CHAPTER 31

THE IMPACT OF EVOLUTIONARY THEORY: THE EUGENICS SOCIETY AND THE I.Q. TEST

Racism certainly did not arise as a consequence of evolutionary theory. Humans have, as far as we know, always feared or disdained other groups that they have encountered, and usually considered the new groups to be vastly inferior to themselves. We have only to look at our vocabularies: barbaric or barbarian (like the Barbars, the peoples of northwest Africa); vandals (an invading tribe from the East), thugs (a warrior group in India); muggers (another group in India); savages (wild or uncivilized people). Our movies and entertainment rarely describe encounters with people from space as pleasant or agreeable, with peace-loving creatures eager to share their riches. Therefore it should come as no surprise that, long before 1859, writers and scholars were assembling hierarchical lists of humanity, based more on an Aristotelian linear tree of life than on a Linnaeus-style branching tree. There was never any question, of course, that, if Europeans were doing the analyzing and ranking, that Europeans would come to the top of the heap. Among Europeans, obviously, such issues were argued as to whether the rather long-faced northern (Nordic, Slavic, Teutonic) peoples were superior to the rather round-faced (Celtic, Alpine, Mediterranean) peoples. Numerous efforts were undertaken to quantify these alleged superiorities and inferiorities. Such efforts included phrenology (reading the bumps on the skull, which were alleged to indicate certain aspects of character); measurement of total brain size (by filling skulls with shot—small lead pellets—or seeds and weighing the contents); relative size of various parts of the brain; measurement of relative length of arms or legs, or degree of prognathism; and even inferring that shape of hair, color of skin, shape and density of eyebrows, or overall hirsuteness were direct indicators of other features of human worthiness. Drawings were unashamedly distorted to emphasize the more “ape-like” features of the disfavored race. No matter that no ape has the tightly-curled hair of the African and Mediterranean groups: this was obviously a primitive or inferior feature. (Apes have straight hair, shorter but otherwise more like the hair of most of non-African humanity.) Behavioral characteristics derived from being on the unfortunate end of a master-slave relationship, such as servility or stoicism in the face of punishment, were read as innate characteristics. The most well-known of the assumptions of hierarchy was the invention and use of the now-discredited term “Mongolian Idiot” to describe individuals bearing an extra chromosome and afflicted with the abnormality now known as Down's Syndrome. Among the characteristics of this affliction is a deformation of the skin fold of the eyelid, giving a characteristic to the eye quite unlike that of an Asian eye but, to a western eye, similar enough to confirm a presumption. The presumption was that Asians ranked well below Occidentals in the level of development of humanity. They were servile, obsequious, and intellectually far inferior to Occidentals (their great civilizations were known but ignored) and derived from a more primitive state of humanity. Thus the fact that people with Down's Syndrome were typically of low intelligence merely confirmed their relationship to Asians—they were throw-backs to this earlier stage of low intelligence. Another, even more startling, example is to consider why the lightly-pigmented races of humankind should be called "Caucasian," or people deriving a mountain range in southwest Russia. The people who more-or-less belong to this category were first identified as living in a territory stretching from northern India through the Middle East, Africa north of the Sahara, and throughout Europe. J. F. Blumenbach, the father of Anthropology, first used the term in 1795. In 1758 Linnaeus had classified humans into four races: Americans (Native Americans), Europeans, Asians, and Africans. Granted, he described these classifications according to the prejudices of the day. Americans were red, choleric, and upright, ruled by habit; Europeans were white, sanguine, and muscular, ruled by custom; Asians were yellow, melancholy, and stiff, ruled by beliefs; and Africans were black, phlegmatic, and relaxed, ruled by caprice. Who wouldn‘t prefer the European?

However, Linnaeus did not believe in a strictly hierarchical structure and, in spite of the overtones of his descriptions, did not truly rank humans. Toward the end of the century, though, the general social attitude had changed. Europeans were exploring and exploiting the world, bringing greater and greater riches home; philosophers had pushed the ideas of individual worth, individual rights, and freedom, and these ideas had achieved fruition in the appearance of new and exciting governments in the United States and in France; the motions of the planets and many of the laws of physics were known and exploited to improve human welfare. Likewise chemists were learning to extract riches from the earth and turn them into other valuable products. The wonders of electricity and magnetism were beginning to be known, as were the properties of the air (experiments to understand vacuums and to identify the life-giving functions of oxygen were underway). The attitude among the intellectuals of Enlightenment Europe was of steady, rapid, linear, and inexorable progress. Thus Blumenbach, otherwise an ardent disciple of Linnaeus, was a bit uncomfortable. A four-pronged lineage of humanity could not readily be defined as a hierarchy of progress. Pondering this problem, he realized that there was, in fact, a fifth race of humans, which he called Malay. Now it was clear that there was a symmetrical, elegant hierarchy or pyramid. At the lower level, of course were the Oriental and African lines. Above these were two slightly higher lines, the Americans and the Malays. Finally, the pinnacle, the crowning masterpiece of all humanity, was—ta dah!—the Caucasian group. Truly, this pattern displayed the progress of the species *Homo sapiens*. (We don't really have to go above this level to the future, more perfect stage because through some mysterious process we have achieved perfection and need rise no higher.)

Why Caucasian? Because to Blumenbach the races radiated from a center of origin and (he acknowledged racial mixing) at the center of origin would be the purest and most beautiful representatives of the race. To quote his description of a skull from a woman who had lived in Georgia (now the Republic of Georgia, where the Caucasus Mountains are found): "…really the most beautiful form of skull which…always of itself attracts every eye, however little observant…. In the first place, that stock displays…the most beautiful form of the skull, from which, as a mean and primeval type, the others diverge by most easy gradations…Besides, it is white in color, which we may fairly assume to have been the primitive color of mankind, since…it is very easy for that to degenerate into brown, but very much more difficult for dark to become white."[15]

The late 18th and early 19th Centuries are replete with such writings, in which bald assumptions about the native superiority of Europeans or subgroups of Europeans were defended by mellifluous but circular or otherwise illogical arguments or evidence. Today the hoops and contortions that these writers went through to make their point would be hilarious were they not so painful. Such arguments not only assuaged and flattered European egos, they served very effectively to convince Europeans of the justness and appropriateness of their treatment of natives of other lands. Servility, enslavement, and even slaughter were not crimes against humanity since the subject peoples could really aspire to no higher status and could not meaningfully exploit the resources of their lands. In fact, slavery might even be considered to be a type of beneficence, removing the slaves from the savagery and squalor from which they came. Tribal conflicts were obvious evidence of savagery whereas, of course, European wars were noble and justified.

Such arguments and rationalizations readily justified the European conquests and exploitation of foreign lands and peoples but, with the continued faith in progress and the newly-arising sense of evolution, they came to the support of another fear, miscegenation (mixing of races). There had always been some concern, though not enough, of course, to prevent sailors, explorers, and soldiers from partaking of the pleasures of sexual encounters with women of different races. From the dawn of recorded history and, following the genetics, as far back in human history as we can trace, part of the spoils of war has been the women of the conquered people. However, where economics and social imperatives determined, the children of such encounters were routinely assigned to the subservient, slave or dependent, group. Even so, if miscegenation was not a desirable state of affairs, the problem

[15] Beside the remarkable assumptions implied here, to a biologist the final passage is wrong. Pale pigmentation generally indicates a failure to synthesize a pigment, as is described in Chapter 13, pages 186–187. It is much easier to lose a gene responsible for producing an enzyme to synthesize a pigment than it is to gain a gene to make the pigment. Albinos regularly appear among all human races, whereas mutations to darker skin are not seen. Furthermore, since all human races have pale palms and soles, moving to lighter pigmentation requires merely expanding the regions where pigmentation is restricted.

was essentially the result of the licentiousness of the foreign women. Sir Thomas Browne, a physician and philosopher in the mid 17th C, had debunked such myths as those that maintained that beavers castrated themselves to avoid capture; that the legs of badgers were shorter on one side than the other; and that, because Eve was created from the rib of Adam, men had one fewer rib than women. (This latter argument he addressed on two levels: first, by simply counting ribs on skeletons; and, second, by raising the question of how an excision from one man would be passed to his children, since someone who had lost one eye would still have a two-eyed child and those who had lost a limb would still have normal children. In spite of the clarity of his observation, the argument persisted 250 years later—see page 30.) He also debunked the myth that Jews had a peculiar odor, using several interesting arguments: You could not consistently detect an odor; there was no odor in synagogues; no one accused Jews who had converted to Christianity of having an odor; with intermarriage, the children did not have the alleged odor; and with intermarriage, you could not readily define a [genetic] population that you could call Jewish. Yet, even with this coldly analytical style, the image of miscegenation bothered him enough that he assumed that it routinely arose from the desire of Jewish women to enjoy the pleasures of the far more desirable Christian men. Two hundred years later (in 1863) Louis Agassiz, an important figure who is described elsewhere (pages 69ff) could find no better explanation for the appearance of mixed-race (white-black) children than that women of African origin were particularly seductive and eager for sexual intercourse.

To this suspicious, prejudiced, and fear-mongering mix the prospect of evolution brought a new and frightening possibility: If humankind was engaged in a race to perfection, and the front-runners were the light-skinned races of Europe, then interracial marriage (or, more bluntly, sex) threatened to dilute and degrade the obvious superior traits of the dominant population. Societies that permitted the admixture of these poorer qualities would fall behind the purer (Caucasian) societies and would be derelict in their responsibility to continue the progress of humanity. Biracial and multiracial were not only an inconvenience and an embarrassment, they would be like an infection or a bad apple in the barrel, ultimately undermining the whole society. This new fear came to occupy the minds of many. But before one could truly act on this fear, there were of course certain niceties such as laws against cruelty and laws protecting freedom. To contravene these laws, it would be necessary to demonstrate that there really was no cruelty, that the lower races would not really benefit from the full protection of the law and that, in fact, they would benefit from being guided into their proper places (servants, slaves, or other dependent positions) by the paternalistic but beneficent supervision of their superiors.

Alfred Binet is a tragic figure in this story. Working in France at the end of the 19th and the beginning of the 20th C in France, he attempted to solve a problem for the government. Though he explicitly and emphatically stated the limitations of his solution, he opened Pandora's Box. The problem that the government had was that some students did not learn well, and the government wished to provide special education and training for those students. There were potentially three sources of their limitations. Some might simply be of such low intelligence that they could not learn; some might be sufficiently intelligent but, as peasants, lack skills or experience that urban recruits might have, in which case it would be necessary to identify the skills and alter the training; or their lack of literacy might simply make it difficult to give the students new information and for the students to retain important ideas (since they could not write them down as notes). Binet had worked with the great neuroanatomist Paul Broca and had attempted to assess intelligence as a function of brain size and, unlike many of the pretenders of his day, had concluded that with truly unbiased measurements he could establish no correlation between intelligence and brain size. Thus he could not assess the children by measuring their head size. He therefore set out to devise a test that would discriminate among the three possibilities. It would have to test problem-solving ability without depending on written instructions or on experiences available only to certain groups. If he succeeded, the schools could weed out the untrainable and modify training procedures to accommodate different levels of literacy, skills, and experience. His test could produce a score that was indicative of something. He tried to make the test relate to the age of the child by getting mean scores for children of various ages. He assessed the child's relative ability subtracting the child's chronological age from the score the child achieved. All in all, he did an admirable job. Shortly thereafter the German psychologist W. Stern recommended dividing the score by the chronological age. In other words a 10-year old child who scored at the mean for 12-year-olds would score 12/10 or 1.2, which for appearance was multiplied by 100 to produce a score of 120.

Binet warned that the test identified simply the skills of an individual in a specific situation; that the skills and therefore the perceived intelligence could improve; and that the results were not generalizable to entire groups. A single test was very limited in value; one would need numerous tests, testing many functions, over different times. The ONLY function of the test was, in his eyes, to find the best means of teaching a child, never to categorize or restrict a child. In fact, he wrote with considerable anguish and frustration that some teachers assumed that the score, now described as an Intelligence Quotient or I.Q., represented an absolute and immutable assessment of the child's current and future worth: "The scale, properly speaking, does not permit the measure of intelligence because intellectual qualities are not superposable, and therefore cannot be measured as linear surfaces are measured." And, again, arguing against teachers who claim that a student with a low I.Q. can "never" succeed: "Never! What a momentous word. Some recent thinkers seem to have given their moral support to these deplorable verdicts by affirming that an individual's intelligence is a fixed quantity, a quantity that cannot be increased. We must protest and react against this brutal pessimism…"

Binet's writings were translated and published in both England and in the United States, but his meaning sank in the Atlantic and the English Channel. Joseph-Arthur, comte de Gobineau, was a 19th C author who championed the idea that great civilizations fell when their citizens became corrupt enough to mix sexually with the degenerate populations that they had conquered. For the European-American civilization to maintain its hegemony, it must avoid mixing with Asian and African peoples. Gobineau's book was translated in the U.S. in 1856, just before the Civil War, and his translator emphasized in the preface that the U.S., which already had "the Indian" and "the negro" and was now threatened by "the extensive immigration of the Chinese" was triply threatened. Two years before, the translator had co-authored a best-seller entitled "Types of Mankind". The question was certainly a hot-button issue in the U.S.

Henry Herbert Goddard, of good family, brought the test to the U.S., in the process as Stephan Jay Gould notes reifying the IQ score (turning the score into a single object of defined validity, asserting that it is a true, meaningful assessment of ability). He also managed to establish an argument that Binet never claimed, that the I.Q. was hereditary. Goddard ran, and was director of research at, the Vineland Training School for Feeble-Minded Girls and Boys in New Jersey. He eagerly used Binet's tests to assess his wards and, following his general attitude, to determine who was sufficiently unskilled and unreliable that they should not be trusted in society. Note the inversion: Binet devised the tests to determine how best to help students. Goddard wished to use the tests to determine whom to institutionalize. He also considered that the most important determinant of social deviation was low intelligence. Thus if one were to commit people based on their intelligence, one would thereby reduce thievery, murder, and immorality. Goddard fervently believed that most people naturally found the level at which they functioned. Thus manual laborers were, for instance, naturally inferior to students at Princeton, and it would be a mistake to pretend that they could rise higher: "How can there be such a thing as social equality with this wide range of mental capacity?" Furthermore, this level of inheritance was likely inherited as a single gene and easily traceable as Mendelian inheritance, much like the yellow or green color of a pea.

To be fair, Goddard did not really understand the function of polygenic inheritance, the concept of which was elaborated in the 1930's. "Polygenic inheritance" means that many genes influence a character, and it is very difficult to assign a particular effect to a single gene. This is what is meant when physicians or scientists say that a disease "runs in families": your having a relative with the disease increases your chances of having the disease, meaning that you carry a trait that encourages the disease, but many other factors finally determine whether or not you manifest the disease. It is easy enough to see how this works. Suppose that you have a gene that destines you to be tall. However, you also carry a gene that prevents you from absorbing or using a specific vitamin; or a gene that causes you to digest food poorly; or a gene that interferes with the proper deposition of bone; or a gene that forces an abnormally early puberty so that your growth is terminated before you reach your full potential. With any of these other genes acting, you will never see your predestined height. We can put this another way: I have a marvelous gene that will renew all my organs at age 88, giving me the potential for living another vigorous 88 years. Unfortunately I am a soldier and am killed in battle at age 25. Perhaps if Goddard had been less convinced of the direct hereditability of intelligence he might have been more gentle in his assessment.

However, hereditability it was and, to preserve the high level of American society, those of low intelligence should be prevented from contributing to future generations. “It is perfectly clear that no feeble-minded person should ever be allowed to marry or to become a parent” (written in 1914). They should be committed to institutions like his own.

Furthermore, it was most likely that the immigrants coming into the country at this time also harbored large numbers of “defectives”. It would also be important to prevent them from coming into the country. He visited Ellis Island and was convinced (by observation) that many morons and feeble-minded were applying for entrance into the country. He therefore trained two women (“The people who are best at this work, and who I believe should do this work, are women. Women seem to have closer observation than men. It was quite impossible for others to see how these two young women could pick out the feeble-minded…”) to look for potentially feeble-minded immigrants to whom he would administer the Binet test. The results were astounding. 89% of the Jews, 80% of the Hungarians, 79% of the Italians, and 87% of the Russians were feeble-minded.

The tests were really quite remarkable. The immigrants were pulled from the line, given a pencil, shown a design, and then when the design was removed asked to draw it from memory. In addition to their confusion and fear, many had never held a pencil before. They were asked to state sixty words in three minutes, which most probably could have done if they had understood what the point of the question was. They were asked for the date, notwithstanding the fact that the Russian and Hebrew calendars, to name two, were different from the Julian calendar, and that they had been on a boat for two or more weeks. Goddard was thrilled that through his work in two years he had upped the number of rejections of immigrants by almost sixfold.

He continued assiduously to affirm the inheritability of intelligence and general citizenship. His argument came from his tracing of the lineages of some of the inhabitants of his institution. One was particularly revealing. One group of “paupers and ne‘er-do-wells” descended from an affair between an otherwise well-respected young man and a barmaid of presumed low intelligence and morality (his morality was not at issue). The young man later married a good Quaker woman. The children of his marriage all became upstanding citizens. The descendants of the affair produced a startling number of “degenerates”. Goddard described them as the descendants of Martin Kallikak, the name being derived from the Greek words kalos (good) and kakos (bad). (Our words such as calisthenics, calligraphy, and cacophony derive from the same roots). The barmaid produced the Kakos line, and the Quaker produced the Kalos line. The conclusions derived from the lineages were impressive: the fruits of the initial affair produced a huge cost to society, in dealing with all the degenerates and immoral descendants. It would have been much more practical to forbid that reproduction (Fig. 31.1).

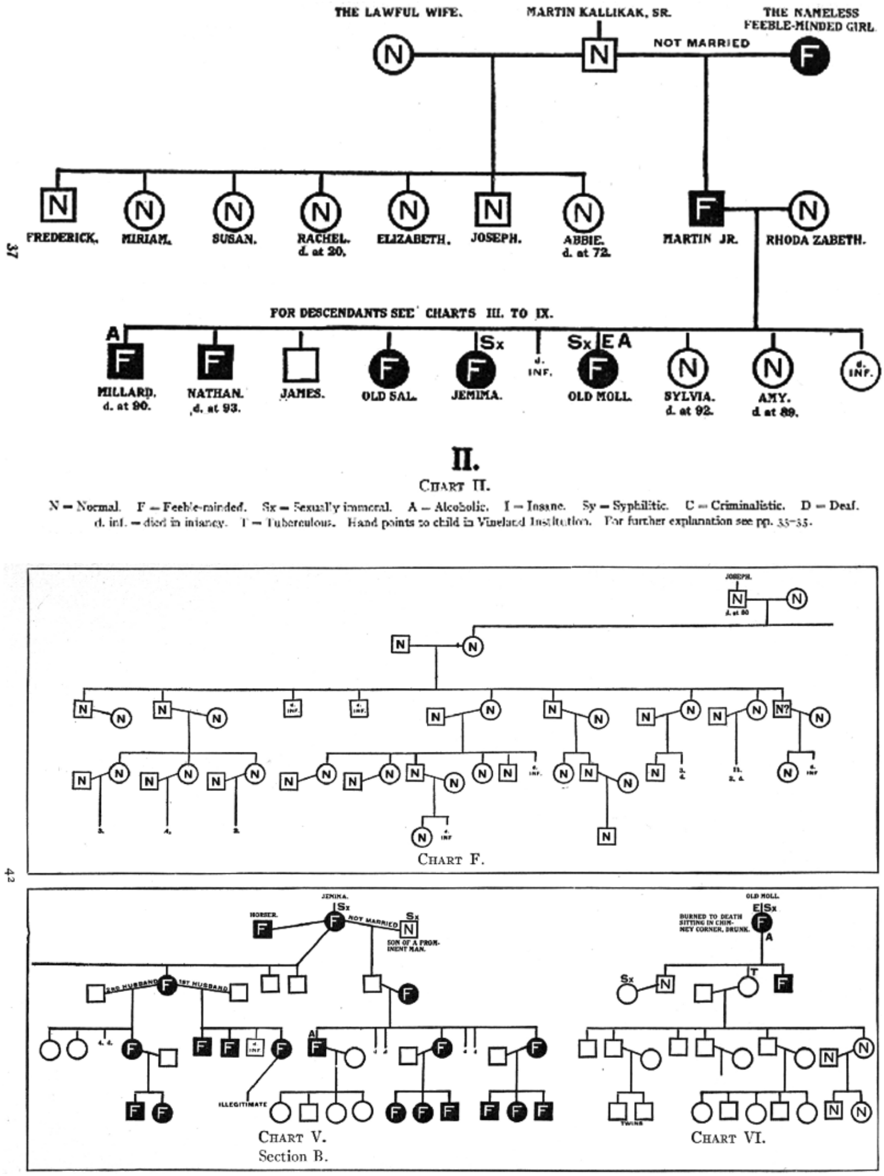

Figure 31.1. Kallikak lineage. The two charts from Goddard 's 1913 monograph. The upper graph follows the two lineages of Martin Kallikak Sr., from “the lawful wife” (left) and “the nameless feeble-minded girl” (right). Males are squares and females are circles. Other indications are listed below the chart, indicating that “the lawful wife” produced all healthy, productive descendents, while “the nameless feeble-minded girl” produced a large number of misfits. The lower chart shows a later generation, indicating that one woman, though feeble-minded, produced only one feeble-minded son while the other woman produced a series of “defective” dependents. Credits: http://psychclassics.yorku.ca/ Goddard/Developed by Christopher D. Green, York U

In his writing his fervor bespeaks a passionately concerned scientist, but in a terrifying way. He followed up the study of the Jukes family published in 1877 by Richard L. Dugsdale. In that paper, Dugsdale compared the genealogy of a disreputable family (the Jukes, a pseudonym) with that of an upright family (that of the stirring Quaker preacher Jonathan Edwards) and concluded that the tendency to be a social misfit was inherited. Goddard improved that dubious genetic analysis by comparing two lineages starting with the same father.

From his illegitimate child, Goddard found 480 descendants in six generations. Most were a problem (Table 31.1).

His whole article reeks of preconceived notions and attitudes. Most of the "Kakos" descendents who appear who appear to be normal are highly suspect and probably misread. In any case, they have sometimes been transferred to other, "upstanding," families and this has been their salvation. (Goddard did not notice his obvious acceptance of environmental factors in this case.). The quotations are spectacular and speak for themselves:

"This is the ghastly story of the descendants of Martin Kallikak Sr., from the nameless feeble-minded girl.
"All of the legitimate children of Martin Sr. married into the best families in their state, the descendants of colonial governors, signers of the Declaration of Independence, soldiers and even the founders of a great university. Indeed, in this family and its collateral branches, we find nothing but good representative citizenship. There are doctors, lawyers, judges, educators, traders, landholders, in short, respectable citizens, men and women prominent in every phase of social life. They have scattered over the United States and are prominent in their communities wherever they have gone. Half a dozen towns in New Jersey are named from the families into which Martin's descendants have married. There have been no feeble-minded among them; no illegitimate children; no immoral women; only one man was sexually loose. There has been no epilepsy, no criminals, no keepers of houses of prostitution."
"The foregoing charts and text tell a story as instructive as it is amazing. We have here a family of good English blood of the middle class, settling upon the original land purchased from the proprietors of the state in Colonial times, and throughout four generations maintaining a reputation for honor and respectability of which they are justly proud. Then a scion of this family, in an unguarded moment, steps aside from the paths of rectitude and with the help of a feeble-minded girl, starts a line of mental

Table 31.1. Descendants of Kallikak

Category	Illegitimate line	Illegitimate line; further tracking	Legitimate line
Total	480	1146	496
Normal	46	197	496
Feeble-minded	143	262	0
Undetermined*		581	0
Illegitimate	36		0
"Sexually immoral"	33		1
Alcoholic	24		2
Epileptic	3		0
Died in infancy	82		0
Criminal	3		0
"Kept houses of ill fame"	8		0

* "…we could not decide. They are people we can scarcely recognize as normal; frequently they are not what we could call good members of society."

defectives that is truly appalling. After this mistake, he returns to the traditions of his family, marries a woman of his own quality, and through her carries on a line of respectability equal to that of his ancestors

“Clearly it was not environment that has made that good family. They made their environment; and their own good blood, with the good blood in the families into which they married, told.

“Schools and colleges were not for them, rather a segregation which would have prevented them from falling into evil and from procreating their kind, so avoiding the transmitting of their defects and delinquencies to succeeding generations.

“At times she works hard in the field as a farm hand, so that it cannot be wondered at that her house is neglected and her children unkempt. Her philosophy of life is the philosophy of the animal

“If all of the slum districts of our cities were removed to-morrow and model tenements built in their places, we would still have slums in a week’s time, because we have these mentally defective people who can never be taught to live otherwise than as they have been living. Not until we take care of this class and see to it that their lives are guided by intelligent people, shall we remove these sores from our social life.

“There are Kallikak families all about us. They are multiplying at twice the rate of the general population, and not until we recognize this fact, and work on this basis, will we begin to solve these social problems.

“What can we do? For the low-grade idiot, the loathsome unfortunate that may be seen in our institutions, some have proposed the lethal chamber. But humanity is steadily tending away from the possibility of that method, and there is no probability that it will ever be practiced.

“But in view of such conditions as are shown in the defective side of the Kallikak family, we begin to realize that the idiot is not our greatest problem. He is indeed loathsome; he is somewhat difficult to take care of; nevertheless, he lives his life and is done. He does not continue the race with a line of children like himself. Because of his very low-grade condition, he never becomes a parent.

“It is the moron type that makes for us our great problem. And when we face the question, “What is to be done with them – with such people as make up a large proportion of the bad side of the Kallikak family?” we realize that we have a huge problem.

“The real sin of peopling the world with a race of defective degenerates who would probably commit his sin a thousand times over, was doubtless not perceived or realized. It is only after the lapse of six generations that we are able to look back, count up and see the havoc that was wrought by that one thoughtless act.

“When we conclude that had the nameless girl been segregated in an institution, this defective family would not have existed, we of course do not mean that one single act of precaution, in that case, would have solved the problem, but we mean that all such cases, male and female, must be taken care of, before their propagation will cease. The instant we grasp this thought, we realize that we are facing a problem that presents two great difficulties; in the first place the difficulty of knowing who are the feeble-minded people; and, secondly, the difficulty of taking care of them when they are known.

“A large proportion of those who are considered feeble-minded in this study are persons who would not be recognized as such by the untrained observer.” [Note that here he takes the responsibility of making the judgment call himself—ral]

“In addition to this, the number would be reduced, in a single generation, from 300,000 (the estimated number in the United States) to 100,000, at least, – and probably even lower. (We have found the hereditary factor in 65 per cent of cases; while others place it as high as 80 per cent.)

“The other method proposed of solving the problem is to take away from these people the power of procreation. The earlier method proposed was unsexing, asexualization, as it is sometimes called, or the removing, from the male and female, the necessary organs for procreation. The operation in the female is that of ovariectomy and in the male of castration.

“There are two great practical difficulties in the way of carrying out this method on any large scale. The first is the strong opposition to this practice on the part of the public generally. It is regarded as mutilation of the human body and as such is opposed vigorously by many people. And while there is no rational basis for this, nevertheless we have, as practical reformers, to recognize the fact that the average man acts not upon reason, but upon sentiment and feeling;

"The question, then, comes right there. Should Martin Jr. have been sterilized! We would thus have saved five feeble-minded individuals and their horrible progeny.
"In considering the question of care, segregation through colonization seems in the present state of our knowledge to be the ideal and perfectly satisfactory method. Sterilization may be accepted as a makeshift, as a help to solve this problem because the conditions have become so intolerable. But this must at present be regarded only as a makeshift and temporary, for before it can be extensively practiced, a great deal must be learned about the effects of the operation and about the laws of human inheritance".

The number of quotes may be excessive, but they are important. Based on a fear of upsetting the wellbeing of the lives of the "good" people—Dugsdale had calculated that New York State had spent $1,308,000 [equivalent to over $26,000,000 today, as calculated from prices in 1913] between 1800 and 1875 on "social degenerates"—Goddard wanted to institutionalize at least 2% of the population and considered, really, that castration would be more effective. He was not a Nazi, and he was not crazy.

There were some problems with Goddard's data. Since he did not have access to many of the people, he would infer their morality "from the similarity of the language describing them to that used in describing persons she has seen". Others were "reputed to be a horse thief," "sexually amoral," or "wanton"—obviously social judgments bestowed on less-favored individuals, and not hard facts.

Even the facts were questionable. Others who have attempted to retrace the lineages note that many of the Kakos line did well for themselves and, in spite of everything, were upstanding citizens, but for some reason were not counted in the evaluations. The surviving photographs of the Kakos line show people who, to a modern eye, do not show the dullness and lack of interest that might betray someone of low intelligence (Fig. 31.2 left). Even worse, it is now reasonably certain that the pictures of the Kakos members who were not in institutions were retouched to make them appear more threatening and alien (Fig. 31.2 right). Nevertheless, Goddard's conviction of the hereditability of intelligence (or feeble-mindedness) and the cost to society of mental defect made him an avid defender of the rising Eugenics Society.

Lewis M. Termin was also totally convinced of existence and value of an intelligence quotient, and he made a major improvement. He simplified the test so that it could be easily administered by less-trained individuals, and he aggressively marketed it as a tool for assessing children under the name of the Stanford-Binet scale (since he was a professor at Stanford). He prepared and marketed two scales: "…either may be administered in thirty minutes. They are simple in application, reliable, and immediately useful in classifying children in Grades 3 to 8 with respect to intellectual ability. Scoring is unusually simple." It was widely successful. Termin considered it to be only fair and reasonable, but even necessary, that society should assess its members and allocate professions and careers based on this assessment.

Of course, the test questions, and their answers, might get some of us—certainly me, and perhaps you as well—into trouble. "An Indian who had come to town for the first time in his life saw a white man riding along the street. As the white man rode by, the Indian said—'The white man is lazy; he walks sitting down.' What

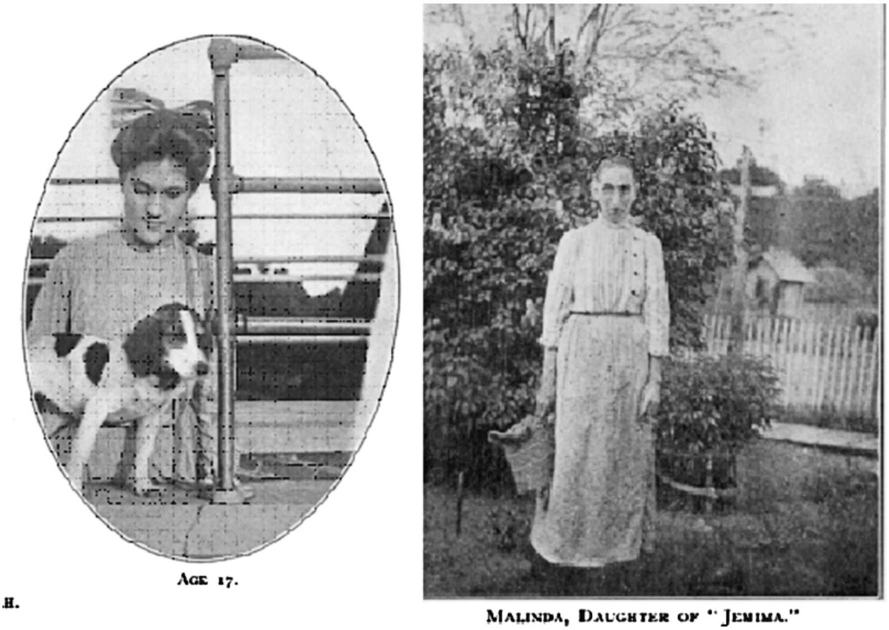

Figure 31.2. The institutionalized Deborah Kallikak (left), who in this and other photographs does not look unintelligent. Malinda (right), one of the retarded descendents, certainly looks threatening, but the pictures were tampered with to increase the darkness under her eyes. Credits: Kallikak Deborah - Kallikak family: Kallikaks_deborah2.jpg (53KB, MIME type: image/jpeg) This is a file from the Wikimedia Commons. An image from Henry H. Goddard's The Kallikak Family, 1912. AND http://psychclassics.yorku.ca/Goddard/Developed by Christopher D. Green, Kallikak Malinda - Kallikak family: This is a file from the Wikimedia Commons. An image from Henry H. Goddard's The Kallikak Family, 1912. http://psychclassics.yorku.ca/Goddard/Developed by Christopher D. Green

was the white man riding on that caused the Indian to say, 'He walks sitting down." (Think out your answer before referring to the footnote.)[16] In England, thanks to the efforts of the equally assiduous Cyril Burt, the British developed the "11 plus" exam, in which children were tested at age 11 and, on the basis of this test, allocated toward technical or vocational schools, or towards preparation for college. Before these tests were finally eliminated in the 1960's under the auspices of the Labor Party (roughly at that time equivalent to a party of union members and therefore keenly aware of the consequences of social ostracism) they carefully selected boys and girls on the basis of pure intellectual and immutable standards.

Or maybe not. One question the answer to which depended purely on problem solving and which of course would not have any basis in social experience was the

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[16] You of course recognized "bicycle" as the correct response. "Horse" is incorrect because an Indian would obviously recognize a horse; "wheel chair"; "on someone's back"; or any other clever or imaginative answer was wrong.

following: “In the following list, which does not fit: dog, cat, car, motorcycle?” Again, try to answer the question before looking at the footnote.[17]

This sort of inanity continues steadily. There were efforts to assess the I.Q.’s of historical figures. When the assessments did not match the predictions, corrections were imposed so that the results came out “right”. When looking at correlations with social status, intellectual deprivations in orphanages were considered trivial; schools were considered to be everywhere equal; greater familiarity with another language was not relevant. To his credit, Termin finally became so enmeshed in the entanglements of these rationalizations that, by the end of his life, he conceded that he was measuring environmental, not innate factors. But much damage had been done.

Robert M. Yerkes, a psychologist at Harvard deeply concerned that psychology did not get the respect that it deserved, argued for greater quantitation and emphasis on function. Consequently, addressing for the army the same issues that had been brought to Binet, persuaded the army to test 1.75 million men in World War I. The results were as feared: many recruits were morons, idiots, or feeble-minded. They could not answer questions of general knowledge, independent of culture, such as:

Crisco is a: patent medicine, disinfectant, toothpaste, food product
The number of a Kaffir’s legs is: 2, 4, 6, 8.
Christy Mathewson is famous as a: writer, artist, baseball player, comedian.

In looking at drawings to fill in what was missing, it was assumed that they would notice a missing rivet on a pocket knife or a filament in a light bulb. A Sicilian would never put a crucifix in a house rather than completing the drawing of the chimney. And of course, an anxious, sometimes rural, often immigrant, army recruit would not get rattled by the following question and would correctly answer it within ten seconds:

“Attention! Look at 4. When I say ‘go’ make a figure 1 in the space which is in the circle but not in the triangle or square, and also make a figure 2 in the space which is in the triangle and circle, but not in the square. Go.”

The tests were analyzed many ways, including assessing the results by race and social background. The facts that many recruits scored 0; that the scores correlated heavily with geography; that recent immigrants did far more poorly; that Blacks from the North did far better than blacks from the South; and other indicators of heavy bias were not considered but rather rationalized out of existence. For instance, the differences between Northern and Southern Blacks were explained by the argument that only the brightest Blacks were smart enough to move to

[17] If my experience is any guide, welcome to vocational school. The correct answer is “cat” because it is the only one that does not require a license. The 11+ exam, incidentally, was instituted largely on the influence of Sir Cyril Burt, whose studies of the similarity of intelligence in identical twins was the primary basis for the belief that intelligence was highly hereditable. After his death in 1947, reexamination of his data led to the conclusion that almost all of it was fabricated.

the North. The argument continued with a student of Yerkes, C.C. Brigham, who published a book, *A Study of American Intelligence*, in 1923. To him, the results were completely consistent with what one knew about the races. It was known that Jews had scored (in English, at Ellis Island) among the lowest of the immigrants, but by 1923 there were many Jews of undoubted abilities who were prominent in the U.S. The reason that they were prominent was because Jews were so routinely poor performers that the occasional success was truly startling, rather as we would notice a man who stood 5“7” but was surrounded by pygmies.

It might all sound laughable, but it led to two of the worst laws in American history as well as to the rise of Nazism in Europe. The country was already, following the First World War, fairly xenophobic, and hordes of immigrants were arriving, mostly from southern and eastern Europe. Francis Galton, a cousin of Darwin and an important player in the development of statistics, had argued for the hereditability of intelligence and described a philosophy he called eugenics, or good breeding. According to this philosophy, societies should strive to assure that only the fittest (note that he considered this word to be equivalent to "best") members procreate and leave young to the next generation. In this manner the human species will continuously improve. Brigham was a believer in eugenics and an active member in the fledgling Eugenics Society, which espoused the antipodal philosophy that the poorest members should not breed, or should be excluded from the country. Even though he, like Termin, ultimately realized that he had talked himself into a circle, his influence was considerable. The British Eugenics Society was formed in 1907. The American Eugenics Society was founded in 1922, and the Human Betterment Foundation, in 1928. Their founding members included lawyers, bankers, economists, and professors and chancellors of universities. The Eugenics Society, including the psychologists as well as prominent geneticists such as Thaddeus Hunt Morgan (the developer of *Drosophila* genetics) appeared before congress arguing for the protection of the country, resulting in the passage of the Johnson Immigration Restriction Act of 1924. This act reduced the then current immigration, which already had been somewhat curtailed. The law of 1921 allowed, per year and per country, an entry of immigrants equal to 3% of those already present from that country. The 1924 act dropped the number to 2% and used as its baseline the numbers present at 1890, thereby substantially reducing the numbers from southern and eastern Europe. As Calvin Coolidge commented, "America must be kept American". The laws were not revised until the mid 1960's, once again allowing immigration from southern and eastern Europe, as well as from Asia and Latin America. Many of your classmates will recognize the history of their families in these laws.

The other truly horrifying result was a collection of laws based on the assumption that inherited defects caused a huge financial drain on society and that it therefore was in society's interest to guarantee that these defects not be propagated. In other words, those deemed likely to generate cost for society should be sterilized. The issue finally reached the Supreme Court in 1927, with an issue that a young, apparently feeble-minded, woman had given birth to a likewise feeble-minded child. The woman's mother was also of dubious intelligence, and the state of Virginia requested the right to castrate her. In deciding for the state, the otherwise highly respected Oliver Wendell Holmes, Jr. wrote,

"We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices…Three generations of imbeciles are enough."

It really was almost like the right of cities to require the neutering of free-running dogs. It does not take much extrapolation to move from this attitude to the conclusion that whole races should be annihilated. We were not that far from a Nazi attitude. The last known sterilization forced by these laws took place in the U.S. in the 1960's. Another horrifying aspect was that these policies were not promulgated by obvious kooks, white supremacists, or jingoists. Many prominent scientists, including leaders in psychology and some of the best biologists, argued for these laws. In more recent times prominent scientists, though not biologists, such as Arthur Jensen, Richard Herrnstein, and Charles Murray, have attempted to resuscitate these arguments. It matters little that intelligence—whatever it is—is so polygenic that its heritability is either nonexistent or extremely hard to measure, or that, according to the evolutionist Richard Lewontin, all the differences among races amount to 6.3% of the total variation seen among humans. There is a direct, if inadvertent and unintended, trail from Darwin to Hitler. What matters is not that we should not explore these ideas, because exploration, curiosity, and understanding are what make us human, but rather a more general admonition. As scientists we can easily overlook the social attitudes that create a sense of obviousness, as has been seen in the case of chimpanzee and gorilla social structures (page 431). For scientists and non-scientists alike, we need to remember that information is not morality. Access to information does not make the scientist a seer, and a society has a right to judge the moral and social value of that information.

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STUDY QUESTIONS

1. Under what laws did your ancestors come to the United States? What restrictions were placed on immigrants from those countries? To what extent were the laws designed with Eugenics goals in mind?
2. What is the I.Q. test? What does it measure, and how does it measure it?
3. What is polygenic inheritance?
4. What factors could affect performance on an I.Q. test?
5. Before reading this chapter, what was your understanding of the value, accuracy, and importance of the I.Q. test?