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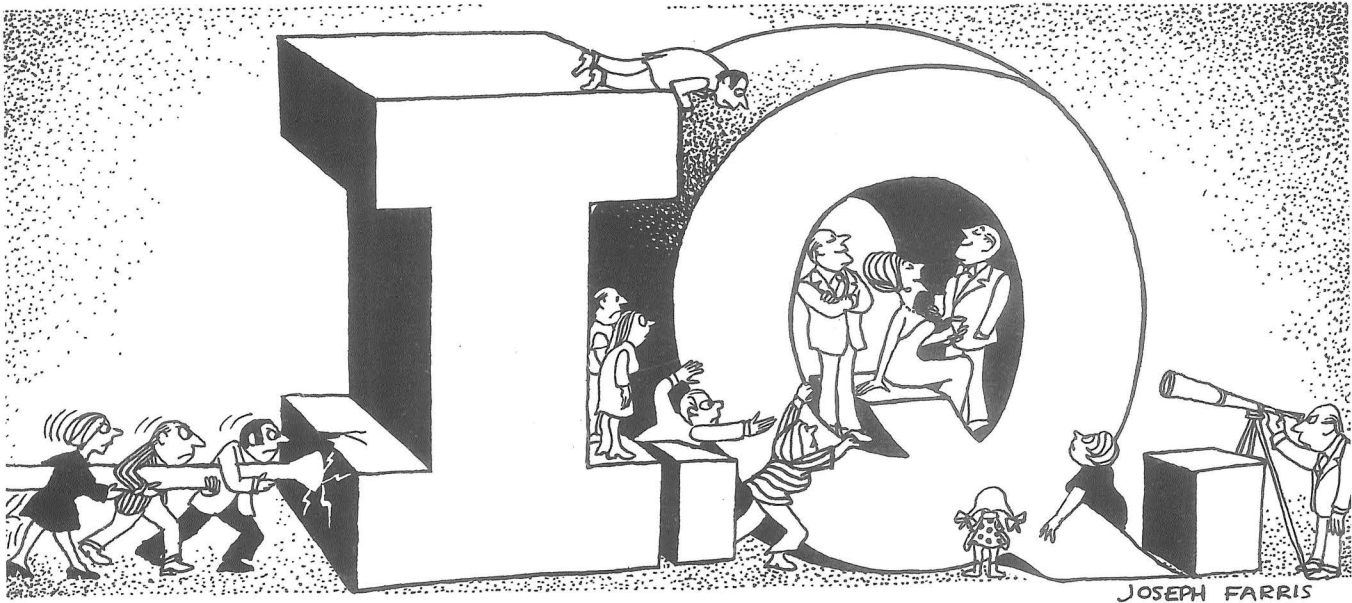
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# IQ, Social Class and Educational Policy

by H. J. Eysenck



It is widely agreed that social policy should be governed by the interplay between philosophical and ethical ideals on the one hand, and scientifically ascertained facts on the other. Facts by themselves are neutral. Even if we could be certain, for example, that intellectual differences between whites and blacks were wholly determined by heredity (a position not maintained by any serious psychologist who has studied the literature), we could argue from that either for a policy of segregation or a system of positive discrimination in favor of blacks. One's philosophical and ethical ideals, one's political orientation and the like govern the way one deals with facts.

Unfortunately, we live with many myths that make it more difficult for us to distinguish fact from fiction than it would otherwise be. I should like to expose some of these myths, particularly insofar as they

concern social class and its relation to intelligence. For no group of people is this debunking of myths more necessary than for educators.

There are two complementary myths that contain just enough truth to make them particularly dangerous. One myth has it that environmental influences and social class determine IQ. The second states the reverse: that IQ is almost entirely hereditary and that because IQ determines social class, there can be very little social mobility. Each myth offers a different interpretation of the fact that whenever members of the working class and of the middle class are tested on intelligence tests, marked differences are observed. The table on the next page lists average IQ values for different jobs and professions derived from many studies carried out in different countries, though the categories listed may describe British society more accurately than they do American. Clearly, there is a difference of about fifty points between the IQs of those in the upper middle class who hold the most prestigious jobs, and those in the working class who hold the least prestigious ones. The higher the IQ typical of the person practicing these jobs and professions, the higher is the general esteem

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*Mean IQ of different professional and occupational groups.*

140	Higher Professional: Top Civil Servants; Professors and Research Scientists.
130	Lower Professional: Physicians and Surgeons; Lawyers; Engineers (Civil and Mechanical).
120	School Teachers; Pharmacists; Accountants; Nurses; Stenographers; Managers.
110	Foremen; Clerks; Telephone Operators; Salesmen; Policemen; Electricians; Precision Fitters.
100+	Machine Operators; Shopkeepers; Butchers; Welders; Sheet Metal Workers.
100-	Warehousemen; Carpenters; Cooks and Bakers; Small Farmers; Truck and Van Drivers.
90	Laborers; Gardeners; Upholsterers; Farmhands; Miners; Factory Packers and Sorters.

in which these occupations are held by society at large. And the greater the esteem, the higher the average earnings. There is no doubt about the facts themselves. Our problem arises when we try to interpret them and try to deduce from them suitable educational policies.

Those who believe in the first myth argue that given the distinction between middle-class and working-class people (which does not, of course, rule out a considerable amount of overlap), intelligence does not determine a person's social class, but rather a person's social class determines his intelligence. IQ tests favor the middle-class child who is more likely to have a better education and a greater respect for it, better living conditions, better food, more books in the home, more stimulating conversation. Some people who believe this version of the myth argue that there is a "critical period" early in life during which environmental influences are particularly important. While this critical period is not well defined, it may extend from conception to birth, and from birth to the age of about 18 months. By this account IQ tests measure nothing but the effects of environmental influences and do not in principle differ from

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In the next issue *Change* will explore the area of education and the heritability of intelligence test scores through an interview with psychologist Leon Kamin and an article on compensatory education programs by educators Evelyn Moore and Ronald Edmonds.

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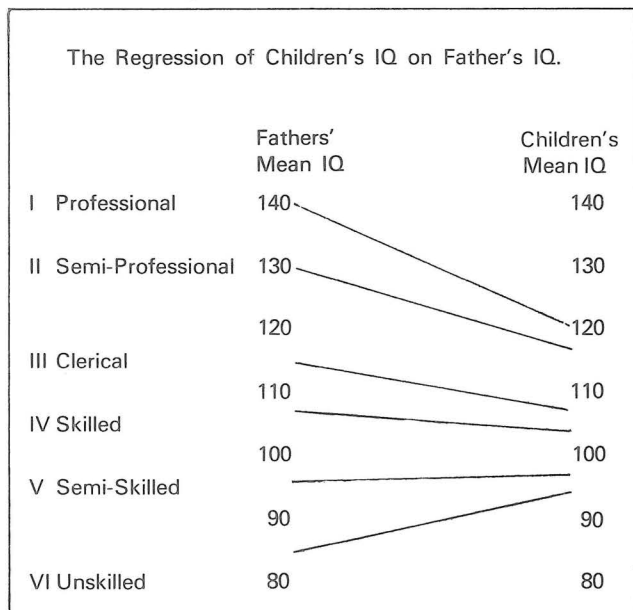
tests of educational achievement. Therefore, if we were to improve the social conditions under which working-class children grow up, these apparent differences between classes would disappear and working-class children would have IQs equal to those of middle-class children.

If their argument were correct and the facts were as stated, then a firm push toward a more egalitarian society would seem mandatory, and the consequences of such a social resolve would clearly be desirable from any humane point of view. But their argument for what determines IQ implicitly denies the well-established claim that differences in IQ are largely determined by genetic factors. It refuses to believe that 80 percent of IQ variance is accounted for by genetic causes and only 20 percent by environmental ones.

And it is here that the complementary myth enters into the picture, one that was brought to the forefront of discussion by Richard Herrnstein in the *Atlantic Monthly* (September 1971). Herrnstein begins from a position exactly opposite from that briefly outlined above. He is convinced by the evidence that IQ is inherited, and he puts his position in the form of a syllogism: if differences in mental abilities are inherited, if success requires these abilities and if earnings and prestige depend on success, then social standing, which reflects earnings and prestige, will be based to some extent on inherited differences between people. One of the corollaries he deduces is pertinent here: he points out that as our technology advances, a low IQ will become more and more a passport to unemployment. If IQ is inherited, then so will be unemployment. "The syllogism implies that in times to come, as technology advances, the tendency to be unemployed may run in the genes of a family about as certainly as bad teeth do now." He goes on to say that "our society may be sorting itself willy-nilly into inherited castes." To him, "what is most troubling about this prospect is that the growth of a virtually hereditary meritocracy will arise out of the successful realization of contemporary political and social goals. The more we succeed in achieving relatively unimpeded social mobility, adequate wealth, the end of drudgery and a wholesome environment, the more forcefully does the syllogism apply."

It will be clear now why I considered these two myths "complementary." The first myth denies the importance of heredity in determining IQ differences and goes against all the available evidence; the second myth emphasizes the importance of heredity but draws false conclusions from the evidence. The fear that genetic theories imply something like the picture Herrnstein paints has indeed caused many people to shy away from them and embrace a purely environmental position. Fortunately, nothing of the kind is true.

Let us consider the facts, paying particular attention to a factor whose importance Herrnstein slights — the existence of genetic regression. This well-known effect, which is based on the genetic mechanisms of segregation and recombination of genes, is illustrated in the following chart.



The figures are taken from a large-scale study done by the late Sir Cyril Burt of University College, London; they are typical of many other investigations. The IQ average for the fathers shows the usual differences between social classes. But note the figures for the children born into these classes: the children have regressed toward the mean IQ score of the population, which is 100. Thus fathers with a mean IQ of 140 are likely to have children whose mean IQ is 120, while fathers with mean IQs of about 80 have children with a mean IQ of 90. Such results are quite impossible to understand on any environmental basis: the children from the most propitious background have much lower IQs than their parents, while children whose parents can furnish only the worst environment show IQs superior to their parents. However, this is precisely what a genetic hypothesis would have predicted, and indeed the argument from regression is one of the most compelling of all those offered by behavioral geneticists.

Such a fact makes Herrnstein's position untenable. No fixed "caste" of dull and unemployed people is developing, either because of technological advances or from any other causes. There is instead a marked degree of social mobility enabling children to rise from the working class by virtue of a high IQ or drop from the middle class by virtue of a low IQ. Sir Cyril Burt has published data on numbers of school children whom he followed for many years, demonstrating the change in status from father to son. He used three main social groups: the middle class

(group one), the skilled working class (group two) and the semi-skilled and unskilled working class (group three). Fifty-two percent of the sons of fathers in group one remained in the same group; 34 percent and 14 percent respectively were found in groups two and three. Fathers in group two had sons in group one in 23 percent of the cases, 47 percent in group two and 30 percent in group three. Fathers in group three had sons in group one in 14 percent of the cases, 37 percent in group two and 49 percent in group three.

Social mobility results, then, from a combination of two facts: regression, as described above, and the fact that over the last three generations there has been no change in the mean value or the standard deviation of IQ for the main social classes. Therefore, it is statistically inevitable that there has been a considerable amount of social mobility, and furthermore that this mobility has been closely linked with IQ: the bright rise, the dull sink in the social scale.

(A caste system prohibiting intermarriage between members of different castes and precluding social mobility would within six to eight generations equalize IQs between castes, however unequal the original distribution. This follows from simple regression analysis, and it has in fact been shown that Brahmins and Untouchables in India have very similar IQs.)

Many have criticized the argument that IQ is strongly based on genetic factors, and particularly the calculations suggesting that approximately 80 percent of the total can be accounted for in genetic terms. Earlier formulas often didn't account for important variables such as differences between families and between genes and the environment. But recent theoretical work has produced a formula which enables us to take these and many other factors into account; in particular, the publications of John Jinks and David Fulker of the University of Birmingham in England have given a sound biometrical genetic structure to this whole field. Further, their work seems to have justified the assumptions made previously about the heritability of intelligence. Such assumptions and conclusions are based on estimates from studies of identical and fraternal twins, of identical twins brought up in isolation from each other, of familial intercorrelations, of regression effects and of many other testable connections. All agree on the figure of 80 percent, and since criticism of one particular method of reaching the estimate is not usually applicable to other methods, the figure seems reliable.

In addition to such analyses we must consider environmental studies as complementary investigations. We should then expect them to give us a figure for environmental effects not in excess of 20 percent. The late Barbara Burks calculated that environmental factors accounted for 17 percent of the total variance in the IQs of foster children. Similarly, studies of foster children in which the child's IQ was

compared with that of his foster parents usually have shown very low correlations, compatible with a belief that the environment affects no more than 20 percent of the IQ variations.

Of particular interest to egalitarians who hope to even out by social action the observed differences in IQ between working-class and middle-class children is a study in which E. M. Lawrence asked precisely this question: if we reduce the environmental differences in children's lives, by how much can we reduce the differences in IQ between them? Lawrence tested children who had been sent to an orphanage at a very early age, and he later tested their IQ when they were in adolescence; these children had as uniform an environment as any egalitarian could possibly devise. Yet the variability of their IQs was only marginally reduced; their standard deviations were reduced less than 10 percent, compared with children living in the world outside. Thus even a completely egalitarian society would have to cope with IQ differences almost as wide as those we encounter today.

Egalitarians and environmentalists still have one argument left which many consider the most important. Animal research indicates that early deprivation of sensory and motor experience or nutritional deficiencies can produce defective adjustment later. Basing their positions on this research they argue for the existence of a "critical period" in development, and they suggest that environmental influences during this period outweigh all others. If this "critical period" occurred prior to the assignment of the foster children to their foster parents or to the orphanage, we would have to be dubious about the studies cited above. Here too, however, the facts do not favor the environmentalists. In one study, Ronald Johnson of the University of Hawaii looked at the IQ differences between identical twins who had been separated at about two months of age, comparing them with the IQ differences between identical twins who had been separated at about 24 months. If the "critical period" hypothesis were true, one would have expected the twins who had been separated earlier in their lives to be less similar than those separated later; but the facts pointed in the opposite direction. The twins separated early in life showed an IQ difference of 4.7 points; those separated later showed an IQ difference of 9.4 points. Similarity in the IQ of identical twins is thus inversely related to the amount of time they spend in a common environment during the "critical period."

Nor was another study on the question of malnutrition during the "critical period" any more comforting to the believers in environmental determinism. Zena Stein and his colleagues at the New York State Department of Mental Hygiene used the famous World War II episode in which, as a punishment for their actions during the Arnheim parachute invasion

of Holland, the Nazis reduced the caloric intake of certain residents to about one third of what we usually consider the absolute minimum. Many people died of starvation, and it may be said that no groups of people in civilized countries are likely in peacetime to suffer anything remotely approaching this degree of malnutrition. Yet when the children conceived and born during this period were later tested at the time of their induction into the Dutch army and were compared with children who had not undergone this experience, no differences were found in IQ or in degree of mental deficiency. In other words, extreme malnutrition during the "critical period" had no effect whatever on IQ. Such studies create doubts concerning the relevancy of animal evidence of "critical periods" of development to the heritability of human IQs. The kind of sensory and motor deprivation inflicted on the experimental animals bears no comparison with the environmental differences existing between working-class and middle-class children.

These considerations fairly thoroughly destroy the basis of our first myth. It is simply not true that class determines IQ; it is much more true to say that IQ determines class. This does not mean that greater equality of opportunity, of schooling and of environment generally should not be fought for; such equality of opportunity is enjoined on Americans by the authors of the Declaration of Independence. But such programs are not likely to have marked effects on IQ.

Our discussion is clearly relevant to such views as those put forward by Christopher Jencks in his book *Inequality*. He is unquestionably right in saying that "equalizing educational opportunity...does not make adults more equal." Our educational system has progressed to a point where further equalization of opportunity would have diminishing effects on educational achievement, while increasing the effects of differential heredity. This is no argument against such further equalization of opportunity, which is desirable in itself. Jencks argues that "school reform is never likely to have any significant effect on the degree of inequality among adults," and this is true. School reform has, however, significantly affected the degree to which social inequality among adults was determined by innate intelligence rather than by parental class privilege, and modest improvements along these lines are still possible. Jencks suggests that the only method of achieving greater equality lies in socialism, i.e. "political control over the economic institutions that shape our society." But experience with socialism in the Communist countries does not suggest that they have succeeded in overcoming the basic problem, which is that genetic diversity makes some people much more intelligent than others. And Jencks grossly underestimates the genetic contribution to individual differences in intel-

ligence when he assesses it at 45 percent, a figure that does not agree with the best genetic opinion available now.

Perhaps the most widely quoted conclusion from Jencks's book relates to the importance of luck; according to him, "neither family background, cognitive skill, educational attainment nor occupational status explains much of the variation in men's incomes." Though luck undoubtedly plays some part in human affairs, it is difficult to take this claim seriously. Unless we argue that luck is involved in our choice of parents and in the particular segregation and recombination of genes which give us our IQ, the notion that intelligence and education are not involved in determining a person's income is too absurd to require discussion. Jencks, like many sociologists, gets by simply by disregarding psychological evidence that does not fit into his preconceived picture. The figures quoted in the table and chart are equally decisive in demonstrating that his claim is not valid: there is a very clear connection in both between upper-middle-class status and high IQ, lower-working-class status and low IQ. The figures leave no doubt that IQ determines to a marked extent a person's earning power; the fact, already mentioned, that people rise and fall in social status according to how intelligent they are strongly supports this view. Obviously other factors, such as the personality traits of determination, persistence and high aspiration, also play an important part; success in our society—or any other, for that matter—is determined by a whole complex of factors. But IQ is probably at the moment the most important single factor leading to success.

As far as education is concerned, some very obvious consequences would seem to follow from the facts outlined here. There are now reports on over a thousand "Headstart"-type projects in which efforts have been made to improve the IQs and scholastic achievements of deprived children. The latest is the so-called "performance contracting" experiment—probably the largest and best controlled of all such studies. And universally the effect has been nil for all practical purposes: the children exposed to enriched educational programs or environments advance at exactly the same pace as those not so exposed. The research now available to us does not prove that there are no educational methods which might achieve the desired end; it does mean that if there are such methods, we do not yet know what they are. But the assumptions on which these projects were based are clearly wrong: they do not take into account what we know about hereditary influences on IQ and the way these limit the usefulness of environmental manipulations. Perhaps something along the lines proposed by Arthur Jensen might provide a more fruitful educational approach. Following a suggestion by E. L.

Thorndike, he advocated making use of the associative abilities of low IQ children, which he demonstrated were relatively independent of IQ. Certainly nothing is to be gained by keeping up the pretense that we can regard human beings as infinitely plastic and changeable by environmental forces.

There is a curious disproportion between the amount of government money spent on educational research that lacks any proper rationale, based entirely on misguided and demonstrably false hypotheses, and research on biological measures which could in due course achieve at least some of the aims of those who search for greater equality among people. Where over a thousand "Headstart" programs have failed, the next one or two are not likely to succeed. To continue along these lines simply means throwing good money after bad. But suppose we were to look at the research literature on the effects of glutamic acid on feebleminded children; there is good evidence that it increases the IQ of such children to a measurable and useful extent. Similarly, it has been found that dull rats show greater ability after being placed on glutamic acid diets. The drug seems to do nothing for bright or even average children (or rats); it specifically works with below-average children.

One would have thought that any government or educational agency concerned about reducing the gap between the deprived child and the average would have jumped at the suggestions implicit in these findings, and would have started a huge, well-financed program of research into this drug. Such a program would have been designed to find out the precise values and limitations of the drug, optimum doses and times of administration and many other critical facts. Chemists would have taken the drug to pieces and tried to find the active principle. Physiologists and neurologists would have investigated the precise way in which it acts on the central nervous system and the cortex. Differential effects, if any, on white and black children would have been investigated. For a fraction of the money wasted on the educational programs we could have obtained invaluable and directly applicable knowledge on how to raise the IQ and achievement level of dull and underachieving children.

It is interesting to speculate on why this research program has not been set in motion, and why no money has been spent in the experimental studies of this promising and intriguing drug. The answer must surely be the simple one that educationists and politicians still do not regard human beings as biological organisms but try to disregard our biological essence as an affront to their higher sensibilities. Until this mistaken view is changed there is little hope of finding an answer to the all-important question: how can we best help the deprived child? ■