

## The Price of Inequality

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## **The Price of Inequality**

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ARTHUR R. JENSEN

Publicly supported universal education has been both the hope and the despair of egalitarians. No other institution comes near to rivalling the school system as the major focus of concern with equality and inequality. And with good reason. Universal education is seen as the chief instrumentality for realizing the ideal of equality, and yet, in practice it proves to be the prime mechanism for revealing (some would say creating) inequality. By in fact coming closer than any other societal institution to the cherished ideal of equality of opportunity for everyone, the educational system most forcefully highlights inequalities in performance. That is our dilemma.

A system of rather equal treatment, accompanied by close assessments of individual performance on which is eventually based the selection of individuals for different educational paths leading ultimately to unequal social and economic rewards—such a system is attended by crucial problems, moral and philosophical, political and practical. Many who do not view the system and its outcomes as inevitable, now are questioning it in a rising tide of discussion in countless articles, books, forums, analyses and editorials.

Various critics, of course, point up different aspects of the issues. Discussions from a utopian standpoint, though they may testify to high ideals, actually leave hidden most of the troublesome problems. And there is seemingly little conflict of opinion on the level of moral philosophy and ethics. It is on the practical side that the issues of equality and inequality bristle with difficulties and contradictions, raising problems of compromise, trade-off, the weighing of a multitude of conflicting interests, and the balance of costs and benefits. My aim at this point is not to propose a solution, but to make explicit some of the key problems of educational equality, problems that cannot be ignored by any proposed solution, even assuming there could be anything like a general solution. I take it for granted that no realistic proposal could meet everyone's approval. That is in the nature of the problem. Possible solutions turn out not to be a matter of choosing the good and rejecting the bad, but of choosing, compromising, and balancing among various mutually contradictory or inherently irreconcilable goods. For I believe there is no real escape from inequality, and all attempts to mitigate its most disadvantageous effects to individuals and to society as a whole must exact a price—price in the broad sense, not strictly monetary. The crux of the whole matter comes down to what price should be paid, and by whom.

### **EQUALITY OF OPPORTUNITY AND INEQUALITY OF PERFORMANCE**

Nowadays one sees little, if any, argument about the ideal of equality of opportunity. Whether equality of opportunity has in fact been achieved is another matter. Reasonable and fair-minded persons seem to be agreed that such equality is a proper goal and one toward which we have made great strides in recent decades, particularly in public education.

It is generally agreed, in principle, that the children of all citizens should be provided equal educational facilities. The large extent to which this goal has been realized is shown in surveys such as the well known Coleman report, which found that in the United States only a small fraction of individual differences in scholastic achievement is accounted for by school-related variables. In this nationwide survey, schools and schooling were discovered to be much more uniform in terms of their educative effects than anyone had expected. This should not be interpreted to mean that schools are especially good or could not be made much better. But what now appears to be universally agreed upon by those who have reviewed the evidence is that the schools, such as they are, simply do not begin to account for more than a small part of the observed individual and group differences in scholastic performance. The vast research and literature of the past decade has made it overwhelmingly clear that inequalities in performance—in what a child has acquired in scholastic knowledge and skills at any given age—will not be appreciably reduced by making schooling still more uniform for all children. Though we are continuing to move in this direction, it will have little further effect. We move in this direction only because we do not know what better to do and because we are agreed that uniformity of educational treatment is more fair and preferable to unplanned and circumstantial diversity that has no relationship to any scientifically established educational principles.

Since it is apparent that differences in scholastic performance, which persist despite equality of educational inputs, are closely linked to selection for higher education, which in turn is related to financial rewards in adulthood, there has been an increasing dissatisfaction with the achievement merely of equality of educational opportunity as the final goal. This long-time liberal ideal has now been superseded by the new ideal of equality of performance.

If equality of educational input does not make for equality of output, it is argued, then perhaps unequal input will lead to more equal results. Theorists differ as to how and where in the whole educative process to apply the diverse treatments that might better equalize the outcomes. Some advise pre-school Headstart programmes, or compensatory enrichment in the elementary grades; some hope to discover individualized methods of instruction whereby diverse treatments might result in more equal achievements; and some advocate simply changing the standards of assessment and selection for advanced schooling. The documented failures of Headstart and other compensatory measures have shifted the emphasis to dealing more directly with the outcomes rather than with the inputs of formal education. And so we see more drastic criticisms of the methods and standards of evaluation, or proposals to abolish pupil evaluation altogether. Finally, it is advocated by some that once equality of educational opportunity is a fact any further issues of equality should be assigned elsewhere than to the schools for solution, such as by equalizing incomes directly, rather than expecting the educational system to equalize persons' capabilities and thereby their earning power. If education could be shown to have little relevance to later earning capacity or other tangible rewards, it could presumably remove the pressures on educators to answer for the problems arising from unequal performance.

## INDIVIDUAL DIFFERENCES VS. GROUP DIFFERENCES

Unequal performance, and hence the threat of unequal rewards, becomes a social and political issue only when the unit of assessment shifts from the individual to aggregates of individuals such as ethnic groups and social classes. Usually such group identities are strengthened, and the group's separateness from the majority is emphasized, when a preponderance of the group's members are socially or economically disadvantaged. In so far

as the so-called 'melting pot' operates for such groups, they tend to disappear and merge with the 'majority'. This seems true even when highly visible signs of group membership remain, as in the case of American Orientals. The 'melting pot' has worked for them despite their physical racial identity. Group identities apparently become less important as more and more members of the group are seen to compete successfully in the educational and occupational systems of the general society. This has been the fate of most immigrant groups in the United States. It is when the 'melting pot' has apparently failed to operate in this usual fashion that groups rather than individuals become the focus of concern about educational inequality. Failure to succeed is less apt to be perceived as personal failure if one identifies with a group which is claimed, justifiably or not, to be discriminated against. Having the status of an unprivileged caste, real or imagined, makes personal failure more tolerable. This reinforces group identity and makes groups which are supported by such an identity more vulnerable to political propagandists who would use such groups to attain their own political ends.

It is especially unfortunate for educators that group differences have held the limelight in recent years, for the true unit of educability is not the group, but the individual. It is the individual who must be educated. It is the individual who must learn. And the problems of educational engineering are essentially the problems of understanding human learning and human abilities and the nature of individual differences in these processes. While there are undoubted individual differences in educationally relevant abilities and traits, discussion of these factors which can make sense at a scientific level seems extremely remote and in quite a different key from the popular rhetoric of equality and inequality.

Groups are composed of individuals, of course, and if the individuals have any aspects in common which distinguish them from others, there will inevitably be group differences. Natural groups are not random samples from the population, although in many characteristics they may differ no more than do random samples. But there may also be many incidental correlates of the differences that originally made for the group's identity. I take it that, for the most part, these incidentally correlated group differences, since they are based on the average of the individuals comprising the group, are essentially of the same 'stuff' as individual differences. From a scientific standpoint, this 'stuff' can be studied and understood at the individual level, and group identities need not be brought into the matter at all. This is not the same as saying that group differences, as well as individual differences, cannot be studied scientifically. We can ask how and why groups differ as they do. These are legitimate scientific questions within the provinces of zoology, genetics, psychology, sociology, and anthropology. But they are not intrinsically very important to education. Whatever importance such questions of group differences has assumed in education arises more from a socio-political climate involving group identities than from strictly educational or scientific considerations.

The legitimate scientific question of group differences is forced upon us when socio-political ideology makes a central issue of group differences in scholastic performance and pronounces conflicting notions and doctrines as to their cause and amelioration. To the extent that these notions may influence educational practices and policies, it becomes important to find out scientifically whether they are true or false.

I regard this diversionary emphasis on group differences, rather than on individual differences, as unfortunate for education, not only because the individual is the essential unit of all the factors involved in educability, but because none of the ethnic or social groups in question is sufficiently homogeneous in the characteristics involved in educability to warrant its being treated as the unit for any educational prescription. Individuals within every ethnic group in America range from mentally retarded to intellectually

gifted, from lower to upper class, from illiterate to well-educated, from politically radical to conservative. I know of no principles of psychology or education that would warrant the consideration of either racial or social class identity per se as at all relevant to educational treatment. Only if it could be successfully argued that the cultural identity of a group makes all of its members so different from the rest of the population in its educational requirements as to justify racial or cultural separatism in schooling would I doubt my insistence on individuals rather than groups as the unit of educational treatment. But then I would doubt the desirability of maintaining a cultural identity that could so override individual qualities—qualities which, I believe, are biologically assured by membership in the species *Homo sapiens* and by the genetic mechanisms that guarantee great individual diversity in abilities and other traits, irrespective of ethnic background.

Group differences, particularly in factors related to educability, have their own statistical properties—properties that are not inherent in individual differences. An IQ difference of, say, one standard deviation (15 points) between two individuals has quite different implications than the same average difference between two groups or populations. Full siblings reared together differ, on average, only slightly less than one standard deviation in IQ (about 13 points), and apparently this fact, in the perception of parents and teachers, has never been a major educational problem. But approximately the same average difference between two racial groups (e.g. Whites and Negroes in the United States differ about one standard deviation in IQ) has given rise to all manner of educational problems, programs, practices, policies and propaganda.

One basic reason for this is that individual differences are viewed in terms of actual performance, while group differences are viewed in terms of the percentages of each group which fall above (or below) some given criterion of successful performance. Thus the two bases for viewing differences are qualitatively different. And in fact the actual performance differences have been much less troublesome than the percentage differences. Parents and educators alike have more or less learned to live with the fact of individual differences viewed as performance differences. But they are terribly disturbed by group differences viewed as percentages above or below a particular criterion. This is not to say that individual differences are ignored or that ability and performance differences do not really make a difference to the individuals and their families. Neither does it mean that group differences are essentially different from individual differences in terms of performance. (And in my view even in terms of their causes.) It means that because we view group differences in a qualitatively different way than individual differences, we tend to exaggerate the appearance of differences and create problems that need not arise if education and the general public perceived individual rather than group differences as their proper unit of concern.

Scholastic aptitudes and achievements are, as we know, distributed more or less according to the normal curve in most populations. When the means (or medians) of two populations differ, and their distributions both are approximately normal, then the percentages of each group that fall above or below any given point on the scale in question (say, IQ) will differ, and this percentage difference increases at a tremendous rate the further the given point (i.e. a criterion score or selection cut-off) is from the mean of either population. This is a result of the statistical properties of the normal curve. Thus, for example, the White and Negro populations of the United States differ in IQ (whatever the cause) approximately one standard deviation (15 points). Because both groups have a more or less normal distribution and about the same standard deviation, we can state with considerable accuracy the percentages of each group that can be expected to fall above or below any given IQ. If the White mean is 100 and the Negro mean is 85, then 85 percent of Negroes fall below the white mean, and of course 15 percent fall above. If we place

a selection cut-off at, say, IQ 115 (equivalent to the selection score required by some colleges), then some 16 percent of Whites exceed this score as compared with only about 2.5 percent of Negroes. Approximately six times as many Whites as Negroes would qualify by this particular selection criterion. If the cutting score is at IQ 100, the percentages of Whites and Negroes who pass would be 50 and 15, or a ratio of only about 3 to 1. Thus, the ratio of the White to Negro percentages increases drastically the higher the selection cut-off. The same thing applies, in reverse, to selection cut-offs in the lower half of the distribution. Thus, the percentage of children regarded as educationally retarded, with IQs below 70, is about six times greater for Negroes than for Whites, while the percentages of Negroes and Whites with IQs below 85 are in the ratio of 3 to 1. When viewed in this way, an average difference of 15 IQ points between the populations appears in an altogether different light than our benign perception of the same IQ difference when it occurs between members of the same family.

So when there is unequal percentage representation of different groups in various educational programs for the educationally retarded or the academically gifted, or in selection for higher education, there are vociferous protests of discrimination, social injustice, racism, and the like. The selection criteria, though applied on an individual basis, are claimed, without any independent evidence, to be culturally biased. And thus we are seeing moves to abolish tests and grades—not just IQ and aptitude tests, but tests of scholastic achievement as well. The assessment of individual performance is to be precluded in order to prevent the appearance of group differences.

## THE SCIENCE OF HUMAN DIFFERENCES

An important question would seem to concern the validity of the claims that the particular group differences in question have causes which are essentially different from the causes of individual differences in educability and scholastic achievement *within* groups. If the group differences in achievement are in fact the result of unequal advantages in school, or unfavorable attitudes on the part of teachers, or biased tests, then of course top priority should be given to the elimination of these disadvantages. If then group inequalities in performance still persist, the schools cannot rightfully ignore them, but must develop beneficial means of coping with them, not as group differences per se, but in terms of the school's necessary concern with individual differences. An important criterion of the success of publicly supported education is its ability to deal productively with the wide range of individual differences that exists in the population to be served. When the main causes of differences lie outside the realm of variables normally under the school's control, it raises the question of whether the schools can be charged with responsibility for eliminating such differences, rather than merely accepting them as given and coping with them as effectively as possible. In the history of education, so far as I know, there has never been any concerted drive to eliminate individual differences in educational aptitudes and proclivities. The drive to do so is a recent product of the intense focus on group differences.

I have argued essentially the thesis that social class and racial group differences in educability, at least in the present day United States, are mostly of the same nature as individual differences and can therefore be most beneficially dealt with at this level (Jensen, 1972, 1973a, 1973b). There is already a general consensus of scientific opinion that genetic and constitutional factors, as well as environmental influences, are important sources of individual differences, though there are a few persons who still express extreme skepticism even on this matter, usually, it appears to me, for ideological rather than for scientific reasons.

It is my considered opinion that the main group differences of concern to education are, like individual differences, a product of genetic and environmental factors, mixed in as yet uncertain proportions. While this view would seem anything but startling or unreasonable to most biologists, it is still far from a consensus in the social sciences and in education. It was so contrary to the popular zeitgeist of these fields as to be met with extreme furor when I stated it in 1969 and subsequently, as I have documented elsewhere (Jensen, 1972, Preface). (Similar experiences are reported by Herrnstein, 1973, Preface.)

The relative inability of so many social scientists and educators to come to grips with this matter in a proper scientific manner is a most complex phenomenon in its own right. I cannot consider it in detail in this paper. I leave it for specialists in the sociology of science. On this question of the causes of group differences in mental traits, the behavioral sciences have most strikingly revealed their weaknesses and limitations, some of which are not intrinsically of a technical or scientific nature. There has been considerable corruption of the behavioral sciences by social ideology. One manifestation has been the extreme reactions against hereditarian thinking in the behavioral and social sciences. In more mature sciences, errors and false theories fall by the wayside, to be studied as a part of the history of science. Better theories displace the discarded ones. But in the behavioral sciences there is much less consensus as to what can be discarded and what can be accepted. What is worse is that there appears to be little drive to arrive at this condition, which characterizes the more advanced sciences. The social science field carries along with it, part and parcel, all manner of incompatible and conflicting theories and notions, side by side, with little hierarchical order among them in terms of consensus of accorded validity. It is as if students of astronomy were taught astrology as well, or students of neurophysiology were taught phrenology, and the chemistry syllabus included phlogiston theory. There is so much that is probably untrue in psychology, and yet so little that has been disproved or rejected in terms of a consensus of informed opinion in the field. This is true not only in the so-called nature-nurture controversy, though it, perhaps more than any other topic, has been obscured and distorted by socio-political ideology. My own perusal of numerous textbooks of general, developmental, and educational psychology impresses me that, for the most part, their treatment of heredity and environment as related to mental abilities has a peculiar obscurantist flavor, especially when seen in a purportedly scientific context, as compared with the more straightforward treatment of other topics. I believe this unfortunate condition is being improved: I see signs of it in a few of the most recently published textbooks. But too often an easy way for an author to get around the careful and critical review of research evidence, which if thoroughly weighed might warrant strong inference, is to present only very weak conclusions. It is the 'safe' way of dealing with a controversial topic.

Educators, by and large, are consumers of scientific opinion. But as they are usually not investigators themselves, they are more or less at the mercy of the social sciences. They are liable to accept quite untested notions, especially if presented in ways that appeal to humanistic sentiments. This ready buyer's market for psychological research engenders the expectation that all the findings of scientific research should be 'good news', like the discovery of a new vaccine for a dreadful disease.

But not all scientific findings can be 'good news' in this simple sense. Yet public support of scientific effort probably depends upon a fair measure of readily applicable 'good news'. The failure of social scientists so far to come up with much of anything that has in fact fulfilled its promise of solving the problems of educational inequality is not the fault of a scientific approach to educational problems, but the failure of particular theories. Every few months highlights some new educational 'good news' thought to be the latest scientific

answer to the problem of educational inequality. Then in practice, or in follow-up inquiries, it fizzles and sinks forever out of public view. Workable solutions will have to be based on a scientific understanding of the nature of individual and group differences in educational relevant traits. This science is not yet so far advanced as to warrant confident prescription, and so the direction to be taken by educational policy still leaves much room for debate. At present we seem to know much more about what does not work than what will. This knowledge, I believe, is the main 'fall out' of the vast expenditures on educational research in the last two decades in the United States. It was not a wasted effort, and may have won half the battle.

#### ATTITUDES AFFECTING FURTHER PROGRESS

Since certain hypothesized causes of individual differences or group differences are regarded by some persons as unacceptable on nonscientific *a priori* grounds, another price of observed inequalities in educational attainment is the existence of research taboos. For if research is real research, there is always the chance that ideologically unacceptable causal factors will be found to be a necessary part of the explanation. In recent decades genetic, evolutionary, and biological thinking have been generally shunned in discussions about the manifest group differences in educability. Even cultural and environmental hypotheses are unacceptable in some quarters, except for those aspects that seem to stem from social injustices, past or present. How else could one account for the uproar in academia over Herrnstein's (1973) thesis concerning genetic factors in social stratification, or my own inquiry into the nature of the Negro IQ deficit?

Aside from dogmatic stances on either side of this controversy (which has been most penetratingly analyzed by Urbach, 1974), there are philosophically and morally more subtle and troublesome questions about the social implications of research which warrant recognition. My own position is simply that genuine scientific research is a continuing and self-correcting process which, though never arriving at complete certainty, yields the most reliable objective knowledge of reality that we can obtain. And I take it that the understanding and possible solution of problems in the real world depend upon taking account of such knowledge. I see no reasonable alternative. Although a contrary view might have some points worthy of debate, I have never seen them clearly or cogently stated.

It is a mistake to believe that scientific knowledge must necessarily be 'good', if 'good' is taken in a highly personal sense or in the sense of 'good news'. The genetic nature of sickle cell anemia and the fact that it is racially linked is not 'good news' to anyone, least of all the victims and their parents, or to parents who may run a high risk that their future offspring could be afflicted. Not all scientific knowledge immediately takes the form of an answer to a personal or social problem.

A very low IQ, which with high probability portends inordinate scholastic difficulties, is a personal misfortune to all concerned. We have sympathy for the underdog, and some persons may not want to look into the true causes. We are grateful if offered hopeful or in some way emotionally comforting explanations, even though they may be factually unsubstantiated. And if one social group is seen to bear a higher percentage of such misfortunes than another, the problem is magnified. Racial differences, in particular, are an especially difficult and sensitive subject, largely because of the past history of racial discrimination in the United States and the Negroes' admirable struggle to achieve equality in civil and political rights and in opportunity for education and employment.

Inferences about intelligence differences, whether measured by tests or inferred from scholastic and occupational performance, are viewed with dismay by many, because the vast majority of people perceive (correctly) what might be termed the 'threshold' property



of intelligence. That is to say, for most occupations in a technological society, there is some threshold or level of intelligence below which the ability to perform successfully is highly improbable. There is a threshold level of intelligence below which failure in scholastic subjects is virtually certain. There is an even lower threshold of IQ below which persons are generally perceived as severely handicapped, socially as well as educationally and occupationally. Almost no other handicap—deafness, blindness, lameness, physical deformity—seems as generally overwhelming an impediment to achievement, self-realization, and what most of us think of as a satisfying life, as a very low level of general intelligence. The important properties of the IQ and its social correlates are too starkly perceived at the upper and lower extremes and may arouse resentment against such an explicit scale of comparison. We therefore naturally resist acknowledging any evidence that a substantially larger proportion of some particular socially identifiable group, than of some other group, falls below these various IQ and performance thresholds. The regrets and sympathies aroused by this realization, combined with feelings of guilt over deeply deplored historic injustices, such as slavery and racial discrimination, result in a common tendency in our thinking to transform these closely associated feelings into cause-and-effect rationalizations. It predisposes one to uncritical acceptances of explanations of certain racial differences in cognitive ability as due wholly to past or present social injustices, discrimination, poverty, and the economic exploitation of one group of people by another. Such notions can be rich grist for political propaganda or goads to social action, but they are exceedingly remote from the kind of theoretical framework and fine-grained analyses of data that are needed if we really wish to understand the existing evidence on group differences in educational abilities.

But are there some kinds of knowledge we may be better off not having? The question is raised by the concept of the self-fulfilling prophesy, whereby an assessment or prediction is brought to reality only because it had been put forth in the first place. A person is led to believe he has a low IQ (or some equivalent) and he therefore gives up and lowers his own performance to meet his poor expectations. I have not seen any compelling evidence that this actually happens, but neither am I satisfied that any research has decisively ruled it out as a factor in individual or group differences. It seems to me a legitimate worry. But it would not be made to disappear simply by abolishing tests. Differences in the criterion performance itself are too conspicuous and are of no lesser magnitude even where ability tests are never used.

To confine the search for the causes of inequality in scholastic abilities to social and economic factors and their unequal distribution in society is not only a scientific *cul de sac*. If the ascribed causes are largely untrue they offer little basis for effecting beneficial change. But there are those who might argue, in effect, that we should build up an elaborate delusion of social injustices in order to maintain what is essentially a neo-Marxist interpretation of human diversity—the view that inequalities are due to class differences in political and economic privilege. This position is simply incompatible with the hard fact that there is nearly as much inequality in abilities, scholastic performance, and income among sibling reared in the same home as there is in the general population. Brothers differ, on the average, almost as much as social classes and races. As Christopher Jencks (1972) has noted, human inequalities are re-created anew in each generation. This is just what would be expected in terms of polygenic inheritance, with its Mendilian mechanisms of random segregation and recombination of genes in each generation. It is worth noting that the famous geneticist J. B. S. Haldane, who was a Marxist but put his science above his politics, stated: “The test of the devotion . . . to science will, I think, come when the accumulation of the results of human genetics, demonstrating what I believe to be the fact of innate human inequality, becomes important.” He also stated:

"I believe that any satisfactory political and economic system must be based on the recognition of human inequality."

### COPING WITH GROUP INEQUALITY

The 1960s witnessed massive attempts to deal with group inequalities in scholastic performance by attempting to eliminate them by improving the cognitive abilities, the self esteem and the academic motivation of the disadvantaged groups in American society, through a multitude of headstart, compensatory, and experiential enrichment programs. In the 1970s the emphasis has taken other directions, based less on the idea of changing children's educational abilities per se. Each of these solutions has its particular advantages and disadvantages, which should be weighed.

#### *Equality of Opportunity*

This long-standing ideal has had various meanings in education. At the very least it means that all individuals, regardless of their group membership, should enjoy comparable educational facilities, expenditures, options, and that no educational paths should be barred to anyone who qualifies in terms of common standards. By itself, however, this is now regarded as not always enough. For if equality of opportunity is to be genuine, certain other conditions must prevail. Equal access depends upon the individual's knowledge of what is available and possible in terms of the goals and rewards of education, in terms of types of higher education, vocations, and job opportunities, and in terms of his own talents. The disadvantaged may be allowed equal facilities, but they cannot fully avail themselves unless they appreciate the possibilities and perceive the many paths to success in our society. Most of this awareness is afforded by the parents and home background of more privileged children. Where it is lacking in underprivileged groups, the schools must take the lead if equality of opportunity is to mean more than a condition passively granted by society. This is especially important for access to conditions that affect educability indirectly, such as nutrition and health care, which are normally provided by institutions outside the schools.

#### *Recruitment of Talent*

Academic aptitude and other talents in children have less chance of being detected in groups with a limited experience of educational and occupational opportunities. It is a major responsibility of the educational system to seek out and cultivate talent of all kinds, wherever it may be found. This can be accomplished by teachers' assessments and a variety of objective tests. The main objection to tests is that they more clearly reveal groups differences, which become a point of contention if any differential treatment is accorded to individuals on the basis of tests. But talents are most likely to be discovered, especially in disadvantaged groups, by a combination of learning opportunities and objective assessments of aptitude and performance. Objective means of revealing talents stand to benefit talented members of disadvantaged groups the most, since in their cultural circumstances certain talents are more apt to go unrecognized and undeveloped. Insistence upon the importance of the individual in education requires that we try to minimize any tendency for group membership to obscure the recognition of individual qualities and try to permit them full access to the opportunity for development.

This 'talent hunt' philosophy, however, risks neglecting the educational needs of children who possess no outstanding talents of the sort that are traditionally important in school. The only answer I know to this problem is the diversification of the school's

role in society beyond its traditional academic function, so that it has something to offer to children with little scholastic aptitude. If all children, regardless of aptitudes, are to be required to engage in some form of schooling until they are 16 or 18 years of age, as is the case in the United States, then the educational program cannot be so narrow as to result in the failure of a substantial percentage of children, as is now the case. Schooling as we now know it was developed before the advent of universal compulsory education, and it has not yet fully adjusted to the reality of the normal distribution of cognitive ability in the whole population. The real revolution in universal education will come about only when the reality of this human diversity, coupled with society's will to serve all persons, becomes the basis for educational planning.

Equality of opportunity or equality of access to a variety of opportunities in accord with individual talents and interests tends to arouse fears of 'elitism' and 'meritocracy' in which some races and social classes may be disproportionately represented. These fears motivate the attack on all forms of assessment of aptitude and performance, since group differences, if not caused by externally imposed inequalities, would be revealed more clearly when education and opportunity are equalized. Environmental equality would then risk the highlighting of genetic differences in abilities, with the implications spelled out in Herrnstein's (1973) embattled syllogism:

1. If differences in mental ability are inherited, and
2. if success in society requires those abilities, and
3. if the environment is equalized
4. then social status will be based to some extent on inherited differences.

### *Compensatory Discrimination*

When educational assessments and recruitment of academic talent at the individual level fail to result in the equal representation of groups, a suggested remedy is compensatory discrimination, in which some quota of less qualified persons in the under-represented groups are selected so as to equalize groups in accord with their proportions in the general population. When this has been advocated, openly or in some disguised form, it has been regarded as a temporary pump-priming measure, which, through the feedback of cultural and economic benefits, would eventually in fact equalize the formerly unequal groups.

The idea of such selection quotas, especially when they apply to admissions to college and professional schools, has met with little popular approval. Liberals brought up in the last generation had the idea ingrained into them that quotas of any kind are bad. Historically, quotas in higher education had been applied to the disadvantage of certain ethnic minorities and were decried as a social injustice. It is now widely doubted, however, that compensatory or reverse discrimination is the best means for undoing the injustices of the past.

At many points along the educational route discriminations are unavoidable. Limited resources, for one thing, make them a necessity. But even if there were no limitations in resources, there is still the limitation of normal life-span. Persons should not be encouraged to devote many of the best years of their life to the pursuit of educational and occupational goals which they are extremely unlikely to achieve. Intrinsic cognitive demands of the subject matter and competition of skilled services in a free market insure educational and occupational selection, whether we like it or not. Who will employ the accountant who cannot calculate or the surgeon who has not learned anatomy? There seems to be no escape from selection. The only question is whether it is to be on an individual basis or in terms of quotas, which mean different selection standards for individuals according to their group membership.

The problems with this are obvious. Who decides the quota groups, and how is the number of such groups to be limited? If proportional representation should apply to sexes and races, should it also apply to all ethnic minorities, to religious groups, political groups, geographical regions, etc.? What about minorities, such as Jews and Orientals, who are disproportionately *over*-represented in colleges and professional schools? Should their numbers be cut down?

With finite facilities, compensatory discrimination in favor of one person must mean discrimination *against* another. Who is to pay this price? Those most directly affected, first of all, are the borderline individuals close to the selection threshold, who fail to 'pass' because they are crowded out by less qualified persons in the favored quota group. The upper and lower extremes in neither group will be affected, since there will always be those who are seen as unequivocally suitable or unsuitable in terms of particular selection criteria. Unbiased selection, therefore, is viewed as a most critical issue by the more borderline selectees, who, because of the normal distribution of abilities greatly outnumber the smaller and unambiguous upper extreme. 'Quota' cases involving rejected borderline selectees in colleges, graduate schools, civil service jobs, and the like, will undoubtedly be the subject of controversy and court actions in the years ahead.

But other groups pay a high price for quotas, too, especially the most highly qualified members of the very groups the quotas were intended to favor. Those individuals who, if assessed on their individual merits, could have passed without a quota, must pay the price of being perceived as second-class selectees. This would be especially disadvantageous, not to say unjust, to those members of racial minorities whose abilities and aspirations are above the lowest selection criterion. Thus, a kind of Gresham's Law would almost certainly be encouraged to operate with respect to ability in any institutions in which group quotas were in competition with selection based entirely on individual assessments.

Finally, the general public must ultimately pay a price for quotas, since a truly free market place for talent would have allowed greater educational payoff in skills and services of value to the general welfare. These disadvantages and injustices of any system of educational selection that implies group quotas, under whatever euphemism, will, I venture, be generally rejected as an unacceptable means for dealing with educational inequalities.

### *Equalization of Scholastic Attainment*

No instructional methods are known which can simultaneously maximize the scholastic attainment potential of each individual and minimize inequalities of attainment, when the individuals involved range widely in measured intelligence. So far, no research on instructional variations geared to different aptitudes—called aptitude X training interaction, or ATI for short—has come near to overriding the effects of IQ differences on scholastic attainment. The search for ATI continues. The most impressive attempts have involved the great flexibility of instructional techniques and programs permitted by computer assisted instruction (CAI). What this research shows is that the greater the instructional efficiency of CAI, the more it raises the overall average level of attainment, while at the same time increasing the spread of individual differences (e.g. Atkinson, 1974). Apparently one cannot maximize the class average and minimize its variance at the same time. There is a trade-off between the advantage of one and the disadvantage of the other, and how the trade-off should be balanced is not a scientific question, but a policy decision to be determined by one's philosophy of education. Since scholastic learning takes time, and time spent in learning multiplies individual differences in aptitude, one

could, for example, decrease individual differences in attainment by providing more time in CAI for the slow learners and less for the fast learners. The price would be a lower overall average level of attainment. To maximize the average, the fast learners should be given the most time, since they attain the most per unit of time. But then the differences between fast and slow learners would be magnified.

If slower learners are forced to spend much more time at their lessons, this raises the question of what price in individual choice and freedom should be paid for greater equality of attainment. Persons obviously spend unequal time on different pursuits according to their own talents and interests. Any attempt markedly to interfere with this state of affairs, by manipulating the individual's time to attain some desired standard in certain school subjects, runs the risk of failing to capitalize on natural talents and proclivities which may not fall within narrow conceptions of scholastic attainment. I believe this is already a shortcoming of schools with too few options for the development of individual talents. Under such a condition, what a child does outside of school may be more predictive of his adult attainment than what he does in school. Look at what a child does with his own time and it will most likely tell you more than his school grades about what he will be as an adult.

### *The Problem of Unequal Rewards*

As the reality of differences in educational attainments becomes increasingly evident, discussion turns to the question of equalizing rewards for unequal performance. Educational differences could be rendered relatively unimportant if the reward system of the post-school world of work were much less correlated with scholastic performance. One can even go a step farther and argue that all kinds of individual differences in performance, whether related to scholastic abilities or not, should be less correlated with rewards, presumably by instituting more or less equal rewards for unequal performances in every sphere of endeavor.

However, this egalitarian ideal—to each according to his needs, not according to his socially recognized achievements—runs into conflict with another set of ideals: individual freedom and liberty and the operation of a free market for talent and services. No complex society has ever managed to operate on an equal reward basis. If the most and the least able are rewarded equally, who would buy the services of the latter? And how would the services of the former be rationed, since the demands on them would be great? Those who want their services will pay more for them, one way or another. If incomes are regulated to become more equalized, other forms of reward are then enhanced—social and occupational prestige, better facilities for work and the exercise of talents, and greater individual freedom and privileges in the pursuit of one's goals. Thus, there can be some degree of trade-off between monetary and other forms of reward. But there are still inequalities. When rewards are intrinsic to the form of work itself, or to its associated style of life, inequality of reward seems inevitable and can only be offset to some extent by compensatory monetary rewards for intrinsically less attractive forms of work. No society could afford the wastage of its human talents that would result from anything resembling an occupational lottery. The enforcement of a system in which a free market place of talent did not prevail would require a totalitarianism of the most extreme form. The free market of talent would probably be much harder for a government to regulate than the free market of goods.

There is no absolute scale of achievement to which we could calibrate rewards. They are ultimately determined by the market, complex and indirect though it may be. No free society could afford to change this; but also no humane and wise society can afford

such inequalities in rewards as to deprive the least able or the least fortunate the necessities of life—adequate housing, nutrition, medical care, equal educational opportunity, and the chance for self-betterment. The extent to which this can be realized will depend in large part upon a society's capital in the form of human abilities, as well as in other natural resources, and, of course, upon the universality of opportunity the society affords for the education and recruitment of ability. It will also depend upon the ratio of population size to natural and technological resources, and to the proportion of the population which, by native ability and education, are able to contribute services valued in a free market. These are the main factors that, combined with humanity and justice, will govern the quality of life in a free society.

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