

SCIENCE FORUM

A Debate That Refuses to Die

By DIANE B. PAUL

IN 1865 SIR FRANCIS GALTON PUBLISHED "HEREDITARY Talent and Character," setting off the modern nature-nurture debate. Demonstrating that high achievement runs in families, he concluded it was largely due to natural ability. Galton knew that social advantages are also inherited. But he denied their relevance to distinction in science, the arts or public life. Good heredity explained professional success.

In his own day, Galton's views were controversial. In the years since, the argument between "hereditarians" and "environmentalists" has gained in sophistication, but comes no closer to resolution. Why is it so hard to reach consensus on the role genes play in human behavior? What accounts for the bitterness of the controversy, and for its apparent intractability?

Perhaps the most striking feature of the nature-nurture debate is the number of times it has been declared over. In 1914 the geneticist William Bateson asserted that "the longstanding controversy as to the relative importance of nature and nurture . . . is drawing to an end." Seventy-three years later Daniel E. Koshland Jr. announced in an editorial in the journal *Science* that the nature-nurture debate was "basically over." In his view it was no longer possible to doubt the "mounting evidence" for the view that *both* heredity and environment contribute to differences in behavior. But this explanation for the debate's demise is also very old: by the 1920s it had become conventional to deny the opposition of nature and nurture, and to declare the issue dead. As shown by the recent debate over whether there is a genetic basis for violence, the corpse won't stay buried.

One reason is that even if there were consensus that nature and nurture interact, people could argue about which is more significant. Debates framed in terms of the relative importance of various factors are notoriously hard to settle, and unlikely to be answered by a statistic. Even if we agreed on an estimate of

heritability for some trait, we would debate whether that number was large or small. Is .50 large? Is .60? Is .40?

Another reason the debate remains alive is that both sides believe (for good reason) that the way it is settled matters for social policy. In 1969 Arthur Jensen asked, "How Much Can We Boost IQ and Scholastic Achievement?" It was his pessimistic answer to this policy question that generated controversy and attention. News accounts of behavioral genetics stress its purported implications. In commenting on twin studies that claim to show the heritability of personality traits, U.S. News & World Report suggested, "Psychiatrists and social scientists have long stressed the supremacy of environment in shaping personality and their theories are the basis of many public programs that seek to reverse the social causes of poverty and crime." The implication is clear: these programs rest on a naive belief in the power of environment.

Both sides often frame the debate in terms of good and bad science. The other side is accused of being captured by ideology. But there is politics everywhere in the debate—political reasons for doing, and for attacking, the research, for thinking it interesting, for thinking it pointless. We have come to equate

political commitment with biased science, and neutrality with objectivity. But it does not follow from having political values that you fudge your data.

The nature-nurture debate is political, too, because heritability estimates necessarily depend on value-laden assumptions about the current social order. The reason is that the same genotype may be expressed differently in different environments. Thus plant and animal breeders take as many different genotypes as possible and allow them to develop in as many different environmental dimensions as they deem relevant. But there are many ways of carving up the existing environment and, more important, an infinite number of untried environments. When it comes to human society, we must make (political) judgments about which manipulations are reasonable and which are not.

In his editorial, Koshland concluded that "better schools, a better environment . . . will help some individuals but not all." But that does not follow from the fact that the relevant behaviors are heritable; it also assumes we have done all we can or will do to alter the relevant environments. To make that assumption explicit is to see that the significance of heritability estimates depends on suppositions about the fixity of existing social arrangements. On this point, liberals and conservatives are bound to differ. That is why politics necessarily informs the nature-nurture debate. And why it will not end soon.

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