# Eugenics -- Breeding a Better Citizenry Through Science

During the first few decades of this century, the most influential geneticist in America was Charles B. Davenport. He taught at Harvard until 1899, and then moved to the University of Chicago briefly, before founding the Carnegie Institution's genetics and evolution laboratories at Cold Spring Harbor on Long Island. Shortly thereafter, he persuaded Mrs. E. H. Harriman, widow of a railroad tycoon, to endow a Eugenics Record Office at Cold Spring Harbor as well.

According to Davenport, in his major work, *Heredity in Relation to Eugenics* (1911),

> "The general program of the eugenicist is clear -- it is to improve the race by inducing young people to make a more reasonable selection of marriage mates; to fall in love intelligently. It also includes the control by the state of the propagation of the mentally incompetent. It does not imply the destruction of the unfit either before or after birth."

Falling in love intelligently is, of course, harder than it may sound. And who are the "mentally incompetent" and "unfit"? According to Davenport, it was obvious. They were the people who had the broadly distributed genes for "feeblemindedness". The genotype could be easily diagnosed from the phenotype, and indicated a general atavistic, non-human nature:

> "The acts of taking and keeping loose articles, of tearing away obstructions to get at something desired, of picking valuables out of holes and pockets, of assaulting a neighbor who has something derirable or who has caused pain or who is in the way, of deserting family and other relatives, of promiscuous sexual relations -- these are crimes for a twentieth-century citizen but they are the normal acts of our remote, ape-like ancestors and (excepting the last) they are so common with infants that we laugh when they do such things. In a word the traits of the feeble-minded and the criminalistic are normal traits for infants and for an earlier stage in man's evolution."

The plan of the eugenics movement was that since the poor had these genes for feeblemindedness, which led them to misery, vice, and crime, the obvious solution to American social problems was to sterilize them, and restrict the immigration of more poor.

Davenport's friend Madison Grant was a wealthy New York lawyer, Yale graduate (1887), and an ardent amateur naturalist. He had helped to found the New York Zoological Society, and introduced the eugenic ideals to mass audience in his best-selling *The Passing of the Great Race* (1916). Grant built on Davenport's genetics

to produce a master plan for ending crime and poverty, along with a calculus for emptying the jails and balancing the budget.

> "A rigid system of selection through the **elimination of those who are weak or unfit** -- in other words social failures -- would allow solve the whole question in one hundred years, as well as enable us to get rid of the undesirables who crowd our jails, hospitals, and insane asylums. The individual himself can be nourished, educated and protected by the community during his lifetime, but the state through sterilization must see to it that his line stops with him, or else future generations will be cursed with an ever increasing load of misguided sentimentalism. This is a practical, merciful, and inevitable solution of the whole problem, and can be applied to an ever widening circle of social discards, **beginning always with the criminal, the diseased, and the insane, and extending gradually to** types which may be called weaklings rather than defectives, and perhaps ultimately to **worthless race types**."

Eliminate the social failures, says Grant.

Kill all the nerds?

Sterilize the social discards and then the worthless race types! says Grant. Oh, but wait -- if they're not worthy of propagation, why are they worthy of life?

Details.

These ideas resonated with a wide spectrum of people from all political backrounds. After all, it was scientific! Grant's book was praised by his friend, former president Theodore Roosevelt, who wrote: "The book is a capital book: in purpose, in vision, in grasp of the facts that our people must need to realize.... It is the work of an American scholar and gentleman, and all Americans should be grateful to you for writing it." Much depends, obviously, on how one interprets words like "elimination" and "worthless race types". *The Passing of the Great Race* was translated into German in 1925, and Grant received a fan letter from aspiring politician Adolf Hitler as well: "The book is my Bible," wrote Hitler to Grant.

It would be nice to think there were relatively few things Theodore Roosevelt and Adolf Hitler agreed upon, but this was one. It was a scientific, modern solution to social problems.

Meanwhile, back in the US, Charles Davenport had hired Harry Laughlin as his right-hand man to run the Eugenics Record Office. Laughlin testified for Congress about the poor germ-plasm of the immigrants from southern and eastern Europe, during the hearings which culminated in the Johnson Bill, restricting immigration in 1924. He also testified befoer the Supreme Court, in Buck v. Bell (1927), in which Virginia's right to sterilize a poor woman involuntarily was upheld. The majority decision, written by Justice Oliver Wendell Holmes, Jr., used the most modern opinions of science to render a verdict.

> "It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or let them starve for their imbecility, society can prevent those who are manifestly unfit from breeding their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting Fallopian tubes. . . Three generations of imbeciles are enough."

The interesting aspect of the eugenics movement is that it was mainstream science. *The Passing of the Great Race* was reviewed favorably in the journal *Science*, by MIT geneticist Frederick Adams Woods. Every genetics textbook of the era advanced the case of eugenics, showing how genetics could be used to solve social problems, if we simply believe everything geneticists say, give them lots of money, and not worry too much about individual civil rights, and the poor training and track record of geneticists in that area.

Thus, the first edition of *Principles of Genetics* can talk very casually about people whose stock ought to be eliminated on the basis of their contributions to society. The senior author, Edward Sinnott, became a professor at Columbia, and later, dean of the Yale Graduate School. The junior author, Leslie C. Dunn, also became a professor at Columbia, and became an outspoken critic of racist biology after the Nazis came to power. This passage (and the entire chapter it is from) does not appear in the editions that followed the stock market crash and the Depression, when it suddenly became clear to geneticists that wealth wasn't necessarily a good indicator of genotype.

Geneticists were slow to get it. Many, of course, believed it; they came from the privileged classes and shared the cultural prejudices of the era. Others may not have agreed with Madison Grant or Charles Davenport, but didn't disagree with them publicly. In fact, during the heyday of the eugenics movement, virtually every geneticist of note served below Grant and Davenport on the Advisory Board of the American Eugenics Society. One notable exception was Thomas Hunt Morgan, the great geneticist from Columbia University, who worked in the same building as anthropologist Franz Boas, a tireless critic of eugenics. Morgan published some polite reservations about eugenics in the mid-1920s, but not enough either to piss anyone off or to allow people to invoke his prestige to repudiate the movement. In the mid-1920s the only critics of eugenics were non-scientists or soft scientists, like Boas and Clarence Darrow, a great defender of civil liberties. Darrow evolved from biology's champion at the Scopes trial in 1925 to biology's basher in 1926.

The other exception was bacterial geneticist Herbert Spencer Jennings of Johns Hopkins. Jennings was asked to take a critical look at Harry Laughlin's data, presented to Congress, showing that there was a gradient in criminality when you looked at the country of origin of American immigrants, extending from northwest Europe to southeast Europe. Germans were law-abiding, and Italians were not. Jennings saw that Laughlin's analysis treated the Irish unfairly -- the data showed that they should have been with the Italians (not very law-abiding), but they weren't shown that way, ostensibly because they were tucked away in far northwestern Europe (from which people were supposed to be law-abiding), and showed the whole analysis to be bogus. And that is what Jennings said to Yale economist Irving Fisher, sitting President of the American Eugenics Society in 1925: Laughlin had simply mapped early versus later immigrants to America. The people coming in recently from southeast Europe were poor and therefore criminalistic, and the recent immigrant Irish proved it. Jennings

quietly resigned from the AES Advisory Board.

His colleague Raymond Pearl, however, became the first biologist to take a public stand critical of eugenics. Pearl had long been a supporter of the field, but felt it was out of hand. In his friend H. L. Mencken's magazine, *The American Mercury*, Pearl published "The biology of superiority," the first biological critique of eugenics, which was sufficiently newsworthy as to make national headlines, and earned him the enmity of many biologists. That was 1927, after immigration restriction had already been passed, and Buck vs. Bell had been upheld by the Supreme Court.

When L. C. Dunn wrote a history of genetics in 1965, however, he gave the reader no discussion of the eugenics movement. Maybe he was right, for maybe geneticists had really learned the lessons of the eugenics era, and they could be safely put behind: that wisdom does not necessarily accompany technological achievement; that geneticists (like other citizens) carry the prejudices of their culture, class, and era; and that consequently their pronouncements about human issues should be very cautious.

On the other hand, maybe not. When the Human Genome Project is justified by James Watson on the grounds that genetics has replaced astrology in determining the course of our lives, we are obliged to think about the implications of such a blank check for the power of genetics. Of course, no one is arguing for the destruction of the poor on the grounds of their genes, but we hear free speculation about genes for crime, violence, and intelligence -- as if these were principally or even significantly genetic in origin, and thus amenable to gene therapy (which doesn't exist, of course) or the ever-present option of extirpation. History gives today's scientists a responsibility to keep their pronouncements conservative, and to debunk the misuses of genetics, whether by geneticists themselves or by others.

We hear a lot these days about how all citizens need to know genetics, and that science education must be a high priority. Indeed, that's true. But perhaps the opposite is even truer. Perhaps the highest priority should be educating **scientists** about the humanistic aspects of genetics.

Perhaps the most interesting paradox in the history of eugenics is that the American human genetics community, faced with the embarrassment of the Nazi enthusiasm for eugenics, set out to reinvent itself after World War II. It did so by burying its ancestor, Charles Davenport, and finding a new ancestor, Archibald Garrod, who had published some obscure work in medical genetics in the early part of the 20th century. Nobody in human genetics had cited his work for decades, but he was resurrected by L. C. Dunn, G. W. Beadle, and J. V. Neel in the 1950s, as they sought to legitimize the discredited field, and to reinvent it -- not as social theory any more, but as clinical practice. Then they redefined the term "eugenics", so that it no longer meant "eliminating the stock" -- and what that might imply -- of the poor and marginalized, but rather it now meant genetic screening for clinical syndromes and family counseling.

And then they taught that eugenics the old eugenics was the province of quacks and amateurs, and not the mainstream science that it really was.

And it worked, for a while. There was one book on eugenics published in the 1960s (by Mark Haller) and one in the 1970s (by Kenneth Ludmerer). Modern scholarship on the subject, however, is directly descended from Daniel Kevles' (1985) book, serialized first in *The New Yorker,* at the time of the initial interest in the Human Genome Project.

**A short reading list:**

Allen, Garland A. (1986) "The Eugenics Record Office at Cold Spring Harbor, 1910-1940" *Osiris*, 2:225-264.

Boas, Franz (1916) "Eugenics". *Scientific Monthly*, 3:471-479.

Chase, A. (1977) *The Legacy of Malthus: The Social Costs of the New Scientific Racism*. Urbana, IL: University of Illinois Press.

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Duster, T. (1990). *Backdoor to Eugenics*. New York: Routledge.

Kevles, Daniel (1985) *In the Name of Eugenics*. Berkeley: University of California Press.

Kuhl, S. (1994). *The Nazi Connection*. New York, Oxford University Press.

Lewontin, R. C. (1991). *Biology as destiny: The doctrine of DNA*. New York, Harper/Collins.

Marks, J. (1995) Human Biodiversity: Genes, Race, and History. New York; Aldine de Gruyter.

Mencken, H. L. (1927). “On eugenics.” *Baltimore Sun*, May 15, 1927 (and reprinted).

Nelkin, D., and Lindee, M. Susan (1995). *The DNA Mystique: The Gene as Cultural Icon*. New York, Freeman.

Paul, Diane B., and Spencer, H. G. (1995) "The hidden science of eugenics". *Nature*, 374:302-304.

Pearl, R. (1927). “The biology of superiority.” *The American Mercury* 12: 257-266.

**and a very nice eugenics link:**

**http://vector.cshl.org/eugenics/**

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