PEACE AS A PROJECT OF INTERRACIAL SYNTHESIS

by

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I. Introduction

Interracial Peace and Ghazali's Dates

The present essay is part of a major project dealing with various aspects of peace.[1] More specifically, it explores the relationship between Jensenism[2] and interracial harmony. Main emphasis is placed on intercultural and interdisciplinary synthesis, since the author believes that specialization and synthesis are not mutually exclusive. On the contrary, they supplement and complement each other.

But, first of all, let us briefly consider the four principal concepts dealt with in this essay, namely, peace, race, intelligence, and synthesis.

A. Peace. This term is irene in Greek, pax in Latin, pace in Italian, paz in Spanish, paix in French, etc. The Japanese and Chinese equivalents are heiwa and p'ing, respectively.[3] Its origin goes back to the Sanskrit pasas (bond), the Greek pegnynai (to fasten), and the Latin propacere or propangere (to fasten), which gave us the English propaganda. It is also related to the Latin paciscere (to covenant--cf. English pact, pacify, appease), the Germanic fogjan (to join), the Dutch vang (rope for fastening sails), the Old English fegan (to fit closely), and the Middle English pais (peace).

Peace has been defined as "an absence of physical conflict....This definition of peace has been criticized because it is negative. Peace should include much more than an absence

of physical conflict; it should include such positive relationships as tolerance, justice, equality, good will and love."[4] Another author conceives of peace as a rather "lasting suspension of violent modes of rivalry between political units" that are in balance or one of them dominates or absorbs the other.[5]

Although there is a science of peace (irenology[6])--the opposite is polemology, the science of war--we still have no sound theory in this discipline. "The few inadequate theories that we have are of two types: 1. Single-factor theories: a. Psychological (emphasis on personality and aggression). b. Sociological (emphasis on social structures). c. Educational (emphasis on the school). 2. Multiple-factor theories (emphasis on gradualism and pragmatism: Mulford Sibley, The Political Theories of Modern Pacifism, 1944)."[7]

B. Race. Race is related to the Old High German reiza (line), the Spanish and Portuguese raza, the Old French rais and the 16th century French rasse, the 14th century Italian razza, the Arabic ras (origin), and the Latin ratio (computation etc.) and radix (root; English radical).

A race may be defined as a "major division of mankind, with distinctive, hereditarily transmissible physical characteristics, e.g., the Negroid, Mongoloid, and Caucasoid races," or as "a breeding group with gene organization differing from that of other intraspecies groups." Alfred Kroeber, the noted anthropologist, has further asserted that the popular definition

of race is "a population having any traits in common, be they hereditary or nonhereditary, biological or sociocultural, organic or superorganic. It is customary, but mainly inaccurate, to speak of the French race, the Anglo-Saxon race, the Gypsy race, the Jewish race. The French are a nation and a nationality, with a substantially common speech; biologically, they are three races considerably mixed, but still imperfectly blended."[8] In any case, "it may seem of little moment whether the word 'race' is restricted to its strict biological sense or used more loosely. In fact, however, untold loose reasoning has resulted from the loose terminology. When one has spoken a dozen times of 'the French race,' one tends inevitably to think of the inhabitants of France as a biological unit, which they are not. The basis of the error is confusion of organic traits and processes with superorganic or cultural ones, of heredity with tradition or imitation."[9] Two other anthropologists have stated that race is now defined in anthropology "as a breeding population; formerly applied to a group of people who resembled each other in physical appearance. Many anthropologists do not believe the term to be a useful one when applied to humans."[10]

C. Intelligence. The complex and controversial nature of this concept is perhaps suggested by its fascinating and labyrinthine etymology. Indeed, it derives from the Latin intellegere (inter, between; legere, to choose or read), which means to choose from among or to understand. This has given us the English legal (the law is something we read, since, unlike

our mores, it is written), legend (something that must be read, which, up to the 16th century, meant a saint's life, while after the Reformation it acquired the modern sense of untrue story), and countless other English words, including the following: allege, allegiance, alloy, ally, colleague, collection, delegate, delight, diligent, elect, eligible, league, lectern, lecture, legacy, legate, legible, legion, legumes, ligament, neglect, relegate, sacrilege, and select.

Psychologists, like ancient thinkers such as Marcus Tullius Cicero (106-43 B.C.), have usually defined intelligence as general mental ability rather than specific mental agility or high performance in a limited and specific area of knowledge. Cicero also introduced the term by giving us the word Intelligentia. As a unitary concept it became popular in the 15th century. Psychology itself adopted the term through the third edition, in 1895, of Herbert Spencer's The Principles of Psychology, who had previously employed it in biology. Spencer conceived of life as "the continuous adjustment of internal relations to external relations," which is facilitated by instincts in animals and by intelligence in Homo sapiens, namely, the "power of combining many separate impressions."[11] This influenced both Spencer's theory of evolution and the work of later psychologists.

D. Synthesis. This is a Greek term derived from syn (together) and tithenai (to place). The second component is related to the Old Irish dal (assembly; something put together),

the Old English don (to do), the Latin condere (to put together, which gave us the English condiment), and the Sanskrit dadhati (he places).

It is obvious, then, that synthesis is a correlation of what first appears as entities, the presupposition here being that the creative synthesis is a synthesis of qualities. In natural philosophy, it is the process of combining elements or simple compounds into a more complex compound. In the past, synthesis meant deductive reasoning, which proceeds from the simple to the complex, from the general to the particular, from a principle to its application, and from cause to effect. Later it became the complement of analysis, referring to the joining of separate elements into a whole, as in "synthetic judgment," "synthetic philosophy," and the Fichtean, Hegelian, etc. synthesis that follows a thesis and its antithesis.[12]

In Immanuel Kant (1724-1804) we find the famous question: "Are synthetic a priori judgments possible?" (A synthetische Urteil is a synthetic judgment.) According to Kant, a synthetic a priori judgment is possible because there are a priori categories which man adds to all his experiences. Of course, in a synthetic judgment, the predicate is not contained in the subject, which explains the absence of certainty, which we find in analytic judgments, whose predicates are so contained. Thus, an analytic judgment states that "All bachelors are single" or that "Hyacinths are flowers." These are a priori, since we know their truth or falsity prior to experience. Moreover, necessity

makes them strong, while their lack of informatin makes them weak. Synthetic judgments, however, such as "All books in my library are paperbacks," are a posteriori, as we know their truth or falsity only after experience. In addition, they are strong because they tell us something new, and weak because they have no necessity. The ideal, then, would be a synthetic a priori judgment, which both supplies information and has necessity. Kant believed that such judgments are found in science and they are both informative and necessary--for instance: "2 + 4 = 6"; "in all communication of motion, action and reaction must always be equal"; and "in all changes of the physical world the quantity of matter remains unchanged."[13] Long before Kant, of course, Gottfried Wilhelm Leibniz (1646-1716) had distinguished between "truths of reason" and "truths of fact." Similarly, David Hume (1711-1776) spoke of "relations between ideas" and "matters of fact."

Johann Gottlieb Fichte (1762-1814) believed that, since our perceptions constitute our awareness, the activity of reason follows a progress marked by posit, counterposit, and synthesis. It seems, then, that we owe this dialectic to Fichte, not to Hegel.

Georg Wilhelm Friedrich Hegel (1770-1831) was convinced that thought, being a process, is not made up of eternally fixed forms. Thus, as a process, any particular idea generated by thought (thesis) ineluctably calls out its antithesis, which is its opposite. At this point, thought must reconcile the

resulting conflict, which gives us synthesis. This entire process is dialectical. It is obvious here that Hegel was influenced by Kant's tendency to classify material into triads, and that the thesis-antithesis-synthesis dialectic came to Hegel from Kant through Fichte. This account further indicates how spirit rises from individual sensation to universal reason (Hegel, The Phenomenology of Mind, 1807).

Herbert Spencer's (1820-1903) synthetic philosophy reveals his effort to build a philosophical system based on all scientific knowledge. Here, then, the principle of evolution became philosophical, as well as the foundation of Spencer's synthetic philosophy. This principle refers to the passage from a "relatively indefinite, incoherent homogeneity to a relatively definite, coherent heterogeneity."

More recently, Vincenzo Cappelletti stated: "Specialization does not exclude synthesis, but, on the contrary, it needs and contributes to its implementation....But if we examine specialization historically, we see that it is not something which is added to something else. While it adds itself, specialized knowledge distinguishes itself, and distinction implies relation...between the new knowledge and the traditional one. This relation explains the dynamics of specialization."[14]

In the present essay, synthesis is primarily philosophical and involves both various cultures and various sciences. In other words, the approach is crosscultural and multidisciplinary, the main fields included being anthropology, biology, education,

philosophy, psychology, religion, sociobiology, and sociology.

E. Jensenism and Its Implications. According to Arthur Jensen, the average IQ of blacks is 15 points lower than that of whites because, as Spearman's famous hypothesis states, this black-white difference is related to the size of a test's loading on g. And, Jensen asserts, there is a difference between the two races in g. Racial differences, he adds, are smaller on what he calls Level I abilities (short-term memory and rote learning) than on Level II abilities (reasoning, abstraction, and problem solving). In Jensen's own words: "'Adverse impact' resulting from job selection based on test scores was greater for blacks when selection was for the more complex higher-level jobs than when it was based on more highly g-loaded tests. This outcome was presaged by Spearman....He put forth a conjecture, based on a small amount of evidence, that I have termed the Spearman hypothesis....Spearman...conjectured that the varying magnitudes of the mean differences between whites and blacks in standardized scores on a variety of mental tests are directly related to the size of the tests' loadings on g."[15] Jensen further states: "No theory of cultural diffusion from the majority culture to the minority population can begin to account for why there should be such negligibly small group x item interaction while at the same time there is such a large 'main effect' for the race difference (at least one standard deviation, equivalent to about 15 IQ points)....Factor analytic studies show also that the g factor of such tests as the Wechsler is the identically same g for whites

and blacks, although whites and blacks differ, on average, by more than one standard deviation of the g factor scores....I find no hint of any evidence that American blacks possess a qualitatively different kind of intelligence, or g, than that of whites or Asians; the observed differences simply appear to be quantitative. I do not believe the difference can be adequately explained merely by exaggerating the supposed cultural differences between American blacks and whites."[16]

As is obvious, such conclusions have social implications that have rendered Jensenism exceedingly controversial. After all, "the standard of living of a country is, in the end, not dependent on visible natural resources, or monetary tricks of the economist, but is a function of the level of attainment and creativity prevailing among its citizens."[17] Jensen himself has observed: "In general, cavalier dissent, without acknowledgement of the complex details in the points at issue...perhaps only best serves the understandable inclination of many critics and their audiences to distance themselves from the troublesome social implications of some of the findings I have presented."[18] Indeed, as two educators have stated, "Jensen's argument provided a vent for many latent feelings that blacks were inferior and many, both educators an laymen, used his findings, or a tempered version of them, to explain what they understood to be the blacks' lack of success despite a decade's best efforts to help them."[19] A sociologist of education has added: "Jensen's work was used to provide a rationale for the spending of less money on

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education."[20]

But since Jensen's recent work on Spearman's g hypothesis is original, since his methodology is basically sound, and since his emphasis is on truly scientific research (Jensenism is synonymous neiher with fascism nor with racism!), the objective critic cannot dismiss him. The critic, however, must not ignore humanitarian issues either, since the practical implications of Jensen's conclusions concerning blacks are devastating. Undoubtedly, humanitarianism is exceedingly important. But equally important, if not more important, are truths such as: "if p and a are positive integers, p is a prime, and a is prime to p, then a^{p-1} divided by p leaves a remainder of 1." For a humanitarianism that disregards such truths becomes nothing but a dangerous sentimentality. Therefore, if Jensen had been more convincing, I would slight humanitarianism in this sphere and pursue its goals in some other fashion. But more fundamental and philosophical arguments generate certain doubts regarding Jensen's admittedly impressive work, thus "equalizing" it with humanitarianism in a way that partly recalls the two dates (fruits) of the Arab philosopher Ghazali (1058-1111). These extremely similar dates, placed in front of a hungry man who was equally attracted to both of them, made it difficult for him to select one of the two oblong fruits, since he was unable to take them both.

Below I will discuss selected issues that lead to such indecision.

II. The Genius of Wilhelm Max Wundt's Pupil

We cannot dismiss Spearman.

Charles Edward Spearman (1863-1945) made major substantive contributions, including the concept of general intelligence, which he first discussed in his 1904 article, "General Intelligence."[21]

His methodological contributions are also remarkable: the Spearman rank-order correlation coefficient, the Spearman-Brown prophecy formula, and factor analysis. It was his work on the tetrad difference referring to two pairs of intercorrelated variables that led to factor analysis, which Louis Thurstone, in his 1947 book, Multiple-Factor Analysis,[22] generalized and mathematized further into multiple factor analysis.

We must not forget Spearman's "noegenetic laws," either, although they have received less attention. These apply to both g and the simplest cognitive activity. According to Spearman, when two fundaments are perceived, a relation between them is evoked. Moreover, when a fundament and a relation are presented, a new fundament is educed. These cognitive laws were developed more systematically in Spearman's Creative Mind in 1930.[23]

No, we cannot dismiss Spearman!

III. Philosophical Issues: g and Plato's Third-Man Argument

But what are the problems involved in g?

Well, these problems concern the nature of g itself. First of all, we should state that g is the "eduction" of a relation between two entities, which Spearman himself called "fundaments."

Its mathematical expression is as follows:

$$z_{ij} = a_{jg} z_{ig} + a_{js} z_{is}$$

Here g is the universal factor and s a component unique and specific to test j.

In his 1904 article, "General Intelligence," Spearman demonstrated the method of correcting the correlation coefficient for attenuation and presented his discovery of positive intercorrelations among different mental tests.[24] This led to his "two-factor theory," namely, that all mental tests measure g, a general ability which is common to all tests, as well as s, a specific ability which is peculiar to each test. Thus, Spearman stated, the g factor is the capacity to grasp abstraction and the "eduction of relations and correlates." Later he spoke of g as general "mental energy" and of specialized abilities as "engines" or "group factors" (these are numerical, verbal, and visual abilities). In what he considered his greatest work, The Nature of "Intelligence" and the Principle of Cognition (1923),[25] which includes his three fundamental "noegenetic" laws of cognition, Spearman also asserted that cognitive events can be reduced to a few ultimate laws.

In brief, g has evolved as follows:

1. At first, Spearman spoke of g exclusively. Even in his 1923 work, The Nature of "Intelligence" and the Principle of Cognition, which is rather tendencious, he arbitrarily eliminated variables that generated group factors.

2. By 1927, however, in his The Abilities of Man: Their

Nature and Measurement,[26] he was forced to accept "group factors" (fluency, oscillation, perseveration, persistence).

3. More recently, g has been described, not as a "primary factor," but as a "second-order factor," namely, a general factor expressing the relationship between the "group factors." And it is now commonly believed that it includes two factors: fluid and crystallized general intelligence. This new definition, however, has not been very successful.

In a masterful synopsis of the debate concerning g versus specificity, Jensen himself has stated the following: "The specificity doctrine, a legacy of the positivism and radical behaviorism that have dominated the history of American psychology, holds that psychometric tests measure nothing other than the specific bits of knowledge and learned skills reflected in the item content of the tests. The prevailing doctrine has influenced the interpretation of test scores and the conceptualization of test validity, as well as the practical use of tests in educational and personnel selection. Opposed to the specificity doctrine is the view that a wide variety of cognitive tests measure in common a few large factors of mental ability, most prominently general intelligence, or g....Recent massive validity evidence from the use of cognitive tests in personnel selection is consistent with the broad common-factor theory and contradicts the specificity doctrine. The practical and theoretical utility of the construct of g as a general information processing capacity also appears warranted by other

lines of evidence independent of factor analysis."[27] In an equally brilliant synopsis, he presents four conclusions regarding g and intelligence in general: "(1) There is a general factor of ability which enters in some degree into every kind of mental task: this general factor is the core of the popular conception of intelligence. (2) It is possible to measure individual differences in intelligence objectively and reliably by a variety of psychometric tests. (3) A substantial part of individual variaton in intelligence is conditioned by genetic factors, which can be modified in their expression, within relatively narrow limits, by variations in environmental conditions. (4) Intelligence is the overwhelmingly predominant factor in scholastic achievement."[28] When he difines g and speaks of its measurement, as well as of the progress made in g research, Jensen explains: "The general factor, g, which emerges from the factor analysis of virtually all complex cognitive tests, is a very commonly accepted working definition of intelligence. It is usually measured by reference tests which have especially large and clear-cut correlations (factor loadings) with this general factor. Just exactly what g consists of beyond this is currently the subject of much research....As yet, psychologists have not arrived at either a comprehensively formulated or generally accepted theory of the nature of g. That possibility lies somewhere in the future. But it seems safe to say that the rate of progress of research toward this goal has markedly speeded up within the last few years."[29]

Some of Jensen's ideas about the relationship between g and jobs are as follows: "The g factor has predictive validity for job performance for practically all jobs, but the validity of g increases with job complexity--another fact predictable from the construct validity of g. Jobs requiring the integration and co-ordination of information have higher g validity than jobs involving compiling or computing data, which in turn have greater g validity than jobs involving checking, comparing, and copying information or executing routine procedures."[30] As for g and crosscultural synthesis, Jensen avers: "My working hypothesis is that one and the same set of g-processes can be found in members of a hunting culture as in any other human culture, although g may not be a very salient or valued trait in some cultures. Even Kalihari Bushmen, when shown a number of highly g-loaded performance tests of our Western variety, were able to pick out successfully those of their fellow tribesmen who would perform best on the tests, regardless of the Bushmen's opinion of the importance (or triviality) of the kind of mental ability reflected in the tests."[31]

As for his own evaluation of g, any objective and fair critic will readily admit, Jensen has never been dogmatic or doctrinaire. Indeed, two of his typical comments in this sphere are as follws: "I have never claimed that ability and personality factors other than g are not correlated with scholastic achievement and job performance, or that predictive validity could not be enhanced by statistically significant

increments by including other predictor variables in addition to g. I do claim, however, that, among all measurable psychological variables, g is the major predictor, accounting for much more of the criterion variance than any other single predictor variable independent of g."[32] Also, "although it is 80 years since Spearman (1904) proposed his two-factor theory of g, there is still no really satisfactory or generaly accepted theory of g, despite many years of theoretical speculation as to its nature."[33]

Some of the more general and philosophical criticisms regarding g may be outlined as follows:

1. Perhaps Spearman's initial methodological and ontological reductionism is questionable.

2. What we really need is to discover the essential nature of g in terms that are independent of factor analysis. Jensen himself admits that this has not been achieved and that, if there is a theoretically true g, we have no evidence as yet to support its existence.

3. Even one genuine zero correlation between pairs of intellectual tests would prove the nonexistence of a universal factor such as g.

4. Numerous empirical studies have tested the related Garrett hypothesis. About half of them, however, have rejected the hypothesis, while the rest of them have corroborated it.

5. I have always suspected that it was philosophy, Spearman's first love, that led him to the discovery of a

universal g. Accordingly, a philosophical critique of g and related universals now becomes necessary.

Seven of the main stages in the development of universals have been as follows:

1. Plato (427-347 B.C.) was the father of this concept. The belief that Socrates (469-399 B.C.) introduced universals is false and it has been based on Plato's tendency to speak as if Socrates had formulated such a theory. Actualy, he had not.

2. Aristotle (384-322 B.C.) discussed "ta katholou" and stressed recurring identities.

3. In medieval times, the concept became universalia.

4. John Locke (1632-1704) looked for selected identities and wrote of "abstract ideas" in his Essay on Human Understanding (1690).

5. David Hume (1711-1766) searched for resemblances, which are so close to the traditional universals that they are plagued by the same difficulties.

6. Ludwig Josef Johann Wittgenstein (1889-1951) ignored what is common to an entire range of overlaps and attempted to discover varying and overlapping resemblances, which he termed "family resemblances." An example of this is the class of games, which he discusses in his Philosophische Untersuchungen (1953), where he advises: "Look and see whether there is anything common to all [games]."

7. Modern semanticists have finally objected that not all words are names.

Plato and Aristotle deserve additional attention in this context.

In his dialogues, while discussing eidos and Idea, Plato looked for a general entity and a general word-name for it. This he considered necessary both ontologically and epistemologically. Needless to add, he did not wait for Aristotle to criticize his theory. Toward the end of his life, Plato wrote his Parmenides, in which he vacillated between the belief that his theory of Forms was perfect and the problems which he himself stated and which he was unable to solve.

Aristotle, despite what is commonly believed, was also a realist like Plato, but only at the generic and specific levels. Moreover, Plato believed that Ideas are innate, whereas Aristotle stated that only particulars exist. Aristotle, in his theory of Forms, treated genus (e.g., color) and species (e.g., blue) as substances, which is a weak argument, but he developed his universals inductively, which is the beginning of science (Plato developed them deductively). Thus, Aristotle would say that the rose is red, whereas Plato would aver that the rose tries unsuccessfully to be red. In addition, Aristotle stated that classes actually exist, whereas Locke believed that we are the ones who create classes, and Wittgenstein objected that perhaps the members of a class share nothing.

It seems, then, that a major problem concerning universals in the history of philosophy has been the tendency to treat words as names. And philosophers have made things worse by using only

objects and their qualities as examples. Moreover, we must not forget the most fanatical nominalist of all time, Humpty-Dumpty, who, with boundless narcissism and egocentricity, has declared: "When I use a word, it means just what I choose it to mean--neither more nor less" (cf. the statement that intelligence is what intelligence tests measure).

Finally, g and other universals cannot exist as long as we are unable to deal successfully with the third-man argument. It was Plato himself who first stated this conundrum against his own theory of universals. And it is ironic that Aristotle borrowed this argument to attack his great teacher.

But, first of all, it is not clear that Plato distinguished between Circularity and the perfect Circle. If Circularity is the universal, then only one perfect Circle exists. But, if the perfect Circle is the universal, then it is obvious that many perfect Circles must exist, since this is necessitated by geometrical theorems involving intersecting circles. We should also add that Plato, who had a charming habit of beginning practically every discussion of Ideas by restating his theory laconically (he would distinguish between the concept and the objects of sense), says the following in his Republic (507b): "Only speak on, he said. I will, I replied, after coming to an understanding with you and reminding you of the things that were said previously and of those spoken many times on other occasions. Which things? said he. I answered: We predicate 'to be' of many beautiful things and many good things, saying of

them severally that they are such and define them thus in speech. Yes, we say so. And we speak of a self-beautiful and of a good that is only and merely good, and so, in the case of all the things that we then posited as many, again we posit each as one idea, assuming it to be a unity and call it what each really is. I agree. And we say that the one class of things can be seen but not thought, while the ideas can be thought but not seen."

Similarly, according to the third-man, or infinite regress, argument, found in Plato's Parmenides, since all particulars are merely imperfect copies of a perfect Form, and since a Form is one over many particulars, the Form shares a feature with its particulars. But this feature necessitates the existence of another Form and so on ad infinitum. In fact, this great dialogue is replete with comments concerning the problematic nature of Ideas. Parmenides, for instance, asks Socrates: "And is there an idea of man apart from us and all those like whom we are, or of fire or of water, too? I have often wondered, he said, Parmenides, about these things, to decide whether there are such ideas or not. And, Socrates, are you also undecided about other things, which might appear ridiculous, such as hair and mud and dirt?" (130c). This and other objections are never answered. Instead, we are given a fascinating lecture by Parmenides or his method of considering whether the one is or is not.

This was Plato's Waterloo. Indeed, in discussing the Form-particular relationship, he spoke of particulars "participating in" their Forms, Forms "being in" their

particulars, particulars "copying" their Forms, and so on. A short time before his death, he made a last effort, in his Epistle VII (341b-345c), to create some order out of such chaos and confusion by blaming his failure on language. But his last effort was unsuccessful!

IV. The Nature of Intelligence and Jacob's Flocks

Nowadays interracial peace and harmony are also influenced by the researchers' conception of intelligence in general.

But, more specifically now, what is intelligence?

The Hebrews employed the term hokma to refer to various skills and abilities. Moses, for instance, speaking of Bezaleel, the son of Uri and principal architect of the Temple, says that the Lord "hath filled him with the spirit of God, in wisdom, in understanding, and in knowledge, and in all manner of workmanship" (Exodus 35:31). As for intraspecific variation, heredity, and environmental influences, a strange form of Lamarckism is indicated by Jacob's experiments on his flocks: "Jacob took him rods of green poplar, and of the hazel and chestnut tree; and pilled white strakes in them....And he set the rods which he had pilled before the flocks....And the flocks conceived before the rods, and brought forth cattle ringstraked, speckled and spotted" (Genesis 30:37-39).

Plato (427-347 B.C.) believed that "the soul, besides other things, contains intelligence, and the head, besides other things, contains sight and hearing; and the intelligence mingling with these noblest of the senses, and becoming one with them, may

be truly called the salvation of each animal" (Laws, 961d).

Aristotle (384-322 B.C.) declared that "intelligence is one and continuous, like thought" (De Anima, 407a); that "intelligence is critical, namely, it makes distinctions" (Nicomachean Ethics, 1143a); and that "it is more rational to judge that man is gifted with hands as a result of his intelligence rather than that being endowed with hands is the cause of his superior intelligence" (De Partibus Animalium, 687a).

Thomas Aquinas (1225-1274) stated that "the prime author of the spiritual universe is intelligence" (Summa Contra Gentiles, I,1,1); that "the intelligence is the same power as the intellect" (Summa Theologica, I,79,10); that "intellect and reason is the principal part of man's nature, and the specific mark of man among animals" (ibid., I-II,31,7); that "the intellect can abstract the general from the particular" (ibid., I,44,3); that "the intellect can understand that it understands" (ibid., I,16,4); and that "the stronger intellect, having a deeper understanding of a principle, can itself draw the conclusions, which must be explained separately to the weaker intellect" (ibid., I,12,8). (cf. Cattell and Butcher's statement that "the limit of a person's intelligence...depends upon the degree of complication in the relations that he can perceive, regardless of what fundamentals the relation deals with."[34]

In modern times, Alfred Binet and Theodore Simon constructed the first IQ instrument (1905), which was based on their

definition of intelligence as a quality of the total personality.[35] Their purpose was to classify children and then assign them to regular classes, special education, or various institutions. The same basic definition of intelligence was adopted by David Wechsler who, in 1940 and 1950, added "nonintellective factors," such as drive and energy. Other psychologists have included health, motivation, anxiety, aspiration, and so on.

During the early 1940's, under Louis Thurstone's influence, the multivariate approach to intellectual status became popular. As a result, between the beginning of World War II and its end, the percentage of failure in the US Air Force primary pilot school fell from 35 to 10.

Multitudinous intelligence models include Philip Vernon's well-known work, J. Guilford's SOI ("structure-of-intellect"), and so on. Sir Cyril Burt himself, Spearman's successor at the University of London, developed an Aristotelean hierarchy that began with a dichotomy between g (intellectual characteristics) and "practical" characteristics (e.g., psychomotor abilities).

Such progress is undoubtedly spectacular. But chaos is still rather prevalent. To what extent, then, does the present state of psychology justify studies dealing with differences in intelligence between blacks and whites?

I am convinced that greater progress will be achieved when psychologists begin to imitate physicists. Unfortunately, so far, too many psychologists have, instead, thought of factors as

imaginary abstractions, and of multiple factor analysis as synonymous with faculty psychology. They obviously forget that discovering a functional unity by means of correlation has nothing to do with inventing a faculty and attaching a label to it.

V. Intelligence Tests, the Bare Bear, and the Great "Circulator"

One remains equally skeptical and ambivalent when it comes to the instruments that measure intelligence.

Not only has sampling often been unrepresentative; conventional tests have also stressed "convergent thinking," which neglects creativity. Recent instruments, which emphasize "divergent thinking," are more satisfactory, but they, too, have their limitations. When such raw data constitute the foundation for advanced statistical tests, how valid and reliable can the conclusions be? As a British statesman observed, Her Majesty's statistics are as good as the data collected by the least constable at the local level.

As for black-white differences, two major hypotheses have thus far been formulated in order to explain this gap: the tests are linguistically and culturally biased. Arthur Jensen asserts that all relevant empirical studies have rejected both hypotheses. And, at the present time at least, it seems difficult to refute his assertion.

For instance, almost culture-free tests are only those with visual content. But these merely tell us that different racial

and ethnic groups have about the same visual abilities. The Allison Davis-Kenneth Eells Games of 1951, however, which are basically culture-free, since they exclude all academic content and employ oral language in order to help with the testing of lower-class children, have revealed that the latter still make lower scores. Some psychologists have attempted to construct at least culture-fair tests. Common examples are J. Raven's Progressive Matrices of 1947, which are both nonlinguistic and nonrepresentational. Nevertheless, among primitives, for instance, even such tests could not really be described as culture-free or culture-fair. So how sound are the countless comparative psychological studies, since almost all tests have been constructed by scholars representing the middle class of the European-American culture, and since racial differences in intelligence are so similar to class differences (to a great extent, blacks still constitute a caste)?

In brief, a synopsis stressing empirical evidence concerning tests should cover the following:

1. Long ago, Spearman[36] and Hull[37] found that complex cognitive tests were more highly intercorrelated among themselves and more highly correlated with all other tests than were tests which seemed less complex. But it was difficult to ascertain whether this was due to differences in item content.

2. "Individual differences and the mean differences between goups in psychometric abilities and scholastic achievement are related to differences in the speed of information processing as

measured in elementary cognitive tasks." Thus, "individual differences in IQ test performance reflect differences in the speed and efficiency with which persons can execute a number of elementary cognitive processes."[38]

3. Perhaps it is true that research in human and animal psychology suggests "that intelligence consists of differing faculties combined or substituted for one another in different ways for which the test situation may not provide an adequate measure."[39] Still, it seems that it was only up to about 1975 that tests were regarded as biased. This belief was based on three reasons: the specificity doctrine, a tendency among social scientists to explain the lower scores of blacks and Hispanics in terms of bias, and the hypothesis of single group validity and differential valididy. New evidence, however, suggests that these arguments are unsound.[40] In fact, of the more than 100 scholars who have reviewed Jensen's Straight Talk About Mental Tests,[41] not one has challenged his conclusion that current standardized tests are not biased against English-speaking minorities. Moreover, a panel of 19 experts sponsored by the National Academy of Sciences and the National Research Council has drawn conclusions that are very similar to Jensen's.[42]

4. As for black-white differences, many researchers have agreed with Jensen. Lerner, for example, states that even when objective tests were employed among large and representative samples, "the black-white gap was still dramatic: 41.6% of all black 17 year olds still enrolled in school in 1975 were

functionally illiterate; 82.7% were semi-literate."[43] And Vining: "The very high measured mean IQ and the very high economic productivity of the Japanese cannot be coincidental."[44]

5. One must not ignore studies such as Mercer's. This researcher, when she used a culture-free test, SOMPA (System of Multi-Cultural Pluralistic Assessment), and held sociocultural factors constant, found no test differences among racial and ethnic groups.[45] But one must not ignore Jensen's provocative argument about culture, either: "Blacks and whites share the same language, attend the same schools, watch the same TV programs, play the same games, go to the same movies, shop in the same supermarkets, work in the same industries, aspire to the same careers, and want the same things for themselves and their children. One strains in vain to find the great cultural differences that could be required to account for such a large disparity in test performance. Moreover, shouldn't we expect blacks of the 1980s to be more acculturated to the majority culture than were those in 1918, when the first large-scale testing was done? But the same 1 standard deviation difference on IQ tests still exists now as it did then. It hasn't changed in 65 years....From a biological, evolutionary standpoint, I do not believe that the essential construct of intelligence can be properly defined in terms of cultural values. The fact that running speed, visual acuity, hand-eye co-ordination, and spear-throwing skills are the most highly valued traits in a

hunting culture, and are perhaps the most important for the survival of its members, does not qualify these characteristics as a definition of intelligence."[46]

6. Perhaps it is not irrelevant to consider the astronomical costs involved in special tests for minorities. A study of the Philadelphia police alone found that rejection of a general ability test for new officers would cost $180,000,000![47]

Still, having scrutinized all this evidence, an objective critic will remain unconvinced by either side. Why? Well, consider this test item, for instance: A. Bare. B. Bear. C. Hare. D. _____. Think of the A-B and C-D relationships. D should be assigned one of the following words: Hair, Hear, Hairless, and Tolerate. Suppose upper-class blacks said Hair, upper-class whites Hear, lower-class blacks Hairless, and lower-class whites Tolerate. Which answer would Spearman and Jensen say is correct? I would say, all of them! Just look at the four words.

In brief, who is to judge? How? Why?

William of Occam (1285-1349) stated the law of parsimony: "Entia non sunt multiplicanda praeter necessitatem."[48] In a study of various tests, I formulated the following principle: "Instrumenta scientiae non sunt involuta praeter necessitatem."[49] Valid, reliable, parsimonious, accurate, rigorous tests will certainly promote our scientific knowledge further.

Finally, we must not condemn currently unorthodox attitudes and abilities, since they may be indicative of, and conducive to, genuine creativity. Most biologists still do not realize that William Harvey's (1578-1657) spectacular achievement was primarily due to the mystical atmosphere that prevailed at the University of Padua, where he received his medical degree, not to unadulterated empiricism, experimentalism, and inductive reasoning--these followed the Padua period, when Harvey returned to London. On the contrary, Padua was dominated by the Heraclitean-Platonic theory of cyclical universal evolution and by the belief that the microcosm of man is a replica of the macrocosm of the universe. The circulation of the blood thus appeared to be a logical conclusion. But Harvey was disparagingly nicknamed Circulator (Mountebank). Similarly, scholars are still debating the later mystical works of Aldous Huxley (1894-1963), some asserting that his mysticism was indicative of a "loss of nerve," while others consider it a profound understanding of a perplexing modern world. Huxley himself, in the 1946 foreword for Brave New World, stated that he was an "amused, Pyrrhonic aesthete," racing furiously after the "Final End, the unitive knowledge of the immanent Tao or Logos, the transcendent Godhead or Brahman."

Indeed, who is to judge? How? Why?

VI. Nature Versus Nurture and Freud's Neurotic Savages

The most controversial issue in this area is that of genetic and cultural causation. Early anthropology and psychology

contributed to this confusion considerably, as they stressed innate differences and employed "race" synonymously with society, culture, language community, and the like. "Instincts" were also emphasized. This attitude prevailed during the late 19th and early 20th centuries. "The earlier writings, whether of Tylor, Freud, or Rivers, are therefore easily taken out of their cultural context and misread, projecting modern notions of 'race,' for example, backward on writers of seventy-five or a hundred years ago,"[50] although "human groups are now thought to be roughly similar in innate capacity."[51] Some of the most famous and influential studies even described primitives as childlike with a rudimentary culture, as less evolved biologically, and as creatures possessing a smaller brain and lower intelligence--for instance, Joseph Arthur Comte de Gobineau, The Inequality of Human Races (1853-1855); Sir Francis Galton, Hereditary Genius (1869); Houston Chamberlain, Grundlangen des neunzehnten Jahrhundert (1899); and Herbert Spencer, Social Statics (1850). These influenced Sigmund Freud's Totem and Taboo (1913), where primitives are presented as emotionally and mentally childlike, and where phyletic inheritance is given as a scientific theory. In fact, the subtitle of Freud's book is: Resemblances Between the Psychic Lives of Savages and Neutorics. Even more specific empirical studies were anything but sound. Rivers's work among the Todas of South India and others, for example, dealt with color vision. But, like other similar studies, it relied heavily on old

literature and the color vocabularies of nonliterate groups. Such research, therefore, concluded that there are innate differences in the area of color vision.[52] But careful synthesis and evaluation of color vision studies have revealed no such innate differences.[53]

Heredity, of course, is an important factor that cannot be ignored. Intelligence correlations, for instance, are about .90 for identical twins and .50 for siblings. In right-handed individuals, the left brain is better developed in females and the right brain in males. The Wechsler Adult Intelligence Scale favors the male to a slight extent--the reasons are obviously cultural. But the multivariate approach has revealed that some special abilities are influenced more by heredity. For instance, the ability to visualize movements is sex-linked, males being superior to females. Jensen himself has reported that "what IQ tests measure is 80% inherited, 20% cultural."[54] Moreover, intelligence and race are related, intelligence is inherited, IQ tests measure intelligence, and black scores are 15 points below white scores.[55]

But environment is also influential. As late as 1977, Jensen[56] himself stated that the IQ of black children increases with age in California but decreases in Georgia. In New York, black and Puerto Rican children perform better on tests if they have resided longer in that city. In 1976, J. Hunt[57] reported that life in an orphanage tends to result in slow intellectual development. In high school, the IQ of students who take science

and mathematics increases, while that of students who take domestic "science" and dramatics decreases. Vernon assers "that all racial groups are essentially equal. If group differences do exist, they are not great. Within any one group there are wide variations, there being, for instance, white geniuses and white morons, just as there are geniuses and morons within the negroid and mongoloid groups. Within a group, variation is great; between groups, variation is very small if it exists at all....If one racial group behaves differently from another, it is because its members have learned to do so....Differences between the behavior of racial groups are related to learning experience rather than biological characteristics."[58] Two other authors aver that "lower-class children with high intelligence quotients are more capable of recognizing the high-status norms typically emphasized in American schools....Though intellect is important, the social status of parents provides the motivation, or lack of it, to continue education beyond high school....Studies in the United States, Sweden, and Scotland show that a high degree of social mobility is due to discrepancies between the individual intelligence of children and the social status of the father."[59] Steven Rose found that poverty results in pregnancy difficulties, and malnutrition in children causes behavioral problems and lower intelligence.[60] "In 1917, the New York Negro was nearly on a par with the Alabama white among literates, and a bit ahead of him among illiterates."[61] Among Nordic children, the score average on a test was 174 in France and 198 in Germany; among Alpine

children, 180 in France and 194 in Germany; and among Mediterranean children, 173 in Sicily and 197 in France.[62] More emphatically, two scholars have asserted that all IQ differences among major human groups are due to environment.[63] Of course, this recalls John Watson's (1878-1958) boast, "Give me a dozen healthy infants...and I'll guarantee to take any one at random and train him to become any type of specialist,"[64] as well as the genetics and agrobiology of Trofim Denisovich Lysenko (1898-1976), who almost destroyed Mendelism and Morganism in the USSR.[65]

Unlike such extremists, however, a noted sociobiologist has said that there is "a prevailing residue of phenotypic variation that is based jointly on clearly separable genetic effects, ultimately due to allele differences, and on purely exogenous, environmental effects."[66] And another sociobiologist: "For any given species (X), the sum of genetic and environmental components is 100%. (Actually, a third component should be added for the interaction between genotype and the environment.)...Behavior is not contained somehow with a gene, waiting to leap out like Athena, fully armored, from the head of Zeus. Rather, genes are blueprints."[67] More quantitatively, a psychologist has attributed the following percentages to this triad: heredity 60, environmnt 30, and their interaction 10.[68] A sociologist has added: "Intelligence--as typically measured--is not a fixed, inherited attribute, but a variable depending on stimulation, cultural and environmental factors."[69] A famous

anthropologist mentions the same triad, asserting that "the environmental factors are themselves a composite of geographical influences and of the economic, emotional, and other social influences that human beings exert upon each other." He also speaks of a vicious circle of reasoning: "One argument says: There have been no recognized geniuses among peoples like the Hottentots, and the sum total of their group achievement is ridiculously small; therefore it is clear that the Hottentot mind must be inferior. The opposite argument runs: Hottentot cultural environment is so poor and limited that the finest mind in the world reared under its influence would grow up relatively sterile and atrophied; therefore even if the mind of the Hottentot is intrinsically identical with our own, or at least of equivalent capacity, and Hottentot geniuses have actually been born, they have nevertheless been unable to flourish as geniuses."[70]

The same anthropologist has shown how great civilizations appear in different places at different times. "Had Julius Caesar or one of his contemporaries been asked whether by any sane stretch of fantasy he could imagine the Britons and the Germans as inherently the equals of Romans and Greeks, he would probably have replied that if these Northerners possessed the ability of the Mediterraneans they would long since have given vent to it, instead of continuing to live in disorganization, poverty, ignorance, rudeness, and without great men."[71] The history of inventions supports this argument: an American man "awakens in a bed built on a pattern which originated in the Near

East....He throws back covers made from cotton, domesticated in India....He then shaves, a masochistic rite which seems to have derived from either Sumer or ancient Egypt....On his way to breakfast he stops to buy a paper, paying for it with coins, an ancient Lydian invention," and so on.[72] Two other anthropologists observe that "we are tempted to surmise that early humans were less intelligent than we are. However, since human brain capacity has been the same for perhaps 100,000 years, there is no evidence that the inventors of the wheel were less intelligent than we are."[73]

Perhaps the best solution to this problem of nature versus nurture would be to study the personalities of separately reared twins. There are many such studies, but Leon Kamin has questioned their methodoloy.[74] A prominent sociologist has further said: "Since intelligence test performance always represents a product of combined hereditary and environmental (including cultural) factors, trying to separate out precisely what in the performance was due to one or the other is a bit on the order of seeking to unscramble an egg. Of course, twin studies are very helpful, but Cyril Burt poisoned the air with his forgeries."[75] Two biologists definitely agree: "Burt's data have been largely discredited....Perhaps the most extensive case of fraudulent results in recent years."[76] Two anthropologists have also attacked the validity and accuracy of Burt's studies of separated pairs of identical twins.[77]

Unfortunately, this entire issue of nature versus nurture

has also been ideologized and politicized considerably. Even eminent geneticists have been guilty of this attitude. A few decades ago, for example, many of them seriously averred that the mentality of blacks is innately inferior. After about 1950, however, they suddenly began to speak of racial equality. Reporters who suspected that new genetic studies had led to this conclusion were told by the same geneticists that no such studies existed. The obvious reason was the fact that, after World War II, these scientists did not wish to be identified with Hitler!

In brief, then, even the most impressive research findings in this area remain inconclusive. Of course, this is not surprising, since environmental differences have not been quantified adequately as yet, and since both the hereditary and environmental effects have been treated primarily summatorially, not interactively--which, admittedly, is exceedingly difficult. Finally, we must give credit to Jensen for having honestly and wisely stated: "Although I have considerable confidence in all of the empirical findings I have reported, I am much less confident about any views as to their social meaning and their implications for public policy. I have avoided offering my own opinions in this domain. I do hope, however, that the purely empirical and theoretical elements of this total picture will be subjected to the crucible of critical scrutiny. If they are ultimately destined to be discredited, I hope it will be for truly scientific reasons, rather than because of political, ideological, or sentimental prejudices masquerading as scientific

criticism."[78]

VII. Conclusion: Interracial Peace and Aristotle's Hungry Man

Peace and war are not exclusively international phenomena. They can be internal (psychological) or external (social). They can involve individuals or groups. And they can be of any degree. Accordingly, we cannot ignore the implications of Jensen's research. He himself states that, statistically speaking, blacks will have a greater handicap in those educational, occupational, and military spheres that are highly correlated with g. So, is his work a new Pandora's Box? And must we imitate Prometheus or Epimetheus? Are his unquestionably admirable investigations a new magic broom that will create a devastating cataclysm from which neither Goethe's noble lyrics nor Dukas's beautiful melodies can rescue us? Who knows?

In 1969, Jensen began to stress genetic, environmental, and cultural factors in order to understand individual and racial differences. What is so monstrous about that? Perhaps nothing. However, it is monstrous to attempt to silence him, as many have often done. So, we have to choose between academic freedom and research implications.

As for those who wish to silence Jensen, they must first answer the following questions:

1. Do they actually mean that some types of scientific investigation should be banned?

2. In what disciplines?

3. What specific topics?

4. To what extent?

5. Since science deals with what is, and not what ought to be, are research taboos justified?

6. Who can really predict the exact consequences of permitting or not permitting certain types of scientific research?

7. Would such taboos ultimately escalate and lead to despotic regimentation?

8. Does the history of science prove that "magna est veritas et praevalebit"?

9. And how about what I call the "Gamaliel effect"? As is well known, Gamaliel the Elder of the Acts, a famous Jewish sage and grandson of Hillel, was a patriarch of the Sanhedrin. Although Saint Paul--then still Saul the Pharisee--and other Jews were howling against the captive apostles, Paul's great teacher remained moderate, tolerant, liberal, humanitarian. Indeed, Gamaliel's response was: let the apostles speak freely and then perish or climb on the basis of their own teachings. In the same way, let the Jensens of the world speak freely, for if they are wrong, they will certainly be laughed out of academia. In Gamaliel's more dramatic and elegant words: "Ye men of Israel, take heed to yourselves what ye intend to do as touching these men. For before these days rose up Theudas, boasting himself to be somebody; to whom a number of men, about four hundred, joined themselves: who was slain....After this man rose up Judas of Galilee in the days of the taxing, and drew away much people

after him: he also perished....And now I say unto you, Refrain from these men, and let them alone: for if this counsel or this work be of men, it will come to nought: But if it be of God, ye cannot overthrow it" (Acts 5:35-39).

10. If taboos are truly necessary, who will determine their number, extent, and nature?

11. Finally, and most importantly: "Sed quid custodiet custodes?"

And now, back to Ghazali's dates. After this detailed analysis, I still feel like the Arab philosopher's proverbial man, hoping that Jensen's own future research will soon prove that there are no black-white differences in g. Of course, fanatics on either side will pejoratively whisper something about Buridan's ass. My first answer to them would be that, like the French scholastic philosopher's enemies, they are at least careless. Jean Buridan (1295-1356) never mentioned such an animal. Inspired by Aristotle, he only wrote, in his Expositio Textus, about a perplexed and puzzled pooch between two equal portions of food. Then, I would refer them to Aristotle, who, in his De Caelo, describes "the man who is fiercely and equally hungry and thirsty, and stands at an equal distance from food and drink; and for whom it is therefore necessary to remain motionless" (295b).

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