

Quashing Racism: Presenting the ‘Comprehensive Socio-Cultural Persecution Complex’ as a Logical Extension and a Practical Application of the Certainty Uncertainty Principle for the Social Sciences

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Abstract:- We begin this paper by attempting to define the highly nebulous, ambiguous and misleading concept of race, and review current literature to show that the term ‘race’ is a fundamentally a highly antiquated and flawed concept. We also revisit various other contemporary theories on human classification including anthropometric and genetic ones. We also summarize the principles, concepts and tenets of our paper of the ‘Certainty uncertainty principle’ for the social sciences which was published by us early in the year 2023, and show how the principles of this paper can be used to demonstrate how and why racism and scientific racism are highly dubious and questionable concepts. Even though these concepts have been more or less jettisoned by mainstream researchers and scientists, they continue to linger on in the collective imagination of the common folk, who harbour qualms and inhibitions about the absolute equality of all humans. We also discuss the ‘Flynn effect’ in all its ramifications, and propose the ‘Comprehensive socio-cultural persecution complex’ to account for alleged differences in IQ scores from across cultures and societies. We also not only discuss the merits and demerits of IQ tests, but also review the concepts of persecution complex, discrimination complex, and inferiority complex. Of course, the objective of any form of research is to get to the truth, and we stand steadfastly by this principle at all times. We only recommend that certain factors based on the ‘Certainty uncertainty principle’ for the social science must be isolated before getting to the absolute truth which would be the ultimate goal of any meaningful research.

I. INTRODUCTION

“If a man shall begin with certainties, he shall end in doubts, but if he will content to begin with doubts, he shall end in certainties” Francis Bacon.

We begin this paper by attempting to define the highly nebulous, ambiguous, elusive and misleading concept of race, and review current and older literature to show that the term ‘race’ is a fundamentally a highly antiquated and flawed concept which has been superseded in recent times by more up-to-date concepts. We also therefore revisit various other contemporary and older theories on human

classification including different anthropometric and genetic ones to show how humans have been classified over the ages. We also summarize the principles, concepts and tenets of our paper of the ‘Certainty uncertainty principle’ for the social sciences which was published by us in a journal early in the year 2023, and show how the principles of this paper can be used to demonstrate how and why the general idea of racism and scientific racism are highly dubious and questionable concepts. Even though these concepts have been more or less jettisoned by mainstream researchers and scientists in recent times, they unfortunately continue to linger on in the collective imagination of the common folk all over the world, who frequently harbor qualms and inhibitions about the absolute equality of all humans across cultures and societies. They also continue to be rampantly misused by the layman and specialists alike.

We also discuss the term ‘Flynn effect’ in all its ramifications, and also propose the ‘Comprehensive socio-cultural persecution complex’ to account for alleged differences in IQ scores across cultures and societies, and among people belonging to various ethnic groups and social classes as well. The ‘Flynn effect’ and the ‘Comprehensive socio-cultural persecution complex’ are the two nefarious, evil and undesirable twins that must be studied in conjunction with one other; these two taken together cause humans to descend into a downward spiral or trajectory, and cause his scientific, cultural and intellectual output to diminish. They also alter his mind-orientation by causing him to pursue less than ideal endeavours, and change the associated culture’s cultural orientation as well. If all these factors are systematically eliminated, then we can attribute the rest to genetics. We also not only discuss the merits and demerits of IQ tests, but also review the concepts of persecution complex, discrimination complex, and inferiority complex as they are understood in the social sciences.

Of course, the unwavering objective of any form of research is to get to the truth, and we stand steadfastly by this principle at all times. This principle must always override all other considerations at all times, and the truth must be accepted however painful and unpleasant it may be. We only recommend that certain factors based on the ‘Certainty uncertainty principle’ for the social science must be isolated before getting to the absolute truth. This is effect

is the core and underlying principle of the ‘Certainty uncertainty principle’ for the social sciences as we had proposed it, and the ultimate goal behind any meaningful research. We must also bear in mind always that a human’s skin colour is due to a pigment called melanin. It has nothing to do directly with brain size; even if there is a coincidental co-relation, we must bear in mind always the fact that co-relation does not imply causation. It is also of course, indeed possible that different ethnic groups may possess different physical and mental abilities in general (for example blacks are naturally talented athletes and runners). However, all tests to discern and identify such differences in ability must be scientifically designed given the great potential for misuse, and must be highly reliable and spot on. They must also address the concerns of all those who do not agree with them. This was also one of the cornerstone and founding principles of the ‘Certainty uncertainty principle’ for the social sciences. We hope this paper will energize and empower people from diverse backgrounds to rise, move forward, and put forth their best. We therefore hope that this paper would contribute to economic development by goading the economic have-nots into meaningful action, and imploring them to contribute constrictively and productively to economic development. As such, this is an important milestone in our ‘Globalization of science movement’ because it looks at issues outside the lens of a narrow Eurocentric worldview. It is also naturally and inexorably tied to our work on Anthropological Economics.^{1 2 3}

II. SOME COMMON DEFINITIONS OF THE TERM “RACE”

The term race which derives either from Middle French or Arabic, has been a highly misunderstood and a much maligned term for the past several centuries now. Not only has it been poorly understood and misunderstood, it has also been rampantly misused with devious, malicious and mischievous intentions. Humans vary primarily based on geography, and humans are stated to be a polytypic species. Thus, humans (based on current scientific thought) are divided not into races, but into ethnic groups. Humans can also be visually very different from one other. Humans can thus be classified on the basis of morphological, metrical and anthropometric traits and gradations, and also based on other shared and common traits and attributes such as the colour of the skin, the colour and texture of the hair, etc. It has therefore been observed that people vary widely even within a single continent, say Africa. For example, most people in Africa are dark, and very dark brown or black; however, Nilotic people grow up to six and a half feet in

height while African pygmies are only four and a half feet tall. Europeans are fair-skinned and often blonde; India on the other hand is a genetic and an ethnic museum; people of different kinds with different features can be found there. The term “race” was used as a high-level classification; and many detailed sub-classifications have been proposed the term race. Multi-ethnic societies have often formulated laws to maintain ethnic aloofness and prevent miscegenation; examples of such systems, practices or laws have included racism, apartheid, and the caste system. The term “race” is sometimes differentiated from the term “ethnicity”; in case of the latter, cultural characteristics are sometimes included.

Many different definitions have been provided for the term race which is itself a highly ambiguous and an outdated term; In ancient times, the Chinese had proposed classification of humans based on skin colour. The Egyptians also made similar attempts in ancient times, but neither of the two naturally defined the term race. In the ancient Indian text, the Rig Veda, the caste system was described, and the groups described therein would partly overlap and associate with ethnic identity. In 1926, the American physical Anthropologist Earnest A Hooton defined race as “a great division of mankind, the members of which, though individually varying, can be characterized as a group with a certain and a specific combination of morphological and metrical features, which are primarily non-adaptive, and which have been derived from their common decent”. (Hooton 1926) Later, in the year 1942, the British-American Anthropologist Ashley Montagu defined race or an ethnic group as “representing a number of populations under the broader species *Homo sapiens*, which individually maintain their differences, which may be physical and cultural, by means of isolating mechanisms such as geographic and social barriers”. (Montagu 1942) Even as early as 1944, the prominent Russian and American Evolutionary Biologist and Geneticist Theodosius Dobzhansky provided a genetic definition of human race. According to the definition provided by Dobzhansky “Races may be defined as populations that differ in the incidence of certain and specific genes, which are also capable of exchanging genes across the boundaries that separate them”. (Dobzhansky 1944)

Several other definitions have been provided by prominent Anthropologists and Biologists over the years, but these are somewhat less common. In 1950, for example, the anthropologist William C. Boyd defined human race as “a population which differs significantly and substantively from other human populations with regard to, and with respect to the frequency of one or more genes that it possesses”. (Coon 1950) Later, in the year 1960, Stanley Marion Garn stated his views in relation to the term race, “Race may be defined as a breeding population, partially isolated reproductively from other breeding populations, arising commonly but not exclusively from geographic isolation.” (Garn 1960) In the year 1969, the famous author Buettner-Janusch defined race as “A Mendelian population separated and differentiated from another by major geographical barriers; breeding isolate; a population

¹ Banton, Michael (1977). *The idea of race* (paperback). Boulder: Westview Press.

² Barbujani, Guido (1 June 2005). "Human Races: Classifying People vs Understanding Diversity". *Current Genomics*

³ Brace, C. Loring; Montagu, Ashley (1965). *Man's evolution; an introduction to physical anthropology*. New York: Macmillan.

distinguished from another by demonstration of differences in allele frequencies.” (Buettner-Janusch 1969)

Again, in the year 1963, Frederick Hulse of the University of Arizona defined races as follows “Races may be defined as populations which can be readily distinguished from one another on genetic grounds alone. Thus, races may also be defined as an evolutionary episode, and may have originated due to genetic factors.” (Hulse 1963) Some others have also provided definitions of race. According to another definition provided by the German-American Biologist Ernst Mayr in 1969, “ A race is an aggregate of phenotypically similar populations of a species, inhabiting a geographic subdivision and differing taxonomically from other populations. According to a definition provided by Templeton in 1998 “A subspecies (or a race) may be defined as a distinct evolutionary lineage within a species that genetically differentiated due to barriers from genetic exchange that have persisted for long periods i.e. the subspecies must have historical continuity in addition to current genetic differentiation.””^{4 5} (Templeton 1998) (Mayr 1969)

III. EARLY RACIAL CLASSIFICATION

In early years of study on evolutionary biology, most scientists were primarily pre-occupied with the classifying, naming and ordering the diversity of life found on the earth. These types of classifications were extremely useful in many kinds of logical analysis, and to understand and study variation as well. They also helped simplify large volumes of data. Study of evolutionary biology has its roots in the European age of Exploration. As the Europeans began exploring different parts of the world, naturalists and writers from other allied fields published detailed descriptions of different peoples, who not only looked different from one another, but also had different cultures. Early attempts to classify humans date back to the Seventeenth Century. In the year 1684, Francois Bernier attempted to classify humans into various categories and types such as Europeans, Africans (then derisively known as Negroes or sometimes as Blacks), Asians (also known as Far Easterners) and the Lapps. The eminent Swedish Botanist and Taxonomist Carl Linnaeus placed human beings at the very apex and top of the chain of nature in a classification along with other higher order primates. Linnaeus not only attempted to classify all living things into categories and groups, but also attempted to classify the varieties or subspecies of humans. In the year 1735, Linnaeus sub-divided humans into four basic “varieties” on the basis of geography, colour, humour, posture, and customs. He called these the American, European, Asian and African peoples. At that time, humans

were primarily classified and distinguished on the basis of their skin colour, stature and build, facial type and facial features, cranial profile, and the colour and texture of hair; it was also assumed (sometimes blindly) that physical attributes would have a cascading effect on morals, intelligence, intellect and character.⁶

The French naturalist Comte de Buffon in 1749, and George Cuvier in 1790 also provided some accounts of human variation. Buffon provided the degeneration theory, and believed that whites were superior to others who degenerated in due course due to climate and diet. Cuvier believed that the original humans namely Adam and Eve, were Caucasian. The German Anthropologist Johann Friedrich Blumenbach, is often widely regarded to be the father of physical anthropology and also the founder of racial classifications. He possessed an extensive collection of human skulls. The vast collection of skulls that he possessed allowed him to investigate differences between humans inhabiting different parts of the world based on raw and hard evidence rather than mere speculation which was common place until that point in time. He used skull shape to classify humans into Caucasian, Mongolian, Ethiopian, American and Malay (Polynesian, Melanesian, and aborigines of Australia); he proposed this classification in 1795. There was a continuing emphasis on cranial morphology, anthropometric measurements and anatomical studies during the nineteenth century (well up to its end), and this encouraged the continued use of the typological approach in anthropology in the early years and decades of the twentieth century. In the year 1848, the American race scientist Charles Pickering identified eleven different human “races”, namely, Mongolian, Malay-Polynesian, Hottentot, Papuan, Negritto, Hindu, Nubian, Australian, Abyssinian and White.

In 1950, Coon and others identified, through the use of morphological data, six primary groups of people which were the Whites, the Negroids, the Mongoloids, the Australoids, the American Indian and the Polynesian peoples which were further grouped into thirty races. He synthesized Darwin’s theory of evolution with data from other fields of study to provide an account for human variation. His work was extremely controversial, and he was often criticized for scientific racism.⁷ Between the eighteenth and the nineteenth century, most anthropologists, natural scientists and sociologists had believed that races were objective, and a naturally occurring divisions of humanity, with a strong relationship between biological races and cultural evolution. Later researchers examples being the American Anthropologist Sherwood Washburn and the British American Anthropologist Ashley Montagu were greatly influenced by the subsequent synthesis between

⁴ Birdsell, Joseph (1987). "Some reflections on fifty years in biological anthropology". *Annual Review of Anthropology*. **16** (1): 1–12. doi:10.1146/annurev.anthro.16.1.1.

⁵ Krogman, Wilton (1976). "Fifty years of physical anthropology: the men, the materials, the concepts, and the methods". *Annual Review of Anthropology*. **5**: 1–14. doi:10.1146/annurev.an.05.100176.000245

⁶ Garn, Stanley; Giles, Eugene (1995). "Earnest Albert Hooton, November 20, 1887 - May 3, 1954". *Biographical Memoirs of the National Academy of Science of the United States of America*

⁷ Biographical details are in Charles Coulston Gillispie, *Dictionary of Scientific Biography*, 1970:203f s.v. "Johann Friederich Blumenbach"

the fields of biology and population genetics and believed that variations in the human species could be satisfactorily accounted for by adopting what they called a “continuous serial progression” of populations, rather in lieu of “the five parallel” genetically distinct races as was proposed by Coon and his associates. In 1921, Bradley also subdivided humans into three racial types White, Negroes and Mulattos (or intermediaries). In the USA, the term Meztizo was also often used to refer to a cross between American Indians and whites. In our view, most of these definitions had a Eurocentric orientation.

Later, in the year 1961, Garn proposed that there were basically and essentially three distinctly levels of racial groups namely the geographical Concept of races, local races and micro races. The first referred to major continental units (and island chains) examples being Polynesian, Amerindian, Micronesian, Malenesian-Papuan, Asiatic, Australian, European, Indian, and African. Local races represented further sub-divisions within each of the continents examples being North-Western European, Bantu, and Iranian and so on while micro races could be equated with breeding units. Thus, Garn attempted to integrate older typological systems with the concept of breeding populations, and provided a dynamic and an evolutionary dimension to traditional mechanisms of classification, thus greatly expanding the utility and efficacy of such classifications. After the synthesis of Mendelian Genetics and Darwinism into Neo-Darwinism, a formal rethink of human classifications was necessitated, but new and improved definitions were not often readily forthcoming.^{8 9 10 11 12}

IV. GENETIC CLASSIFICATION OF RACES

In the Nineteenth century, the shy Austrian friar and monk Gregor Mendel laid the foundations for the field of genetics through his experiments on pea plants, but his efforts were little recognized during his life time. His ideas were rediscovered by Carl Correns, Hugo De Vries and Erich Von Tschermak between 1900 and 1905. This was in spite of the fact that his work was formally published way back in the year 1866 in a German journal. Even though earlier contributions to the field of Genetics were made by various Greek scholars and thinkers such as Hippocrates, Epicurus, and Pythagoras, their ideas were still very rudimentary. Genetics later went on to flourish and reach

⁸ Montagu, A. 1942a. The Genetical Theory of Race, and Anthropological Method. *American Anthropologist* 44: 369-375.

⁹ Huxley, T. H. 1865. On the methods and results of ethnology. In: *Man's Place in Nature and Other Anthropological Essays*. London: Macmillan.

¹⁰ Hulse, F.S. 1962. Race As An Evolutionary Episode. *American Anthropologist* 64: 929-945

¹¹ Ottenberg, R. 1925. A Classification of Human Races Based on Geographic Distribution of the Blood Groups. *Journal of the American Medical Association* 84: 1393-95.

¹² Retzius, A. 1842. *Om Formen of Nordboarnes Cranier*. Stockholm: Fork. Skand. Naturf. tretje, Moll.

great heights in the Twentieth century, and was even synthesized with Darwinism. Thus, most scientists came to regard “races” as populations differing in gene frequency. (Harrison et al., 1990) Thus, we have the twin concepts of genotypes and phenotypes. Genotype is the scoring of a variant present at a given location, while a phenotype is an observable physical makeup of individuals based on their genotype. Karl Landsteiner studied blood groups in the late Nineteenth centuries and early twentieth centuries, and proposed the ABO system around the year 1900. He recognized three different blood types: namely A, B, and C. The C-blood type was later much more commonly referred to as “type O” group. Later, in the year 1902, another blood type, namely AB, was independently discovered.^{13 14}

There was initially relatively little recognition of either ‘Mendelian genetics’ or ‘Landsteiner’s ABO blood groups’ until when in the year 1919, the Hirschfelds (namely, Hirschfeld L and Hirschfeld H) carried out a series of extensive serological tests on large number of soldiers belonging to different nationalities. They then proposed that blood groups could be used to primarily delineate and demarcate biochemical races and subsequently went on to identify three major racial types namely the European racial type, the Intermediate racial type, and the Asio-African racial type. Then, in the year 1925, Ottenberg suggested that there were seven main types (loosely referred to as “races”) of humans. His proposed classifications were Intermediate, Europeans, Manchu, Hunan, Hindu, Afro-Malaysian and Pacific-American classifications. There was however no perfect correspondence and little overlap between this classification and other classifications. The following year, (i.e., in 1926) Laurence H Snyder used similarity in the frequencies of the ABO blood groups, and then proposed the seven-fold racial classification that was strikingly similar to the classification proposed by Ottenberg. He believed that the use of blood group data as additional criteria for racial classifications, had distinct advantages that cut be put to productive use by researchers.

It was also subsequently discovered that the human body adapts quickly and easily to different environmental conditions; therefore, skeletal characteristics are determined by the interplay of several genes. Thus, there can be different adaptive and non-adaptive traits and characteristics. Non-adaptive traits include ABO, Rh and MN blood groups, ABH secretor system, PTC tasting ability, and other non-adaptive morphological traits that can be used in order to tentatively classify humans into “races” or ethnic groups. In spite of all these advances, “racial” classifications still remained morphological and typological to a large degree. The approaches by traditional Anthropologists and serologists overlapped to a large degree, (Serologists also tended to rely heavily on morphological classifications) even though there we still

¹³ Roberts, D. F. 1968. Genetic Effects of Population Size Reduction. *Nature (London)* 220: 1084-1088

¹⁴ Snyder, L. H. 1926. Human Blood Groups: Their Inheritance and Racial Significance. *American Journal of Physical Anthropology* 9: 233-263.

many fundamental and basic differences. TD Stewart also questioned the notion that genetic classifications were absolutely reliable. In the year 1951, Herluf H Strandkov and SL Washburn advanced the idea that genetics and anatomy should be used together in formulating and proposing racial classifications.^{15 16 17 18}

V. MORE MODERN THOUGHTS ON HUMAN CLASSIFICATION

In the first half of the twentieth century all the way through the year 1950 and beyond, while racial classifications continued to be proposed by many Biologists and Anthropologists, a few eminent and notable researchers examples being Ashley Montagu and Julian Huxley strongly emphasized and reiterated that it would be impractical to use the same zoological nomenclature and taxonomies that were used by zoologists to classify other living beings for classifying humans into groups. They stated that the classification of humans into races was a foolish endeavour and was impractical to study human variation, which varied as a “continuous stream”. Thus, both genetic factors and Darwinian selection had to be used to study human variation, and develop a “genetical theory” of ‘race’. In order to develop such a theory, concepts such as hybridization, exogamy, endogamy, isolation, mutation, natural selection, the concept of ecological area, the concept of breeding units, gene flow, and random genetic drift had to be used. Thus, factors that led to a variation of the frequencies of genes also had to be understood. Static models of human evolution also had to be replaced by dynamic models of human evolution, with an emphasis on understanding mechanisms of evolutionary change. Eventually, the term “ethnic group” replaced “race”, and Huddon and others lent their weight in favour of the former. Eventually, on July 18, 1950, just after the Second World War, UNESCO issued a statement which included both a scientific opposition to old race theories and a moral condemnation of racism and thus suggested the replacement of the widely used and misused term ‘race’ with the more acceptable term ‘ethnic group’. Washburn’s even presented the concept of a “new physical anthropology” which was initially widely considered to be controversial but nonetheless reflected changing scientific concepts, paradigms and methods in anthropology.^{19 20}

¹⁵ Templeton, A. R. 1998. Human Races: A Genetic and Evolutionary Perspective. *American Anthropologist* 100: 632-650.

¹⁶ Thieme, F. P. 1952. The Population as a Unit of Study. *American Anthropologist* 54: 504-509.

¹⁷ UNESCO. 1956. *The Race Question in Modern Science*. New York: UNESCO.

¹⁸ Washburn, S. 1951. The New Physical Anthropology. *Transactions New York Academy of Sciences*, series 2, 13: 298-304

¹⁹ *On the Non-Existence of Human Races*, Frank B. Livingstone and Theodosius Dobzhansky, *Current Anthropology* Vol. 3, No. 3 (Jun., 1962), pp. 279-281 (3 pages), Published By: *The University of Chicago Press*

In later years, the term “clines” and “clinal variation” came to be used to study human variation. In 1962, Frank B. Livingstone in his article “On the non-existence of human races” stated that the old static idea of race was inconsistent and incompatible with the dynamic concept of natural selection. He believed that while differences in human populations did indeed exist, these did not match entirely with the old classification of humans into races. According to a famous statement made by Livingstone, “There were no races, only clines”. Montagu and others eventually argued and came to believe that the term race was an archaic and an obsolete term with a lot of cultural baggage, and had to be dropped from the lexicon completely. In 1964, Professor C. Loring Brace proposed that individual traits be studied in isolation, stating that the idea of race was not adequate for study of the entire gamut of human diversity. The study of clines became an important area of study for anthropologists in the 1960’s and 1970’s. Today, the term “race” is seen as a misleading moniker, and a social and cultural construct. Many leading Anthropologists have already spoken out against “race”; For example, a statement made by scientists working at the National Institute of Health, in the U.S.A. around the year 2000 also quashed the idea of race. (Angier, 2000). However, racism persists to some degree, examples being some highly controversial statements made by the American geneticist James Watson who has a long history of making such comments.^{21 22}

VI. CAUSES OF BIOLOGICAL DIVERSITY

The basic and core unit of evolution is said to be the population where different forces of biological diversity such as natural selection, genetic drift, (and the founder effect) mutation, hybridization (admixture of genes from two parent populations) and population bottlenecks (due to natural calamities such as the Toba catastrophe or otherwise) operate to varying degrees. The process of evolution is often an extremely slow one but depends to a large degree on mutations which lead to new genes being introduced into different human populations. All these forces go hand in hand with one another, and many different factors dictate the changes of survival of offspring or progeny. (Roberts, 1968) We also have the Out of Africa theory to explain the origin of humans (which has multiple variants such as the recent dispersal hypothesis most of which highly doubtful) and Multi-regional hypotheses as proposed by Milford H. Wolpoff and others (which have many different variants, such as pure polygenesis and other variants that admit to some gene flow and are much more likely). In our view, gene flow must be admitted and

²⁰ *McChesney KY (2015). "Teaching Diversity. The Science You Need to Know to Explain Why Race Is Not Biological". SAGE Open. 5 (4). doi:10.1177/2158244015611712*

²¹ Judson, H. F. (1996). *The Eighth Day of Creation: Makers of the Revolution in Biology*. Cold Spring Harbor Laboratory Press, chapter 3. ISBN 0-87969-478-5.

²² Cullen, Katherine E. (2006). *Biology: the people behind the science*. New York: Chelsea House. p. 136. ISBN 0-8160-5461-4.

accepted only to the extent substantiated by direct or indirect evidence. Anything else would be a travesty and a mockery of truth. Humans would not traverse and migrate such large distances without any apparent reason. Many biologists and rather weirdly, strangely and unfortunately so, have even pictured primates and other animals crossing large oceans on rafts without apparently any rhyme or reason.²³

VII. RACISM, THE HISTORY OF RACISM AND SCIENTIFIC RACISM

Racism may be defined as a discrimination and prejudice (also including any preference, exclusion, distinction or restriction) towards people based on their race or their ethno-biological ethnicity. This may often be coupled with discrimination on the basis of language, nationality or religions. The term racism may have originated from the older term racialism which is now widely considered to be obsolete. Racism may draw heavily on science and pseudo-science to claim that there are innate differences between humans. Racism can easily be discerned and identified based on people's actions, behavioural patterns, cultural or social practices such as ethnocentrism, xenophobia or white supremacy or devised political systems such as enforced segregation. It is also a relatively modern concept dating back to the renaissance; subsequently, less than ideal practices such as the African slave trade expanded greatly. Different Enlightenment and Post-Enlightenment thinkers like Francois Bernier, Richard Bradley and Robert Boyle had different ideas on the question of race, and most of their views were pejorative and derogatory. This idea led to racial segregation in the USA, (in some cases, inter-racial marriage was prohibited, and voting rights denied to some groups) and apartheid in South Africa. In many other societies, it came to be associated with differing political and legal rights. Discrimination in some form is however much older, and played a considerable role in genocides, the rise of the Klu Klux Klan, the Eugenics movement, and even Nazism and the Holocaust to some degree.

In some cases, the Bible (a passage from the Genesis) was used to justify racism. The general idea of racism also appeared to have got a boost after Charles Darwin's theory of evolution was published, but has since largely faded into the background due to the anti-racist campaigns of different activists belonging to different parts of the world. According to the United Nations' Convention on the Elimination of All Forms of Racial Discrimination, or ICERD, there is no distinction between the terms "racial" and "ethnic" discrimination, and both are equally undesirable. It also argues that racism has no valid biological basis. Beginning from the sixteenth and seventeenth century, and lasting well until the twentieth century, many scientists subscribed to the old idea of "races" and advocated racism either directly and indirectly; it was as a matter of fact highly fashionable to do so particularly in some circles in the 1930's. Eurcentrism

was also common in most endeavours in science, and this may also have led to a skewed judgment on many issues. Thus, Blacks and other Non-whites were portrayed as being inferior, and lacking in ability. This idea came to be known as scientific racism, and reflected a state of being racist to some degree even in scientific pursuits. These concepts are based on a dubious examination of data, and a non—systematic examination and elimination of different alternatives. Some researchers also touted the idea of cultural superiority and cultural inferiority of different groups, though the two concepts are indeed fundamentally different. (Garner 2009)

In 1948, the Universal Declaration of Human rights adopted by the United Nations General Assembly severely condemned all forms of racism. In some contexts and situations, the terms anti-racism, reverse racism, counter racism are used to refer to privileged treatment of disadvantaged groups or formerly disadvantaged groups. In a mild and ethical sense, this concept is associated with anti-discrimination laws or affirmative action laws that are used to drive or achieve equality through the dint of authority. In the 1960's and the 1970's anti-racist movements became strong (this period is also noted to be a period of emancipation); However, racism still persists to some degree. One concern that we have is that scholarship in Anthropology and Sociology (besides many other allied fields) continues to be driven by European or North American researchers. This impacts perceptions and skews scientific concepts to a very great degree.

Thus, many debates on "Race" and "IQ" continue to haunt modern scholarship, though all dimensions of the issue are often poorly grasped and understood. We had discussed and overviewed some of these studies at a fair level of detail in our paper on the Certainty Uncertainty principle, and had also examined some criticisms leveled against these studies. For example, work by Audrey Shuey, Arthur Jensen, and William Shockley stated that Black children were intellectually inferior to White children, and unable to learn quickly or comprehend complex concepts as well as other children. Richard Herrnstein and Charles Murray expressed similar views in their book 'The Bell curve' which was published in 1994. According to Earl B. Hunt, there were differences in wealth across nations due to differences in IQ and intellectual ability.

Richard Lynn and Tatu Vanhanen even proposed a controversial IQ versus nationality equation, and their work has been slavishly reproduced in many circles. Lewis Terman believed that Mexican Americans, Native Americans and African Americans were duller than whites, but even his observations may not have been comprehensive enough. In the early twentieth century, the American psychologist Henry H. Goddard, the American educator Harry H. Laughlin, and Princeton professor Carl Brigham too advocated similar ideas. The American anthropologist Madison Grant worried that superior races would be overwhelmed by inferior races unless strict immigration laws were adopted. Some other studies state that East Asians possess a superior IQ to even Whites, but such research may

²³ Meredith M (2011). *Born in Africa: The Quest for the Origins of Human Life*. New York: PublicAffairs. ISBN 978-1586486631

run the risk of confusing recent economic performance of East Asians with latent intellectual ability. We see all these studies as less than ideal and less than perfect science as they do not capture the breadth of issues involved. Some other kinds of low-quality scholarship also persist; for example, “race” and “IQ” are sometimes fallaciously associated with fertility, even though there is scant direct evidence to link the two. We would seek to end all these kinds of “crank” scholarships (or poorly conducted and misleading tests) in the twenty-first century. We have our battle and task cut out.^{24 25 26}

➤ *Our Approach*

We had also revisited the twin issues of racism and scientific racism in our paper on the “Certainty Uncertainty principle” which was published earlier in the year 2023. This paper deserves to be read in its entirety before full sense of this paper can be accomplished or achieved. In this paper, we had also stated that while adherence to the truth is of paramount importance at all times, and must override or supersede any other considerations that may exist, there are many factors that could explain the so called “Race IQ divide”, apart from the fact that IQ tests may themselves be somewhat misleading and may not isolate all factors satisfactorily. These factors could quite naturally include common factors such as mind-orientation, parenting, enculturation or acculturation, and cultural orientation besides, several other factors such as empirically-acquired knowledge which may impact real-world performance, diet and nutrition, linguistic ability or disability, (and linguistic disempowerment) and a reflex action acquired due to socio-cultural discrimination.

Thus, a socio-cultural persecution complex (or an inferiority or a discrimination complex) may act at an individual or at a cultural level. Thus, people may not simply strive hard enough if they believe they have absolutely no chance of succeeding. We would even call the latter the “Comprehensive socio-cultural persecution complex”. This could also lead to an extended downward spiral and impact factors such as diet and nutrition even due to lower economic performance. We give this a name because this issue deserves to be studied a lot more deeply than it currently has been in academic and non-academic circles. In more recent times, Amy Wax and some other researchers and academicians have kept harping on the race IQ divide ad nauseum even though there have been black success stories, and success stories of Asian Americans of

²⁴ Barkan, Elazar (1992), *The Retreat of Scientific Racism : Changing Concepts of Race in Britain and the United States between the World Wars*, Cambridge University Press, New York.

²⁵ Curta, Florin (2001). *The Making of the Slavs: History and Archaeology of the Lower Danube Region, c. 500–700*. Cambridge: Cambridge University Press. ISBN 978-1-139-42888-0.

²⁶ *Elucidating the Certainty uncertainty principle for the Social Sciences: Guidelines for hypothesis formulation in the Social Sciences for enhanced objectivity and intellectual multi-polarity* Sujay Rao Mandavilli IJISRT, March 2023

varied descent. Asians have also done extremely well for themselves in diverse professional fields and the median income of some Asian groups exceeds the American national average. Thus, the performance of “Blacks”, “Whites”, and other ethnic groups can indeed converge to a great extent in the long-run.²⁷

VIII. SUMMARY OF OUR PAPER ON THE CERTAINTY UNCERTAINTY PRINCIPLE

To summarize, our paper on the “Certainty uncertainty principle” published early in the year 2023, proposed the following core principles and philosophies which must be used both in hypothesis generation and hypothesis testing: The principles of the ‘Certainty uncertainty principles’ are designed to prevent the misuse of science for perverse and devious ends. We again strongly encourage readers to read this paper.

- Assessing and quantifying the certain data or evidence in support of a hypothesis is of great importance
- Assessing and quantifying the certain data or evidence against a hypothesis is also of equal importance.
- Assessing and quantifying the uncertain data or evidence in support of a hypothesis is of great importance.
- Assessing and quantifying the uncertain data or evidence against a hypothesis is also of great importance.
- Balancing the certain and uncertain data or evidence in support of a theory with the certain or uncertain data or evidence against a theory
- Looking for the quality of data or evidence in support of a hypothesis is also of very great importance
- Looking for the quality of data or evidence against a hypothesis is also of equally great importance.
- All certain factors must be addressed first before uncertain factors are tackled or addressed
- All certain factors must also be eliminated from the equation before uncertain factors are addressed.
- An overall assessment then needs to be made taking all the factors specified above into consideration.

The efficacy of tests that are carried out to prove or disprove a hypothesis may also vary. For example, we can have Straw in the wind tests that are not convincing, Hoop tests that are somewhat more convincing, Smoking gun tests, and Double decisive tests. These classifications were first provided by the American political scientist Stephen Van Evera, and it would be beneficial for readers to read them.^{28 29}

²⁷ *Introducing Anthropological Pedagogy as a Core Component of Twenty-first Century Anthropology: The Role of Anthropological Pedagogy in the Fulfilment of Anthropological and Sociological Objectives* Sujay Rao Mandavilli, IJISRT, 2018

²⁸ William Poundstone, 1989, *Labyrinths of Reason: Paradox, Puzzles, and the Frailty of Knowledge*, Anchor

²⁹ Frode Alfson Bjordal, *Librationist Closures of the Paradoxes, Logic and Logical Philosophy*, Vol. 21 No. 4 (2012), pp. 323–361

➤ History of IQ Tests

Intelligence tests have been in use in some form or the other for well over a century now. The term IQ was coined by William Stern in 1912, and is said to originate from the German term "Intelligenzquotient". The first widely used adaptive intelligence test was developed between the years 1905 and 1908 by the French psychologist Alfred Binet and was used to evaluate school children for intelligence. However, Binet's tests were far from perfect, and he himself stated this. Binet's tests were extensively modified and translated into English in 1916 by the American psychologist Lewis Terman. Quantified IQ tests were subsequently developed, and the Stanford Binet Intelligence scales were developed along with the French psychologist Theodore Simon, and included verbal and non-verbal assessments. Knowledge, quantitative reasoning, working memory, visual spatial processing and fluid reasoning were also assessed. These scales in a much improved and a highly modified form, are in use even today. Other tests have included the Wechsler Adult Intelligence Scale developed by David Wechsler to measure intelligence and cognitive ability in adults. A derivative of the latter is also still in use today. The English psychologist and statistician Charles Spearman also proposed a co-relation theory and stated that subjects who performed well in one intelligence test also tended to perform well in other intelligence tests. He also developed the Two-factor theory of intelligence. The American psychologist Robert Yerkes also developed intelligence tests to recruit people for the First World War. Today, there are a wide variety of IQ tests in use, and the most popular tests include Raven's progressive matrices, Naglieri non-verbal ability tests, Woodcock-Johnson tests, the Multidimensional aptitude battery II (MAB-II) test, Differential ability scales, Peabody individual achievement test, Cattell culture fair tests (CFIT). There are of course several more tests which are used to varying degrees.^{30 31 32 33}

➤ Criticism of IQ Tests

Several criticisms have been leveled against IQ tests, and we present some of the more common criticisms below. The primary criticism of IQ tests has been that they do not take into consideration and isolate social and cultural factors. Thus, factors such as motivation, a desire to perform, linguistic ability, non-cognitive abilities, cultural evolution and cultural empowerment may not always be considered. Thus, in sum, IQ tests may not also consider all the factors falling under the umbrella of a "Comprehensive socio-cultural persecution complex." They may therefore have high real-world error margins, and an implicit and an

explicit western bias as argued by Robert Stenberg. Different cultures may also value and cherish different goals and ideals, and many cultures may place a higher weightage on adherence to social and cultural norms than individual performance, individual accomplishment and individual achievement. Non-western cultures may also not place an emphasis on reasoning and computational and abstract problem solving ability. Individuals belonging to such cultures may also be overly religious, spiritual, superstitious or dogmatic as reflected by their individual mind-orientation and cultural orientation. Communist and other societies may not place as much of an emphasis on individual accomplishment as individualistic societies do.

As societies progress economically, their citizens rise along with their nation; few of the least developed nations may produce geniuses in large numbers the way mature societies do. Life accomplishment does not also depend on logic, reasoning and computational problem solving alone. Emotional Quotient or EQ, and other factors are also extremely important. Some aspects of IQ tests may also test knowledge acquired in cultural contexts rather than test innate ability. According to research carried out by the Nobel Laureates Daniel Kahneman and Amos Tversky, real-world human judgment may also be prone to irrational errors of reasoning. Such factors are not satisfactorily and adequately measured by IQ tests. Most people with the highest IQ scores such as William James Sidis and James Clark Maxwell were indeed European or American, but this bias may reduce somewhat if all these factors are taken into consideration. Students or test takers who are familiar with the patterns of the questions asked may also perform better than those who are novices in this regard. Thus, performances may erroneously record ability to take tests rather than raw intelligence. James R Flynn himself (particularly in his later years) doubted the reliability of IQ tests stating that they did not take an entire gamut of factors into consideration.^{34 35 36}

We have nevertheless had Black success stories too. Examples include the former US president Barack Hussein Obama, Malcolm X, the TV host Trevor Noah, Oprah Winfrey (who succeeded against all odds), the brilliant Astrophysicist Neil DeGrasse Tyson, Martin Luther King who called for ending racism and played a key and a crucial role in the Civil Rights movement, the autodidact and abolitionist Frederick Douglass, the American sociologist W.E.B Du Bois, the American congresswoman Shirley Chisholm, the African chess player Phiona Mutesi, and many, many others. In 2023, a Black student by name Dennis Maliq Barnes won a record number of scholarships

³⁰ Myers, D.G. (2009). Psychology: Ninth Edition in Modules. Worth Publishers.

³¹ Kalat, J.W. (2014). Introduction to Psychology, 10th Edition. Cengage Learning.

³² Kulp, D. H.; Davidson, H. H. (1934). "The application of the Spearman two-factor theory to social attitudes". *The Journal of Abnormal and Social Psychology*

³³ Spearman, C (1904). "'General Intelligence,' Objectively Determined and Measured". *American Journal of Psychology*.

³⁴ Lubinski, David (2004). "Introduction to the Special Section on Cognitive Abilities: 100 Years After Spearman's (1904) "'General Intelligence,' Objectively Determined and Measured'". *Journal of Personality and Social Psychology*

³⁵ Bulmer, M (1999). "The development of Francis Galton's ideas on the mechanism of heredity". *Journal of the History of Biology*

³⁶ Neisser, Ulrich (1997). "Rising Scores on Intelligence Tests". *American Scientist*

to US universities, and chose to be admitted to Cornell University. The idea that social constructs may have a deep-rooted and a deep-seated impact on performance was noted by David Wellman and others. Also, a significantly large number of people must be surveyed before plotting their IQ scores on a bell curve, and the principles propounded in our paper on the Certainty uncertainty principle, and the concepts of 'Comprehensive socio-cultural persecution complex' must be assessed and isolated. Thus, there must be no ambiguities involved. All theories must be propounded on the basis of raw, hard, and reliable data, and there must be no biases, prejudices, and errors of cognition involved.³⁷

➤ *The Flynn Effect*

The term Flynn effect which was named after the American-born and New Zealand based philosopher and research James R Flynn, (and based on earlier research carried out by Read D. Tuddenham and others) is used to refer to, measure and quantify the substantial and sustained increase in both fluid intelligence test scores (intelligence that is independent of any previously acquired knowledge) and crystallized intelligence test scores (intelligence that depends on previously acquired knowledge) as measured in many different parts of the world over the past one hundred years or so. Some of these tests may also test semantic ability and episodic memory, though these may not indeed be reflective of innate ability. Thus, IQ tests are initially standardized based on the performance of the first batch of test-takers, and are subsequently recast as and when new data is received over a period in time. Test scores have increased continuously and more or less linearly ever since they were first conducted several decades ago.

These increases have been noted both within and across nations including culturally different ones such as Japan and South Korea. The performance of students and test-takers across nations has also tended to converge over a period in time. A reverse Flynn effect may reflect a decline in IQ scores due to decreased academic performance, cultural changes and cognitive ability. Subsequently, IQ scores were determined for various nations, but these are highly dubious and misleading from our perspective. Attempts have also been made to quantify the Flynn effect in terms of points per decade, and quantify the rate of increase or decrease in the Flynn effect itself. Attempts have also been made to quantify the Flynn effect at different ends of the distribution. It was also found that younger students tended to perform better than older students, and this naturally represented a secular increase. Increases in IQ rating may be reflective of improvements to education, the increase in the overall education levels or test-takers, greater and better familiarity with the tests themselves, and the patterns of questions asked, and other factors such as cultural change and progression and diet and nutrition even. Many, if not most experts believe that these may not endorse increases in raw intelligence. We endorse this view fully as genetic changes may not manifest themselves in such a short

time frame. This very idea and notion seems very ludicrous indeed. The American economist William Dickens however believed that both genetic and non-genetic factors could be used to explain increases in IQ levels.³⁸

IX. THE "COMPREHENSIVE SOCIO-CULTURAL PERSECUTION COMPLEX"

➤ *Persecution Complexes and other Allied Complexes.*

What is persecution? The term persecution refers to hostility, bias, prejudice and ill-treatment, especially on the basis of ethnicity, language, nationality, religion, sexual orientation, cultural beliefs or political beliefs. According to the Cambridge dictionary, persecution is defined as "An unfair or cruel treatment by a person or a groups of persons towards other persons or group of persons owing to their race, religion, or political beliefs held." The term "Persecution complex" on the other hand, refers to an individual or a person's either rational, irrational or even at times an obsessive belief, that he is being acted against or persecuted. The persecution as such however, may or may not exist. In other words, it may be real or perceived. In extreme cases, persecution complex may also result in a victimhood mentality. It may also affect how an individual functions, thinks, acts, and behaves; indeed, it may also affect his performance at various levels and on various fronts. A persecution complex may manifest itself either at an individual or a group level, often even at a cultural level. This idea is related to the idea of an inferiority complex; in the case of an inferiority complex, an individual feels inferior and is therefore unable to think, act and function properly and effectively. It naturally impacts and affects his real-world performance too. The term "Discrimination complex" is a related term, but is less often used. We now review the various components of the "Comprehensive socio-cultural persecution complex" one by one.

➤ *Persecution Complex and Inferiority Complex*

We had discussed this concept above, and this would naturally greatly affect an individual's performance not only in IQ tests, but also in the real-world. Individuals may simply choose not to perform or put forward their best if they believe that their talents and skills have no chance of being recognized. This alleged persecution may be real, imagined or exaggerated. We also have racial or cultural stereotypes and prejudices, and victims may also choose to play by those prejudices. Thus, one can have an acceptance (or a non-acceptance) feedback model. People will not bother to perform (or may not even attempt to perform) if they have not change of being accepted or succeeding. People who believe they are being persecuted, may opt for lower-end jobs, and may not choose intellectually challenging, intellectually stimulating and higher-end pursuits. This may also happen because individuals typically operate not in silos, but in groups, and individual may fear non-acceptance, retribution or a backlash. Persecution

³⁷ Hughes, M. Elaine (Summer 2003). "'100 Greatest African Americans: A Biographical Encyclopedia' Book Review". Reference and User Services Quarterly. **42** (4): 356

³⁸ *Humanism and Ideology: an Aristotelian View*. London and Boston: Routledge and Kegan Paul. 1973. ISBN 978-0-7100-7442-3.

complexes may also manifest themselves due to various other factors such as the colour of the skin, caste, ethnic identity, nationality, religion etc. Persecution can also be social, cultural, or even both. All these factors would naturally have a great influence and an impact on an individual's performance. Thus, we would also like to state that if society is to evolve and realize its maximum potential, all forms of discrimination must be jettisoned. Otherwise, an individual may even run the risk of being culturally alienated. But even if this is done, the effects of a "Comprehensive socio-cultural persecution complex" may not ever be negated completely, and not at least in real-world situations.

➤ *Linguistic Disability*

Linguistic disability here, would refer to the less than ideal linguistic skills of an individual or a group of individuals. Individuals may also be linguistically disempowered, because they may not have access to or may be denied access to a widely used or an important language such as English or Sanskrit (in some parts of the world, French) due to social, political or cultural factors. Linguistic disability may also inhibit verbal intelligence. In many, if not in most cases, linguistic skills are acquired due to a process of prolonged exposure, and enculturation or acculturation, and the linguistic have-nots, as we prefer to call them, may be denied linguistic skills and lexical ability. This may lead to a complex, reinforce a negative feedback loop, and lead to individuals choosing and pursuing lower-end pursuits. This would naturally reflect on their IQ scores (IQ tests are less than perfect), and impact their real-world performance too.³⁹

➤ *Parenting and Enculturation*

Parenting and enculturation too would play a major role in real-world performance. Parenting refers to the elaborate process through which children are brought up. In some cases, it may also refer to the process by means of which children are further taught to become parents. Enculturation as defined by Conrad Phillip Kottak and others, is also a very deep-rooted process which affects an individuals' performance throughout his life. This process would naturally vary widely based on culture to culture and from society to society (also based on socio-cultural groups, socio-economic groups, and occupational groups). We also have the concept of vertical, horizontal and lateral influences and transmission patterns about which we had spoken at length in our previous papers. We also have the concept of endo, meso and exo environments, all of which vary widely for different groups of people. All these factors impact people's real world performance greatly. This can also be evidenced by the fact that Black children raised by White parents on an average tend to perform much better than Black children raised by Black parents,^{40 41}

³⁹ Bybee, Joan. "Usage-based phonology." p. 213 in Darnel, Mike (ed). 1999. *Functionalism and Formalism in Linguistics: General papers*. John Benjamins Publishing Company

⁴⁰ *Anthropology: The Exploration of Human Diversity and Cultural Anthropology* (2003), Conrad Phillip Kottak

➤ *Peer Influences*

We had also spoken at length about peer-influences in our previous papers. These may lead individuals into an upward or a downward spiral or a trajectory, and impact their real-world performance to a great degree. Peer influence is said to occur when an individual chooses to do something he or she would not otherwise do, because he or she want to feel accepted and valued by your friends. This idea is also closely connected with, and related to the idea of 'Peer pressure', all of which determine how an individual thinks, acts, and behaves. Thus, peers may have different statuses in society, and may be engaged in different pursuits. Thus, person may do alcohol or drugs because it may feel fashionable or trendy, and because all his other circle of friends is doing it. Likewise, an individual may choose to engage in intellectual pursuits if all his friends or peers do it, and if he also has a great chance of being accepted. This factor must also be evaluated (and assessed) in conjunction with other factors, most of which would not be naturally genetic at all. In fact, they would be purely cultural.

➤ *Mind-Orientation*

We have also been promoting the idea of mind-orientation all along. The term mind-orientation refers not only just to the thoughts, beliefs and values a person fills up his mind with in his quotidian life, but also how he acts upon them to orient his attitudes in life. An individual's mind-orientation would naturally affect his actions, and also his direction and his very purpose in life. One could argue that mind-orientation is shaped largely by parenting and upbringing, peer-pressure, education and schooling, the effects of the multi-media, societal constraints and restrictions including a multitude of factors such as language, religion, associated cults and ideologies and also his socio-economic class status. In order to understand all of these concepts, a thorough readership of both our papers on socio-cultural change must be accomplished. There would also be different types of mind-orientation such a family orientation, work, employment or business orientation, individual orientation, intellectual or creative orientation, militant orientation, the anarchist or queer man, and societal orientation, all of which are tied to economic performance in different ways. All cultures may not attach the same degree of importance to scholastic achievement, (in countries like India, people may be overly religious too) and this all these factors may impact an individual's performance too in many different ways.^{42 43}

⁴¹ *School & Society: Learning Content through Culture*. Henry T. Trueba (editor), Concha Delgado-Gaitan (editor). Praeger Publishers. New York. 1988

⁴² Articulating comprehensive frameworks on socio-cultural change: Perceptions of social and cultural change in contemporary Twenty-first century Anthropology from a 'Neo-centrist' perspective

⁴³ The relevance of Culture and Personality Studies, National Character Studies, Cultural Determinism and Cultural Diffusion in Twenty-first Century Anthropology: As assessment of their compatibility with Symbiotic models of Socio-cultural change ELK Asia Pacific Journal of Social Science Volume 4, Issue 2, 2018 Sujay Rao Mandavilli

➤ *Cultural Orientation*

Cultures may also have different cultural orientations, and we had discussed these in our aforesaid two papers on socio-cultural change. The different cultural orientations could include past-orientation versus future-orientation, inward-looking cultures versus outward cultures, rigid versus flexible cultures, individualistic versus collective cultures, material and non-material orientation, contentment versus innovation, rational-orientation versus non rational-orientation. These cultural orientations would naturally impact economic performance too, and cannot be changed easily, and almost certainly not overnight. Cultural orientation would determine individual's mind-orientations too, and these would in turn determine real-world economic performance. We had also proposed what we called the 'General Theory of Hierarchy of Mind-orientations' in the aforesaid papers, wherein mind-orientations (and the diversity of mind-orientations or the tolerance for newer and more novel mind-orientations) can naturally be equated to societal complexity. Individuals in less complex and less evolved societies may opt for simpler and clutter-free lives, and may not pursue complex pursuits. They may also pursue a smaller range of pursuits. This is of course not genetic; it is pretty much cultural.

➤ *Lack of Cultural Development*

Another related factor is the absence or lack of cultural development; this may also be tied to a lack of material development, and the two would naturally go hand in hand. The absence of cultural or material development may be due to a "Culture level persecution complex". Cultures may not develop or evolve if they believe they have no chance of succeeding; this is because cultures are often interdependent on other cultures, and may also learn and observe from neighbouring cultures. This may impact individuals too, who may be submissive and non-innovative. Cultural re-orientation and reorganization may help, but the results may not be self-evident immediately. Cultural remediation would also have many obvious limitations, as cultural orientations may have been built up over centuries. This may of course seem to be a highly controversial point, but must be investigated in its entirety, because there are many factors involved, and all these can be inter-related with each other. None of these are of course genetic, and the fact is that many African nations have turned the tide, and are now developing. None of the Old world civilizations were "white" either.

➤ *Quality of Education*

Another factor to be always borne in mind is the quality of education which varies greatly from nation to nation and from context to context, can play a major role in intellectual development and impact real-world performance. In India, Jawaharlal Nehru, India's first Prime Minister did not aggressively pursue universalization of education, and the literacy rate in the nation was abysmally low for many decades. This was until the "Sarva Siksha Abhiyan" was launched in the 1990's. India's education system also promotes learning by rote, and does not foster innovative or creative thinking. Another problem is the language barrier, and English remains the dominant

language and the language of aspiration in many regions of the world. Second language acquisition theories are also western-based, and also have not been sufficiently universalized, as we pointed out in a previous paper. Thus, native English language speakers have a natural advantage here. None of these factors are of course genetic. Many different attempts have been attempted to measure the quality of education, but by most counts the quality of education in many developing countries and the least developed countries remain at the bottom of the heap. All the different factors and aspects presented and debated as a part of this paper, would cause some individuals to go into an upward spiral or trajectory, and some individuals to go into a downward spiral or trajectory. These may be referred to as motivation spiral and de-motivation spiral respectively. Genetics can obviously play no role here. Thus, we can possibly have "Socio-cultural differentials", "Socio-economic differentials", and "differentials arising due to a Comprehensive socio-cultural persecution complex" as well. All these factors would naturally make a world of difference, but would most certainly not be genetic. Researchers always need to bear these factors in mind, and quash all claims to the contrary.⁴⁴

➤ *Diet and Nutrition*

Diet and nutrition are two other factors that can account for claimed IQ differences and differences in real-world performance. These would represent both cultural and non-cultural factors given that diet and nutrition depends on culture to a great degree. It depends on economic factors too, and the intrinsically rich have an advantage here. Diet and nutrition naturally play a crucial and critical role in impacting real-world performance, and this cannot be denied. For example, today's average adult from a prosperous and developed country is much taller and better built than a comparable adult of a century ago, as has been observed from many studies. Changes to head size have also been noticed, and nutrition may impact brain development to a significant degree. This difference may be largely due to differences in health and education.

Individuals from less developed nations tend to be shorter and less well-built than people from more developed nations. The fact that diet and nutrition are largely cultural means that they cannot be changed easily. For example, Americans consume more protein (more meat and eggs), while Indians may consume more of carbohydrates (example, rice), and less protein. All these factors could naturally play a difference too in both IQ scores and real-world performance. While some gains may indeed occur due to improved economic performance, (even increased education and smaller family size may matter), the gap between different natures and cultures may never be bridged completely. All these factors are of course not inherently genetic. All the factors mentioned this paper must be demonstrated through valid social science research methods, tools and techniques without any biases, prejudices or pre-conceived notions. This is our earnest prayer and plea. They

⁴⁴ Ainsworth, James (2013). *Sociology of Education: An A-to-Z Guide*. Sage Publications

may also be combined with various theories in diverse fields such as pedagogy and psychology as and when needed.⁴⁵

➤ *Solutions to the Issue*

There are many possible and potentially effective solutions to the issue of empowerment of individuals belonging to disadvantaged socio-cultural groups and disadvantaged socio-economic groups, and we present a few of them below.

- *Anti-Discrimination Legislation*

The first legislation one can think up of is elimination of regressive legislation in whatever form they may exist in any part of the world. As a matter of fact, this is the most obvious solution that readily springs to mind whenever one thinks of the issue. Such legislations have existed in different parts of the world for the past several centuries, and many of them were highly oppressive and regressive, stifling economic progress and the free spirit of ingenuity and human creativity. Slave trade was widely practiced not only in the Western world, but also in the Arab world, and slaves, who were mostly Black, were bought and sold like chattels. Abolitionism, or the abolitionist movement, referred to the movement to end the practice of slavery and liberate enslaved people in different parts of the world. Vermont was the first American colony to abolish slavery in 1777, and many other American colonies quickly followed suit. Even though the American government outlawed slavery in 1808, the practice of slavery persisted throughout much of the nineteenth century, and formally ended after the civil war. In the USA, Jim Crow laws that allowed racial segregation were introduced, and were coupled with other formal and informal segregation practices in different parts of the United States to varying degrees. In general, the south was more segregated than the north, and in the state of Alabama, interracial marriage for not permitted for a long time. As a matter of fact, these laws did not formally end nationwide till 1965, after the Civil rights movement picked up pace. In South Africa, apartheid persisted well until the 1990's. Thus, as we can see, the movement for equality is a relatively recent phenomenon. Much more can be accomplished if scholarship of the requisite and desired quality is put in place in all the necessary fields of the social sciences.

- *Equality of Opportunity*

Equality of opportunity refers to a situation in a country or a nation where all its citizens are given the equal opportunity to do well and to contribute to society in a meaningful way. This is contrasted with the idea and notion of absolute equalities championed in communist and egalitarian societies. In case of equality of opportunity, the abilities and the education level of individuals are taken into consideration while making allocations. However, class, race, ethnicity, former position or political power are not considered, and are deemed irrelevant for all practical purposes.

⁴⁵ Andrews, John H. (2017). *Comparative Ecology of Microorganisms and Macroorganisms* (2nd ed.). New York: Springer. ISBN 978-1-4939-6897-8

- *Social Empowerment*

Social empowerment is a conscious attempt to empower formally socially and culturally disadvantaged groups. This may be done through the use of various techniques such as appropriate legislation, affirmative action, and “reservation” as in the case of India. The idea of “reservation” in an Indian context is different from the idea of reservation in an American context, and the former effectively equates to affirmative action. Social empowerment may also be orchestrated through meaningful public movements of which there have been many examples in the past. Examples of such movements have included the Civil rights movement, the Anti-apartheid movement, and the Black lives matter movements. Social empowerment goes hand in hand with cultural empowerment, and the latter is particularly useful in making people aware of their rights.

- *Corporate Legislation*

Appropriate corporate legislation must be introduced in organizations both large and small, whether mandated by law or legislation, or otherwise. Thus, promotions and performance appraisals must be carried out solely on the basis of merit and performance, and not on the basis of class, race, ethnicity or gender. Many modern corporate organizations already have anti-discrimination and equal opportunity policies in place, and this is equally true of multinational organizations and companies based in western countries.

- *Educational Reform*

Educational reform is also extremely important to achieving unity. There must be no segregation in class rooms, and all people from all classes and walks of life must be allowed to participate in educational activities. If this cannot be done, the quality of education must be reasonably similar for all groups of people. Teaching of life skills is also extremely important, and must be mandated wherever possible and necessary. Supplementary classes may be mandated or made possible for disadvantaged groups of people wherever possible or practical. People from all economic, social and cultural groups must be given a clear orientation in life, and must be empowered to succeed. Practical real-world application of knowledge learning must replace old learn by rote methods, that are still unfortunately common in many parts of the world today.

- *Access to Science*

There must also be a multi-cultural approach to science. This is particularly true of the social sciences, but may hold good for all other fields of science too. This can only happen if people from all cultures and societies participate in scientific activity and have their say in the formulation of scientific hypotheses and theories. This is as important as interdisciplinary approaches to science, and at least so from our perspective. Unfortunately however, people from the Europe and North America have hitherto dominated the field, and this is detrimental to the healthy growth of science in general. To remediate this, people from other parts of the world must specialize in various fields of the social sciences as may be necessary, and remediate

historical wrongs. This is easier said than done, but the process must indeed be begun in right earnest.

X. CONCLUSION

We had begun this paper by attempting to define the highly nebulous, ambiguous and misleading concept of race, and had reviewed both obsolete and current literature in order to demonstrate and show that the term 'race' as it was known to the general public was not only a highly antiquated but also probably a fundamentally flawed concept. We had also summarized the principles, concepts and tenets of our paper of the 'Certainty uncertainty principle' for the social sciences and had used these principles and concepts to thwart and prevent a wide misuse of science, a tendency which has rather unfortunately tended to raise its ugly head in some form or the other, from time to time. We conclude this paper by stating the issues such as these are far more complex, and multi-faceted than meets the eye, and in order to solve such problems not only a multi-disciplinary but also multi-cultural research endeavour is required to minimize cultural bias, and inputs must be taken from many different sides. This is a founding and a guiding principle of our "Globalization of science" movement as well. This issue must also be probed and investigated at a fairly great level of detail, and it must also be borne in mind that there are many different ethnic groups as various tribes of Africa, and the Andamanese, and the Nicobarese of India who in turn comprise various subgroups such as the Sentinelese. There are also multi-faceted issues involved.

As such, no one size fits all approach is ever workable or possible. Such issues cannot be resolved either quickly, easily or readily (this is by itself an important guiding principle to be borne in mind at all times) but it is never too late to make a start and a beginning. Issues must also be probed from the point of view of the greater interests of humanity, and not to serve the interests of any one particular group or community; we would also therefore, advise a great deal of caution and restraint here; researchers must avoid the temptation of jumping to conclusions at all times. We also argue that the 'Comprehensive socio-cultural persecution complex' is a vastly superior approach to all existing approaches as it meets all the above criteria. This would also be associated with "Socio-cultural differentials", "Socio-economic differentials", and "differentials arising due to a Comprehensive socio-cultural persecution complex" as well. These may, in all likelihood never be bridged completely. We also believe that cultural issues probably play a much greater role in determining differences in performance than genetic ones, and would as such urge people from all over the world to dream big and hitch the wagon to a star. A change in attitude would benefit everybody, and humanity as a whole. It would lead to faster cultural and economic progress as well. People must also always remember and bear in mind to treat all people fairly and equally at all times regardless of ethnicity; this itself would be a cornerstone for meaningful human progress, and make the world a better place for all its citizens.