
A Brief Archaeology of Intelligence

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THEMATIC PROLEGOMENA

Modernity (see Chapter 1) is characterized by Western-style individualism. One of its manifestations is the obsession with comparative (actually economically competitive) “intelligence” as a central value. The development of the modern concept of intelligence is related to craniometry and race. Craniometry is the measurement of human skulls as an indication of intelligence. According to Montagu (1975: 146), “What craniometry was to the nineteenth century, intelligence testing has been to the twentieth.” In order to understand this statement and the impulse that sustains the modern obsession with “intelligence,” we must understand the historical setting immediately before and during the heyday of craniometry.

During this time, the ideology of the Enlightenment was prevalent. Part of this ideology was the preeminence of mental-rationality. While romanticism had valued the individual, it also valued passion and compassion. By contrast, Aristotelian modernity only recognizes the exclusive validity (value) of calculating manipulation and efficiency (technological power). In modern discourse, measurement and accounting came to be the only legitimate ways to establish what is “important,” “significant,” “true,” and “real.” Everything else is idle chit-chat, essentially unverifiable and of little ulterior use-value. Friendship, for its own sake, was replaced by “collegiality,” which equated being a “good citizen” with conformism and etiquette in the service of organizational goals (almost always the expansion of market share and capital resources).

The drive to “perform,” in a measurable fashion (in a way that lends itself to surveillance), continues to intensify. Even elementary school curricula manifest the imperative to generate “intelligent” (meaning skilled and trainable)

workers for the labor markets of the twenty-first century. Summer camp is no longer a place to make wallets, take canoe rides, and learn how to shoot a bow and arrow. Increasingly, summer camps teach computer programming, and basic principles of engineering to children as young as eight so that they can get a jump on their competition. Even childhood is conforming to the dictates of market forces, striving to make oneself as profitable to employers as possible. What if this drive to measurably perform continues as populations continue to grow astronomically and resources become more and more scarce? Will we begin to test newborn infants, or even test them before birth? Eventually, the screening process will begin before conception—genetic engineering. In fact, the Cable News Network's *Science and Technology Week* reported on genetically engineered puppies—the parents do not even have to meet (March 3, 1996).

In the twentieth century, war became total so that the line between civilian and combatant was deconstructed. Entire civilian populations became legitimate targets. This was because modern war could not be sustained for long periods of time without entire populations manning the assembly lines. But in "peacetime" too, industrial ordination completely dominates the movements and orientations of "civilian" life. Domesticity has become the servant of industrial organization. So, too, has intelligence. The sense of both has been altered, reduced to the narrow interests of material production and capital concentration. Reason, too, has been truncated, excluding prudence and promoting only technique. It has become instrumental-behavioral. Because it is not quantifiable, "wisdom" may be quaint but essentially irrelevant. The original promise that capitalism would produce surplus, thereby enhancing leisure, is all but forgotten. Instead, as productivity along with profits continue to rise at unprecedented rates and to ever-new levels, people are working harder and harder, taking more years for technical education (usually at their own expense), and less time for reflection (thinking) and conversation. Today, market logic dictates that people work in order to work (when not collapsed before a television), not in order to play.

In the modern industrial age, instrumental reason has become the sole criteria against which behavior and thoughts should be evaluated. And rationality has become a quantity. In the modern Spencerian environment, it is only logical that self-interest take precedence over other-interest, or mutual (dialogical) interests. "Careerism" and "professionalism" are the modern commandments. They are the code words for a mode of life dedicated to the modern social isolate who is at war with all others for time, private space, and money. It is smart to be self-sufficient, self-reliant, independent, and to look out for "number one." According to market logic, this is self-evident. The enhancement and hypervaluation of mobility (an endless search for stimulation) of all sorts, has whittled the village down to the extended family, down to the nuclear family, and now that atom has been "split." Conversation, the core of all relationships (community), is increasingly restricted to the exchange of information in a means-ends utility. Community has been systematized into an aggregate of func-

tional, hence interchangeable, agents related only by economic exchange. Time spent on "casual" talk is time "wasted." The daily intercourse of life has become instrumental.

In the modern world, rationality has become identified with the metaphysics of "demonstration" and modern truth. Truth is what "works." Truth is that which is rational, but the rational has been redefined as that which can be operationalized and accounted for (visiocentrism). The absurdity that modern science defines that which gives it its power, mathematics, out of existence (because mathematics is not an empirical thing), is largely ignored. Truth is no longer a process, a Socratic form of communication, but a thing. Truth has been reduced to the empirical contingency of direct personal observation (existentialism), and this manifestation of individualism has hypertrophically expanded to universal status. Science (especially of human behavior) has become the generalizability of opinion (refereed consensus).

Whoever has the political power to control discourse (including categorical definitions) has the power to determine the direction of future research, and thus, of what will become demonstrated and confirmed "reality." Sedimented in the author(ity) of definitions, including operational ones that generate the phenomena they claim to "discover," are interests and prejudices (*doxa*).

A common prejudice manifested in nearly all metaphysical statements, such as operational definitions (which presume *a priori* "by definition," that all entities are "really" quantities), is that the authors of metaphysical claims privilege their own perspective, inflating it to the status of absolute reality. Metaphysics is almost always self-serving. This political aspect of metaphysics is the case with all ideologies including religions, philosophies, sciences, and mythologies. Therefore, one needs to ask why a group at a certain time and place has begun to talk in a certain way. Exposing the contingent nature of "reality" opens up the possibility and potential for action as well as reaction. Making the rules of the language game, or doing an archaeology can reveal the sudden shift in emphasis and which interests are being privileged. When did "intelligence" become so important that the institutionalization and formalization of it became problematic. Of all measures, perhaps only visual acuity and shoe size are as globally generated, but with less institutional interest. Practically everyone is measured for intelligence and these measures are carefully monitored, recorded, and used for distribution of resources, including labor-power. Knowledge has become labor-power.

When did this obsession emerge? Why? Who benefits? Which interests are served by such widespread comparative and competitive evaluation? Why is intelligence continually correlated with other measures like "race" and "gender?" From the point of view of commercial goals, does it not make sense to spend the most educational resources on those who need them most? Instead, the "smartest" get the scholarships and access to the best educational experiences. This is because knowledge and intellect are seen as exploitable resources so that only those best prepared to take advantage of educational resources get

them. The consequence is tracking. In many industrialized countries, tracking begins as early as kindergarten so that those children who initially score best on intelligence tests are privileged with the best educational experiences. Hence, the conveyor belt of tracking becomes a self-fulfilling prophecy. Of all variables, parental involvement in a child's education is by far the best predictor of educational success. When this is combined with rigid linear tracking, children who have family backgrounds that do not give them emotional and instructional support are lost to the system. Families with this "profile" are disproportionately low income, which correlates with racial categorization. The system rationalizes this state of affairs with objective testing.

In the promotion of "objectivity," context is ignored. However, it is well documented that poverty, rates of penal incarceration, and poor educational experiences are highly correlated (Spohn, 1995; Mann, 1993; Walker, 1993; Clarke and Koch, 1976; Langan, 1991; Mauer, 1990). Part of the missing context, which a single IQ score cannot address, is that single-parent families are six times more likely to be in poverty than two-partner families with children (USDCBC, 1993). About 90 percent of single-parent homes are without a father (USCCBS, 1992), and about 30 percent of all child support payments go uncollected (USDCBC, 1993). "Out of wedlock" births often lead to a lack of emotional and economic commitment by the biological father. The number of such births is increasing dramatically. For whites such births rose from 2 percent in 1960 to 22 percent in 1991. Among the African-American population, the change was more profound, increasing from 23 percent in 1960 to 68 percent in 1991 (USDHHS, 1993). In 1991, ten major U.S. cities experienced a single-parent birth rate of over 50 percent (USCHHS). According to a 1993 publication of the United States Department of Health and Human Services, in 1960, 5 percent of all births in the United States were out of wedlock. By 1991, the number had risen to 30 percent (USDHHS, 1993). One out of every five children in the United States lives in poverty. Such children are at risk. Their educational attainment is dangerously threatened not because of genetic "defects," but because of socioeconomic conditions within which they find themselves, through no fault of their own.

Intellectual power has become more valued than nonmodern qualities like justice, temperance, courage, magnificence, magnanimity, liberality, gentleness, prudence, wisdom, the virtues that guided the proper behavior of a citizen from Plato to Cicero and Quintilian, indeed until World War I. Chivalry, that formal disregard for the "bottom line," has vanished. More like animals, modern humans strive to systematically control their movements to conserve energy and maximize productivity. They function according to bio-logic (efficiency). But industrial systematics is producing far more than is necessary to sustain life. Each worker is producing more than s/he needs. Even animals have rest time and expend a great amount of energy in courtship.

Has intellectual prowess ascended because it is presumed to be more measurable? Since the modern has faith only in measurements, has (s)he therefore

excluded classical virtues from consideration? Or, have these other qualities simply come to be seen as obstacles to increased productivity and speed? Neither the blitzkrieg nor nuclear attack has time for judgment or mercy. Perhaps it is productivity and speed which are the values that are really driving the modern world, including the obsession with quick minds. Since the advent of the mass, which wedded value with quantity, this logic behooves the profiteer to move as many units as quickly as possible because profit is realized with each unit sale. The value of quality has been compromised by the metaphysics of quantity, which began as a military economic value.

ARCHAEOLOGY

As early as the 1600s, in his *Discourse On Method* (1637/1956), René Descartes emphasized that his "search for truth" was equated with reason; method was reason. In classic Aristotelian style, Descartes claimed that his (of course) version of reason also "distinguishes us from the brutes" (1637/1956: 2). Thus, to be human, or at least civilized, meant to be rational. According to Descartes' self-esteeming reasoning, those who were not rational were "accidents," and were not even "of the same species" (1637/1956). Later, in the 1700s, this prejudice became formalized in the classification systems of Linnaeus and Buffon.

No matter how one manifests one's prejudice, in prose or statistics, it remains. Like almost every metaphysical/ideological prejudice one can imagine, the new science defined "good" in its own self-image. It is not surprising that scientists would equate operational definition, classification, and other inventions with truth. They equate their own activities with the highest order of human achievement and even according to "natural" criteria. Auguste Comte and Saint-Simone presented their positive "religion" as the *non plus ultra* of human development. This is perspectivism, which is the privileging of one's own self-actualization and tiny slice of direct, personal experience with universal validity. Generalizability is guaranteed via control, that is, to make all samples the same and then to proclaim a universal trait.

Modern taxonomies of race are manifestations of privileged perspectives with "universal validity." Linnaeus and Buffon were the two greatest taxonomists of the eighteenth century. Linnaeus was a Swedish biologist who is often considered the founder of modern biology. In his *A General System of Nature Through The Three Grand Kingdoms of Animals, Vegetable, and Minerals* (1806), he created the following classification system of race:

1. Homo. Diurnal; varying by education and situation.
2. Wild Man. Four-footed, mute, hairy.
3. American (i.e., Indian). Copper-colored, choleric, erect. Hair black, straight, thick;

nostrils wide, face harsh; beard scanty; obstinate, content, free. Paints himself with fine red lines. Regulated by customs.

4. European. Fair, sanguine, brawny. Hair yellow, brown, flowing; eyes blue; gentle acute, inventive. Covered with close vestments. Governed by laws.
5. Asiatic. Sooty, melancholy, rigid. Hair black; eyes dark; severe, haughty, covetous. Covered with loose garments. Governed by opinions.
6. African. Black, phlegmatic, relaxed. Hair black, frizzled; skin silky; nose flat; lips tumid; crafty, indolent, negligent. Anoints himself with grease. Governed by caprice. (Popkin, 1973: 248)

In addition to Linnaeus, Buffon was also a central figure in eighteenth-century biology. His major works include *Ethics of Nature* (1778) and *Histoire Naturelle* (1749–1804). Although he had some differences with Linnaeus in terms of methodology, his taxonomy of race was strikingly similar. The following quotes provide an account of his taxonomy and racial views. He describes nonwhites thus:

they are gross, superstitious and stupid (Eskimos); they are gross, stupid and brutal (Tartars); are effeminate, peaceable, indolent, superstitious, submissive, ceremonious and parasitical (Chinese); their indolence and stupidity make them insensible to every (useful) pleasure (the Negroes of Sierra Leone); though some were more savage, cruel and dastardly than others; yet they were equally stupid, ignorant and destitute of arts and industry (the North American Indians). (Popkin, 1974: 135)

In reference to white-skinned people, Buffon says:

The most temperate climate lies between the 40th and 50th degree of latitude, and it produces the most handsome and beautiful men. It is from this climate that the ideas of the genuine colour of mankind, and of the various degrees of beauty ought to be derived. . . . The civilized situated under this zone are Georgia, Circassia, the Ukraine, Turkey in Europe, Hungary, the south of Germany, Italy, Switzerland, France, and the northern part of Spain. The natives of those territories are the most handsome and most beautiful people in the world. (Popkin, 1974: 136)

These initial attempts to provide an account of and for human diversity were hierarchical. The European populations (from certain parts of Europe, according to Buffon) had superior intellect, customs, beauty, and so on. These classification systems were significant because, from the very onset of systematic racial description, intelligence was presumed as an important variable. Though “beauty” and “temperament” are no longer considered to be a part of scientific discourse, intelligence remains so highly valued that practically everyone in the industrial world has been measured in this way.

It is evident that description is always already valued because description

requires some principle of division which is defined by the describers. In the case of Buffon and Linnaeus, their values were manifested through their principle of division, and the creation of “intelligence.” In this way, eighteenth-century taxonomy “scientifically” established a connection between race and intelligence (Todorov, 1993).

Many philosophers of the Enlightenment also made the connection between race and intelligence. For example, in Hume’s (1711–1776) “Of National Characters” (1982), he says:

I am apt to suspect the negroes and in general all the other species of men (for there are four or five different kinds) to be naturally inferior to the whites. . . . In Jamaica indeed they talk of one negroe as a man of parts and learning; but ’tis likely he is admired for very slender accomplishments like a parrot, who speaks a few words plainly. (quoted in Popkin, 1974: 245)

In addition, Voltaire (1694–1778) described Negroes by saying, “If their understanding is not of a different nature from ours, it is at least greatly inferior. They are not capable of any great application or association of ideas, and seem formed neither for the advantages nor the abuses of philosophy” (quoted in Gossett, 1963: 45). Both Hume and Voltaire made it clear that intelligence was a fundamentally important distinguishing factor for racial classification. Once this is juxtaposed with the economic conditions during the period, the rise of craniometry can be understood. Briefly stated, the economic conditions were characterized by the enslavement and colonization of “inferior” races. Not incidentally, this included “inferior” populations within Europe (i.e., see Buffon’s description of Germans and Tartars, earlier in this chapter). Now we can understand the impact of craniometry.

If the philosophers were correct, if the taxonomists were correct, if the economic conditions were to be justified, there had to be a method of connecting race with intelligence. It must be kept in mind that the Enlightenment concept of “proof” had taken on the value of an “objective,” albeit derived, fact. This was the function of craniometry. It was a way to objectively prove the connection between race and intelligence. Craniometry legitimized the social order. It was a way “To ‘prove’ that upper-class whites and black slaves were biologically suited to their places at polar ends of the social hierarchy, the craniometricians did not hesitate to manipulate their measurements” (Mensh and Mensh, 1991: 14). Craniometry constitutes the initial steps of a scientifically articulated racism that rendered itself factually infallible, empirically verifiable. Craniometry gradually developed into intelligence testing, which originated with Alfred Binet.

Intelligence Testing—Binet’s Project

Binet is commonly identified as a seminal figure in the development of intelligence testing. In fact, public schools still use various forms of his tests in

their curricula. However, what is not commonly known about Binet is the entirety of his project, and how it is an extension of the eugenics movement generally, and craniometry specifically. This becomes evident when one studies the two major themes in his works: physiological psychology and intelligence testing.

Binet was an experimental psychologist from France. Before he became interested in psychometry (i.e., measuring intelligence), he focused on the physiological bases of psychology. This was then known as "physiological psychology." Binet acknowledged a debt to M. Ribot of France, saying that Ribot was "The real inaugurator of the psychological movement proper" (Binet, 1896: 1). Ribot founded the Society of Physiological Psychology. The importance of physiological psychology lies in its association with craniometry.

From its inception, physiological psychology has had various interests, one of them being the connection between intelligence and physiology (which is often interpreted as biological characteristics). Franz-Josef Gall (1758–1828), Luigi Rolando (1773–1831), and Marie Jean-Pierre-Flourens (1794–1867) were among the first to advocate and support the idea that different functions of the brain are localized in different areas of the brain. Primarily, it was Gall who advocated that these areas of the brain were innate. However, the influence of Gall was due in large part to Levater's (1775–1778) *Essays on Physiognomy*. In this book, Levater discussed how facial appearance reflects personality (for more detail on the development of physiological psychology, see Murray's *History of Western Psychology*). Levater organized the fundamental elements of Gall's craniology (later termed "phrenology") as the scientific study of character (e.g., intelligence), through analyzing bumps on the head. Thus, craniometry, like Binet's work, has its roots in physiological psychology.

Binet incorporated his experimental psychology with physiological psychology. He wrote several works such as *The Psychology of Reasoning* (1899), *The Psychic Life of Micro-Organisms* (1897), and *On Double Consciousness* (1896), all of which deal with the relationship between psychological states and physiology. It is also at this stage in Binet's work that he cites (and builds on the work of) two of the foremost leaders in the eugenics movement—Sir Francis Galton (1822–1911) and Thomas Huxley (1825–1895) (see Binet's *The Psychology of Reasoning*, 1899).

Galton was strongly influenced by his cousin, Charles Darwin (1809–1882). Darwin (*The Origin of Species*, 1859) advocated biological evolution. In the late 1800s, Galton attempted to further this claim, extending it into the realm of character traits and abilities, specifically intelligence. He advocated the position that intelligence is inherited. He then began to develop measuring techniques for abilities such as sensory acuity and reaction time. Thus, as is commonly noted, Galton was the forefather of modern eugenics.

In addition to Galton, Huxley was also strongly influenced by Darwin. As a social Darwinist, Huxley believed that society was a product of evolution. Therefore, in order to further society, or even sustain it, the weaker tendencies

of human traits should, indeed, must be, suppressed. In addition to Galton, Huxley also strongly advocated a eugenics program.

Presuming the ideas of Galton and Huxley as a foundation, Binet proceeded to develop his work in intelligence testing. Two of his primary works in this area are: *Mentally Defective Children* (Binet and Simon, 1914) and *A Method of Measuring the Development of the Intelligence of Young Children* (Binet and Simon, 1913).

The purpose of these tests was to measure the intelligence of the children in the public schools so that mentally deficient children could be selected out. To this end, in 1904 the Parisian municipal government instituted intelligence testing in all of its schools. This was regarded as a cutting edge development in scientific educational reform and as a powerful tool in assessing the placement of children within the system (tracking). Binet (Binet and Simon, 1914: 10–11) claimed that this was a concern for him because the mentally deficient children were not getting an education appropriate to their needs. Therefore, these tests were meant to be "a guide to the admission of mentally defective children to special schools or classes." According to Binet (quoted by Alexander Darroch in the Introduction to *Mentally Defective Children*), the stated purpose of the segregated classes was "every class, every school for defectives, ought to aim at rendering the pupils socially useful. It is not a question of enriching their minds, but of giving them the means of working for their living" (Binet and Simon, 1914: vii).

Manifestations of Eugenic Thinking

As discussed earlier, Sir Francis Galton is commonly called the founder of eugenics. Although influenced by Darwin's biological evolution, Galton attempted to push this theory into the arena of individual characteristics (primarily intelligence). Galton advocated that intelligence was inherited and he strove to develop ways to measure intelligence. This led directly to his assertion of a systematic eugenics program.

Eugenics is a campaign to create (and as many believe, sustain) a superior (initially French) race. One of the most vivid and treacherous examples of eugenic thinking was manifested by the Jewish Holocaust under the rule of Adolf Hitler. Hitler's goal was to create a "master race," a "pure" race of selectively bred Europeans. With this goal, all inferiors had to be exterminated lest they pollute the gene pool. Under this regime, pollution included non-Europeans, the physically handicapped, intellectually deficient, homosexuals, and so on. For this reason, the Nazis had plans to turn on and enslave their "ally," the Japanese people, after victory (conversation with Professor Thomas M. Seebohm of Johannes Gutenberg—Universitat Mainz, Germany, who has studied the pertinent historical documents). However, the Nazi movement is only one manifestation of eugenic thinking.

From this example, we can derive some essential features of eugenics, and

thereby recognize how eugenic thinking has recurred. Eugenic thinking necessitates a distinction among populations based on some standard or principle of division. Variance must be established. The Nazis were particularly adroit at systematizing the measurement of variance. In the Nazi movement, this standard was race. However, the standard can be any number of phenomena, such as religion, ethnicity, nationality, economic status, and so on. The importance of division is central because it establishes identity.

Once identity is created, it becomes hypertropic. It becomes all-important. Other characteristics are rendered irrelevant. But since such measures (which establish identity) are taken to be "empirical," and as such, inherent to the object rather than dialogically constituted via difference (see Chapter 6), the Nazis did not recognize that their own identity as "superior" depended upon the existence of the other as "inferior." In eugenic thinking, the other is not seen as a co-constitutional manifestation of one's own identity, but rather as an independent thing, as an obstacle to purifying one's own identity. This is why, for the systematically minded Nazis, the Other had to be physically exterminated. In the Nazi movement, this denial of existence was usually enforced by killing those who were labelled "inferior." However, death was not the only denial of difference. It also included the systematic denial of participation in society. To be denied the right of expression (which is fundamental to human life) is much like death. To not have a voice in society is to not exist (Kramer, 1992).

Another denial of existence is assimilation. When others are forced to assimilate to some dominant standard, this is another way of denying their identity, their existence. We see the world by our own eyes, we hear through our own ears. Assimilation is the attempt to change these eyes and ears so that they see and hear (thereby behave) the way the dominant group does. Thus, difference is denied which supposedly removes all threats to the purity of the "superior" identity. In fact, voluntary assimilation may be one of the most powerful manifestations of eugenics. Voluntary assimilation indicates that the individual has defined his/her own identity as "inferior" (based on some standard), and thus must change. At this point, inferiority is not a label that society has created and implemented; instead, it has become internalized by the individual (the authors are employing the same dualisms, such as individual/society and internal/external, in order to be consistent with the literature on assimilation).

In light of the essential features of eugenics, it is evident that eugenic thinking is not unique to the Nazi movement. In fact, eugenic thinking was even made manifest before Galton's formal campaign. This is evinced by the classification systems, craniology, and their relationship to the economic conditions. These historical conditions, therefore, not only constitute the foundations of modern intelligence testing, but intelligence testing is a recurrence of, or a manifestation of, the same type of thinking—eugenic thinking.

Institutionalized Eugenics: Schools and Intelligence Testing

Binet claimed that the purpose of intelligence testing was to provide a better or more appropriate education for the mentally deficient. But what exactly did this mean? Binet and Simon (1914: vii) advocated that the education of mentally weak students should "aim at rendering the pupils socially useful [not] . . . enriching their minds." Thus, Binet's concern was in finding a productive place for them within the social system so that their energies could be rendered profitable. The best that could be done for such "feeble-minded," was to make them economically productive. It was presumed that their happiness and fulfillment would be maximized to the extent that they could work.

Where was this socially appropriate place within the system? Binet suggested that some mental deficients should have medical attention and be taken to asylums (Rose, 1979; and Binet and Simon, 1914:76). He suggested that others could possibly be trained for manual labor. At any rate, mentally deficient children were not to be educated and encouraged to think, let alone become future leaders of society. Thus, intelligence testing was a new "rational" scientific way of establishing a meritocracy—a caste system based on "IQ." The fruits of industrial labor, which rewards the organized mind more than the hand, were not to go to the mentally weak.

Adorno's (1992) critique of the "dialectic of the Enlightenment" is applicable to this systematic segregation of the hand and the mind. The dialectic of the Enlightenment separated the mind from the hand. Of course, the workers too have minds, so that the dialectic, like all dialectical relationships, constituted an opposing and even antagonistic relationship. They were to relate henceforth in a hierarchical way, with the hand being subordinate. Modern management and labor relations manifest this artificial segregation of ideas from physical behavior. In the modern assembly system, planning and "supervision" (including the power to evaluate, hire, and fire) takes place in a separate place among an educated and economic elite. They disperse the orders that workers implement. Workers are strongly discouraged from thinking or taking initiative because any change in the routine disrupts the highly structured linear assembly system. Under such a scheme, education and skills (training too) became segregated. Those who were privileged to be educated were further privileged with oversight or supersight. Merit came with knowledge of the "big picture." Access to management was restricted to those who had been educated. Education was reserved for those who could benefit most from it. The latter is in large part determined by intelligence testing. To be a "productive citizen," and a "valued member of the community," meant to be beneficent. "Benefit" was fairly synonymous with productivity (profitability).

This is strikingly similar to what we see happening in the school systems today. Education means training. Workers must be educable. However, machine-language is very often applied to workers who must periodically "retool." In

many schools, we have what is known as tracking or ability grouping. Those who meet the appropriate criteria (which always includes test scores) are placed in higher tracks. Research has shown that minorities and lower income children are overrepresented in the lower tracks (Braddock and Dawkins, 1993). In these lower tracks, instruction is often characterized by less experienced instructors, a slower pace of covering material, less content covered, and fewer and less rigid requirements (Oakes, 1985). In short, educational opportunities and resources are unequal. Thus, tracking and ability grouping lowers educational aspirations and attainments. Needless to say, this does not adequately prepare children for a highly competitive job market in a highly specialized, thus education-based, economy.

This situation is also the same for "special" education classes. According to Harry and Anderson (1995), low income children and minorities are disproportionately represented in special education programs such as Educable Mental Retardation (EMR), Serious Emotional Disturbance (SED), Specific Learning Disability (SLD), Speech Impairment (SI), and Trainable Mental Retardation (TMR). The consequences of being educated in these programs is just as devastating as those listed above. Among the consequences are decreased motivation, poorer quality resources, teacher shortages, unacquainted personnel, low rates of returning to mainstream education, high drop-out rates, and low graduation rates. Children in these classes are being prepared for punitive institutions or low income jobs. They are being prepared to not have a voice in society.

Why are minorities and low income children overrepresented in the backwaters of our educational system? According to Harry and Anderson (1995), the systematic process of selection is the central problem. One problem with the process is the bias of the selection process. Often, teachers misinterpret the behaviors of students due to a lack of cultural familiarity. Thus, the children are referred to testing. Upon being tested, they face more bias which is embedded in the test itself. Lastly, the categories of mental deficiency are extremely vague. Therefore, the interpretation of the behavior and test scores is ambiguous yet extremely important because life-changing decisions are made based in part on these scores. Inevitably, the instructor's personal opinions concerning the individual (which may or may not have to do with his/her intellectual capacity) influences whether or not the student is placed in a special program.

Eugenic thinking is manifested in the educational programs that we have developed and implemented in the school systems. In fact, the educational system is a eugenic system. From the very beginning of an individual's schooling, his/her identity is redefined in terms of his/her intelligence. Based on this, people are placed in certain programs that have implications for the rest of their lives. Those placed in lower tracks and "special" education programs become marginalized, not only within the school system, but eventually from the larger social system. Although in a democracy, the ideal is that marginalized voices are heard, pragmatics makes it obvious that the process of being heard is often expensive. Thus, marginalized voices, which are by definition weak, are not

heard. They are rendered non-existent, non-influential. Rose (1979: 1) advocates that "early work in intelligence testing was closely linked to the eugenics movement." In addition, Selden (1977: 1) claims that the American educational system is a "manifestation of the work and theories of the British naturalist Galton and the Eugenics movement." Buss (1976) adds that the very drive to discover individual differences (differential psychology) and genetics is at the root of eugenic ideology. These concerns are not unwarranted. There has been much research on the critique of intelligence.

BEYOND CRITIQUE—RECONSTITUTING INTELLIGENCE

There has been much research on intelligence and IQ testing. Many themes are recurrent. Major themes have included the inherently biased nature of IQ testing, the nature-nurture debate, and methodological limitations. We will briefly address these issues. However, these issues will be treated as incomplete and symptomatic of a deficiency in our very mode of articulating intelligence. This is not to say that these critiques are not legitimate; instead, we would like to add another dimension to them. At this point, the foundational issue is the mind/body dualism that pervades the sciences. However, we must first address the common critiques in order to provide a foundation for reconstituting intelligence.

Methodological concerns are commonly addressed when critiquing intelligence testing. Other problems exist as well, however; the following are issues that statisticians acknowledge as being potentially problematic. One methodological problem is that of comparison. Analysis of variance (ANOVA) tests are commonly used to establish differences between and among groups. One aspect of the ANOVA is the comparison of group averages. This can be problematic because many times extreme scores can make an average a poor representation of the group. Another essential element of the ANOVA is in the actual comparison of the groups. If the within-group variance is greater than the among- or between-group variance, then very often another grouping is needed to determine any legitimate difference. In addition, most statistical comparisons of intelligence presume a general factor (based on factor analysis) which can capture "intelligence." Many statisticians have argued that a general factor is a statistical phenomenon based on initially unrotated factor solutions, not a naturally occurring psychological phenomenon of "intelligence" (Sternberg, 1995: 257). Another methodological problem is random sampling. How can we obtain a representative sample of any particular "race" that is representative of that race as a whole, especially when the parameters of "race" are problematic. Another methodological problem is that of truthfulness. Gould (1975), in an elaborate discussion of measuring intelligence, has demonstrated that measurements are often inaccurate and even fabricated.

In addition to methodological problems, the nature-nurture debate is a con-

tinually recurring issue. Intelligence tests are supposed to measure innate ability—one's potential intellectual capacity. However, many scholars believe that environment has a great deal of influence on one's intellect. Horace Mann Bond (1934) found that blacks and whites from the North scored higher than those from the South. Later, Otto Klineberg (1935) found that blacks from the North outscored whites from the South. In addition, he cited figures concerning the amount that each spent on education; the North had spent more. Ten years later, Montagu (1945) added to this evidence with more states and samples, and concluded that the primary factor in determining IQ test scores was a socioeconomic factor. Thus, the environment was shown to have a profound influence on IQ scores, not hereditary factors.

If such test score distributions were used to redistribute resources to help those scoring lowest, then one might be able to make a moral argument for testing. However, what the scores are used for is quite the opposite. Those who score low are excluded from educational opportunities. This practice perpetuates the inequality that is linked to environmental variance. Thus, the educational system becomes an institutionalized agency whose latent function is to help recycle the culture of poverty.

Another commonly acknowledged critique of intelligence testing is the inherent bias of the instruments used. How do we know when we have a legitimate test? An accurate measure is one that corresponds to our *a priori* ideal of a good student (or an intelligent person). This is also a methodological issue in terms of what IQ measures measure. They measure the test designer's concept of a well-adjusted learner. As Binet originally indicated, an intelligence test determines whether or not a child is up to par in terms of some norm. In fact, Binet advocated (Binet and Simon, 1914: 38, 41) that "a defective child is one who does not adapt himself, or who adapts himself badly, to school life." Intelligence is reduced to adaptation—the recurrence of eugenic thinking. Thus, intelligence testing is biased, from its inception, in favor of social stability, not creativity.

Methodological limitations, environmental influences, and the inherently biased nature of intelligence testing are all legitimate and well-documented critiques of intelligence measurement. However, these limitations are manifestations of a more fundamental issue—the very way in which intelligence is articulated. Therefore, the next issue to address should be: How is intelligence articulated? This is where the Cartesian dualism of mind and body becomes a founding prejudice.

With the mind/body dualism, physical experience is distinguished from mental experience. The problem with this is that it is an unwarranted metaphysical assumption about the world. We do not experience these two things as fragmented and distinct entities. They are always given together. As David Hume (1973) demonstrated, empiricism leads to absurdity because we can only access the world through our senses, the body (which is fallible and cannot be trusted).

Where there is a mind, there is also a body; where there is an object, there must also be a subject. This is the foundation for the problem of intelligence testing.

This is first made clear in the Introduction to *Mentally Defective Children* by Binet and Simon (1914: viii) "The essential thing is for all the world to understand that empiricism has had its day, and that methods of scientific precision must be introduced into all educational work, to carry everywhere good sense and light." Binet (1914: 2) also elaborated on this by referring to science as "pure and disinterested" and beneficial as a means to "play a part in the discussions between capital and labor." Thus, science became a primary feature in policy-making—and intelligence testing became a central tool for establishing and maintaining this ideological system. This becomes ironical when one considers the nature of scientific discourse, and its presumption of the mind/body dualism.

Science has essentially defined intelligence out of existence. Intelligence is intellectual capacity, which means performance or work, especially technical reasoning. It is one's ability to *demonstrate* that one can use information in order to solve complex problems. Intelligence, by definition, does not exist based on the premises of empiricism itself. It is the "ability to . . .", which means that it is futuristic, which is not empirical. Furthermore, as a capacity, it cannot be apprehended directly but only via implication. Thus, in order for empiricists to measure intelligence, they must operationalize it. Herein lies the fundamental difficulty of intelligence.

Once intelligence is operationalized by IQ tests, it is reduced to a spatio-temporal scalar phenomenon. This has several consequences. First, intelligence is presumed to be a spatializable phenomenon so that, second, it can be meaningfully quantified. Third, it is conceived as a variable, a single line running from zero to 200 or so. This presumes that as one approaches one end of the scale (200), by the imperative of ratio, one *must* be moving away from the other end (zero) with equal and opposite measure. Consequently, the instrument can measure only one kind of intelligence. Such an instrument cannot address the possibility that an individual may be brilliant in one way and idiotic in another. Despite its intensely narrow focus, the IQ score is parsimonious and convenient so that its import is greatly inflated to cover intelligence in general. Since it is a record, and a measure to boot, the score has great status conferred upon it by the bureaucratic culture which conceived of it in the first place. In a mass society that organizes itself through the systematics of bureaucracy, a single recorded measure is given great weight in evaluating the worth and identity of individuals.

Furthermore, the process of operationalization transforms intelligence into a behavior (labor). Once this occurs, it is no longer the "ability to" but, instead, it is the interpretation of what is already done. No longer is it the mental capacity, but rather, the manifestation of the students' knowledge and how they have expressed it. If they do not conform or adapt, and do so in an "appropriate" way (according to the prefabricated structure of the instrument), then they are defined as "defective." What is measured is the *techne* of test taking. The

classic, preindustrial sense of intelligence, which was *praxis*, and which included the concept of *phronesis* or prudence, is truncated by the instrument. Even modernists like Edmund Husserl (1970) have protested, referring to the narrow definition of intellect in instrumental terms as the “decapitation of reason.” Since only doing can be measured, to speak of thinking is considered pure speculative philosophizing. In an environment that is hyperperspectival in its valuation of means-ends pragmatism, thinking is considered a waste of time. This is the source of American anti-intellectualism. Rather, doing is all that “counts,” indeed all that is countable. But this presumes that a person has been socialized or taught how to do what is being measured; how to take tests, how to do test taking and certain skills. The IQ instrument is, after all, like everything else, a cultural artifact that articulates the kinds of doing that the inventors of the instrument value. Children do not share a level playing field in terms of life experiences. “Adaptation” is not neutral. Only certain kinds of modified behavior are wanted. What we measure becomes fundamentally different from what we claim to want to measure. At this point, behavior becomes a fundamental aspect of “intelligence.” Thus emerges the power struggle over what constitutes “legitimate” intelligence/behavior. From its inception in military culture, intelligence has always and only been valued insofar as it promotes operational goals. Tests express what kind of doing is *really* “smart” behavior. What is knowledge? What is intelligence? Test taking presumes a stock of knowledge including how the information gleaned may be used, how important it may be to one’s future. Without such knowledge, the test taker may not even take the exercise seriously, and just fill in the bubbles as quickly as possible so as to return to some other activity, like playing. Intelligence is defined by “science” acting as a handmaiden to sociopolitical forces, especially industrial production and military campaigning (Albee, 1988; Alderfer, 1994). Intellect is a kind of doing. What kind it is is determined by the values of those making the instrument, and the goals they have in mind, which conceives of intelligence specifically as a means to those ends.

In addition to the identification of power and knowledge, the operationalization of intelligence becomes a cultural expression. This goes beyond the critique of cultural bias in intelligence testing. This indicates that once intelligence is reduced via spatio-temporal terminology (thus becoming an object), it becomes exclusively perspectival. Perspective is established in the form of written logic (Ong, 1982: 56). Other expressions of intelligence are suppressed and excluded. Intelligence, thus operationally defined, is always already partial and preestablished as a scale. As Binet himself admitted, low scores mean that, for whatever reason, the person has failed to adapt to acceptable standards of expressing intelligence. The test establishes, institutionalizes, and reifies those standards. The test itself is an expression of prejudice, not an instrument that reveals some independent reality within a certain degree of validity and reliability. In order for intelligence to be understood as an eidetic recognition of one’s ability, we must bracket the mind/body dualism.

Sui generis, what happens to the concept of intelligence once the mind/body dualism has been bracketed? One implication is that intelligence is not an object that exists “outside” of the “self.” In practical terms, this means that intelligence is not determined by focusing on what is not known versus what is known. That which is not known enables us to appreciate and recognize the value of that which is known. This also has implications for the relationship between intelligence and perfection.

Intelligence, as an object “outside of the self,” implies that perfection is the lack of mistakes. But this is not consistent with experience. There is something uncanny about absolute perfection defined as the complete lack of flaws. No mistakes is not the same as perfection. Perfection is not the same as simply making no mistakes on a test. Rather, perfection is the ability to see through mistakes. Perfection is not the lack of imperfection. Instead, it is imperfection that enables us to recognize perfection.

In this same sense, intelligence is recognized through what is not demonstrated. This is what Binet and others wrestle with when they define intelligence as potential. Potential, by definition, is not empirically demonstrable. It is an inference based on that which has been demonstrated. Thus, intelligence is recognized through the invisible—it is potential. However, empiricists limit themselves to that which is empirically demonstrable, indeed, that which is already demonstrated. One cannot measure intelligence any more than one can measure the invisible.

For empiricism, this is a problem because if it is not demonstrated, but must be measured, subjectivity is inevitably intertwined with judgments of intelligence (i.e., the *a priori* criteria of intelligence which is manifested as an arbitrarily created norm). However, if we recognize that subjectivity is an essential aspect of the object of intelligence, then we enable ourselves to apperceive prejudices as well as the uniquenesses of particular expressions of intelligence. In practical terms, we enable ourselves to consider what it is about the totality of the individual that makes him/her “intelligent.”

This opens to the appreciation of new dimensions of intelligence that are traditionally not recognized as “intelligence.” This could be called the polytypic nature of intelligence. Intelligence can take on several different manifestations—not just those typically considered cognitive or mental. Intelligence then becomes embodied. Here, we can recognize the embodied intelligence of the quarterback who knows exactly when and where to throw the football versus when to run. We can recognize the embodied intelligence of the mechanic who can feel the rumblings of an ill engine and precisely diagnose the treatment, or the “gift” an artist has in transforming marble into a vision. We can recognize the intelligence of the child who struggles to mimic the sounds of its mother. Intelligence becomes much more than that of rocket science or analytic philosophy. The brain comes to be seen as integral with the body, not merely a localized organ, isolated in the cranial cavity. The nervous system extends to the finger tips and beyond (McLuhan, 1964). I feel “down there,” not “up

here." To enforce a particular life-path on the basis of a written examination is not rational, but conveniently instrumental. It also cannot take into account time, freedom, change—indeed, all the things which have made humans "intelligent" long before industrial values and IQ testing.

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4

Dialogue and Race

Algis Mickunas

INTRODUCTION

By now, the debates, analyses, and descriptions of dialogue, and its major variations, cover one of the major theoretical trends of this century. At times these trends are confused—intertwined with various systems of dialectics. These trends and their theoretical issues have been analyzed by Martin Buber (1970), Mikhail Bakhtin (1981), Bernhard Waldenfels (1971), and Richard Grathoff (1983). These scholars have summarized the problematic of dialogical thinking and have provided excellent bibliographies. They also point out that dialogical thinking grounds all other ventures. Indeed, other writers posit dialogue as a fundamental theoretical-methodological problematic (Egon, 1990).

Given this plethora of concerns with dialogue, it is imperative to decipher its “priority” over other modes of thinking, without reducing it to some specific interpretation, such as “lingualism,” hermeneutics, semiotics, postmodern notions of discursive practices, sociological theses that posit the primacy of society over the individual, or even to claims that individuals possess some inherent drive to form communication with other individuals. These explanations have created various theoretical and ideological “others” who are supposedly oblivious of the true condition of their lives.

Yet what could not, and indeed in principle cannot, be excluded even by ideologies and theories is the presence of the other as a condition for reflection upon one’s own positionality. This means that the limits of understanding and awareness are not offered within a given position. They require reflection from a different, an alternate domain that, even if not completely understood, indeed, even if rejected, compels recognition of the other. This suggests that dialogical thinking is granted even in cases of transcultural, transnational, transideological,

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To my three *hidamari*