to these questions; Ann Morning is, as we read in the first pages of this book, a woman with an unusual aspect and an intricate genealogy. But does anybody on earth have a non-intricate genealogy?

I shall leave this question aside for the moment to remark, instead, that even finding a working definition of race is no easy task. Different views exist, not only separating anthropologists from medical doctors, geneticists from social scientists, but also dividing professionals within each of these fields. The problem is not new; in 1950, UNESCO asked scientists to summarize what is known about race. Some of the most prominent sociologists, anthropologists and geneticists agreed that it is important to fight racism, but disagreed on almost everything else, including the very existence of recognizable biological clusters of people, which could be legitimately called human races. The main divide seems to be between those who think humankind is composed of genetically distinct groups, and those who think that human biodiversity is continuous, with racial identities being largely a social construct. Ann Morning calls the first ones essentialists, the second ones constructivists, a distinction that is important over the seven chapters of her book.

After a short introductory first chapter, Morning reviews what we think we know about race, considering both scientific and lay concepts. The third chapter concerns the treatment of racial issues in US high-school textbooks, the fourth and fifth present the data collected by Morning, namely interviews about what scientists and students think of race. In the sixth chapter we get to know how ideas and concepts about racial differences are used, and hence disseminated, by institutions other than schools and universities; examples include the US Census Bureau and the companies that for a few hundred dollars promise to infer people's ancestry from their DNA. In the seventh and

* About Ann MORNING, *The nature of Race* (Berkeley, University of California Press, 2011).

final chapter, Morning raises a crucial question: what social and political characteristics of the US have contributed to building the concept of race that this book describes.

Addressing the above questions is not simple. Many scientific papers have appeared during the past forty years, giving, to say the least, little support to folk ideas on the existence of clear barriers in the human genome between people of different origins. However, many scientists who are not directly involved in research on human biodiversity still resort, to various degrees, to the concept of race. This leads to an intriguing paradox. Ptolemy's geocentric model of the universe allows us to predict on which side the sun will come up tomorrow morning, but a physicist teaching it as a valid representation of the universe would end up giving classes in a padded room. By contrast, outdated racial concepts are still widespread and used in the planning of major research projects, in medicine and elsewhere.

The most striking piece of evidence, in my opinion, comes from the studies of whole individual genomes, i.e. of the 6-billion plus DNA bases constituting, in each of our cells, our inheritable patrimony. Among the first people who had their entire genome typed were James Watson, who discovered the double-helix structure of DNA, and Craig Venter, who led the private human genome project. Both Watson and Venter are US citizens of European origin, which everybody in the US would classify as white or Caucasian. Yet, when their genomes were compared with the genome of a Korean researcher, Seong-Jin Kim, they had more DNA variants in common with him than with each other. In other words, Kim, with his typical oriental appearance, is genetically intermediate between Watson and Venter. Of course, this does not mean that all Europeans are genetically closer to Koreans than to other Europeans. However, it does mean that each human population harbors such a large fraction of the global species' diversity that some individuals in every population happen to be closer to some members of distant populations than to some of their neighbors. Apparently, Ann Morning is not the only one who has an intricate genealogy, and the more we know about human genome diversity, the more this notion is reinforced.

Observations of this kind abound in recent genetic literature, and should have at least weakened the popular idea that people naturally form distinct groups, of the kind that in other species are called races or subspecies. On the contrary, this is not the case. In Chapter 2 we read not only how persistent are racial taxonomies among both the lay and the educated, but also that the tendency to insist on racial differences

increases in US whites when they are talking about specific topics, such as success in sports, sexual drive and intelligence. To complicate matters even further, US textbooks do not seem to be doing a great job at separating the effects of our genes from those of our perception of the others. Indeed, in the third chapter we learn that before 1983 most biology textbooks took races for granted, but by 1989 the word had all but disappeared. To understand what is going on now, Morning examined 23 textbooks in various disciplines. She found that essentialism is coming back; the authors of most such books still adhere to early-20th-century racial categorization, and only in a few anthropology or sociology books is the idea of race as a social construct mentioned at all.

Are US teachers happy with what they find in their textbooks? Forty-one faculty members answered Morning's questions on race; the resulting picture is vivid and slightly frightening. We have known for several years now that skin color is a complex trait, influenced by at least 70 different genes, and of course by other factors such as sun exposure. These genes interact in a complicated way, so that their effect cannot be regarded as simply additive. What can be said, then, of the biologist who told Ann Morning: "I would say you have three or four black genes and four or five white genes"? In remarking that different biologists came to different conclusions examining the same set of data – her aspect – Morning hints at one serious problem. Very few scientists would dare give their opinion on complicated quantum physics issues if they were not specialists, but our physical aspect (which is also complicated, the product of poorly understood genetic and nongenetic processes) seems, instead, so obvious and so informative, that even professionals easily fall into temptation and draw conclusions – often silly ones. The number of persons interviewed is limited, and hence I doubt one can draw statistically robust inferences, but it is striking to see that just one out of four biology teachers disagreed when confronted with the bold statement "There are biological races in the species *Homo sapiens*". Apparently, students are more prudent; in one elite university more than half of them disagreed, especially when they majored in anthropology.

For a geneticist, this well-written, well-documented, thought-provoking book is somewhat unsettling. Concentrating our attention on the technical and scientific issues at stake, we tend to naively assume that the knowledge we generate translates almost effortlessly into public awareness. That is certainly not the case in general, and particularly for issues related to human biological diversity – to the study of ourselves. Ann Morning shows that, yes, we have accumulated an impressive

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amount of data showing that the structure of human populations is complex, and that to understand it one has to forget about old-time racial schemes. Nevertheless, essentialism still dominates the area of the public discourse on race in the US. From childhood onwards, US citizens are asked to classify themselves in a racial group, and a number of consequences ensue, from different treatment when looking for a school or a job, to the promise of a better, racially-oriented, health care. These factors are so important in everyday life that they overpower scientific evidence. No matter what genetics is discovering or will discover in the future, the role of race in the US public discourse is not going to change in the near future.

From a European perspective, one question remains open. In this book, Ann Morning's describes the consequences of deep social divisions along boundaries that are supposed to be biological, but are not. Such divisions necessarily generate many problems, but, in a sense, also some solutions, because in the US race has become the criterion according to which certain social groups are identified as needing support. Would it not be simpler, then, and socially less dangerous, to agree, as many countries have done, that support should be given to low-income populations, as opposed to dark-skinned or Spanish-speaking people?

GUIDO BARBUJANI