Some Comparative Performance Indexes of American Ethnic Minorities

By NATHANIEL WEYL

The Coleman Report, which represents the results of questionnaires administered by almost 20,000 American school-teachers, is probably the most comprehensive survey of the comparative mental-test scores, motivational attitudes and educational facilities of different racial groups ever attempted.[1] Published in 1966, this study has been largely ignored by the American Establishment presumably because its data suggest conclusions contrary to the officially-held egalitarian viewpoint. The findings of the Coleman Report, in conjunction with data from the 1960 United States Population Census, present a panorama of comparative I.Q., educational status and economic performance by American ethnic minority groups which strongly suggests that the egalitarian equation between economic deprivation and mental-test performance is without validity.

TABLE I

NATIONWIDE MEDIAN MENTAL-TEST SCORES FOR FIRST-GRADE AND TWELFTH-GRADE PUPILS[2]

Test	*Puerto Rican*	*Indian*	*Mexican*	*Oriental*	*Negro*	*White*
First-grade						
Non-verbal	45.8	53.0	50.1	56.6	43.4	54.1
Verbal	44.9	47.8	46.5	51.6	45.4	53.2
Twelfth-grade						
Non-verbal	43.3	47.1	45.0	51.6	40.9	52.0
Verbal	43.1	43.7	43.8	49.6	40.9	52.1
Reading	42.6	44.3	44.2	48.8	42.2	51.9
Mathematics	43.7	45.9	45.5	51.3	41.8	51.8
General Information	41.7	44.7	43.3	49.0	40.6	52.2
Average of five tests	43.1	45.1	44.4	50.1	41.1	52.0

[1] *Equality of Educational Opportunity*, OE-3800, United States Department of Health, Education and Welfare, United States Government Printing Office, Washington, D.C., 1966.

[2] Coleman Report, *op.cit.*, p. 20.

Puerto Ricans, American-Indians, Mexican-Americans and Oriental-Americans all suffer, to varying degrees, from a language handicap in that English is not their native tongue. This handicap applies particularly to scores on the verbal sections of the tests. Bilingualism may also affect non-verbal test scores either because the subjects are taught in a strange tongue or because mental effort must be devoted to a mastery of English which could otherwise be spent on other subjects. The White and Negro groups, by contrast, are preponderantly monolingual and so do not suffer from this handicap.[3] All factors considered, the comparative scores on the non-verbal sections of the tests seemed to provide a better indication of comparative ability than total test scores. Equating White performance to 100 yields the results shown in Table II.

TABLE II

NON-VERBAL MENTAL-TEST SCORES BY ETHNIC GROUPS
(Indexes with White scores 100)

	Puerto Rican	*Indian*	*Mexican*	*Negro*	*Oriental*
First-grade non-verbal test score	84.7	98.0	92.6	80.2	104.6
Twelfth-grade non-verbal test score	83.3	90.6	86.5	78.7	99.2
Twelfth grade as percentage of first-grade	98.4	92.4	93.4	98.1	94.8
First-grade: non-verbal divided by verbal test score ($\times 100$)	102.0	110.9	107.7	95.6	109.7

Some interesting and rather unexpected relationships are suggested by Table II. At first-grade level, where the influence of formal education is generally either absent or minimal, Oriental-American children do significantly better than White children in the non-verbal portions of the tests. What is perhaps even more unexpected is that the shortfall of American-Indian children below Whites in this area at first-grade level is too small to be statistically significant. Mexican-American children score closer to the White children than do Negroes and they average almost eight points higher than Puerto Rican children in schools on the United States mainland.[4] The Negroes are at the bottom and score almost 20 per

[3] In 1960, the foreign-born constituted only 5.2 per cent of the White population of the United States.

[4] The Coleman Report does not cover Puerto Rico.

cent below White children of first grade level on the non-verbal portions of the tests.

What are the reasons for the differences between Mexican-American and Puerto Rican mental-test scores? From an environmental standpoint, the balance of advantage seems to lie with the Puerto Ricans. They have enjoyed United States citizenship and the benefits of the excellent American public school system for almost 70 years. Immigration has been preponderantly to New York, where the Puerto Ricans have gravitated into semi-skilled occupations in factories and the service trades, with the second generation moving rapidly into clerical and sales positions. Median Puerto Rican family income in New York City in 1960 was placed at $3811, or 85.9 per cent of the city average.[5]

By comparison, the Mexican-Americans came to the United States primarily to meet the demand for agricultural labor. Many of their descendants have gravitated to the cities of the south-west, particularly Los Angeles. The 1960 Population Census reported median family incomes of only $2158 for foreign-born Mexicans and $3114 for native-born Mexican-Americans of foreign or mixed parentage. The family environment of Mexican-American children may be influenced by the fact that the parents grew up in Mexico, attending inferior schools in which Spanish was the only language used. In the case of agricultural workers, the children are exposed to a home environment of migratory camps, often squalid, overcrowded and unsanitary, and to the nomadic life of those who follow the fruit and vegetable crops.

Given these environmental factors, it is hard to escape the conclusion that the markedly superior performance of Mexican-American over Puerto Rican children must be related to ethnic factors. The Mexican-Americans are generally *mestizos*, Amerindian and Caucasian hybrids with very little Negro admixture. Since those who immigrated to the United States came preponderantly from the northern states of Mexico, they have considerably more White genes than the Mexican average.

In Puerto Rico, the original Amerindian population of Caribs and Arawaks was practically wiped out during the first century of Spanish occupation by mistreatment and disease. This vanishing labor force was replaced by African slaves, creating the present hybrid population. However, the fact that Puerto Rico failed to secure independence during the Hispanic-American nationalist revolutions led by Bolivar and San Martin in the early part of the nineteenth century tended to deter miscegenation. The islanders considered Spain their mother country until 1899 and the United States thereafter. A desire to "return" and be socially accepted

[5] Nathan Glazer and Daniel Patrick Moynihan, *Beyond the Melting Pot*, M.I.T. Press and Harvard University Press, Cambridge, Massachusetts, 1963, p. 116.

impeded White intermarriage with the black population. Racial stratification has left a comparatively pure population of small farmers and townspeople in the mountainous interior in contrast to the coastal lowlands, where the proletariat at least is highly negrified. A fairly similar pattern of racial stratification prevails in Cuba. By contrast, miscegenation has tended to proceed with less restraint in those Latin American nations which attained independence more than a century ago. The ethnic stratification of montane nations such as Peru and Bolivia is probably more physiological than social in etiology. In the *altiplano*, or high plateau, Caucasian lung and heart capacity are inadequate for normal oxygen absorption, resulting in prohibitively high White foetal death-rates and a consequent failure of permanent White colonization.

Two more points seem worth mentioning: the Puerto Rican immigration into the United States mainland has probably been selectively attractive to Whites and light Mulattoes because of the negative attitude towards Negroes which prevailed in the United States from 1945 to 1965, when the bulk of the population flow occurred. Secondly, the estimated 17 per cent frequency of cDe and cD^{u}e chromosome complexes in the Puerto Rican population suggests that, on average, they are from one-fourth to three-eighths Negro.[6] This compares with an American Negro population with about 25 per cent White genes.[7]

The superiority of Amerindians to Negroes in mental-test scores was revealed by the Coleman Report. However, the admixture of Negro genes in the Puerto Rican population is not sufficient to account for the very low test scores of the latter, scores comparable to the American Negro medians. Obviously, environmental considerations about the quality of schooling are largely irrelevant to marked differences revealed at the first-grade level.

After twelve years of formal education, all the non-verbal test scores of minority groups fell in relation to the White majority. The declines were substantial (5 per cent or more) in the cases of Amerindians, Mexican-Americans and Oriental-Americans in that order. They were slight, and probably statistically without significance (less than 2 per cent), in the cases of the Negroes and Puerto Ricans.

In an effort to relate these declines to differences in the type of educational facilities provided, 16 putatively significant indices were culled from the Coleman Report and the schools of the different ethnic groups were arranged in rank order accordingly. Since first place scored one and sixth place six, the lower the score, the better the schools were presumed to be. The ratings are shown in Table III.

[6] Nathaniel Weyl, "The Arab World," THE MANKIND QUARTERLY, Vol. VIII, No. 1, July-September 1967, p. 31.

[7] Curt Stern, interviewed in *U.S. News and World Report*, 19th September 1958, pp. 81-83.

TABLE III

Cumulative rank orders of primary and secondary schools for different United States ethnic groups in terms of 16 putatively significant characteristics
(A=primary school; B=secondary school; AB=both)[8]

Ethnic Group	*Rank of Schools*	*Cumulative Rank Orders*
Orientals	1	41.5
Whites	2	52
Indians	3	54
Puerto Ricans	4	55.5
Mexicans	5	65.5
Negroes	6	67.5

Table III suggests that schools for mainly Oriental-Americans are definitely superior, those for the White majority, American Indians and Puerto Ricans about average, and those for the Mexicans and Negroes decidedly inferior. However, some of the relationships yielded by the table tend to obscure the real state of affairs. Take for example item AB-1, or the percentage of schools whose principal has at least an M.A. degree. The implied assumption is that a Negro master of arts is equal to a White or Chinese master of arts. Yet, as the Coleman Report observes, only 15 per cent of the Negroes studying to become teachers equal or exceed the White trainee average in mental-test scores and in no case does the Negro overlap exceed 25 per cent.[9] The fact that a Negro has acquired a university degree at a colored institution does not necessarily mean that he would qualify for such a degree in a White institution of higher education.

The Coleman Report observes that "... variations in the facilities and curriculums of the schools account for relatively little variation in pupil achievement in so far as this is measured by standard tests."[10] Whites and Orientals are affected only slightly by the type of schools they attend. Some 20 per cent of the achievement of southern

[8] The indexes used were: A-1, percentage of schools regionally accredited; A-2, percentage with principals earning $9000 or more; A-3, percentage with buildings less than 20 years old; A-4, rooms per thousand pupils; A-5, percentage with school library; B-1, percentage regionally accredited; B-2, percentage with college preparatory courses; B-3, percentage with principals earning $9000 or more; B-4, percentage with school newspapers; B-5, percentage with school drama clubs; B-6, percentage with school buildings less than 20 years old; B-7, rooms per thousand pupils; B-8, percentage with physics laboratory; B-9, percentage with a full-time librarian; B-10, percentage with school text-books less than four years old; and AB-1, percentage with principal holding M.A. degree or better.

[9] *Op. cit.*, p. 27.

[10] *Ibid.*, p. 21.

Negroes and some 10 per cent of the achievement of southern Whites appears to be associated with the quality and characteristics of the schools attended.[11] The existence of science laboratories and the intelligence and education of the teachers are more highly correlated with pupil mental-test scores than the other environmental factors studied.

The Coleman Report estimates the drop-out rate prior to completing the twelfth grade at 17 per cent for Negro pupils and 9 per cent for White. This was computed by comparing the school population with the total population of that age-group not in college. No comparable calculations were made for the other ethnic minorities. Obviously, the Negro drop-out rate, which is almost double that of the White, means that the least able black pupils have been winnowed out of the educational system, leaving a more select group in school than the comparable White school-attending population. It follows that the Negro shortfall in mental-test scores at twelfth grade of from 19 to 22 per cent must understate the real difference in learning capacity.

MYTHS ABOUT MOTIVATION

One of the most common explanations of the Negro shortfall in intellectual or academic achievement is lack of motivation. This is associated with the theory that the Negro generally is deficient in self-esteem, a view which has been insistently advanced both by White and by Negro writers,[12] but which seems unsubstantiated by hard evidence.[13] The data on motivation collected by the authors of the Coleman Report cast new light on this subject.

Despite the fact that the Negroes scored lower than any other of the six ethnic groups on all but one of the seven different mental tests, and despite the fact that they averaged one-fifth below the Whites, 58 per cent of Negro twelfth-graders (as against only 46 per cent of their Oriental and 33 per cent of their White counterparts) wished to be "best in class." Forty per cent of the Negroes believed themselves to be brighter than average; 46 per cent desired to finish college, and 27 per cent expected professional careers.

Taking 16 different measures of motivation, Whites took first place with a total rank score of 29½; Orientals followed with 31; Negroes were third with 45; Indians scored 72½, while Mexicans and Puerto Ricans trailed with 77 and 81 in that order. Four per cent of the Whites, 8 per cent of the Orientals, 11 per cent of Negroes, Indians and Mexicans, and 19 per cent of the Puerto Ricans believed

[11] *Idem.*

[12] K. B. and M. K. Clark, in *Journal of Educational Sociology*, 1963, Vol. LXIII, pp. 245-250; *Journal of Negro Education*, 1950, Vol. XIX, pp. 341-350; and M. M. Grossack, *Journal of Social Psychology*, 1957, Vol. XLVI, pp. 125-131.

[13] Audrey M. Shuey, *The Testing of Negro Intelligence*, Social Science Press, New York, 1966, p. 512.

that "luck is more important than work." Nineteen per cent of the Puerto Ricans thought that "people like me don't have much of a chance." This view was shared by 14 per cent of the Indians, 12 per cent of the Negroes and Mexicans, 9 per cent of the Orientals and only 6 per cent of the Whites.

Since the Puerto Ricans have the lowest motivation, this analysis might provide a clue to their very poor mental-test scores, but it cannot explain their significant shortfall behind the Mexican-Americans, who are also motivationally deficient. Nor does motivation provide much of a clue to the 5.2 per cent drop in Oriental-American mental-test scores *vis-à-vis* White scores between the first and the twelfth grades. Both groups have high educational motivation.

A possible explanation for the relative decline in Oriental I.Q. is that two somewhat different populations are involved. In 1960, there were 464,000 people of Japanese and 237,000 of Chinese descent in the United States. Of these, 46,000 Japanese and 10,000 Chinese had immigrated during the 1951-1960 decade, an accretion of 8 per cent. The four-fold increase in Asian immigration between approximately 1950 and 1960 meant that the older Oriental settlers, recruited originally for plantation and railroad labor, were being rapidly displaced by a newer group, consisting primarily of students, teachers, scientists, doctors, technicians and other professionals and semi-professionals. On the basis of Western experience, this newer group could be expected to average at least 30 I.Q. points above the earlier working-class immigration.[14] This newer group would have sired a greater proportion of first-graders than twelfth-graders, who were born on average about a decade earlier. Thus, the apparent decline in Oriental mental-test scores after twelve years of schooling is probably illusory. It should perhaps be added that the median score of the Oriental twelfth-graders on non-verbal tests is only 0.8 per cent below the corresponding White score, a difference which is not statistically significant.

INCOME, HIGHER EDUCATION AND STATUS

It is often falsely assumed, particularly outside the United States, that the American Negro is economically at the bottom of the social pyramid. In 1960, American non-White families earned 55.4 per cent of the cash income of American White families. Within the non-White population, Japanese-Americans ranked first with a male median income of $4304, followed by Chinese with $3471, Negroes with $2254 and Indians with $1792.[15] Since the large majority of

[14] Arthur R. Jensen, *Social Class, Race, and Genetics; Implications for Education*. Reprint of address to the annual meeting of the American Educational Research Association, 17th February 1967, p. 17.

[15] *United States Census of Population* 1960*: Non-White Population by Race, Final Report*, PC (2)-1C, Table 32.

Mexican-Americans are native-born,[16] their median family income can be estimated from data already given at about $3000. Puerto Rican family income has already been placed at $3811 in New York City. On this basis, Negroes rank below Orientals and Puerto Ricans, but above American Indians and possibly above Mexican-Americans.

The relationship between income and mental-test score is erratic. To be sure, the high-scoring White, Japanese and Chinese groups enjoy much larger monetary incomes than the others. However, the American Indians, who scored only slightly below the Whites on non-verbal tests at the first-grade level, are the most impoverished element in the United States population. The reasons for this are no doubt multiple and complex and it should always be remembered that the various Indian nations and tribes are both racially and culturally heterogeneous. One aspect of American-Indian behavior, however, which is evident to all observers and which limits their earning power, is the tenacity with which they seek to maintain their own way of life and to resist absorption into the United States economy. A very large proportion of the 524,000 American Indians still live on reservations by choice, often in conditions of wretched poverty and squalor. At heavy financial sacrifice, many choose such occupations as guides, hunters, fishermen and trappers, which provide psychic satisfactions similar to those involved in their traditional role as buffalo hunters. Regardless of the causes of the American Indians' wretched economic status, this group would seem particularly deserving of the assistance of United States poverty programs since they combine destitution with undoubted mental potential.

Data are not available showing what percentages of the age-eligible members of the five minority ethnic groups go to colleges and universities. Based on data from the Coleman Report and from the 1960 Census, one can merely observe that proportionately 47 per cent as many Negroes as Whites and 136 per cent as many members of other ethnic groups as Whites attended institutions of higher education in the mid-1960s.

In 1960, some 1.9 million United States residents were inmates of institutions. Of these, 625,000 were in mental hospitals and 346,000 in prisons, reformatories, local jails and workhouses. The index for being placed in such institutions was 228 for American Indians; 143 for Negroes; 96 for Filipinos; 95 for Whites; 95 for Chinese-Americans; and 50 for Japanese-Americans. Separate figures for Mexican-Americans and Puerto Ricans are not available, but the contribution of both groups to dependency and delinquency is believed to be markedly above-average.

Of the 346,015 inmates of correctional institutions in 1960, 36.2 per cent were Negro and 2.1 per cent were of "other" races. The

[16] Francis J. Brown and Joseph S. Roucek, *One America*, Prentice-Hall, Englewood Cliffs, New Jersey, 1960, p. 351.

Whites contributed proportionately 70 per cent of statistical expectation to this delinquent population, the "other" groups 228 per cent and the Negroes 344 per cent. The Negro proportion would have been considerably higher if the series had been based on arrests for major crimes such as burglary, aggravated assault, rape and non-negligent homicide.

THE PATTERN OF PROFESSIONAL EMPLOYMENT

A fundamental criterion of success in American society is the quantitative and qualitative contributions made by the various ethnic minority groups to the professional class. The table that follows gives index figures for the contribution of each ethnic and national group to selected professions. An index figure of 100 means that the racial group is represented in a given profession according to statistical expectation, one of 50 means that it supplies half the expected number of professionals, one of 200 means that it furnishes twice the statistical expectation.

TABLE IV

Index figures of the contribution of five ethnic groups to American professions in 1960.[17]

Profession	*Number in thousands*	*White*	*Negro*	*Indian*	*Japanese*	*Chinese*
All	7325	107	38	76	139	189
Accountants	473	112	7	38	166	174
Architects	30	110	5	0	232	506
Artists and writers	133	110	16	133	209	136
College professors	177	107	32	0	143	537
School-teachers	1682	103	76	86	120	318
Engineers	870	111	5	57	124	303
Natural scientists	150	109	20	0	205	438
Lawyers and judges	210	111	11	19	54	53
Clergymen	312	104	66	124	89	23
Physicians	230	108	21	10	182	302
Nurses	591	106	54	124	116	76
Technicians	493	107	36	86	201	197

Table IV reveals that Chinese-Americans surpass in performance all other ethnic and national groups studied in their contributions to the American professional class. They furnish more than five times their proportionate share of college faculty members and architects, more than four times their quota of natural scientists, more than triple the expectation of engineers, physicians and school-teachers.

[17] United States Census, *op. cit.*

In the professions as a whole, they are 89 per cent over-represented. The only fields in which they fall below the statistical expectation are as lawyers and judges (53), where such factors as political connections and linguistic fluency affect success, and such professional and sub-professional occupations as nursing (76) and the clergy (23).

The Japanese surpass in performance the average by 39 per cent and thus fall into second place ahead of the Whites, who are over-represented by only 7 per cent. The Japanese-Americans excel, in this order, as architects, artists and writers, natural scientists, technicians, physicians, accountants and college professors. They are about 20 per cent above expectation as engineers, school-teachers and nurses. Like the Chinese-Americans, they fall below the average as lawyers and clergymen.

In 1966, I attempted to appraise the Chinese rôle in the American natural aristocracy in *The Creative Elite in America*. Although the only available sample was small and tended to understate the Chinese creative rôle,[18] the use of name-frequency analysis revealed that Chinese-Americans were outstanding in architecture, mathematics, medicine, psychiatry and college attendance. While the Japanese-American rôle could not be appraised by name-frequency analysis, a parallel approach showed that they and the Chinese were "outstanding élite groups in the American academic and professional world" and that both were "rapidly emerging and advancing elements whose future contributions to the American creative minority will almost certainly be even greater than their present contributions."[19]

The Census data show that the Chinese-Americans and, to a lesser extent, the Japanese-Americans are particularly outstanding in those fields which require a high level of non-verbal intelligence. This can be shown by taking the Chinese and Japanese performance coefficients in four non-verbal fields (accounting, architecture, engineering and natural science) and dividing them by their performance coefficients in four primarily verbal fields (clergymen, lawyers and judges, school-teachers, and artists and writers). The ratio is 2.31 for Chinese-Americans, 1.54 for Japanese-Americans, 1.06 for Whites, but only 0.26 and 0.22 for American-Indians and Negroes respectively.

We can also infer something about the propensity of the five ethnic groups to advance into the higher and more exigent professional callings from Table IV. A simple average of the ratios of the performance coefficients of any ethnic or national group for doctors as against nurses, college professors as against school-teachers, and natural scientists as against technicians is suggestive. These ratios, which can be called coefficients of promotion, are 2.16

[18] Nathaniel Weyl, *The Creative Elite in America*, Public Affairs Press, Washington, D.C., 1966, p. 74.

[19] *Ibid.*, p. 75.

for Chinese-Americans, 1.21 for Japanese-Americans, 1.03 for Whites, 0.44 for Negroes and 0.03 for Indians.

Table V compares the representation of Chinese- and Japanese-Americans, as shown in Census data, with the performance coefficients for American Jews and Americans of Puritan descent given in *The Creative Elite in America*.[20]

TABLE V

Comparative performance coefficients of four groups in the United States population in respect of 11 professions.[21]

Profession	*Chinese*	*Japanese*	*Jews*	*Puritans*
Architects	506	232	170	—
Artists	157	291	242	370
Writers	78	40	191	221
College faculty	537	143	258	209
Engineers	303	124	109	—
Natural scientists	438	205	269	210
Mathematicians	0	260	383	—
Statisticians	220	220	381	—
Lawyers	53	54	363	—
Physicians	302	182	331	127
Dentists	286	244	399	105
Total	2880	1995	3096	1242
Average of 11 items	262	181	282	
Average of 6 items				207

It would appear from Table V that Jews still lead all other groups in the American creative élite with an average performance coefficient of 282. They are closely followed by Chinese-Americans with 262, then, at a distance, by bearers of Puritan surnames with 207 and Japanese-Americans with 181.

For over a thousand years with few interruptions, from approximately the T'ang Dynasty (A.D. 618-906) to the collapse of the Manchus in 1912, competitive literary examinations were the main means of selecting Chinese administrative officials. These examinations stressed knowledge of the Confucian classics, calligraphy and literary composition of a highly formalized sort; they were almost entirely verbal. Those who passed all the examinations entered the bureaucracy at a high level; most of the failures were honored as literati in their communities, awarded guild and other civic offices, allowed to wear honorific buttons in their hats and granted immunity

[20] *Ibid.*, pp. 223-232.

[21] Data on Chinese- and Japanese-Americans taken from the 1960 Census; on American Jews and Americans of Puritan descent from *The Creative Elite in America*, *op. cit.*, pp. 223-232.

from corporal punishment. Since they were esteemed and successful, it can be assumed that a large proportion of the literati had plural wives. There is additional evidence, by no means conclusive, that their reproduction rates were greater than those for the Chinese people as a whole.[22]

If the Chinese population has thus been bred selectively for intelligence, much as the Jewish people have, then their high scores in mental tests and their commanding position in the American professions should come as no surprise. What is remarkable is that the contemporary Chinese in the United States distinguish themselves primarily in non-verbal, rather than verbal intelligence. At first-grade level, Chinese pupils do almost 10 per cent better on the non-verbal than on the verbal sections of the mental tests. In the professions, their ratio of non-verbal to verbal representation is much higher than that of any other group for which we have data. This would seem to provide additional evidence in support of the hypothesis that the sort of intelligence which is inherited is essentially unitary rather than fragmented into a variety of independent faculties as the Thurstones asserted.[23]

The parent populations from which the Chinese- and Japanese-Americans derive are not necessarily more intelligent than the White population of the United States. The data available on Asian psychometric intelligence is too fragmentary for definite judgment. Present-day Chinese and Japanese emigration to the United States has been selective for intellectuals and reflects the American brain-drain on less economically fortunate nations. As long as Oriental immigration continues to be of substantially the same type as it has been during the past 25 years, it should provide the United States with human material of outstanding value.

The Indian contribution to the professions amounts to only 76 per cent of the statistical expectation. It is concentrated in such fields as the plastic arts, writing, nursing, teaching and the ministry. These areas seem to reflect both the traditional Indian interest in the arts and the desire to choose professions which can be practised while living on the Indian reservations.

The Negro performance is 38 per cent of normal or about what would have been expected on the basis of the mental-test scores. When I was in South Africa in 1966, officials of the Bantu Industrial Development Corporation and White advisors to the autonomous Transkei stated that they were finding it almost impossible to train Bantu to fill government jobs in accounting, mathematics, draftsmanship or any of the other occupations requiring precise, abstract,

[22] Nathaniel Weyl and Stefan Possony, *The Geography of Intellect*, Henry Regnery Company, Chicago, 1963, pp. 93-97.

[23] For an authoritative discussion see Steven G. Vandenberg, "The Nature and Nurture of Intelligence," in *Biology and Behavior: Genetics*, Rockefeller University Press and Russell Sage Foundation, New York, 1968, pp. 3-59.

non-verbal reasoning. Despite low qualification standards and large educational inducements, Negroes were not qualifying in any of these areas. By contrast, the Bantu were often able to function capably as politicians, lawyers, clergymen, teachers, social workers, writers and in other fields where fluency and verbal memory are closely related to success. The South Africans concerned with this problem believed that it pointed to a Negro racial characteristic.

The distribution of American Negroes in the various professions seemed to afford an interesting opportunity of checking this hypothesis. One obvious qualification to any findings would be that the average American Negro has about 25 per cent White genes. Another would be the American practice of classifying mulattoes who are evidently primarily Caucasian as Negro.

Subject to these reservations, it is significant that, while American Negroes make quantitatively significant contributions to such primarily verbal professional and sub-professional occupations as school-teaching (76) and the ministry (66), they contribute only 7 per cent of their share of accountants and only 5 per cent of their share of architects and engineers.

SUMMARY AND CONCLUSIONS

(1) An analysis of mental-test scores, median monetary income, educational motivation, school facilities, college attendance, institutionalization, criminality and rôle in the professions suggests that marked and consistent differences exist among the various American minority ethnic groups.

(2) These differences do not seem to be coherently related to economic or educational deprivation or to other indices of environmental position or opportunity.

(3) Though ranking lowest in monetary income and economic status, American-Indians were found to rank closer to the White majority than to the Negroes in non-verbal mental-test scores. Despite low motivation, Indians contributed proportionately twice as many professionals as did Negroes.

(4) The Negro ranks at the bottom in mental-test scores, representation in the professions and particularly in those professions requiring non-verbal reasoning of a difficult sort. He is over-represented in the institutionalized population and contributes almost two and a half times his share of inmates of correctional institutions.

(5) Although Puerto Ricans enjoy higher incomes and better educational opportunities than Mexican-Americans they score significantly lower in mental tests.

(6) Chinese-Americans are an outstanding élite. Their mental-test scores are comparable to the White medians; they contribute almost double their share of professionals and are concentrated in those professions which require the most advanced training and the

most abstract, non-verbal methods of reasoning. Despite the fact that the underlying stratum of Chinese immigration came to the United States to do pick-and-shovel work and was subjected to discrimination and oppression, Chinese-Americans today rank only slightly below the Jews in the American creative élite.

(7) Japanese-Americans are similar to the Chinese-Americans and occupy third place in the rank order of national-linguistic groups in the American creative élite.

(8) According to environmentalist and egalitarian theories, the Chinese- and Japanese-Americans population should constitute problem groups, characterized by educational drop-outs, I.Q. failures, delinquency, crime and under-representation in the professions. The fact that they are strongly motivated toward education, of high psychometric intelligence, with a below-average record for being placed in institutions, and are outstanding as professionals and scientists, is further evidence of the significance of inherited mental potential in shaping classes, population isolates and races.

Some Racial Comparisons of Inventiveness

By S. C. GILFILLAN

One approach to the differing inventiveness of races is through statistics by nation, although this is very imperfect since different races can live in one country, and countless other active factors such as climate, mineral resources, natural water transport, the accumulation of capital, and history are involved. However, for a per capita count by nation of the 1012 most important inventions and discoveries between 1750 and 1953 we can use the carefully prepared list of Streit.[1] Others have used patent counts, but such statistics need much refining to equalize the effects of varying patent laws and opportunities which exist in different countries, and to omit unimportant inventions. To obtain these corrections we can use my own study based on patents registered abroad in 1925. Although these are old figures the relative per capita inventiveness of the nations mentioned has changed little since then. The elaborate statistical methods used are explained in an article in the *Geographical Review*.[2] Only inventions patented outside the inventor's country were considered, and those made where two countries shared a common boundary or language were omitted. Non-White populations were also excluded from the per capita scores of all the English-language countries except India. Indian per capita inventiveness was exceeded about 8000 times by the leaders, the Swiss, and in any case half of her inventions were produced by a handful of Europeans.

The United States, Canada and Russia were under-rated in my study.[3] The United States raised her share of abstracted physics papers from 23 to 30 per cent of the world's total between 1925 and 1961, although in chemistry her share fell from 32 to 20 per cent between 1932 and 1961, and in electrical engineering it decreased from 47 to 29 per cent between 1922 and 1960.[4]

[1] Clarence Streit, *Freedom Against Itself*, Harper, New York, 1954, pp. 239-272. A plea for an Atlantic Union of the nations which have produced almost all the inventions since 1750.

[2] S. C. Gilfillan, "Inventiveness by Nation," *Geographical Review*, 1930, Vol. XX, pp. 301-304. Reprinted with additional comparison of the American states in the *Journal of the Patent Office Society*, Vol. XII, pp. 259-267.

[3] Due to the fact that they were less inclined to have inventions patented abroad. For Tsarist and Communist Russian inventions see my "Measuring Russian Inventiveness," *Journal of the Patent Office Society*, 1951, Vol. XXXIII, pp. 328-333.

[4] S. C. Gilfillan, *Invention and the Patent System*, published by the Joint Economic Committee of Congress, 1964, p. 211. See also chapter 3 on the measurement of inventiveness and chapters 12 and 13 on the psychology of invention and inventors.