Ghosts of Bell Curves Past

The mismeasure of man continues, as a current bestseller revives academic racism's old arguments

Stephen Jay Gould

I don't know whether or not most white men can jump (although I can attest, through long observation, that Larry Bird cannot—but, oh Lord, could he play basketball!). And I don't much care, although I suppose that the subject bears some interest and marginal legitimacy in an alternate framing that avoids such biologically meaningless categories as white and black. Yet I can never give a speech on the subject of human diversity without attracting some variant of this inquiry in the subsequent question period. I hear the "sports version," I suppose, as an acceptable surrogate for what really troubles people of good will (and bad, although for other reasons).

The old days of overt racism did not engender such squeamishness. When the grandfather of modern academic racism, Joseph-Arthur, comte de Gobineau (1816–82), asked a similar question about the nature of supposedly inborn and unchangeable differences among racial groups, he laid it right on the line. The title of the concluding chapter to volume one of his most influential work, *Essai sur l'inégalité des races humaines* (Essay on the Inequality of Human Races), reads: "Moral and Intellectual Characteristics of the Three Great Varieties." Our concerns have always focused on smarts and decency, not jumping height and susceptibility to cardiovascular arrest.

And Gobineau left no doubt about his position:

> The idea of an innate and permanent difference in the moral and mental endowments of the various groups of the human species, is one of the most ancient, as well as universally adopted, opinions. With few exceptions, and these mostly in our own times, it has formed the basis of almost all political theories, and has been the fundamental maxim of government of every nation, great or small. The prejudices of country have no other cause; each nation believes in its own superiority over its neighbors, and very often different parts of the same nation regard each other with contempt.

Gobineau was undoubtedly the most influential academic racist of the nineteenth century. His writings strongly affected such intellectuals as Wagner and Nietzsche and inspired a social movement known as Gobinism. Largely through his influence on the English zealot Houston Stewart Chamberlain, Gobineau's ideas served as a foundation for the racial theories espoused by Adolf Hitler. Gobineau, an aristocratic royalist by background, interspersed writing with a successful diplomatic career for the French government. He wrote several novels and works of historical nonfiction (a history of the Persian people and of the European Renaissance, for example), but became most famous for his four-volume work on racial inequality, published between 1853 and 1855.

Gobineau's basic position can be easily summarized: the fate of civilizations is largely determined by racial composition, with decline and fall usually attributable to dilution of pure stocks by interbreeding. (Gobineau feared that the contemporary weakening of France, largely to German advantage, could be "traced to the great variety of incongruous ethnical elements composing the population," as his translator wrote in introducing the first American edition of 1856.) The white races (especially the dominant Aryan subgroups) might remain in command, Gobineau hoped, but only if they could be kept relatively free from miscegenation with intellectually and morally inferior stocks of yellows and blacks (Gobineau used these crude terms of color for his three major groups).

No one would doubt the political potency of such ideas, and no one would credit any claim that Gobineau wrote only in the interest of abstract truth and with no agenda of advocacy in mind. Nonetheless, it does no harm to point out that the American translation, published in Philadelphia in 1856, as Dred Scott stood before the Supreme Court near the brink of our Civil War, surely touched a nerve in parlous times—for Gobineau's distinctive notion of racial purity, and the danger of intermixing, surely struck home most strongly in our nation of maximal racial diversity and pervasive inequality, with enslavement of blacks and decimation of Indians. J. C. Nott of Mobile, America's most active popularizer of anthropology in the racist mode, wrote a long appendix to the translation (his textbook, *Types of Mankind*, written in 1854 with G. R. Gliddon, was the contemporary American bestseller in the field). Lest anyone miss the point of local relevance for this European treatise, the translator wrote in his preface:

> The aim [of studying racial differences] is certainly a noble one, and its pursuit cannot be otherwise than instructive to the statesman and historian, and no less so to the general reader. In this country, it is particularly interesting and important, for not only is our immense territory the abode of the three best defined varieties of the human species—the white, the negro, and the Indian—to which the extensive immigration of the Chinese on our Pacific coast is rapidly adding a fourth, but the fusion of diverse nationalities is nowhere more rapid and complete.

Yet Gobineau needed evidence for his

claims. (Note that my previous quotation from Gobineau's book only asserts a belief of all people in innate inequality, not any evidence that this common impression is correct.) Therefore, in the last chapter of his work, Gobineau outlines an approach to securing this necessary data for his racism. He begins by telling us how we should *not* frame the argument. We should not, he claims, point to the poor accomplishments of individuals in "inferior races," for such a strategy will just backfire as egalitarians search for rare exemplars of high achievement within generally benighted groups. Gobineau begins his final chapter by writing (the quotation is long, and chilling, but well worth the space for its reminder about "certainties" of a not so distant past):

> In the preceding pages, I have endeavored to show that . . . the various branches of the human family are distinguished by permanent and ineradicable differences, both mentally and physically. They are unequal in intellectual capacity, in personal beauty, and in physical strength. . . . In coming to this conclusion, I have totally eschewed the method which is, unfortunately for the cause of science, too often resorted to by the ethnologists, and which, to say the least of it, is simply ridiculous. The discussion has not rested upon the moral and intellectual worth of isolated individuals.
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> I shall not even wait for the vindicators of the absolute equality of all races, to adduce to me such and such a passage in some missionary's or navigator's journal, wherefrom it appears that some Yolof has become a skillful carpenter, that some Hottentot has made an excellent domestic, that some Caffre plays well on the violin, or that some Bambarra has made very respectable progress in arithmetic.
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> I am prepared to admit—and to admit without proof—anything of that sort, however remarkable, that may be related of the most degraded savages. . . . Nay, I go farther than my opponents, and am not in the least disposed to doubt that, among the chiefs of the rude negroes of Africa, there could be found a considerable number of active and vigorous minds, greatly surpassing in fertility of ideas and mental resources, the average of our peasantry, and even of some of our middle classes.

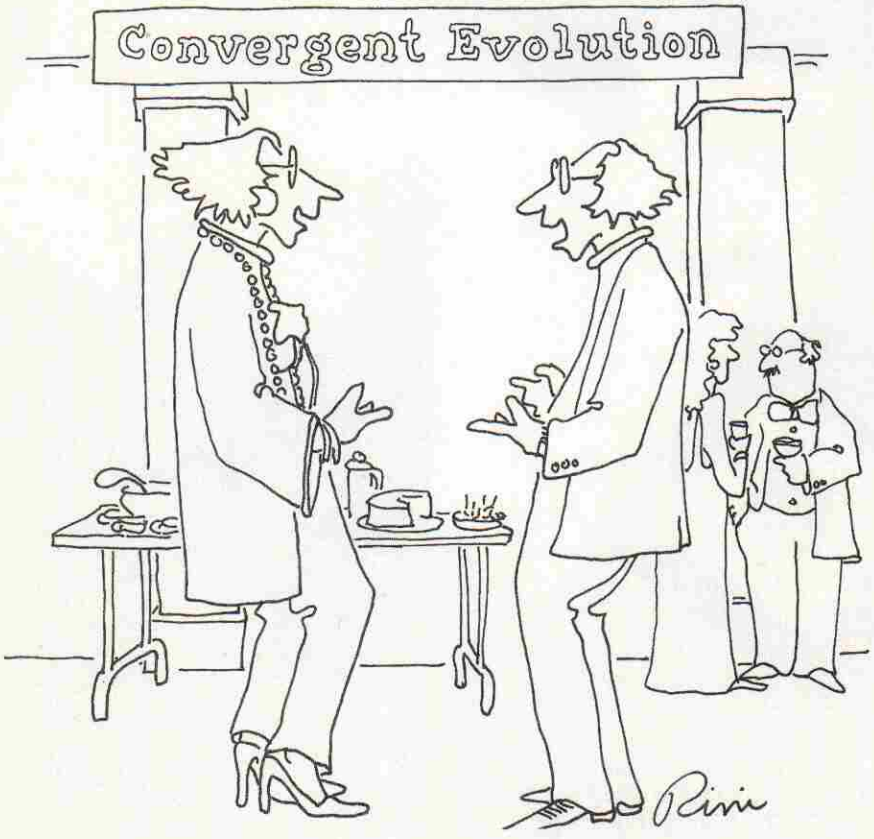
(Pervasiveness of prejudice does reside in the unconscious details. Note how Gobineau, writing in his self-styled generous mode, still cannot imagine, for an African ruler, any higher intellectual status than the European peasantry, or just perhaps the lower reaches of the bourgeoisie—but never, heaven forfend, even the worst of the upper classes!)

How, then, shall racial status be affirmed if arguments about individuals have no validity? Gobineau states that we must find a measure, preferably imbued with the prestige of mathematics, for average properties of groups:

> Once for all, such arguments [about individuals] seem to me unworthy of real science. . . . Let us leave such puerilities, and compare, not the individuals, but the masses. . . . This difficult and delicate task cannot be accomplished until the relative position of the whole mass of each race shall have been nicely, and, so to say, mathematically defined.

I was, I confess, prompted to reread Gobineau by the current brouhaha over *The Bell Curve*, by Charles Murray and my late colleague Richard Herrnstein, for I recognized that they use exactly the same structure of argument about individuals and groups, although for quite a different purpose, and the disparity within the similarity struck me as eerie. Herrnstein and Murray also claim that average differences in intelligence between racial groups are real and salient (also largely innate and effectively immutable), and they also insist that such group disparities carry no implication for the judgment of individuals. In this way, they hope to avoid a charge of racism and secure a judgment as upholders of human rights, for no black individual, in their view, should be devalued because his group is innately less intelligent than whites; after all, this particular individual may be a rarely brilliant member of his averagely dumb race. (I must say that I regard such an argument as either disingenuous or naïve, and I can't view Mr. Murray as naïve, given the realities of racial attitudes in America versus our ideal hopes for judgment of all individuals on their personal achievements and attributes alone, and not by their group membership.)

Gobineau wished to separate individual and group judgment because he didn't want the "reality" of group differences blurred by the uncharacteristic performance of rare individuals. Herrnstein and Murray make the distinction in a very different political climate; they emphasize the *reality* of individual achievement (rather than its annoying confusion) in order to avoid (and fairly enough) the charge of racism, while maintaining something quite close to Gobineau's atti-



"Really? I'm divorced and have three children too!"

tude about group differences in intelligence and the unlikelihood of their erasure. (Please understand that I am not trying to besmirch Herrnstein and Murray by name-calling from the past. I am not attempting to establish any indirect linkage to the Third Reich—and neither can we blame Gobineau for Hitler's extreme usages via Chamberlain. But I do find it fascinating that structures of ideas can be so similar across the centuries, while thinkers of basically consonant mind will emphasize different parts of an entity in the climates of varying times.)

Gobineau, seeking his mathematical basis for group differences in intelligence and morality, was stuck with the crude and direct measures of nineteenth-century racist science—mainly shapes and sizes of skulls and other body parts (for no supposedly "direct" assessment by mental testing had yet been developed). For example, Gobineau located black destiny in external anatomy:

> The dark races are the lowest on the scale. The shape of the pelvis has a character of animalism, which is imprinted on the individuals of that race ere their birth, and seems to portend their destiny. . . . The negro's narrow and receding forehead seems to mark him as inferior in reasoning capacity.

Moreover, in a manner so characteristic of this pseudoscience, Gobineau manages to spin every observation in the light of his preconception about black inferiority. Even ostensibly favorable traits get redeployed in the service of racist interpretation. On the supposed stoicism of blacks in the face of pain, for example, Gobineau cites the testimony of a doctor: "They bear surgical operations much better than white people, and what would be the cause of insupportive pain to a white man, a negro would almost disregard. I have amputated the legs of many negroes, who have held the upper part of the limb themselves." Any white man would be praised for bravery, courage, and nobility, but Gobineau attributes this supposed toleration of pain by blacks to "a moral cowardice which readily seeks refuge in death, or in a sort of monstrous impassivity."

As measurement of bodies formed the crude and only marginally successful (even in their own terms) devices of scientific racism in the nineteenth century, so has the more sophisticated technology of mental testing—measuring the subtle inside, as it were, rather than the indirect outside—set the basis for most arguments about human inequality in the twentieth century. (As I explain in much greater detail in my book *The Mismeasure of Man*, I am not opposed to all forms of mental testing and I certainly do not view the enterprise as inherently racist or devoted to arguing for immutable human differences—for exactly the opposite intention has often been promoted in using tests to measure the improvement that good education can supply.)

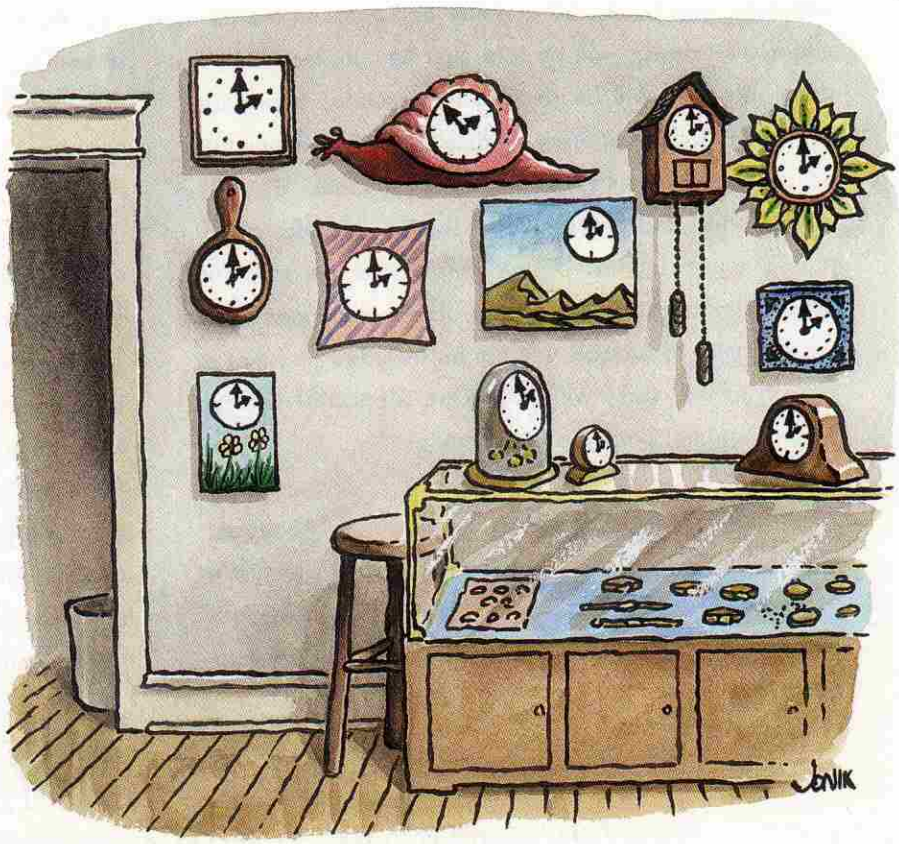
Nevertheless, one particular philosophy of mental testing does undergird most arguments about intellectual differences among human groups made in our century. Moreover, this philosophy does emerge directly from the cruder techniques of body measurement that defined the subject in the nineteenth century—and in this sense, we may trace continuity from Gobineau to this particular hereditarian theory of IQ. I thought that this philosophy had receded from influence as a joint result of well-exposed fallacies in the general argument and failure of data to validate the essential premises. But Herrnstein and Murray have revived this philosophy in its full and original form in *The Bell Curve*, and we must therefore return to the historical sources of fallacy.

The "Gobinist" version of mental testing—use of the enterprise to argue for innate and ineradicable differences in general intelligence among human groups—relies upon four sequential and interrelated premises; each must be true individually (and all the linkages must hold as well) or else the entire edifice collapses:

1. The wonderfully multifarious and multidimensional set of human attributes that we call intelligence in the vernacular must all rest upon a single, overarching (or undergirding) factor of general intellectual capacity, usually called *g*, or the general factor of intelligence (see my critique of this notion and its mathematical basis in chapter 6 of *The Mismeasure of Man*).

2. The general "amount" of intelligence in each person must be abstractable as a single number (usually called IQ). A linear ranking of people by IQ must therefore establish a hierarchy of differential intelligence. And, finally (for the social factor in the argument), people's achievements in life, and their social ranks in hierarchies of worth and wealth, must be strongly correlated with their IQ scores.

3. This single number must measure an



inborn quality of genetic constitution, highly heritable across generations.

4. A person's IQ score must be stable and permanent—subject to little change (only minor and temporary tinkering) by any program of social and educational intervention.

In other words, to characterize each of the four arguments in a word or two, human intelligence must be abstractable (as a single number), rankable, highly heritable, and effectively immutable. If any of these assumptions fails, the entire argument and associated political agenda goes belly-up. For example, if only the fourth premise of immutability is false, then social programs of intense educational remediation may well boost, substantially and permanently, an innate and highly heritable disadvantage in IQ—just as I may purchase a pair of eyeglasses to correct an entirely inborn and fully heritable defect of vision. (The false equation of "heritable" with "permanent" or "unchangeable" has long acted as a cardinal misconception in this debate.)

I cannot, in this essay, present a full critique of *The Bell Curve* (see my review in *The New Yorker* for November 28, 1994). I only wish to trace some historical roots and to expose a stunning irony. The form of argument about average intelligence among racial groups is no different and no more supportable than Gobineau's founding version. The major addition is a change in methodology and sophistication—from measuring bodies to measuring the content of heads in intelligence testing. But the IQ version relies upon assumptions (the four statements above) that are as unsupportable as the old hierarchies of skull sizes proposed by nineteenth-century participants. In this light, we can gain great insight by revisiting the philosophy and intent of the man who invented this style of mental testing during the first decade of our century—the French psychologist Alfred Binet (who later became the eponym of the test when Stanford University professor Lewis M. Terman imported the apparatus to America, developed a local version, and called it the Stanford-Binet IQ test).

I shall show that Binet's intentions entirely contradicted the hereditarian version, for he believed strongly in educational remediation and explicitly rejected any hereditarian reading of his results. Ironically, the hereditarian theory of IQ (the imposition of Binet's apparatus upon Gobineau's argument) arose in America, land of liberty and justice for all (but during our most jingoistic years around World War I). The exposure of Binet's original intent does not prove him right or the hereditarians wrong (after all, a doctrine of original intent works even less well in science than in constitutional law!). Rather, Binet is right because his arguments continue to have validity, and the distortion of his wise and humane effort must rank as one of the great tragedies of twentieth-century science.

In 1904, Binet was commissioned by the Minister of Public Education in France to devise a way of identifying children in primary school whose difficulties in normal classrooms suggested some need for special education. (In French public schools, classes tended to be quite large and curricula inflexible; teachers had little time to devote to individual students with particular needs.) Binet decided on a purely practical approach. He devised a test based upon a hodgepodge of diverse tasks related to everyday problems of life (counting coins, for example) and supposedly involving basic processes of reasoning (logic, ordering, correction), rather than explicitly learned skills such as read-

ing. By mixing together enough tests of different attributes, Binet hoped that he might abstract a child's general potential with a single score. Binet emphasized the rough and ready, empirical nature of his test with a dictum: "It matters very little what the tests are, so long as they are numerous."

Binet explicitly denied that his test—later called an intelligent quotient, or IQ, when the German psychologist W. Stern scored the results by dividing "mental age" (as ascertained on the test) by chronological age—could be measuring an internal biological property worthy of the name "general intelligence." First of all, Binet believed that the complex and multifarious property called intelligence could not, in principle, be captured by a single number capable of ranking children in a linear hierarchy. He wrote in 1905:

> The scale, properly speaking, does not permit the measure of the intelligence because intellectual qualities are not superposable, and therefore cannot be measured as linear surfaces are measured.

Moreover, Binet feared that if teachers read the IQ number as an inflexible, inborn quantity, rather than (as he intended) a guide for identifying students in need of help, they would use the scores as a cynical excuse for expunging, rather than aiding, troublesome students. Binet wrote of such teachers: "They seem to reason in the following way: 'Here is an excellent opportunity for getting rid of all the children who trouble us,' and without the true critical spirit, they designate all who are unruly, or disinterested in the school." Binet also feared the powerful bias that has since been labeled "self-fulfilling prophecy" or the Pygmalion effect: if teachers are told that a student is inherently uneducable based on misinterpretation of low IQ scores, they will cease trying and will treat the student as unable, thereby producing the result by ill nurture, rather than inherent nature. Invoking the case then racking France, Binet wrote:

> It is really too easy to discover signs of backwardness in an individual when one is forewarned. This would be to operate as the graphologists did who, when Dreyfus was believed to be guilty, discovered in his handwriting signs of a traitor or a spy.

Binet felt that his test could best be used to identify mild forms of retardation or learning disability. Yet even for such specific and serious difficulties, Binet firmly rejected the idea that his test could identify causes of educational problems, particularly their potential basis in biological inheritance. He only wished to identify children with special needs, so that help could be provided:

> Our purpose is to be able to measure the intellectual capacity of a child who is brought to us in order to know whether he is normal or retarded. . . . We shall neglect his etiology, and we shall make no attempt to distinguish between acquired and congenital [retardation]. . . . We do not attempt to establish or prepare a prognosis, and we leave unanswered the question of whether this retardation is curable, or even improvable. We shall limit ourselves to ascertaining the truth in regard to his present mental state.

Binet eschewed any claim about inborn biological limits because he knew that such an interpretation (which the test scores didn't warrant in any case) would perversely destroy their aim of helping children with educational problems. Binet upbraided teachers who used an assessment of irremediable stupidity to avoid the special effort that difficult students require:

> They have neither sympathy nor respect for them, and their intemperate language leads them to say such things in their presence as "This is a child who will never amount to anything . . . he is not intelligent at all." How often have I heard these imprudent words.

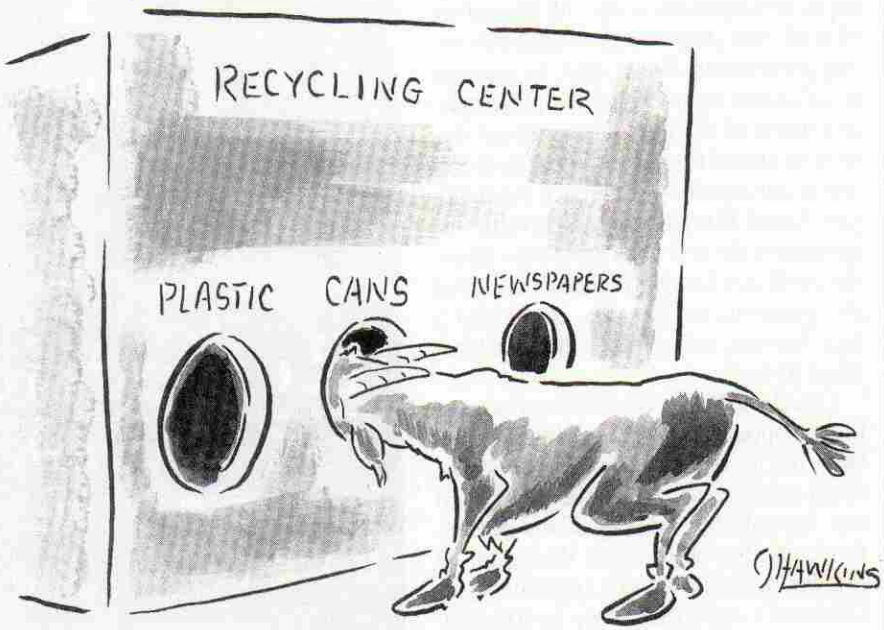
In an eloquent passage, Binet then vented his anger against teachers who claim that a student can "never" succeed as a result of inferior biology:

> Never! What a momentous word. Some recent thinkers seem to have given their moral support to these deplorable verdicts by affirming that an individual's intelligence is a fixed quantity, a quantity that cannot be increased. We must protest and react against this brutal pessimism; we must try to demonstrate that it is founded upon nothing.

Finally, Binet took pleasure in the successes of teachers who did use his tests to identify students and provide needed help. He defended remedial programs and insisted that gains so recorded must be read as genuine increases in intelligence:

> It is in this practical sense, the only one accessible to us, that we say that the intelligence of these children has been increased. We have increased what constitutes the intelligence of a pupil: the capacity to learn and to assimilate instruction.

How tragic and how ironic. If IQ tests had been consistently used as Binet intended, their results would have been entirely beneficent (in this sense, as I stated, I do not oppose mental testing on principle, only certain versions and philosophies). But the very innatist and antimeliorist spin that Binet had foreseen and decried did become the dominant interpretation, and Binet's intentions were overturned and inverted. And this reversal—the establishment of the hereditarian theory of IQ—occurred in America, not in elitist Europe. The major importers of Binet's method to our shores promoted the biodeterminist version that Binet had op-



posed—and the results continue to ring falsely in our time as *The Bell Curve*.

Consider the two leading initial promoters of Binet's scale in America. Psychologist H. H. Goddard, who translated Binet's articles into English and agitated for the general use of his test, adopted both the hard-line hereditarian view and the argument for intelligence as a single entity:

> Stated in its boldest form, our thesis is that the chief determiner of human conduct is a unitary mental process which we call intelligence: that this process is conditioned by a nervous mechanism which is inborn: that the degree of efficiency to be attained by that nervous mechanism and the consequent grade of intellectual or mental level for each individual is determined by the kind of chromosomes that come together with the union of the germ cells: that it is but little affected by any later influences except such serious accidents as may destroy part of the mechanism.

Lewis M. Terman, who codified the scale for America as the Stanford-Binet test, held the same opinion, first on intelligence as a unitary quantity: "Is intellectual ability a bank account, on which we can draw for any desired purpose, or is it rather a bundle of separate drafts, each drawn for a specific purpose and inconvertible?" Terman opted for the general bank account. He then stated his hereditarian conviction: "The study has strengthened my impression of the relatively greater importance of endowment over training as a determinant of an individual's intellectual rank among his fellows."

But Binet supplied all the right arguments in opposition—and his words, even today, can serve as a primer for the scientifically accurate and ethically principled refutation of Herrnstein and Murray's *Bell Curve*, the living legacy of America's distinctive contribution to mental testing: the hereditarian interpretation. Intelligence, Binet told us, cannot be abstracted as a single number. IQ is a helpful device for identifying children in need of aid, not a dictate of inevitable biology. Such aid can be effective, for the human mind is, above all, flexible. We are not all equal in endowment, and we do not enter the world as blank slates, but most deficiencies can be mediated to a considerable degree, and the palling effect of biological determinism defines its greatest tragedy—for if we give up (because we accept the doctrine of immutable, inborn limits), but could have helped, then we have committed the most grievous error of chaining the human spirit.

Why must we follow the false, dichotomous model of pitting a supposedly fixed and inborn biology against the flexibility of training—or nature versus nurture in the mellifluous pairing of words that so fixes this false opposition in the public mind? Biology is not inevitable destiny; education is not an assault upon biological limits. Rather, our extensive capacity for educational improvement records a genetic uniqueness vouchsafed only to humans among animals.

I was both heartened and distressed by a recent report in *Newsweek* (October 24, 1994) on a Bronx high school committed to high expectations for disadvantaged students. *Newsweek* reported:

> These 300 black and Latino students provide the basis for a strong retort to "The Bell Curve." Richard Herrnstein and Charles Murray argue that IQ is largely genetic and that low IQ means scant success in society. Therefore, they contend, neither effective schools nor a healthier environment can do much to alter a person's destiny. Yet, at Hostos, reading scores nearly doubled over two years. The dropout rate is low, and attendance is high. About 70 percent of the class of 1989 graduated on time, double the city's average.

Wonderful news, and a fine boost to Binet's original intentions. But I must object to the headline for this report: "In Defiance of Darwin," and to the initial statement: "Today, at 149th Street and the Grand Concourse, a public high school for at-risk children defies Darwin on a daily basis."

Why is Darwin the enemy and impediment? Perhaps *Newsweek* only intended the metaphorical meaning of Darwinism (also a serious misconception) as struggle in a tough world, with most combatants weeded out. But I think that the *Newsweek* editors used "Darwin" as a stand-in for a blinkered view of "biology"—in telling us that this school refutes the idea of fixed genetic limits. Biology is not the enemy of human flexibility, but the source and potentiator (while genetic determinism is a false theory of biology). And Darwinism is not a statement about fixed differences, but the central theory for a discipline—evolutionary biology—that has discovered the sources of human unity in minimal genetic distances among our races and in the geological yesterday of our common origin.

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