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THE POTENTIAL ROLE OF THE GIFTED IN UNDERDEVELOPED COUNTRIES

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In a 1963 article Sir Julian Huxley observed with characteristic felicity of style:¹

"Consider the difference in brain-power between the hordes of average men and women with I.Q. s around 100 and the meager company of Terman's so-called geniuses with I.Q. s of 160 or over, and the much rarer true geniuses like Newton and Darwin, Tolstoy and Shakespeare, Goya and Michelangelo, Hammurabi and Confucius; then reflect that, since the frequency curve for intelligences is approximately symmetrical, there are as many more stupid people with IQ s below 100 as there are able ones with I.Q. s above it."

Sir Julian pointed out a social fact that should be obvious, and that has in fact been obvious to every generation of civilized society prior to the contemporary one, namely, that great and striking advances in human affairs, as much in creative art and political and military leadership as in scientific discovery and invention, are primarily due to a few exceptionally gifted individuals.

Similar views were held by our Founding Fathers. Thus, Thomas Jefferson wrote his old comrade-in-arms, John Adams, from

Monticello on October 28, 1813, that "there is a natural aristocracy among men. The grounds of this are virtue and talents . . . The natural aristocracy I consider as the most precious gift of nature, for the instruction, the trusts, and government of society. And indeed, it would have been inconsistent in creation to have formed men for the social state, and not to have provided virtue and wisdom enough to manage the concerns of the society. May we not even say that form of government is best, which provides the most for a pure selection of these natural aristoi into the offices of government?" Jefferson esteemed the American system of representative government, not as a mechanism for rule by the mediocre, but as an institution which should ensure the rise of natural elites to political power. Privately, and in the same letter, he went further and advocated a eugenic society, in which the best men would be encouraged to breed polygamously and thus "produce a race of veritable aristoi."

In his *Notes on Virginia*, Jefferson praised the proposed public education and scholarship system of the

¹ Sir Julian Huxley, "Eugenics in Evolutionary Perspective," *Perspectives in Biology and Medicine*, Vol. 6, No. 2 (Winner 1963), 162-3.

Commonwealth since: "By this means twenty of the best geniuses will be raked from rubbish annually, and be instructed at public expence, so far as the grammar schools go." And on another occasion, he defined the American goal as "an aristocracy of achievement arising from a democracy of opportunity."

Even Albert Einstein, whose social thinking was characterized by socialistic preconceptions, wrote for the Time Capsule of the 1938 New York World's Fair that "any one who thinks about the future must live in fear and terror," for "the intelligence and character of the masses are incomparably lower than the intelligence and character of the few who produce something valuable for the community."²

Many social scientists are unconcerned about the differences between the I.Q. levels of different populations. They note that, within the advanced Western Civilization area, national I.Q. means probably do not vary by much more than an average of five points and recall that one can communicate on most practical matters with people whose I.Q. s are five or ten points lower than one's own.

This misses the point. The fact that innate human intelligence has a distribution similar to the normal curve of error means that small difference in average I.Q. cause enormous ones in the frequency of occurrence of both gifted and moronic people. On the assumptions that the genetic determinants of intelligence are polygenic and follow the Gaussian curve, Huxley found raising the mean I.Q. of the population by one and one half points would result in a 50 per cent increase in the number of people

with I.Q. s of 160 and over.³ Making the same calculation on the assumption that some kinds of intelligence are determined by single genes. Sir Cyril Burt found that the impact on the occurrence of gifted people might be even greater.⁴ When the process is reversed, the same massive effects occur in the opposite direction.

Thus, very small changes in the average psychometric intelligence of a society can cause it either to become richly endowed with creative and gifted people or to suffer from a dearth of talent. This is the most probable explanation of the fact that, throughout most of history, genius and creativity have tended to be concentrated in the hands of a few nations and peoples.

We are not here concerned with trying to make reproductive patterns more conducive to an increase in intelligence. We are concerned rather with what is being done to develop the world's mental resources: specifically, with the question of the extent to which the global supply of high intelligence is developed by education or allowed to lie fallow.

FEW STUDIES ON WORLD INTELLIGENCE EXIST

Amazingly enough, there is little published information on the global distribution of high intelligence and creativity. There is not even a significantly large literature on the world-wide relationship between political intellectual resources and

²Albert Einstein, *Out of My Later Years*. New York: Philosophical Library, 1950, p. 11.

³Huxley, op. cit., pp. 165-166.

⁴ Private communication to Sir Julian Huxley, v. Huxley, op. cit., p. 166.

educational human input at various levels. With the enormous (and, for the most part, rather boring) literature on international education, it seems strange that practically nobody has considered the possibility that it might be important to find out: (a) whether the people who are receiving higher education are those most capable of absorbing it; (b) whether the best educational resources of nations are being concentrated on training those minds which can make the maximum contribution to their society or are being squandered on minds which can be raised to dull mediocrity only by dint of heroic effort and (c) whether the relationship between intellectual potential and educational resources is uniform among various nations or reveals significant disparities.

Surely, these are problems of major importance. Yet, they seem to have been shunted aside by many, if not most, professional teachers of education in favor of comparatively minor, ephemeral and in some instances inconsequential topics, which have, however, the advantage of being non-controversial. A trip to the neighborhood university library to brush up on the topic of this paper, dismayingly disclosed that most texts on international education either had no index headings under such rubrics as I.Q. and mental testing or else had entries which were uninformative. One of the few sources that I know of which sheds light on the testing and education of the gifted abroad is the International Newsletter of the Educational Testing Service. Even this is sometimes more concerned with test methodology than with specific findings.

WHAT IS THE GLOBAL POTENTIAL
OF HIGH INTELLIGENCE?

The available evidence on this

question is inadequate for anything more than tentative conjectures. I happen to belong to an organization, which is more lampooned than praised, named Mensa, and hence I tend to think of high intelligence in terms of the first two per cent. Egalitarian perceptions are rife even in Mensa and, from time to time, some Mensa statistician complains that we have a "disproportionately" large number of Jewish members and a "disproportionately" small number of Negro members. Since Mensa membership is based exclusively on passing a mental test at the two per cent level, which is the same for all applicants, this word "disproportionately" implies that the present I.Q. distribution in the United States is uniform as between races, ethnic subgroups and various national stocks. Please note that this issue is separate from the highly controversial issue of the extent to which observed racial differences in I.Q. frequency distributions are genetically determined. That is a controversy in which Professor Arthur R. Jensen is currently jousting with the sociological establishment.

No, we are talking about observed I.Q. differences -- not about their causes. Jews are not overrepresented in Mensa if Professor Stefan T. Possony is correct in his recent estimate that the average I.Q. of American Jews exceeds that of other White Americans by one and a half standard deviations.⁵

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⁵ Stefan T. Possony, "UNESCO and Race: A Study in Intellectual Oppression," *Mankind Quarterly*, Vol. VIII, No. 3 (January-March 1968), p. 136.

In considering the potential supply of gifted people, we start with a world population of about 3,500 million, of whom about one billion live in Communist countries. Of the remainder, some 1,250 million are Asians, and another 1,400 are about evenly divided between Europe Latin America, Africa and North America. If their I.Q. distribution approximated that of White Americans, some 70 million members of homo sapiens could be considered highly intelligent, that is to say, they would have I.Q.s of 130+.

On the basis of the rather fragmentary studies available, we can probably conclude that most of these populations have significantly lower mean I.Q. scores than the American average. The standard deviations of their I.Q. frequency distributions are probably also considerably lower. For example, one group within the U.S. population has a standard deviation of 12.4 as against 16.4 for a 1960 normative sample of the 1937 revision of the Stanford-Binet.⁶ A smaller standard deviation means greater homogeneity, a smaller proportion of individuals with very low I.Q., but also a reduction in the number of highly intelligent people.

What are the causes of those differences? Perhaps the most important is the degree of assortative mating for intelligence. The more prevalent this is, the greater the range of the frequency distribution, its variance and its standard deviation. The opposite condition would be complete panmixia, in which all mate selection was random. Theoretically, we could also have negatively assortative mating, in which the brightest individuals chose or were inflicted with the most stupid spouses,

but it is difficult to visualize how this could occur.

Assortative mating need not involve primarily a deliberate search for high-I.Q. partners for sexual pleasure and breeding. The model, in other words, is not a Mensa meeting or a NAGC Convention. What is more probable is that assortative mating becomes prevalent because the demes, or breeding populations, are homogeneous as to intelligence. The college campus is this sort of deme, though it is becoming less so as scholastic entrance barriers are broken down. In businesses where financial and social success are strongly correlated positively with intelligence, the country club may be another.

Modern transportation and communications technology contributed enormously to assortative mating by making people mobile and thus enlarging the deme. The increased division of labor of our modern mechanized society and the immense expansion of intellectual opportunity have had similar effect. Two centuries ago, the deme, for most of mankind, was the village; the potential supply of sexual partners comprised mainly peasants or their daughters; thus the possible scope of mate selection for intelligence was extremely limited. In general, societies of status, the demes of which are based on race, caste, class or religious denomination, rather than on achievement under competitive conditions which favor intelligence, deter assortative mating and hence

⁶Kennedy, Van de Riet and White, "A Normative Sample of Intelligence and Achievement of Negro Elementary School Children in the Southeastern United State," *Monographs of the Society for Research in Child Development*, 28, No. 6, 1963.

reduce variance and standard deviation.

Since the so-called developing nations consist primarily of poorly differentiated peasant masses, using routinized methods of production, bound by status and tradition, and limited specially to the village, we have every reason to expect small standard deviations, populations much more homogeneous in respect to intelligence than our own, and a less frequent occurrence proportionately of highly intelligent individuals.

The more primitive the society and the less articulated its structure, the lower the probability of assortative mating on significant scale. In tribal Africa, witchcraft represses individual behavior which is at variance with rigid traditions. Rank is based, not on achievement or intelligence, but on birth order, family and age. In societies of passive fatalism, such as the Arab world, mating is not highly assortative for brain. In India, a fundamental question is the extent to which caste barriers correspond to differences in intelligence or are arbitrary. (By the way, it is not necessary for assortative mating that the most intelligent class, caste or ethnic group be the most successful; it is merely necessary that it be set apart reproductively from the rest of society. Medieval Jewry is an example of a highly intelligent deme, which was held together in large part by Gentile contempt and persecution.)

Historically, there has been a great deal of assortative mating. The Chinese Civil Service examination system, which qualified the best scholars for high official posts and gave the less successful ones gentry status with various privileges and immunities, must have been a potent force shaping

Sinic society toward intellectual polarization. There is evidence, moreover, that in China, in the 1920's and 1930's at least, reproduction was positively correlated with class, wealth and educational status at a time when the opposite condition prevailed in the West.

Thus, the forces shaping populations in favor of or against the production of large gifted minorities are immensely complex. This is a largely unexplored terrain in the social sciences.

EDUCATION IN THE DEVELOPING WORLD

In the underdeveloped countries at the beginning of this decade, the secondary school enrollment rate was typically only about three per cent of the fifteen to nineteen year-old age-group. In partially developed countries, the percentage averaged closer to twelve per cent.⁷ A large majority of those taking secondary education, chose academic, rather than technical, training. The secondary school population was and is class-selective because of tuition costs in private and missionary schools, boarding school charges and the inability of the poorest parents to keep their children off the labor market during their school years.

Turning to university education or its equivalent, it becomes plain that, on a global scale, higher education is the prerogative of elite. The quantitative restriction of higher education is not, however, clearly correlated with degree of economic

⁷Frederick Harbison and Charles A. Myers, *Education, Manpower, and Economic Growth*, New York: McGraw-Hill Book Company, 1964.

development. In Iran, less than three per cent of secondary students enter the higher educational institutions; in Pakistan four per cent, in the Philippines five per cent and in India six and one half per cent. While this is much lower than the comparative U.S. and U.K. figures, it is not lower than the four and one half per cent in France and its less than three per cent in Italy.

The global concentration of higher education (excluding Red China) no longer reflects economic and political power. Colleges and universities in the have-not countries may be qualitatively inferior, but they are by no means quantitatively unimportant. Thus, the ten countries with the largest population of students in higher education as of the mid-1960s were: the United States (4.4 million), the Soviet Union (3.6 million), India (1.3 million), Japan with 964,000, the Philippines with 451,000, Italy with 425,000, France with 414,000, West Germany with 330,000, Iran with 278,000 and Argentina with 253,000. Note that Great Britain, who dominated the world a century ago, is not on the list.

Student turbulence appears the greatest in countries where the winnowing out process, as one ascends the educational ladder, is most drastic. In France, about half the lycee students who took the baccalaureat in the mid-1960s failed and, of those who passed, 40 per cent were dropped out of the university after the first year.⁸

The French system eliminates those students who do not keep up with their academic work regardless of their family connections, influence or wealth. Although despite its objectivity, it is a major ingredient in

massive student discontent and has led to a student demand that qualifications be lowered or abolished.

In Japan, the pre-eminent elite institution, Tokyo University, had 1.7 per cent of the students in higher educational institutions in 1958, but supplied more than 80 per cent of the highest (Class I) government officials. Tokyo University graduates also held a disproportionately large share of the key positions in business and finance.⁹ The preference given to Tokyo University graduates occasioned resentment in view of the problem of the unemployed or unsuitably employed college-bred. About 160,000 Japanese college graduates enter the job market every year. A survey of 1,000 of Japan's 2,000 leading companies showed about ten applicants for every position. The Foreign Office senior diplomatic channel offers about 17 positions annually, of which ten to fourteen go to Tokyo University graduates. There are about 600 applicants for these 17 jobs.¹⁰

The fact that higher education generally is a prerogative of elites in underdeveloped countries need not necessarily be disturbing. These countries obviously cannot afford to provide higher education for everyone and, in view of their fairly rudimentary economic development,

⁸Philip H. Coombs, *The World Educational Crisis: A Systems Analysis*, London: Oxford University Press, 1968, p. 70.

⁹Edward A. Shils, "Toward a Modern Intellectual Community in the New States," in James S. Coleman (Editor), *Education and Political Development*, Princeton: Princeton University Press, 1965, p. 293.

¹⁰Herbert Passin, "Japan," in Coleman, *op. cit.*, p. 298.

have few jobs to offer highly trained and educated people. A large class of unemployable intellectuals and pseudo-intellectuals would be an invitation to social revolution.

The basic issue is not whether higher education is restricted, but how it is restricted. Is the winnowing process based on aptitude and intellectual ability? Or is it the prerogative of the ruling class caste? or clique? This ruling element may be an established upper class, trained in government, the exercise of power and hopefully in attitude of public service and noblesse oblige. Alternately, and perhaps more probably, it may consist of the progeny of whatever insurgent or political clique or military junta has managed to seize and maintain power. In either case, the fundamental issue is

the extent to which this power elite corresponds to the natural elite of intelligence.

The necessary data for an answer to this last question are not available. We know that in India, scores in the National Science Talent Search examinations were correlated positively with income, but the correlation was only 0.24. Since the underdeveloped countries are deficient in class mobility and since the vast peasant majorities are condemned at birth to a life of unskilled manual labor, regardless of their potential intelligence, it would be best to assume that native intelligence is necessarily concentrated in the ruling element, whether a traditional or a revolutionary one.



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