

IQ, ME CUE, YOU QUEUE

"I feared that in making measurements on heads with the intention of finding a difference in volume between an intelligent and a less intelligent head, I would be led to increase, unconsciously and in good faith, the cephalic volume of intelligent heads and to decrease that of unintelligent heads.... Suggestibility... works less on an act of which we have full consciousness, than on a half-conscious act -- and this is precisely its danger." (Alfred Binet, 1900)

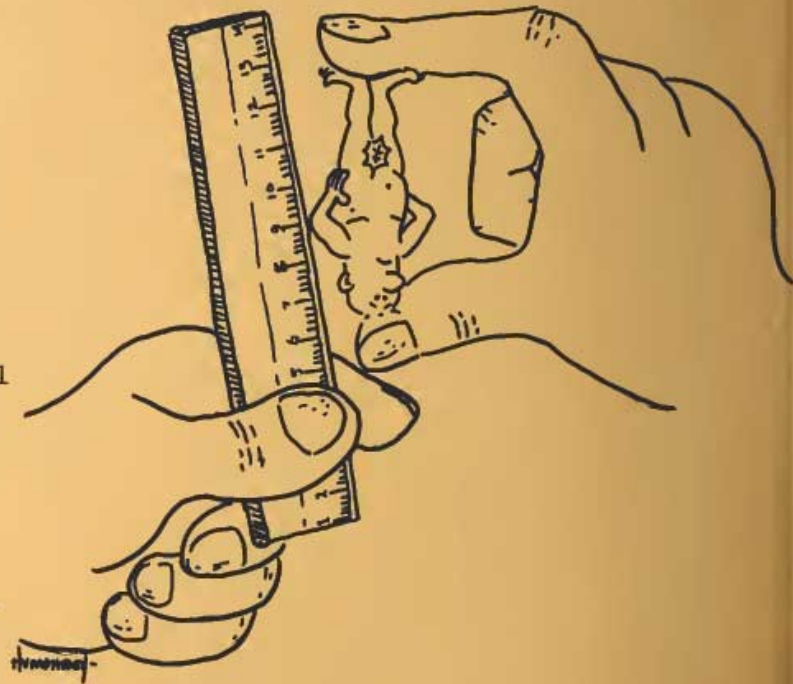
"We are inextricably part of nature, but human uniqueness is not negated thereby. 'Nothing but' an animal is as fallacious a statement as 'created in God's own image.' It is not mere hubris to argue that Homo sapiens is special in some sense -- for each species is unique in its own way; shall we judge among the dance of the bees, the song of the humpback whale, and human intelligence?" (Stephen Jay Gould)

Stephen Jay Gould. The Mismeasure of Man (New York: W.W. Norton and Co., 1981).

The Mismeasure of Man shocks, rankles, saddens, and enlightens. In his latest book, Stephen J. Gould provides a readable and detailed history of scientists' attempts to rank people by intelligence and explains how those attempts fail as science. The book epitomizes aggressive scholarship and lucidity. A significant achievement, The Mismeasure of Man merits the attention of anyone teaching science or social science today.

According to Gould, biological determinism suffers from both scientific weakness and overwhelming influence of political context. The book focuses particularly on scientists who have seen intelligence as biologically determined and on arguments that rest on the fallacies of reification and ranking. As Gould states, his book is "about abstraction of intelligence as a single entity, its location within the brain, its quantification as one number for each individual, and the use of these numbers to rank people in a single series of worthiness, invariably to find that oppressed and disadvantaged groups -- races, classes, or sexes -- are innately inferior and deserve their status" (pp. 24-25).

A basically racist mentality was already in existence in the nineteenth century with American polygenists arguing that humans can be divided into



separate species. The practices of craniometry (head measurement) added fuel. Gould specifically scrutinizes the work of Louis Agassiz, a well-known naturalist who couched his advocacy of a social policy of separation of the races in terms of a supposedly dispassionate inquiry into scientific fact. Gould uncovers just how passionate, unscientific, and un-factual that inquiry was. Gould then turns to Samuel Morton, "the empiricist

of polygeny" who attempted, through the analysis of 600 skulls (most of Native Americans), to rank the races by the size of their brains. Although widely hailed as the objectivist of his age who would "rescue American science from the mire of unsupported speculation," Morton unconsciously finagled his data to show blacks fare poorest, whites best. Gould re-examined Morton's raw data, as he did that of Paul Broca, famous for his nineteenth century anthropometry (body measurement studies). By returning to this raw data, Gould discovers how Broca assumed that "human races can be ranked in a linear scale of mental worth, not realizing that human variation might be ramified and random." Unfortunately anthropometry became for Broca "a search for characters that would display the correct ranking, not a numerical exercise in raw empiricism."

In the nineteenth century, some scientists misapplied evolutionary thought to justify ranking groups. Several scientists tried to prove that lower-ranking groups have more apeish physical characteristics. Cesare Lombroso, a scientist specializing in criminal anthropology, argued that criminals were less intelligent and "less evolved" than the normal population. Although the arguments seem outlandish and outdated, Gould shows how scientists in the 1970's and 1980's use similar arguments.

Not only have heads and bodies been mismeasured, but IQs as well. Gould concentrates on the Stanford-Binet test and the three pioneers of hereditarianism in America who encouraged the test's widespread use. H.H. Goddard brought Binet's scale to the U.S.A. and reified its scores as innate intelligence. Lewis M. Terman developed the Stanford-Binet scale and dreamed of a rational society that would allocate professions by IQ scores. Robert M. Yerkes persuaded the army to test 1.75 million men during World War I, thus establishing the supposedly objective data that vindicated hereditarian claims and led to the Immigration Restriction Act of 1924. Poor Binet would have been horrified since he meant the scores only

as a rough practical device for identifying learning-disabled and mentally retarded children, never for ranking normal children. Binet never suggested that the scores defined or measured intelligence let alone anything permanent or innate.

Throughout, Gould relates the earlier "mismeasurers" to the present day, examining the work of such people as Arthur Jensen. For example, Gould devastates the work of Sir Cyril Burt (1883-1971) who was responsible for the administration and interpretation of mental tests in London's schools and who was later professor of psychology at University College London (1932-1950). In the last five years, others have uncovered the fraudulent basis of Burt's twin studies, IQ correlations between close relatives, and his data for declining levels of intelligence in Britain. But Gould underscores how the hereditary quality of intelligence was such an *idée fixe* for Burt that it blinded his interpretation of data for intelligence and class associations and warped his use of factor analysis.

Arthur Jensen's work, which became a cause célèbre in this country a few years back, relies heavily on evidence from Burt's fraudulent twin studies and on the idea of a single factor or entity for general intelligence. Gould writes in his book that "Jensen would not only rank people; he believes that all God's creatures can be ordered on a "g" [general intelligence] scale from amoebae at the bottom to extraterrestrial intelligence at the top.... As a paleontologist, I am astounded. Evolution forms a copiously branching bush, not a unilinear progressive sequence" (pp. 317-318). In a final chapter, Gould discusses how sociobiology also falls prey to mismeasuring humans.

The Mismeasure of Man, however, is not a book of negative debunking. The end result is positive. Gould aims to rid scientific thought of the

fallacious but incredibly entrenched habits of reifying and ranking so that scientists (and by implication the general public) can make room for the new knowledge of human biology, evolution, and genetics. "The remarkable lack of genetic differentiation among human groups -- a major biological basis for debunking determinism -- is a contingent fact of evolutionary history, not a priori or necessary truth" (p. 322). To dwell on the difference between people often is a mischievous and malicious exercise.

Reading Gould's book provides valuable learning for today's anthropologists and teachers. Gould shows, by his own example, the enormous importance of going back to original sources and following the growth of intellectual ideas. Gould reports that most of the scientists examined (Burt is the notable exception) recanted many of their ideas on the reification of intelligence later in life, but unfortunately the impact of their earlier work continues. We learn from The Mismeasure of Man the tenacity of unconscious bias and the surprising malleability of "objective", quantitative data in the interest of a preconceived idea.

Overall, Gould tries to persuade us that even though a factual reality exists and that science can learn about it, science is not an objective enterprise. It is a "socially embedded activity" where culture influences what we see and how we see it. "Science must be understood as a social phenomenon, a gutsy, human enterprise, not the work of robots programmed to collect pure information" (p. 21). This is a healthy and revitalizing view for anthropologists who do research on human variation or human evolution, and for teachers who try to explain to their students what science is all about.

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