

ALLAN CHASE

THE LEGACY OF MALTHUS

The Social Costs of the New Scientific Racism



ALFRED A. KNOPP / NEW YORK / 1977

9 A Few False Correlations = A Few Million Real Deaths: Scientific Racism Prevails over Scientific Truth

... no pellagra develops in those who consume a mixed, well-balanced, and varied diet, such, for example, as the Navy ration, the Army garrison ration, or the ration prescribed for the Philippine scouts.

—JOSEPH GOLDBERGER, M.D., in "The Cause and Prevention of Pellagra," *Public Health Reports*, XXIX, No. 37 (September 11, 1914)

The constitution of the organism is a racial, that is, hereditary Factor in Pellagra," the last chapter of *Pellagra III*, the final that brown eye color is inheritable. The course of the disease does depend, however, on certain *constitutional, inheritable* traits of the affected individual [italics added].

—CHARLES BENEDICT DAVENPORT, PH.D., in "The Hereditary Factor in Pellagra," the last chapter of *Pellagra III*, the final report of the Robert M. Thompson Pellagra Commission of the New York Post-Graduate Medical School and Hospital, 1917

... it may now be stated as established beyond reasonable doubt that pellagra is a vitamin deficiency disease analogous to scurvy and beriberi. ... there were some 120,000 people in the United States last year who suffered an attack of pellagra ... why do so many people continue to be stricken with the disease? The answer lies in the fact that *the problem of pellagra is in the main a problem of poverty* [italics added].

—JOSEPH GOLDBERGER, M.D., in an address to the American Dietetic Association, October 31, 1928, printed posthumously in the *Journal of the American Dietetic Association* (March 1929)

Misdiagnosed for centuries as leprosy, scurvy, syphilis, and other diseases marked by rough red skin eruptions, pellagra was described by the Spanish physician Gaspar Casal in 1735 as a distinct disease entity he called *mal de la rosa* (the red disease). Casal categorized the disease as a "kind of leprosy" caused by humid airs, foul winds, and faulty diet. In 1771, Francesco Frapolli, an Italian physician of Milan, described a disease, endemic among the poor Italian peasants, that they called pellagra (angry skin). Frapolli believed that pellagra was caused by the action of the sun on the skin.

Pellagra and *mal de la rosa* turned out to be one and the same disease. It was, in each country, a disease of the very poor, in which the skin eruptions were followed by debilitating sequences of diarrhea, lassitude, dizziness, and various mental disorders ranging from depression to violent lunacy.¹

Although pellagra had affected many poor people in the United States for many years, it was not until 1906, when George H. Searcy, a southern physician, discovered many cases of pellagra among the inmates of the Mount Vernon insane asylum in Alabama, that doctors and public health officials

started to seek out noninstitutionalized cases of the red disease. They soon realized that pellagra was endemic throughout the poorest section of the nation, the southern states. By 1908, various states had established pellagra commissions, and a new National Association for the Study of Pellagra held the first of its annual scientific meetings devoted to reports and discussions on the causes and management of the new plague.

Four years later, when Dr. Edward Jenner Wood, chairman of the Pellagra Commission of the North Carolina State Board of Health, wrote his *Treatise on Pellagra for the General Practitioner*, he revealed that "the cause of pellagra is still unknown, and, indeed, at the present time there is more uncertainty about the whole matter than ever before."

There was, however, no paucity of dogmatically stated hypotheses about the causes of pellagra. Nor was there any shortage of doctors who attributed it to eating too much corn or uncured corn; to submicroscopic agents vectored (carried) by common pest flies; to the parasitic fungus *Aspergillus fumigatus* found in spoiled corn; to the side effects of syphilis; and to unknown infectious agents found in unsanitary environments. These physicians treated pellagra with various remedies aimed at these etiological agents. This meant that the fortunately few pellagrins who did receive any medical care were dosed with Salvarsan and other arsenicals, opiates, alcohol, purges, leeches, and every foul-tasting and evil-smelling useless drug known to clinical and veterinary medicine.

Through all of the medical literature, there was, however, one constant thread of evidence suggesting that pellagra was caused by the inadequate diets of poverty, and that in the presence of enough food to eat the disease never struck. More than this, there was considerable evidence in the literature suggesting that the cure for pellagra was plenty of decent food. The French physician François Thiery, in 1755, wrote that although Casal "regards [pellagra] as incurable . . . he cites the example of a woman of the people who during one of the melancholy deliriums so frequent in this disease, had a great desire to feed herself from cow's butter, for which she spent all of her property, and she was cured."² Wood wrote of a French physician, Bouchard, who in 1862 "expressed the opinion that the influence of the sun [as proposed by many experts] was purely secondary and that the real underlying cause was poor nourishment."

The most famous of the authors who pointed to hunger as the cause of pellagra was the nineteenth-century French doctor Théophile Roussel. Of this great French clinical investigator, whose 1866 study showed that European outbreaks of pellagra invariably coincided with periods of shortages of fresh meats and vegetables, and who concluded that pellagra was a disease of malnutrition, Dr. Wood wrote: "Roussel said that the cause of [pellagra] was not bad air nor bad water but bad nourishment. It cannot yet be denied that bad nourishment in the sense of containing something toxic is the cause, but *I can deny that bad nourishment in the sense of insufficient nourishment is a cause*" (italics added).

Five facts about pellagra were, as of 1912, very well proven. The first was that, possibly because of advances in diagnostic techniques, tens of thou-

sands of cases which until recently would have been diagnosed as malaria, syphilis, anemia, or scurvy were now being labeled by their right name—pellagra.

The second was that pellagrins suffered much lower natural levels of resistance to all manner of infectious and parasitic diseases, from common colds, influenza, pneumonia, and tuberculosis to dysentery, hookworm, and ascariasis (or roundworm infection, as prevalent and body-shattering as hookworm itself in the South), let alone malaria and yellow fever.

The third confirmed fact about the ancient scourge was that most of the pellagrins in the nation were poor people in the southern and border states.

The fourth and politically most explosive fact was that pellagra, as of 1913, was playing a major role in impeding the operation and expansion of textile mills and other industries in the South because of the chronic ill health and disease-caused absenteeism of the landless poor-white field hands who migrated from the rural poverty of the country to the new factory towns in search of work. Mill hands chronically deficient in work energy were not worth very much to northern industrialists interested in setting up new mills closer to the sources of cotton and other raw materials and further from trade unions and their rising wage scales.

The fifth bothersome fact about pellagra was "the economic consideration that American corn was having difficulty in securing European markets because of the prevalent belief abroad that corn was responsible for producing the disease."³

Stiles's work on the discovery of *Necator americanus*, and the subsequent campaign for the eradication of the equally debilitating disease caused by this native hookworm, gave well-intentioned physicians such as Dr. Wood cause for profound optimism about the early conquest of pellagra. The bare-foot and unwashed American pellagrins who were not, at one and the same time, both hosts and victims of hookworms and/or the equally ubiquitous and resistance-lowering *Ascaris lumbricoides* (roundworm, eelworm), were, indeed, medical rarities. It was these synergistic effects of worms and other body parasites combined with those of pellagra that were foremost in the mind of Edward Jenner Wood, M.D., as he closed his 1912 *Treatise's* section on the prognosis of pellagra with these words:

It is a matter of only a short time, however, before this great resistance lowering agent [hookworm] will be entirely eradicated through the wonderful work of the Rockefeller Commission for the Eradication of Hookworm Disease. *Already throughout the South the poor whites have learned the great benefits of this work and are eagerly availing themselves of the opportunities to cast off lethargy and avail themselves of their pure Anglo-Saxon inheritance.* When this great obstacle is removed there will be nothing left to hold them back physically, and they will be able to cope with the scourge [pellagra] which has so cursed the Italian peasantry. [Italics added.]

Once the "well-known philanthropists" Colonel Robert M. Thompson and J. H. McFadden undertook, in the spring of 1912, to finance the Pellagra

Commission of the New York Post-Graduate Medical School and Hospital, earnest physicians like Wood felt certain that the laboratory and field investigations undertaken by this biomedical commission would quickly be as successful as Stiles and Ashford in discovering the still mysterious infectious or toxic agent that caused pellagra.

The good southern Anglo-Saxon idealists of the Wood type, however, did not see the evils in such types of wholly environmental resolutions of the biological and mental effects of pellagra that were so plain to the super-Nordic of Brooklyn, Charles Benedict Davenport. For let it once be revealed that pellagra, like hookworm, was not in the genes but in the debilitating environment of southern poverty, then the entire eugenic-dysgenic basis for characterizing America's Nordic poor as being *genetically* ineducable, unemployable, and unfit for decent housing went careening down the drain. For now it would be obvious to everyone that the *only differences* between the Nordic cracker and the Nordic chairman of the board stemmed from the money earned and/or inherited by their parents. It would therefore follow that biologically, mentally, and morally the Nordic poor-white trash of the South were, *genetically*, not the inferiors of their fellow Nordics born to parents who could afford to provide adequate measures of the nutrition, plumbing, shoes, shelter, and preschool learning that spelled the difference between the Nams and the Davenports, the Kallikaks and the Laughlins, the Jukes and the Henry Fairfield Osborns.

Dr. Wood probably thought it was a good thing for the South and for medical science when the famous director of the Carnegie Institution's Department of Experimental Evolution and the Eugenics Record Office joined forces with the new pellagra commission. As Elizabeth B. Muncey, M.D., attached to both the ERO and the New York Post-Graduate Medical School and Hospital, revealed, in the *Archives of Internal Medicine* (July 1916), "the desirability of the study of pellagra from the viewpoint of heredity as a causative factor was brought to the attention of the Thompson-McFadden Pellagra Commission by Dr. Charles B. Davenport, Eugenics Record Office, Cold Spring Harbor, N.Y.," and under "the joint patronage of the two offices fieldwork was begun in Spartanburg [South Carolina] in June, 1913" and continued under the direction of Drs. Muncey and Davenport for more than a year.

Up until that moment, the scientific direction of the Pellagra Commission was in the hands of two physicians with considerable experience in the investigation of pellagra, Joseph F. Siler, of the Army Medical Corps, and Philip E. Garrison, a Navy surgeon. Drs. Garrison and Siler were the principal investigators, along with Ward J. MacNeal, Ph.D., M.D., director of laboratories at the New York Post-Graduate Medical School and Hospital. Drs. Davenport and Muncey were listed on the title page of the reports as principal collaborators.

Siler, whose interest in pellagra was sharpened by his earlier finding that pellagra occurs in practically all of the nation's insane asylums, had, with MacNeal, served on an earlier pellagra commission. In 1909, in response to the sudden increase in new cases, or diagnoses, of pellagra in the patient

population of the Illinois State Insane Asylum, Illinois governor Deneen had appointed a commission of medical experts, including Siler, MacNeal, and the thirty-eight-year-old Howard Taylor Ricketts, the University of Chicago bacteriologist and pathologist, who within a year was to lose his life in the discovery of the louse-carried microbes of typhus and spotted fever now called the *Rickettsiae*.

During the year after the death of its most famous member, the Illinois pellagra commission, having found over five hundred cases in the state, and having looked into the relationships between many of the theories of the etiology of the disease and the pellagrins of Illinois, agreed on one conclusion. To wit: "According to the weight of evidence, pellagra is a disease due to infection with a living microorganism of unknown nature."⁴

This was not a bad hypothesis; by 1911, all bacteriologists were already aware that submicroscopic viruses—too small to be seen under the light microscope—were the cause of smallpox, measles, rabies, and other killing infectious diseases. Under the auspices of the Thompson Pellagra Commission (McFadden dropped out as a co-sponsor before its third and final report, dated 1917), Siler and Garrison put their infection hypothesis to very rigorous and well-organized scientific tests between 1912 and 1915.

Garrison and Siler were neither medical bacteriologists nor epidemiologists. There was, however, another physician on the federal payroll who was both a first-rate medical bacteriologist and also the very modern version of a working epidemiologist. He was, in fact, the Public Health Service's top field investigator of infectious and parasitic diseases. He had spent five years working as the second in command of Charles Wardell Stiles's parasitology laboratory in Washington. In 1914, because of the rising demand for a quick solution of the nagging social and economic problems caused by pellagra, he was given new orders by the Surgeon General of the United States. His name was Joseph Goldberger, his title was Surgeon, U.S. Public Health Service, and his orders were to organize and direct an investigation designed to discover the cause and the cure of pellagra.

GOLDBERGER DISCOVERS HOW TO CURE, CAUSE, AND PREVENT PELLAGRA

Joseph Goldberger bore the two classic wound stripes of the epidemiologist: a chronic shortage of funds and a history of on-the-job episodes of killing diseases. Goldberger had contracted at least three of the diseases he was investigating. In October 1902, he had contracted yellow fever in Tampico, Mexico. In August 1907, Goldberger had contracted dengue fever ("break-bone fever") in Brownsville, Texas. These infections were caused by exposure to the environmental agents of yellow fever and dengue fever in their natural or environmental settings. But in January 1910, when Goldberger was infected and nearly killed by typhus, it was in a Mexico City laboratory accident: a louse Goldberger had fed on the bodies of typhus patients escaped from a vial and bit him on the hand.

For this work he was paid so poorly that the Goldberger family was

chronically hard-pressed to pay its gas bills. And when Goldberger was at death's door from typhus, his wife—six months pregnant with her second child—had to borrow the money to pay the train fare from Washington, D.C., to Mexico City, where her husband lay hospitalized.⁵

Goldberger had one other asset in his armamentarium as an epidemiologist: he had been born into poverty. This gave him an insight into the total environment of poverty that enabled him, for example, to write of typhus, which he called one of the "filth diseases," that all studies of typhus had emphasized "the fact . . . that fundamentally sanitation and health are economic problems. In proportion as the economic conditions of the masses improved—that is, in proportion as they could afford to keep clean—this notorious filth disease had decreased or disappeared."⁶ (Italics added.)

Which explained why, long before Nicolle in France, and Ricketts, Wilder, Anderson, and Goldberger in America, had exposed the louse-carried *Rickettsia prowazekii* to be the microbial cause of typhus fever, there had always been fewer cases of this filth disease among families who lived in spacious homes, bathed daily, and enjoyed freshly laundered clothes and bed linens, than among the less fortunate poor of the urban slums and the rural hovels. Genetically, the poor were no more nor less susceptible to typhus than the rich.

Goldberger also knew, from the histories of his own and other families, why fewer poor children went to high school and college than rich children. He himself was one of eight children—three older brothers, three sisters, and one half brother, Jake, who had gone to America first, become a peddler, then a small grocer, and sent money back to Hungary to pay the fare of the rest of the family for the migration to America. Jake and the three older Goldberger boys never went beyond grammar school, but by the time Joseph was a schoolboy they had earned enough money to allow him to continue on to college.

Any of Davenport's or Goddard's eugenics field workers, making a study of the Goldberger family, could easily "prove," by the actuarial and correlational methods of their cult, that only one in five of the Goldberger sons went to college, and that therefore the children of this immigrant Jewish family on New York's Lower East Side were only one fifth as intelligent as Nordic families of the same size on Park Avenue, where all the sons went to Princeton or Harvard. This, however, proved more about the accuracy of Galtonian correlational analyses of human beings than it did about the inborn intelligence quotients of poor immigrant Jewish families.

When Goldberger was assigned by the Surgeon General to investigate the etiology of pellagra, the disease had been known for far longer than had hookworm disease. One reason why it had never been considered one of the great plagues of modern societies—on a par, say, with malaria, yellow fever, diphtheria, typhoid, and typhus—was possibly because it was so much a disease of the poor alone. The protozoan parasites of malaria, the viruses of yellow fever, the louse-borne *Rickettsia* of typhus, the *Salmonella typhosa* of typhoid, the *Shigella* of dysentery—even, from time to time, the hookworms and the roundworms of the very poor—were notoriously no respecters of

rank or privilege. The rich, as well as the poor, were known to die of malaria and typhus. The agents of such diseases visited the stateliest of mansions. In 1912, for example, New York State Senator Franklin Delano Roosevelt, although a millionaire residing in the family castle at Hyde Park, and his wife, Eleanor, both came down with typhoid fever (a classic poverty disease) at the very start of his campaign for re-election.⁷

But not one single case of pellagra among the rich, the well-to-do, and even the moderately comfortable (except for individuals malnourished because of alcoholism, anorexia nervosa, or other noneconomic causes of dietary deficiencies) had ever been reported. This basic fact leaped from the pages of the pellagra literature in various languages for all of the 179 years that had elapsed between the publication of Casal's paper on *mal de la rosa* and the day Goldberger was assigned to work on the disease. To Goldberger, who had read it all—in the original languages—this one connecting fact delivered a clear message.

Goldberger had a great respect for both Siler and Garrison. But he had an even greater respect for poverty per se as the underlying cause of the diseases of the poor. Therefore, before setting up a field laboratory and examining the blood, urine, lymph, and stools of the pellagrins, Goldberger made a slow tour of the insane asylums, the orphan asylums, the mill towns and rural slums where pellagra was endemic. His field work started in Spartanburg, South Carolina, where Siler and Garrison were both working out of the new U.S. Public Health Service hospital set up for their study of pellagra as a probably infectious disease. He moved about the town and its rural environs, observing how people lived, particularly the poor mill hands and field hands who provided most of the pellagra cases. Then he moved around other states of the South, as well as to Illinois and other midwestern states, New Jersey, Pennsylvania, Wisconsin.

Wherever there was great poverty, there was pellagra. Wherever people were institutionalized as orphans, as lunatics, as mentally retarded, as prisoners, there was pellagra. And wherever pellagra was widespread, whether in institutions or in cities, Goldberger noticed two things: *Neither the professional nor menial employees of the asylums and prisons and county old-age homes had ever developed a single case of pellagra, and the disease never struck the nonpoor of Spartanburg and other mill towns where it was endemic among the mill hands and their families.* To Goldberger, this meant only one thing, and he had the aftereffects of his own sieges of yellow fever and typhus to support his hypothesis: "This peculiar exemption or immunity was inexplicable on the assumption that pellagra is communicable."⁸

The story—of how Goldberger went on to test this hypothesis, and to prove for all time that pellagra is caused by the lack of meats, poultry, fish, dairy products, fruits, and vegetables containing what he called the Pellagra Preventive (PP) factor, which he realized was a vitamin,⁹ and which is present in abundance in foods far costlier than the corn that was the staple of the diet of the poor whites and nonwhites of the South; of how Goldberger showed that pellagra could be prevented and eradicated from orphan asylums and mental hospitals, where it had been endemic, by merely adding meats,

vegetables, eggs, and other common foods containing the PP factor to the daily diet; of how Goldberger persuaded a dozen Mississippi white convict volunteers to live on a high-carbohydrate diet with no proteins or fresh green vegetables for six months, and thereby induced pellagra to develop in all of them; and of how he then proceeded to cure pellagra in these same convicts and in thousands of other people who became pellagrous in the prisons without bars called human poverty—is too well known to bear repetition here. Less well known is the fact that Goldberger turned the best economist of the Public Health Service, Edgar Sydenstricker, loose on the problem of “tracking down economic data on labor, family budgets, family dietaries, food prices.”¹⁰

As Robert Parsons, Goldberger’s biographer, revealed, by the end of 1915 “sufficient data had been collected to show that, among the poorer classes, the lower the economic status became, the greater was the sacrifice in animal protein foods.” And the less animal protein foods, the more pellagra. Goldberger brought Sydenstricker along to various pellagra meetings, such as the Third Triennial Meeting of the National Association for the Study of Pellagra in Columbia, South Carolina, in October 1915. At this meeting, for example, the Public Health Service statistician told the doctors: “The wages statistics show that there has been an increase of not over 25 percent in the wage rates in the period from 1900 to 1913, while in many industries and instances there has been an increase of less than 5 percent since 1907 and 1908 in the South.

“The statistics of retail food prices regularly secured by the same authority show that there has been a 60 percent increase in the average of prices since 1900.”¹¹

Sydenstricker’s data showed that the food-purchasing power of the nation’s families was lowest in the South, particularly in the cotton mill towns whose Chambers of Commerce cited the low local wage scales as incentives for relocating northern cotton mills.

Most American physicians and nutritionists are, today, more or less familiar with the most dramatic of Goldberger’s experiments on the etiology of pellagra. This was the experiment described in Goldberger’s 1916 paper entitled “The Transmissibility of Pellagra: Experimental Attempts at Transmission to the Human Subject.”¹² To people of my generation, who were in or near their adolescence during the years when Paul de Kruif’s overdramatic books were inspiring more future Nobel laureates in medicine to seek careers in biomedical research than any other single force in our cultural history, this experiment will always be known as the experiment of “Fifteen Men and a Housewife,” Goldberger himself being one of the fifteen men and his wife, Mary, the anonymous housewife.

It is the fashion today, among both professional science writers and literary critics, to dismiss de Kruif’s purple prose, his later enthusiasm for dubious wonder cures, and his soap-opera dramatics as obsolete and old-hat. But de Kruif wrote about medical research in terms that young people reading him would remember for a lifetime. How, for example, after Goldberger and his assistant, Dr. G. A. Wheeler, on April 25, 1916

... drew blood into a clean sterile syringe from the arm of a woman who was broken out and very sick with her first attack of pellagra. Wheeler took off his shirt. Goldberger shot a sixth of an ounce of the blood, still warm from the veins of the sick woman, under the skin of Wheeler’s left shoulder. Goldberger took off his shirt. Wheeler shot a fifth of an ounce of the sick blood of the woman under the shoulder of Goldberger.

For two days the arms of these adventurers were stiff. . . . That was all.

But Goldberger was a glutton for proofs. The [Thompson-McFadden Pellagra] Commission has said that pellagra spread like typhoid fever, from the bowels of the suffering ones. Well—

On the 26th of April, 1916, alone, he faced it.

He would just be sure the natural acidity of his stomach wouldn’t hurt this alleged microbe of pellagra—so he swallowed a dose of baking soda. Now then, ready. . . . Here he stands, alone in this most grotesque of laboratories—the washroom of a Pullman car. Out of his pocket he takes a little vial. Into a pill mass with wheaten flour he makes up the contents of this tube—the intestinal discharge of a woman very sick with a true case of the red disease. He swallows this dose. “And maybe the scales from the skin rash are contagious, too,” says Goldberger, who is a thorough man. So for good measure he makes himself a powder from flour and the scaled-off skin from two more people sick with pellagra. He swallows this powder. . . .

And after nothing in the way of pellagra hits the investigator, two weeks later, at the U.S. Pellagra Hospital in Spartanburg, Goldberger, his wife, Sydenstricker, Wheeler, and other doctors working under the epidemiologist get shots of blood from pellagrins, and swallow vials of scrapings from the sores on the skin of pellagrins, and vials bearing little dough balls impregnated with the urine and feces of pellagrins. Four more of these experiments—“filth parties,” Goldberger called them in his letters to Washington—were held. None of the human volunteers thus exposed to biological materials from pellagrins came down with pellagra. As de Kruif told it:

Is adventure dead? All that spring this brown-eyed man, soft-voiced and terribly persuasive, went up and down the South land . . . inciting his cronies, searchers of the Public Health Service, from the Director, George McCoy, down to the cubs of the Service, to join him. He made the experiments better and better and three separate times his good friends tried to infect themselves with the blood and with those unspeakable meals—first recommended to the subjects of Hezekiah by Rabshakeh the Assyrian—from folks dying with pellagra. Always Goldberger was the first to take the dose. Seven times in all did he risk his own skin, and sundry times did he lead fourteen of his mates of the Health Service into the threat of the Valley of the Shadow, and Mary Goldberger, housewife, must not be left out of this reckoning. Bold fools they were, all of them, but now Goldberger *knew* that pellagra was not catching.¹³

So, too, did Siler and Garrison, the principal advocates of the infection hypothesis for pellagra as well as the chief investigating physicians of the Thompson-McFadden Pellagra Commission. After Goldberger and twelve

convict volunteers at the Rankin Farm of the Mississippi State Penitentiary, in the spring of 1915, showed how to cause pellagra by living exclusively on the high-carbohydrate, high-fat, no-protein diet of world poverty. Dr. Robert Parsons, friend and co-worker of Goldberger, Siler, and Garrison,

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ANTI-ALIEN LABOR LAW DECLARED INVALID

Supreme Court Holds Arizona Statute Restricting Immigrants' Liberties

LIKE CALIFORNIA JAP RESTRICTIONS

Attorneys Sought to Compel Employment of JAP Per Civil Americans

The Supreme Court today held that the Arizona statute which restricts the liberties of immigrants is invalid. The court's decision is similar to that rendered in the case of the California law which restricts the employment of Japanese-Americans. The Arizona law provided that no employer should employ any alien who is not a citizen of the United States, unless he has been declared eligible for citizenship. The court held that this law was unconstitutional because it discriminated against aliens on the basis of race and nationality.

DR. GOLDBERGER PRODUCES PELLAGRA AMONG CONVICTS

An Experiment of World-wide Interest, Made At the Rankin Convict Farm, Demonstrates Accuracy of Theory Recently Advanced.

DREAD DISEASE ROBBED OF ITS TERRORS

Dr. Goldberger Put Twelve Convicts On An Unbalanced Diet On February 14th, Last, and Six of Them Now Have Pellagra in a Very Pronounced Form.

Dr. Goldberger's experiment at the Rankin Farm, Mississippi, has shown that pellagra is caused by a diet deficient in protein. Twelve convicts were placed on a diet of cornmeal, lard, and molasses. Six of them developed the disease within a few weeks. This experiment has confirmed the theory advanced by Goldberger and his colleagues that pellagra is a dietary deficiency disease.

ADMIRAL FACES COURT MARTIAL; NEGLIGENCE CHARGED

Faults in Construction of Submarine No. 2 Laid at Door of Little

The admiral's court-martial is expected to begin today. The charges against him are based on alleged negligence in the construction of the submarine. It is claimed that the admiral failed to ensure that the submarine was properly built and equipped.

The admiral's defense attorneys are expected to argue that the submarine was built according to the plans and specifications. They claim that the admiral was not responsible for the construction defects.

Even before Goldberger's classic Mississippi experiment proved how only the nutritionally inadequate diets of American and world poverty cause pellagra, his earlier discoveries of how to cure and prevent pellagra by adequate diet had won him world fame. In April 1915, Goldberger's previous work on pellagra earned for him the honor of delivering the annual Cutter Lecture in biology at Harvard. Nevertheless, to Davenport and his fellow eugenicists the Hungarian-born Jewish immigrant Goldberger was a nonperson—and so they ignored completely his discoveries dealing with the cause and prevention of pellagra.

recalled, at "the Thompson McFadden commission itself, the news of the prison experiment findings had been something of a blow to it. Garrison was at Spartanburg [the South Carolina mill town where the Commission had set up its main research base] when the report reached him. He packed his suitcase forthwith, and went home. He knew Goldberger. He was through with the Commission, and with problems in pellagra."¹⁴

A few days after Goldberger's report on his Mississippi experiment was published,¹⁵ the U.S. Public Health Service and the Pellagra Commission held a special pellagra conference at Spartanburg. In a letter to his wife sent from Spartanburg, Goldberger was pleased to note that, at this historic meeting, "Dr. Siler came across very handsomely, stating on the floor that he agreed with every statement in my paper, and later congratulated me personally. Siler is a gentleman."¹⁶

If Siler and Garrison were glad, Goldberger's long-time Public Health Service co-workers, from Stiles and Milton Rosenau, by then professor of public health at Harvard, to William Welch, the founding dean of the Johns Hopkins Medical School, and Allan J. McLaughlin, the Massachusetts Commissioner of Health, were ecstatic. Rosenau invited Goldberger to deliver Harvard's prestigious Cutter Lecture in Biology for 1915, and in the same year sent him a letter declaring that "your achievement in this disease is equal to any contribution to medical science made in America."¹⁷

Dr. McLaughlin, in a letter sent two days later, told Goldberger: "Your work in pellagra, coupled with your previous work, . . . stamps you, in my opinion, as the foremost figure in America today in the field of preventive medicine. This is not flattery; it is the careful estimate of a man who is reasonably familiar with the advances made in preventive medicine."¹⁸

"AN INSTANCE OF 'FALSE CORRELATION'"

Not every physician was as ready to accept Goldberger's findings that pellagra was purely and simply a disease of hunger. At the same October 1915 meeting, in Columbia, South Carolina, of the National Association for the Study of Pellagra, when Goldberger and his fellow Public Health Service physician David Willets reported on the prevention and treatment of pellagra by diet, most of the southern doctors present were volubly more impressed by MacNeal's report that the Thompson-McFadden Pellagra Commission had determined that in those Spartanburg homes with inside plumbing and better sewage there was little or no pellagra, while in the neighborhoods where the poor mill hands lacked both plumbing and sewage, pellagra was endemic.

It was at this meeting that Goldberger rose to deliver a comment that, apparently, was lost on so many physicians at the time:

As for the relation of pellagra to sewerage, as shown by the practical freedom of the sewered sections of Spartanburg, this may be an instance of "false correlation." When we recall that pellagra is essentially a disease of poverty, explanation for this seemingly mysterious phenomenon at once suggests itself. In a community having a sewered section and an unsewered section, it is very likely, and in Spartanburg it actually so happens, that the sewered section includes the best residential portion of the town. The sewered section is that part of the town in which the well-to-do people live, in which even the neophyte pellagrologist would not expect to find much pellagra, sewers or no sewers.¹⁹ [Italics added.]

But MacNeal and other physicians at this meeting savaged Goldberger with "false correlations" purporting to prove, statistically, and with hard numbers, that pellagra was anything but a dietary deficiency disease. At one point MacNeal rose to cite even higher authority:

The problem which confronted us was the analysis of the mass of data. . . . I think the one method commonly used with at least 1,000 comparable observations is that adopted by Davenport and Pearson. . . . We must do something with the data besides theorizing with them.

We must try to show some correlation. This is what we have attempted to do by the statistical method. It is probably unnecessary for me to point out that the table Dr. Goldberger cites [on the relationship between diet and pellagra] has very little importance.

It was talk like this that caused Goldberger to lose his temper, and to tell the physicians present at the same meeting that, in reference to their avoidance of even discussing "the very simple or practical device of treating the patient [with food]. . . . There is an old adage to the effect that the proof of the pudding is in the eating thereof, and the only thing I care to say in closing is, suppose we stop talking so much. We do not have to inject salvarsan, etc."

At this point in the history of pellagra, the modern reader may be pardoned for assuming that the prevalence of pellagra, like hookworm disease, was sharply reduced or even eradicated in the South soon after Goldberger isolated the Non-Germ of Pellagra—and that Goldberger's facts triumphed over the unproven myths. This, however, was not at all what happened. The bare pellagra mortality figures tell only the smallest part of what followed. Consider the national totals of deaths reported by state health departments to the Public Health Service before and after Goldberger elucidated the completely nonhereditary mechanisms of the cause, cure, and prevention of pellagra.

Between 1914, the year Goldberger discovered the cause of pellagra, and 1928, the year of his untimely death at the age of fifty-five, the reported pellagra deaths multiplied eightfold, climbing from 847 to 6,523 (see table on page 224).

These data in themselves do not begin to tell the whole story. For one thing, perhaps one in a hundred deaths in which pellagra is the underlying cause is reported as a pellagra death: pellagra mortalities are reported, *and quite accurately*, as being deaths caused by pneumonia, or malaria, or influenza, or measles, or hookworm infection, or ascariasis, or diphtheria, or any combination of scores of other infectious and dietary diseases that are invariably far more lethal in bodies weakened by chronic deficiency diseases such as pellagra than in the bodies of well-fed people.

For another and possibly even more important thing, a diagnosis or an autopsy by definition calls for both a *patient and a physician*; the average person who dies of pellagra or other poverty diseases is in most instances brought into the world and ushered out of it without the presence of a physician, registered nurse, or any other health worker. Therefore, the deaths and the nonfatal cases of pellagra reported to the keepers of health records represent only the tips of vast mountains of mortalities and morbidities from this poverty disease.

There were a number of reasons for the failure of our society to eradicate pellagra from our total population within two or three years after Goldberger showed us how to do just this. Not the least of these pellagra-preserving factors was the con job performed on the Siler- and Garrison-less Thompson-McFadden Pellagra Commission by Charles Benedict Davenport.

PSEUDOSCIENCE PREVAILS OVER GOLDBERGER'S DISCOVERIES

The sponsorship of Stiles's crusade against the "Germ of Laziness" by John D. Rockefeller, Sr., had, as we saw in the previous chapter, rendered the leaders of the eugenics movement impotent to even attempt to refute the sober scientific discoveries about the side effects of hookworm disease on the economic productivity and the academic achievement and IQ test scores of the poor-white Nordics of the South and their doomed children. The Davenports of this world never attack the deeds of its Rockefellers.

There was nothing the scientific racists could do about the threat posed to their political program by the salutary effects of the hookworm eradication efforts of the Rockefeller commissions on the work and learning patterns of the "poor-white trash." This triumph of epidemiology over eugenics would have to be neutralized by other means.

Goldberger's findings that pellagra, and the mental disease it caused, were neither of them genetic, were targets more in keeping with the courage of the leaders of the eugenics movement. Because of the etiological links between madness and pellagra, Charles Benedict Davenport, the director of the Eugenics Record Office, had as early as 1913 become involved with the Pellagra Commission. When Goldberger made the work of the commission superfluous in 1914, causing Garrison and Siler to leave it, Davenport took control of its work and the preparation of its third and final report, *Pellagra III*.

Two years *after* Goldberger's first report on the real causes of pellagra, Davenport, a zoologist with no clinical training or experience, and Elizabeth Muncey, a physician on the payroll of Davenport's institute, published two articles in the July 1916 issue of the *Archives of Internal Medicine*. During the same month, both articles were reprinted as Bulletin No. 16 of the Eugenics Record Office.

Davenport's article, written by the man who had for years maintained in books and articles and lectures that insanity, mental retardation, imbecility, low family incomes, and low IQ test scores were all hereditary conditions, made much of the fact that reviews of the scientific literature had shown that in Italy "4 to 10 percent of pellagrins are insane," while the Public Health Service study of 1913 had revealed that "in this country about 7 percent of the pellagrins are insane." The fact that pellagra was apparently a disease of poor people who lived in unhygienic rural and urban hovels only reinforced Davenport's belief that pellagra was in large measure a genetic disease, since poverty itself—"pauperism" in the eugenics lexicon—was, according to Galton, Pearson, and all good eugenicists, hereditary. As Davenport observed in this 1916 essay:

That there should be a correlation between mental insufficiency and pellagra is not strange, since the mentally insufficient are, on the whole, less likely to appreciate the importance of sanitary surroundings and less able to avail themselves of them, and the reports of the [Thompson-

McFadden] pellagra commission *prove* the close relation of pellagra to poor sanitation. No doubt, also, persons who are mentally well developed are, on the whole, more likely to care for their bodies and keep themselves in good condition than are the mentally deficient or unstable. Other things being equal, pellagra is more liable to make headway in "Nam Hollow" than in the cottages on the cliffs at Newport.²⁰

Davenport's thesis about the natural history of pellagra was very simple. Pellagra, he wrote, was "the reaction of the individual to the poisons elaborated in the body, probably by a parasitic organism. This accords with the conclusion of Siler, Garrison [*sic*] and MacNeal that pellagra is in all probability a specific infectious disease communicable from person to person."

By March 16, 1916, when Davenport submitted this paper to the *Archives of Internal Medicine*, he *knew* that Garrison and Siler had long since revoked their former infection hypothesis (it was never a "conclusion") in the face of Goldberger's elegant biological proofs that it was incorrect. Davenport also knew very well that Garrison and Siler both agreed, with Goldberger and his Public Health Service colleagues, that pellagra was a simple and predictable sequela of hunger—a classic poverty disease.

Nevertheless, with a Galtonian disdain for the mere facts of human biology, Davenport continued to label pellagra as an infectious disease. More than that, he also insisted that

in the pellagra reaction [to the mysterious "pellagra germ"] there is a hereditary factor . . . if there is one thing of which experience perfectly assures us it is that different individuals react dissimilarly to the same stimulus. Such dissimilarity of reaction is conditioned both by fundamental dissimilarity in the constitution of the organism and by dissimilarity in antecedent experiences of the organism; but the latter, in turn, is conditioned in part by the former; so that the fundamental dissimilarity of the constitution of the organism must be held to be the principal cause of the diversity which persons show in their reaction to the same disease-inciting factors.

This constitution of the organism is a racial, that is, hereditary factor. And if it appears that certain races or blood lines react in pellagra families in a specific and differential fashion, that will go far to prove the presence of a hereditary factor in pellagra. . . . *colored persons, who differ from most white people in having more or less negro blood, are less subject on the whole to the disease than white persons* [italics added].

Davenport's conclusions were in the true eugenic traditions:

Pellagra is not an inheritable disease in the sense that brown eye color is inheritable. The course of the disease does depend, however, on certain constitutional, inheritable traits of the affected individual.

Pellagra is probably communicable, but how the communicated "germ of the disease" shall progress in the body depends, in part, upon constitutional factors.

When both parents are susceptible [*sic*] to the disease, at least 40 percent, probably not far from 50 percent, of their children are sus-

ceptible; an enormous rate of incidence in a disease that affects less than 1 percent of the population on the average.

As further "proof" that pellagra was essentially a genetically determined disease, Davenport added the following non sequitur:

Many families never show mental symptoms, while others usually do. . . . In some families the skin eruptions amount to little; other families are characterized by severe ulceration and desquamation of the derma. These *family* differences have all the characteristics of biotypes or blood lines, and afford the best proof that there is, indeed, an hereditary factor in pellagra [italics added].

THE 444-PAGE MEDICAL FRAUD OF THE CENTURY

Both of the articles Muncey and Davenport had previously published on the hereditary causes of pellagra in the *Archives of Internal Medicine*, and reprinted as Bulletin No. 16 of the Eugenics Record Office in 1916, were to be reprinted for a third time—as the closing and summing-up chapters of *Pellagra III*, the third and final report of the Robert M. Thompson [formerly Thompson-McFadden] Pellagra Commission of the New York Post-Graduate Medical School and Hospital, in 1917.

This final report of the Pellagra Commission is now a collector's item, particularly among those fascinated by great American frauds. According to the title page, the principal authors of the report were "J. F. Siler, M.D., Major, Medical Corps, United States Army; P. E. Garrison, M.D., Passed Assistant Surgeon, United States Navy; and W. J. MacNeal, Ph.D., M.D., Director of Laboratories, New York Post-Graduate Medical School; with the collaboration of C. B. Davenport, Ph.D., and Elizabeth B. Muncey, M.D." MacNeal had an extra title-page credit as editor of the report.

In the introduction to this final report, we read that "Dr. J. F. Siler, Major, Med. Corps, U.S. Army, has been detailed to this work continuously . . . from the spring of 1912 to the last of July, 1915. Dr. P. E. Garrison, Passed Asst. Surg., U.S. Navy, was detailed to the [Pellagra Commission] investigation continuously from the spring of 1912 to November, 1913. He was detailed elsewhere from December, 1913, to June, 1914, and after working on pellagra during the summer of 1914, he was compelled to give up further participation in the work [of the Pellagra Commission] by a call to active sea duty."

Since Goldberger's first two reports on the cause and prevention of pellagra had been issued by the U.S. Public Health Service in June and September 1914, the reasons why the U.S. Army and the U.S. Navy—operated by the same government, and paid by the same tax revenues—found other things for Siler and Garrison to do for their salaries after 1914–15 were not military. Their job was done; they were needed elsewhere, now that Goldberger had found what Siler and Garrison had been detailed to look for.

The departure of Siler and Garrison did not, however, bring MacNeal to the front, for as the introduction went on to say: "Dr. W. J. MacNeal, the civilian member of the commission, has continued since the spring of 1912 to devote *part* of his time to the work of this commission, *although by*

for the major portion of his time each year has of necessity been given to other work in the laboratories of the New York Post-Graduate Medical School" (italics added).

This, of course, was the academic code language for the fact that MacNeal not only had a job to protect—he was the director of these laboratories in a school quite heavily endowed by Davenport's friends—but he also wanted the American medical community to know that regardless of what they might read in the pages that followed, W. J. MacNeal, like Siler and Garrison, knew that Goldberger was correct, and that the proponents of infectious and genetic etiologies for pellagra were 100 percent wrong.

The final report of the Pellagra Commission was, clearly, the work of the eugenics zealot whose thrice-reprinted 1916 article, "The Hereditary Factor in Pellagra," constituted the eleventh and closing chapter of this so-called scientific report. His name, of course, was Charles Benedict Davenport, and he was not about to let the hard facts of medical science weaken his faith in the religion of eugenics.

Therefore, in this final report of the Pellagra Commission, Goldberger's work was, except for one footnote on pages 226–27, completely ignored. This footnote dismissed, as a failure, Goldberger's careful experiment that disproved the transmissibility of pellagra because Goldberger, according to Davenport, had been ignorant of the non-fact that "the relative insusceptibility to pellagra of young adult men is generally recognized."

The "recently published negative experiment" that Davenport et al. dismissed so cavalierly happened to be the Goldberger experiment described in the *Public Health Service Report* of November 17, 1916—the "Fifteen Men and a Housewife" experiment that wrote finis to the last, lingering chance that pellagra might prove to be an infectious or transmissible disease.

Articles that Garrison and Siler had previously published in various issues of the *Archives of Internal Medicine*, and which both authors had long since agreed had been contradicted by Goldberger's findings, were now reprinted as originally written and/or slightly revised by other hands in the 1917 final report of the Pellagra Commission. These articles by Garrison and Siler constituted the majority of the chapters in the report. The only concession to reality and truth made by Davenport and his co-editors was a footnote to each of the chapters attributed to Garrison and Siler. This bit of fine print informed anyone who could read type that small that "the final copy of the paper itself has been written since Dr. Garrison and Dr. Siler were recalled to active service in the Medical Corps, U.S. Navy, and the Medical Corps, U.S. Army, respectively. They are, therefore, not responsible for the observations of the last two years, for the compilation of the data, or for the deductions drawn from them."

Typical of what Goldberger denounced, in exasperation, as the "false correlations" between the sewage of poor neighborhoods and/or the genealogy of pellagrins, on the one hand, and the real causes of pellagra, on the other, was the table in Chapter 7 of the report. It proved only that poor people are as prone to have the diseases of hunger as were their equally poor neighbors, relatives, and ancestors.

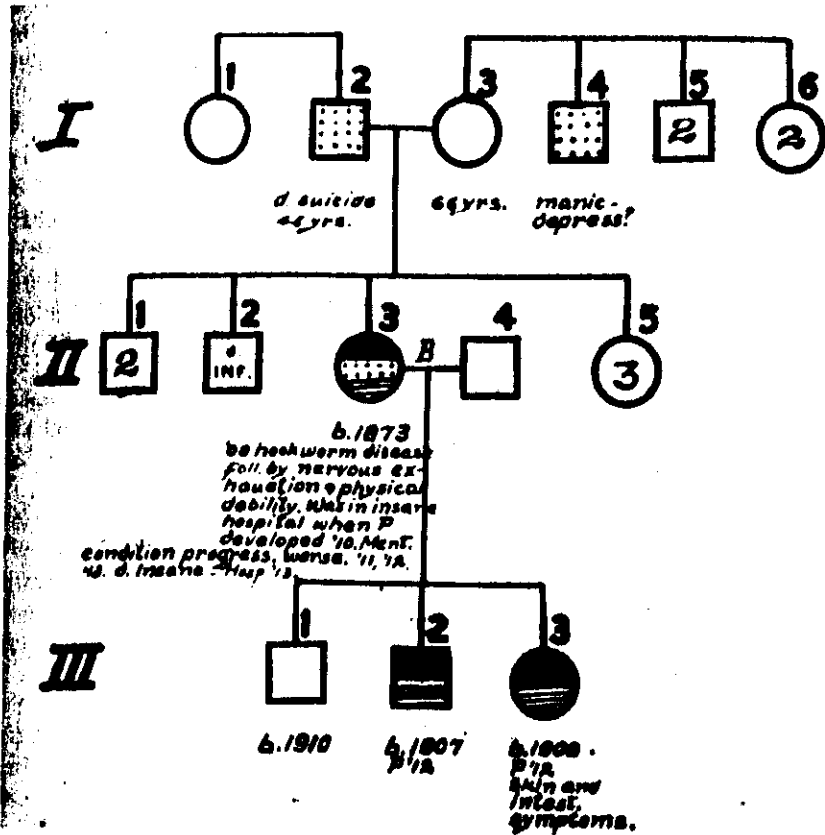
Dr. Muncey's chapter in *Pellagra III* was liberally seasoned with batches of the famous pedigree trees so dear to the hearts of eugenics scholars. This pedigree chart, on page 431 of the report, traced the prevalence of pellagra and other poverty diseases such as "hookworm disease followed by nervous exhaustion and debility" in the family tree and personal history of "Pellagrins #25." This poor woman had died in a madhouse in 1914, after having had hookworm disease initially in 1908 and three subsequent attacks of pellagra-followed-by-madness in 1910, 1911, and 1912. The pedigree chart showed that the woman had three children, two of whom were pellagrins.

Equally impressive, to laymen ignorant of the natural history of pellagra, was Dr. Muncey's Table 5, on page 380 of the report. This table, "Relationship of Pellagrins in Families with Pellagra in the Third Generation," did not, of course, prove that pellagra was in any way a hereditary disease:

Relationship of Pellagrins in Families with Pellagra in the Third Generation

1 grandmother (1911–1913)	—————	1 granddaughter (1914)	Direct
2 grandmothers (1863–1911) (1910–1913)	—————	1 grandson (1913)	Direct
1 grandfather (1912)	Mother (1913–1914)	2 granddaughters (1913–1914)	Direct
1 grandfather (1909)	[Grandmother] (1911)	2 granddaughters (1913)	Direct
1 grandfather (1912–1913)	Father (1912–1913)	1 grandson (1911–1912)	Direct
1 grandfather (1901)	Mother (1907–1913)	1 granddaughter (1911–1913)	Direct
1 grandmother (1910–1912)	Mother (1909–1913)	2 grandsons (1910–1913)	Direct
1 grandfather (1908)	Mother (1904–1913)	2 grandsons (1912)	Direct
1 grandmother (1910–1912)	Mother (1909–1913)	2 grandsons (1910–1912) (1913)	Direct
1 grandmother (1900)	2 mothers (1905) (1910–1911)	2 grandsons (1911–1912)	Direct
1 grandmother (1910–1914)	4 daughters (1910) (1913) (1914)	2 granddaughters (1914)	Direct
1 grandfather (1913)	Son-in-law (1912–1913)	1 granddaughter (1914)	Direct and indirect
1 grandfather (1910–1912)	Daughter-in-law (1912–1913)	2 grandsons (1913) (1914)	Direct and indirect
1 grandfather (1900)	Daughter and son-in-law (1911–1913) (1912)	1 grandson (1911)	Direct and indirect
1 grandmother (1910)	Son and daughter-in-law (1910–1912) (1910)	3 grandchildren (1912)	Direct and indirect
There are also 1 step-grandfather (1911–1914)	3 step-children (1910) (1910) (1913)	2 step-grandchildren (1910) (1913)	
1 step-grandmother (1912)	1 step-daughter (1910–1914)	3 step-grandchildren (1912)	

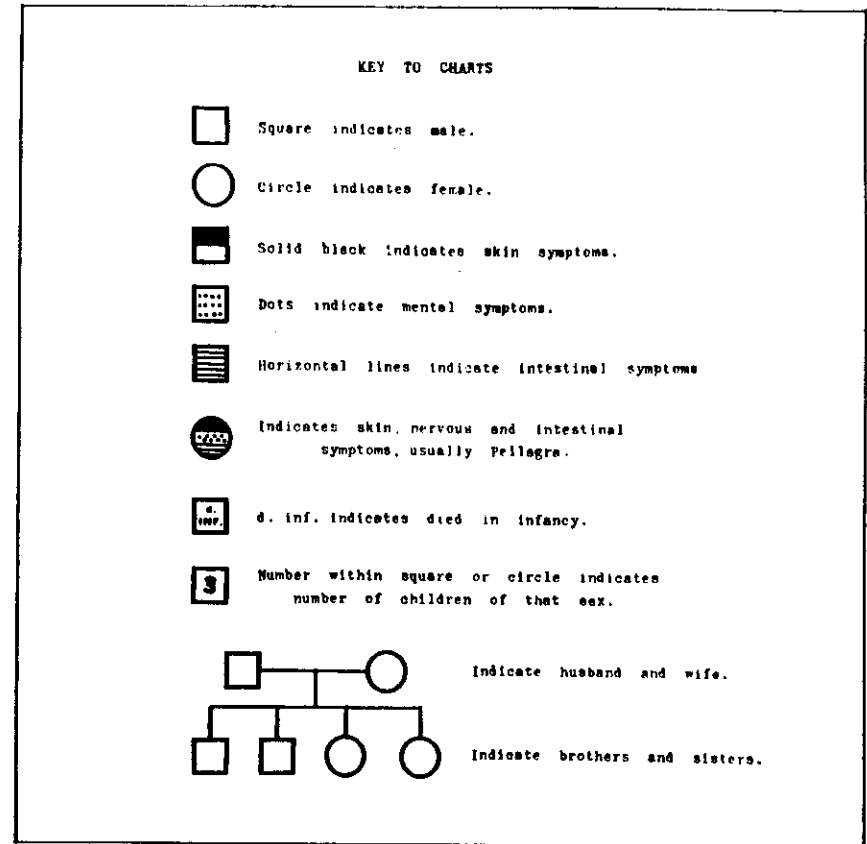
Typical of what Goldberger had denounced as the "false correlations" of eugenical pervasions of medical and social data was Muncey's Table 5 in *Pellagra III*. Far from establishing, as Muncey and her chief Davenport asserted, that pellagra is a hereditary disease, it proved only that the children and grandchildren of poor people will quite predictably suffer the socially preventable deficiency diseases of poverty.



Genealogical or pedigree trees—the famous “black charts” of eugenics propaganda—were employed in 1917 in *Pellagra III* by Davenport and Muncey to “document” the “hereditary” nature of pellagra. Such impressive-looking “scientific” displays were accepted as reliable refutations of Goldberger’s findings about the wholly environmental causes of pellagra by a majority of the American legislators responsible for the goals and administration of minimum wage, health, and family welfare laws and programs dealing directly or indirectly with the causes and prevention of pellagra.

This table, however, certainly did prove, as convincingly as Galton’s actuarial data in his *Hereditary Genius* in 1869 proved, that children follow in the experiential footsteps of their parents and grandparents. Thus, if the grandparents are bankers, bishops, and brigadier generals, their children and grandchildren are statistically quite prone to become chairmen of corporation boards, college presidents, and cabinet ministers. Similarly, if the parents and grandparents speak only French, or have pellagra, the statistical likelihood that the grandchildren will speak French, or have pellagra, is great. But none of these data proved that pellagra was any more genetic than the ability to speak French or inherit banks.

Whether Davenport really believed that he and Muncey had destroyed



the scientific validity of Goldberger’s findings is, today, of little moment. All that does matter, in history, is that in 1916 and 1917 Davenport and Muncey told the greater society what it would rather hear about this endemic disease of poor people.

If pellagra was indeed, as Davenport claimed, an infectious disease of genetically inferior white Anglo-Saxon Protestant breeding stock, then it could not possibly be either prevented or cured by such social actions as minimum-wage laws that would enable the working poor of the South to earn enough money to provide their families with the meats, eggs, dairy products, and vegetables that Goldberger had demonstrated would prevent and/or cure pellagra. Nor could pellagra be prevented, in the families of America’s “defi-

nite race of chronic pauper stocks," by the societal provision of food supplements to families that were too poor to buy meat, fish, poultry, and other sources of niacin.

It was cheaper, it seemed, to believe in the pseudogenetic myth of pellagra as an infectious disease of a subrace of inferior hereditary stock. Such self-defeating socioeconomic illusions were, of course, among the primary reasons why this pseudogenetic hypothesis—as spelled out in the third and final report of the Pellagra Commission—was accepted as scientific truth by the lawyers and businessmen who then made and administered governmental priorities and policies concerning health, education, and human welfare.

The state of knowledge of the American medical community in 1917 happened to be not the least of the other reasons why—in state, county, and city health departments and professional medical societies—Davenport's pseudoscientific pellagra hypothesis was able to prevail over Goldberger's testable scientific findings.

As of 1917, a majority of American physicians were the graduates of inferior, commercial, scientifically and clinically grossly inadequate medical schools. Most of these "medical schools," even those nominally attached to colleges and universities of high repute, were little more than diploma mills. Outside of Johns Hopkins, and a handful of schools that had joined Johns Hopkins in seeking to emulate the better and more scientifically oriented European medical schools, the average American medical school had yet to catch up with nineteenth-century biomedical advances. As the President of the Carnegie Foundation for the Advancement of Teaching, Henry S. Pritchett, wrote in his introduction to the famous study of medical education in the United States and Canada completed for the foundation by Abraham Flexner in 1910: "For the past 25 years there has been an enormous over-production of uneducated and ill trained medical practitioners . . . due in the main to the existence of a very large number of commercial schools."²¹

These "uneducated and ill trained medical practitioners" were also, in 1917 and at least a dozen years that followed, the medical cohort from which the majority of the nation's municipal, county, state, and federal health officers were recruited.

Thus, the lack of scientifically viable societal policies concerning the standards of medical education, and the clinical training of America's doctors, between 1880 and 1920, was to create a population of American physicians who were intellectually quite capable of accepting the impressive 444-page report of the Robert M. Thompson Pellagra Commission of the New York Post-Graduate Medical School and Hospital as the ultimate scientific conclusions on the nature, causes, and treatment of pellagra.

THE GREAT PELLAGRA COVER-UP OF 1916-33

Davenport, Muncey, and their accomplices in the counterfeiting of fake laws on the natural history of pellagra—and the covering up of Goldberger's discoveries—in the final report of the Pellagra Commission in 1917 were, of

course, not the only offenders against the scientific ethic in the matter of this easily preventable deficiency disease of poverty. Some of the nation's well-fed and highly educated true believers in eugenics did not need Davenport's fraudulent *Pellagra III* to persist in the comfortable conviction that pellagra was due to the inborn inferiority of the poor who became pellagrous.

In December 1915, for example—the same year in which Harvard's annual Cutter Lecture in Biology was delivered by Goldberger, the hero of the hour in preventive medicine—the retiring president of the American Association for the Advancement of Science, Charles W. Eliot, for the forty years ending in 1909 the president of Harvard University, delivered a farewell address entitled "The Fruits, Prospects and Lessons of Recent Biological Science."

In his address, which was printed in full in the December 31, 1915, issue of *Science*, the distinguished educator, mathematician, and chemist paid graceful tribute to Jenner and Pasteur; to the Rockefeller Sanitary Commission "through whose well directed efforts . . . hundreds of thousands of persons in the Southern States of the country have been made much more effective laborers, because relieved of the hookworm disease"; to the Rockefeller International Health Commission for taking the fight against hookworm to the barefoot poor abroad; to the work in yellow fever, in syphilis, in improved sanitary food-handling regulations, in bacteriology, in agricultural genetics. Dr. Eliot even found time in his address to predict that the applied biological sciences would soon be employed "in the contest against alcoholism and sexual vice." In regard to alcoholism, he said, "There is every reason to expect that this great field for Christian effort will hereafter be more effectively cultivated than it ever had been."

Dr. Eliot—who four years earlier had served as one of the vice-presidents of the First International Congress of Eugenics, in London—evidently did not think that the eradication of pellagra represented a proper field for Christian effort. Or even one of the sweeter fruits of recent biological science. For the president-emeritus of Harvard had not one solitary word to say about either Goldberger or the conquest of pellagra in his farewell address to the AAAS.

It was not by oversight that Dr. Eliot ignored Goldberger's discovery of the nature and the etiology of this classic disease of poverty, a discovery that had shifted the responsibility of its prevention and eradication from the medical and health professions to the greater society itself.

With the issuance of the Davenport-doctored final report of the Thompson Pellagra Commission, the more backward (if educated) segments of the greater society now had a very official report—over 400 pages long, with mathematical, genetical, and all-so-very-scientific tables and figures, signed by government physicians such as Garrison and Siler as well as by the man billed in the Sunday newspaper supplements as America's greatest biologist, C. B. Davenport—which functioned as a very scientific and authoritative excuse for doing nothing at all about improving the economic opportunities of the poor southern Nordics who developed pellagra for want of adequate foods. As long as *Pellagra III* gave scientific authority to the lie that pellagra

was a matter of bad genes and not bad diet, there were no impelling public health reasons for paying the poor southern whites (let alone the poor southern blacks, who, despite the lore of conventional wisdom, were equally prone to suffer from pellagra) enough money to afford the fresh meats, dairy products, eggs, fresh fruits, and vegetables that both prevented and cured pellagra. Or for the greater society to intervene—in the interests of public health—and provide supplemental pellagra-preventing foodstuffs for the tables of those hard-working southern field and mill workers who could not afford them.

At a time when many southern states were boasting of the low native-white wage scales as they wooed northern industries, this meant that Goldberger not only had to face the opposition of old-time eugenical scientific racists such as Davenport and Osborn: he and the findings of his Public Health Service collaborators had also aroused the angry enmity of the southern (and carpetbagger) employers who were—according to Sydenstricker's Public Health Service statistical data—underpaying and overcharging the white southern Nordics of mill and field. If bad genes in the poor were important and sacred to the Davenports, low wages (and high interest rates and food prices) for the white southern mill hand, small farmer, and hired cotton field hands were equally sacred to the large mill owners, landowners, bankers, and shopkeepers of the well-fed (and therefore pellagra-free), well-shod (and therefore hookworm-free), well-connected and/or well-educated (and therefore with far more ready access to the bounties of what Malthus had termed the feast at Nature's table) southern middle and upper classes.

After 1917, while Goldberger devoted the remaining years of his life to the further study of what he termed the Pellagra Preventive, or PP, factor in protein and vegetable foods, and to battle for a more mature and moral societal approach to the eradication of pellagra, Davenport and the politicians and publicists who preferred his eugenical blandishments went on writing articles and making speeches about pellagra being one of the genetic defects of the poor, *and therefore inevitable and beyond prevention*. In the September 1920 issue of the *Psychological Bulletin*, published by the American Psychological Association, in an article entitled "Heredity of Constitutional Mental Disorders," for example, Davenport not only described "Feeble-mindedness," "Criminality," and "The Epilepsies" as genetic conditions, but also included the following comments under the section heading "Pellagra": ". . . there are biotypes [genotypes] in pellagra characterized by severity of one or the other but often not all of the principal symptoms of pellagra, namely, local inflammations of the skin, inflammations of the intestinal tract *and nervous and mental disorders*" (italics added).

Goldberger's biographer, Robert Parsons, writing in 1943, noted that "the medical profession still numbers a few members who steadfastly ignore all the proofs Goldberger adduced. As late as 1929, an eminent physician of New Orleans concluded the leading article in a prominent American publication with this statement: 'All the evidence of which I have personal knowledge, to which I am able to attach much weight, favors the opinion that pellagra is due to an infection. I am content to remain with the minority who

have not been convinced by *supposed* proof of other causes, and still believe that a specific infection will be found to be the true cause.'"²²

In 1932, Henry Pelouze de Forest, Ph.B., M.S., M.D., the adjunct professor of obstetrics at the New York Post-Graduate Medical School and Hospital who in 1912 served as Major Shufeldt's authority on syphilis, presented a paper at a medical meeting entitled "Peanut Worms and Pellagra,"²³ in which he suggested that the Indian meal moth *Plodia interpunctella* was the real cause of pellagra. He was aware of Goldberger's work, and in fact even cited a 1928 paper by Goldberger and Wheeler on how they induced a pellagra-like condition, "black tongue," in dogs. However, Dr. de Forest said on page 29:

"All available articles on the subject in French, German, Italian, Spanish and American publications have been consulted, and while these authorities agree as to the characteristic lesions of the disease and while the diagnosis is reasonably certain when the skin manifestations are pronounced, *no one has yet definitely demonstrated the cause of pellagra*" (italics added).²⁴

The Davenport-reified pseudo-description of pellagra became so integral an aspect of American conventional wisdom that, as late as 1938, the medical director of the U.S. Public Health Service, A. M. Stimson, had to include a section on pellagra in his history of the Service's bacteriological investigations. "It is known," wrote Dr. Stimson, "that there are still some die-hards who still cling to the infectious theory of pellagra."²⁵

For over a generation, our society was not to lack for leaders who, through ignorance of advances in the biomedical sciences—and/or because of their blind adherence to the dogmas of eugenics and other forms of scientific racism—proved unable or unwilling to use the powers of their elective offices to make the benefits of Goldberger's pellagra findings available to every American infant, child, and adult. It is one of the crowning ironies of modern American history that, in the end, pellagra was to be conquered in the United States not by the wise and universal application of Goldberger's discoveries to American social policies, but, rather, by the fallout of the Great Depression of 1929–41.

Once the stock market crash of 1929 triggered the Great Depression that was to last until we entered World War II, and the federal government—with the defeat of Herbert Hoover's bid for re-election—started disbursing food and welfare funds to save the lives of all people rendered hungry and helpless by the economic breakdown, Goldberger's PP factor started to flow to all the hungry, the chronically malnourished of the land. Once the bankers, the manufacturers, the merchants, the office managers, the white-collar hucksters, and the authors of nasty editorials about the hereditary shiftlessness of the South's "poor-white trash" were now themselves—by the hundreds of thousands—bankrupt, penniless, and hungry, nobody raised Malthusian objections that "at Nature's mighty feast there is no vacant cover" for the unemployed and the starving. Suddenly, the born (or undeserving) poor and the Depression-made (or deserving) poor were in the same boat—and it was the same federal relief programs that protected both classes of American poor from pellagra. (See table on page 224.)

Deaths from Pellagra by Color in the United States

Year	Total Deaths	White People	All Other People	Historical Events and Social Conditions During Same Years
1900	2			Most American doctors unaware of pellagra. Goldberger discovers "that pellagra is a vitamin deficiency disease analogous to scurvy and beriberi."
1914	847			
1915	1,058			Goldberger shows how to cause, cure, and prevent pellagra. Davenport publishes "The Hereditary Factor in Pellagra" in the <i>Archives of Internal Medicine</i> .
1916	1,807			
1917	2,843			<i>Pellagra III</i> , final report of Pellagra Commission, describes pellagra as an infectious disease affecting primarily white people genetically susceptible to its "germ."
1918	3,126			First year U.S. Public Health Service records pellagra deaths of nonwhites. The black 10% of America's population prove to suffer 50% of its pellagra mortalities.
1919	2,568			
1920	2,122			
1921	2,348			
1922	2,514			
1923	2,245	1,143	1,102	
1924	2,206	1,086	1,120	
1925	3,049	1,384	1,665	Death of Joseph Goldberger.
1926	3,501	1,724	1,777	
1927	5,091	2,351	2,740	Stock market crash triggers decade of the Great Depression, impoverishing the nation.
1928	6,523	2,689	3,834	
1929	6,623	2,781	3,842	Start of federal work and food relief in 1933 improves diets of poor families. Start of TVA provides many new jobs.
1930	6,106	2,722	3,384	
1934	3,602	1,914	1,688	Cheap electric power from new TVA dams gives South new grain mills, new markets for local grain, new dairy and poultry industries, and lowers prices of niacin-bearing foods.
1935	3,543	1,963	1,580	
1936	3,740	2,129	1,611	Start of World War II in Europe creates new factories and jobs in the South.
1937	3,258	1,804	1,454	
1938	3,205	1,707	1,498	America enters World War II.
1939	2,419	1,404	1,015	
1940	2,123	1,270	853	During and after World War II, the diets of the southern poor are improved, as continuing industrialization of the South creates more jobs for white and nonwhite poor. Civil Rights Act opens doors to better jobs for southern blacks. ²⁰
1941	1,836	1,137	699	
1968	15	12	3	

Mortality data from U.S. Public Health Service Center for Disease Control, Atlanta, Georgia

The Great Pellagra Cover-Up of 1916-33, which kept the medical benefits of Goldberger's work on pellagra from the entire nation for two decades, was the greatest triumph of scientific racism since 1826—when Thomas Malthus denounced as reprobates those doctors who devised "specific remedies for ravaging diseases; and those benevolent, but much mistaken men, who have thought they were doing a service to mankind by projecting schemes for the total extirpation of particular disorders."

As every doctor knows, had this society, acting on Goldberger's findings, totally extirpated pellagra by making certain that the wages of the poor allowed them to buy all of the foods needed to prevent pellagra, the same benevolent social action would have set off a series of clinical reactions that, at the same time and for the same investment, would have had equally salubrious effects on scores of other particular disorders of malnutrition. Such as, to name but five groups of the ravaging diseases and disorders of chronic malnutrition: (1) low birth weight; (2) inadequate growth levels during the "period of human development extending from the second trimester of gestation well into the second postnatal year, during which the brain appears to have a once-only opportunity to grow properly"²⁷—the period when the human brain achieves 75 percent of its ultimate mature weight; (3) the tragically high rates of often fatal infectious diseases, from measles and diphtheria to pneumonia and tuberculosis, that are always associated with chronic undernourishment the world over; (4) the growth-retarding effects of lifelong malnutrition on the pelvis of the human female, which makes cephalo-pelvic disproportion (CPD) a major cause of injuries during childbirth to the brains and bodies of the children of the world's poor; and (5) the staggeringly high incidences of infection-caused and often fatal dysenteries and diarrheas in the malnourished children of the poor.

It would not be overstating the seriousness of the clinical effects of the Great Pellagra Cover-Up launched by Davenport to say that, in terms of preventable morbidities and mortalities in only these five categories of common diseases and disorders known to be exacerbated by chronic malnutrition, they added up to millions of completely avoidable premature deaths, chronic degenerative diseases, deformations, and otherwise needlessly wasted lives.

The social and historical effects of the Great Pellagra Cover-Up were soon to be eclipsed by two even more crushing victories of scientific racism over scientific truths and moral values. These new triumphs of American scientific racism were to seriously affect the lives and the destinies of millions of human beings, some already born and most of them yet to be born, over the next half century. These two events—the imposition of eugenical perversions of Alfred Binet's benign mental tests on the social decision-making organs of American society, and the U.S. Congress' use of these so-called human intelligence quotient (IQ) test scores in the establishment of America's first exclusionary racial quotas, in the U.S. Immigration Act of 1924—will be examined in the next four chapters.

structure [sic], are apt to be deficient in every quality less useful to the exceptional circumstances of their life."

CHAPTER 9

1. Major, 1947, pp. 607-14.
2. *Ibid.*
3. Stimson, 1938, p. 39.
4. *Report of the Pellagra Commission of the State of Illinois, November, 1911* (Springfield, Ill.: Illinois State Journal Co., 1912).
5. Parsons, 1943, p. 222.
6. Joseph Goldberger, "Typhus Fever: A Brief Note on Its Prevention," *Public Health Reports*, XXIX, No. 18 (May 1, 1914).
7. Lash, 1971, pp. 177-78.
8. Joseph Goldberger, "The Etiology of Pellagra. The Significance of Certain Epidemiological Observations with Respect Thereto," *Public Health Reports*, XXIX, No. 26 (1914), 1683-86. See also Joseph Goldberger, "The Cause and Prevention of Pellagra," *Public Health Reports*, XXIX, No. 37 (1914), 2354-57.
9. After Goldberger's death in 1928 the P-P factor was renamed Vitamin G in his honor. It has since proven to be niacin, one of the vitamins in the B complex. Niacin is produced in our bodies from protein-bearing foods, after ingestion, by the conversion of tryptophan, one of the amino acids present in proteins. It is also found already synthesized in green vegetables, peanuts, and whole-grain cereals.
10. Parsons, 1943, pp. 305-06. See also Joseph Goldberger, G. A. Wheeler, and Edgar Sydenstricker, "A Study of the Relation of Family Income and Other Economic Factors to Pellagra Incidence in Seven Cotton-Mill Villages of South Carolina in 1916," *Public Health Reports*, XXXV (November 12, 1920), 2673-714. Also, by the same authors, "A Study of the Relation of Diet to Pellagra Incidence in Seven Textile-Mill Communities of South Carolina," *Public Health Reports*, XXXV (March 18, 1920), 648-713.
11. *Proceedings of the National Association for the Study of Pellagra; Journal of the American Medical Association*, December 4, 1915, p. 2028.
12. *Public Health Reports*, XXXI, No. 46 (November 17, 1916); also published in *Southern Medical Journal*, Vol. X, No. 4 (April 1, 1917).
13. De Kruif, 1928, pp. 359-61.
14. Parsons, 1943, p. 307.
15. Joseph Goldberger and G. A. Wheeler, "Experimental Pellagra in the Human Subject Brought About by a Restricted Diet," *Public Health Reports*, XXX (November 12, 1915), 3336. See also Joseph Goldberger, "Pellagra: Causation and a Method of Prevention. A Summary of Some of the Recent Studies of the U.S. Public Health Service," *Journal of the American Medical Association*, February 12, 1916, pp. 471-76.
16. Parsons, 1943, p. 308.
17. *Ibid.*
18. *Ibid.*
19. *Proceedings of the National Association for the Study of Pellagra, 1915; Journal of the American Medical Association*, December 11, 1915, p. 2115.
20. Nam Hollow was the natural habitat of the Nams, the Jukes-Kallikaks type of family Davenport had described in *Eugenics Record Office Memoir No. 2, The Nam Family: A Study in Cacogenics*, 1912. "Cottages" was the term the Vanderbilts and other American nabobs applied to their multimillion-dollar summer palaces on the cliffs of Newport.
21. Flexner, 1910, p. x.
22. Parsons, 1943, p. 327.

23. Henry Pelouze de Forest, "Peanut Worms and Pellagra," *West Virginia Medical Journal*, May 1933.
24. De Forest's search of the literature for a demonstration of the true cause of pellagra was not to be matched until 1972, when Professor Richard Herrnstein of Harvard searched the literature and found that most of the experts in the field agree that IQ scores are 80 percent genetic. See chapter 20, below.
25. Stimson, 1938, p. 42.
26. In 1943, the War Food Administration—on the advice of military and civilian doctors—ordered the enrichment of white bread flour with an array of specific vitamins and minerals. The mandated vitamins included the B-complex, whose B-2 component contains niacin (nicotinic acid). This nutritional fortification of bread flour and other grains, such as corn meal, has remained mandatory under post-war federal regulations to the present time. Thus, while well over 25 million Americans still live in poverty, the addition of niacin—Goldberger's pellagra-preventing factor—to the staple foods of the diet of the poor has acted to pretty well eliminate pellagra as an endemic disease in the United States.
Pellagra is, of course, still endemic in those poor nations where the vast majority of the world's population now lives—and food-processing and distribution complexes such as are common in industrialized nations, and average family incomes large enough to purchase fortified bread, flour, and cereals, simply do not exist. A recent World Health Organization study in Africa, for example, reveals that pellagra "has been commonly observed, especially among adults, in some countries of south-eastern Africa. It has been closely studied in Lesotho, where it was found to be a major cause of impaired working efficiency and also of psychiatric disorders. After therapy with nicotinic acid [niacin], however, it was possible to discharge 50% of the subjects in the mental hospital." Quoted from K. V. Bailey, "Malnutrition in the African Region," *WHO Chronicle* 29 (1975), pp. 354-364. See p. 361.
27. John Dobbing, "Lasting Deficits and Distortions of the Adult Brain Following Infantile Undernutrition," Pan American Health Organization, WHO, 1972, p. 22.

CHAPTER 10

1. Stoddard, 1922, p. 69.
2. McDougall, 1921, p. 162. Technically, since the Army mental tests of World War I were graded by letters from A to E, and not by numerical IQ scores—that is, by the numbers arrived at by dividing the so-called mental age (MA) of the testee by his chronological age (CA) and then multiplying this quotient by 100—the Army tests were not IQ tests but intelligence tests. However, since during the past five decades these World War I Army Alpha and Army Beta mental tests have been universally described as IQ tests, and since the types of questions asked on the civilian IQ tests that were also written by Goddard, Terman, Yerkes, and other authors of the Army mental tests were quite identical in form, structure, and proposed function to the Goddard-Binet, the Stanford-Binet, the Point Scale, and other American IQ test questions, I have used the terms "IQ" and "intelligence" and "mental" interchangeably to characterize the Army Alpha and Beta tests of 1917-19.
3. Yerkes, 1921.
4. Klineberg, 1935(a), 1935(b). Also Otto Klineberg, "A Study of Psychological Differences Between 'Racial' and National Groups in Europe," *Archives of Psychology* (Columbia University), 1931.
5. Alfred Binet and Victor Henri, "La Psychologie individuelle," *Année Psychologique*, 1895, 2, 411-65.
6. Hunt, 1964, pp. 210-11.