

learned in debating it. Despite its faults, this book is a great exercise of philosophical acumen with innovative and exciting ideas aplenty.

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Naomi Zack, *Philosophy of Science and Race*. New York and London: Routledge (2002), 145 pp.

Does the concept of “race” find support in contemporary science, particularly in biology? No, says Naomi Zack, together with so many others who nowadays argue that human races lack biological reality. This claim is widely accepted in a number of fields (philosophy, biology, anthropology, and psychology), and Zack’s book represents only the latest defense of social constructivism in this context. There are several reasons why she fails to make a convincing case.

Zack starts by arbitrarily ascribing an anachronistically essentialist connotation to the concept of race. After having made that everyday notion semantically so crude and outdated there is no wonder that she finds it quite easy to conclude that such an awkward category has no place in science. Her main rationale for seeing our race distinctions as being poorly matched to biological characteristics (e.g., population differences in gene frequencies) is that these biological characteristics do not fall into discrete and mutually exclusive categories as “required” by the common-sense taxonomy. This opposition between the continuity of variation found in biology and the alleged discreteness of common-sense “races” is repeated throughout the book, and it is presented as creating an unbridgeable gap between biology and the colloquial concept of race.

Contrary to what Zack says, however, today’s common-sense ideas about race are not so radically disconnected from contemporary science. Rather, “race” in ordinary usage is informed by biological knowledge to a considerable extent. Most people no longer think about race in terms of pre-Darwinian racial “essences” and “mutually exclusive” ideal types. In fact, as pointed out by Anthony Appiah (whom Zack quotes on this matter but without taking him seriously enough), the discourse on race has long been characterized by a practice of “semantic deference,” according to which people tend to use the word “race” assuming that the biologists could say more precisely than they could what it meant. So, in line with such cognitive division of labor, when typological thinking in biology was replaced by population thinking, common sense largely followed suit, readily deferring to the new consensus of experts and thus opening a path for smooth integration of biological knowledge.

For this reason, Zack is mistaken when she argues that identifying races with biological populations is “conceptually erroneous” on the grounds that races are “nonevolving, ideal types,” whereas populations are constantly changing in response to immediate environmental pressures. This is a recurrent move in her version of social constructivism. “Race” is proclaimed to be biologically meaningless only by first being gratuitously associated with long-abandoned typological notions, be it “essences,” “ideal types,” “qualitative differences,” “sharply discontinuous features,” “discrete and mutually exclusive categories,” etc. Others have also resorted to the same strategy of artificially inflating the conceptual distance between the two poles, in their attempts to drive a wedge between race and biology. It is remarkable that this argument persists to this day despite its having been effectively criticized by leading biologists a long time ago. To give just one example, it was Dobzhansky who already in the sixties warned about the fallacious reasoning of “some new-fashioned writers, who claim that since races are not airtight pigeonholes they do not exist at all.” Little did he know that this “new fashion” was soon to become orthodoxy.

Is racial taxonomy perhaps strengthened by the discovery (due to L. L. Cavalli-Sforza and others) that geographic populations with distinct ancestry and recognizable phenotypic traits also exhibit systematic differences in allele frequencies at a number of genetic loci? Again, Zack insists that this idea should be rejected because she thinks that it requires an assumption that the phenotypic differences between these populations are “as discontinuous as genealogical DNA mutations.” No reason is given why such an implausible assumption would be required here, and it rather smacks of arbitrary terminological legislation. Surely, any concept can be destroyed in this capricious fashion, by building unreasonable assumptions into its connotation. But the realists about race are unlikely to be overly impressed with such a semantic quirk. They can always respond by quoting Ernst Mayr: “If you define races properly then, yes, there are races.”

Particularly unsatisfactory is Zack’s discussion of the most contentious questions about race. Here she uncritically accepts one of the views in the controversy, without addressing, and often even without mentioning, the best arguments of the opposite side. For instance, she relies on Claude Lévi-Strauss’s article “Race and History” from 1952 as an authoritative source, which in her opinion “made it evident” that psychological racial differences are to be explained by historical events and contingencies only, without biology being involved in any way. But actually Lévi-Strauss’s essay started by just presupposing the environmentalist explanation, and it presented no evidence in support of it. Besides, so many empirical studies with sophisticated research design have been conducted on this hotly con-

tested topic in recent decades that it must sound definitely odd to suggest that a text written fifty years ago could have fully resolved these exceedingly complex issues.

In a similar vein, Zack follows the unfortunate trend in contemporary philosophy of science, whereby Steven Jay Gould's book *The Mismeasure of Man* has been hailed as the last word in a number of debates, despite its notoriously controversial status among scholars in the relevant fields. So Zack concurs with Gould's claim that the general intelligence factor (*g*) is just a statistical artifact devoid of psychological reality, apparently without awareness that most researchers in psychometrics would regard his way of repudiating *g* as simplistic and unpersuasive. Pursuing the general intelligence factor is still widely regarded as the most promising research program in this area of inquiry, but even those psychologists who are skeptical about *g* (like Ulric Neisser) tend to dissociate themselves from Gould's critique because they regard it as "rather thin, relying chiefly on rhetoric and ignoring empirical evidence."

It is again by invoking Gould's authority that Zack rejects the hypotheses that there are racial differences in cranial capacity and brain size, and that brain size is correlated with IQ ("Gould's debunking of such anthropometry is justifiably acclaimed"), although in reality these hypotheses happen to be well confirmed empirically. For instance, Leigh Van Valen found a statistically significant correlation between brain size and IQ in an important paper from 1974, and his prediction that the correlation will prove to be even stronger with better measurements was later corroborated.

The main weakness of Zack's book is her selective reading of the literature. Typically, she dismisses the realist view on race without actually making contact with the strongest arguments advanced in favor of that view. But one cannot convincingly show that "race" is biologically meaningless by criticizing the eighteenth-century ideas about race or by citing mainly those present-day authors who side with social constructivism. One has also to examine and critically evaluate the best recent work that points to the possible biological reality of race. Zack's opinions would carry much more weight if she made some effort to engage with these radically opposing voices, rather than leaving them out of consideration virtually completely.

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Ian Hacking, *Historical Ontology*. Cambridge, MA: Harvard University Press (2002), 320 pp., \$39.95 (cloth).

While naturalized epistemology has become a mainstay of analytic philosophy of science, "naturalized ontology" is not exactly a household