

The 'Science' of Eugenics: America's Moral Detour

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When most people think of eugenics, they think of the unspeakable acts of Adolf Hitler and Dr. Josef Mengele. But history tells us that some of America's best and brightest promoted eugenics as settled science and necessary for the preservation of society. Within 100 years, our deep thinkers went from declaring that in our new country "all men are created equal" to espousing the idea that "some animals men are more equal than others."¹

Eugenics was popularized in the in the United States in the 1890s. High school and college textbooks from the 1920s through the 1940s often had chapters touting the scientific progress to be made from applying eugenic principles to the population. Many early scientific journals focusing on heredity in plants and lower organisms were published by eugenicists and included "scientific" articles on human eugenics-promoting studies of heredity.

When eugenics fell out of favor after World War II, most references to eugenics were removed from textbooks and subsequent editions of relevant journals. We cannot erase history. To do so would allow it to repeat itself.

Definition of Eugenics

Eugenics is a science that deals with the improvement (as by control of human mating) of hereditary qualities of a race or breed.² The word is derived from the Greek word *eu* (*good* or *well*) and the suffix *-genes* (*born*). Eugenics is sometimes broadly applied to describe any human action whose goal is to improve the gene pool.

Negative eugenics is aimed at discouraging reproduction among those with hereditary traits perceived as poor, the so-called "unfit" or genetically disadvantaged. This ranges from benign family planning to forced sterilization and genocide. Positive eugenics is aimed at encouraging reproduction among those who are healthy, intelligent, and of high moral character—the "genetically advantaged."

Of course, an obvious problem is who defines which traits are desirable.

Ancient Roots of Eugenics

Man's quest for a perfect society is well documented. In *The Republic*, Plato (c. 400 B.C.) set forth his attempt to mathematically analyze genetic inheritance. He theorized that human reproduction should be monitored and controlled by the state to improve the human race. He was enough of a scientist to know that "gold soul" persons could still produce "bronze soul" children.³ He was intuitive enough to know that the public would not accept this type of government control.

Infanticide was the norm throughout ancient Athens and Sparta. In Sparta, the city elders inspected the newborns to ensure

that only the strong survived, and the weak were left to die. The Fourth Table of the Twelve Tables of Roman Law (c. 450 B.C.) stated that deformed children would be put to death.⁴ Ancient Judaism and Christianity, and by the 4th century European law, religion, and medicine rejected the intentional killing of an infant.

Modern Origins

A highly regarded statistician, Sir Francis Galton of Great Britain, founded the modern science of eugenics. He developed the concept of chi square, regression, and correlation. Additionally, Galton discovered that fingerprints were unique in each person and that there is a genetic difference between fraternal (dizygotic) and identical (monozygotic) twins.

Building on Charles Darwin's work, in an 1865 article "Hereditary Talent and Character,"⁵ Galton examined lineages and biographical information of leading English families. He concluded that "if talented men were mated with talented women, of the same mental and physical characters as themselves, generation after generation," the offspring would be highly bred with no more tendency to revert to their "mongrel antecedents," just like selectively bred foxhounds and race horses.

By 1883, he coined the term "eugenics" for this new science of selective breeding that would forever change humankind.^{6, p 18} While Galton believed in facilitating and even legally mandating biologically conducive marriages, he did not believe regulated marriages were realistic in a democratic society.

Early Eugenics in the United States

Gordon Lincecum, a well-known Texas biologist and physician, could be considered America's first eugenicist.⁷ In 1849 he proposed a bill in Wisconsin mandating sterilization of the mentally handicapped and others whose traits he deemed undesirable. The legislation was never sponsored or brought up for a vote.

Immigration fueled early interest in eugenics. After the U.S. Civil War ended in 1865, there was increasing immigration of Asians and Eastern and Southern Europeans. The Immigration Restriction League, founded in 1894 by three Harvard graduates, was the first American entity associated officially with eugenics. The League wanted to bar what it considered inferior races from entering America and diluting what it saw as the superior American racial stock.

Beginning with Connecticut in 1896, many states enacted marriage laws with eugenic criteria, prohibiting anyone who was "epileptic, imbecile or feeble-minded" from marrying.^{8, p 45} In 1897 Michigan's state legislature became the first in the country to pass a forced sterilization law, but the governor vetoed the bill.

During the late 1890s, the renowned surgeon Albert Ochsner learned to perform vasectomies. He spoke at American Medical Association meetings not only recommending vasectomy for criminals but touting its benefits for “chronic inebriates, imbeciles, perverts, and paupers.”⁹

American Eugenics as “Science”

Charles Davenport, a chicken breeder, agriculturalist, prominent biologist, and Harvard professor, launched the American eugenics movement in 1898. His expertise in science gave eugenics its needed respectability. He was one of the first American scientists to apply Mendelian genetics to human traits, discovering the inheritance of conditions such as albinism and neurofibromatosis.

Davenport believed that complex human traits were controlled by single genes and therefore inherited in a predictable pattern. Davenport moved on from heredity to eugenics. Relying on his single-gene theory, he posited that the human population could be improved by selecting and breeding for desirable traits, just as practiced with livestock.

Stanford president and biologist David Starr Jordan in 1902 originated the notion of “race and blood” in *Blood of a Nation, A Study of the Decay of Races by the Survival of the Unfit*.¹⁰ He “scientifically” concluded that human qualities and conditions such as talent and poverty were passed through the blood. Jordan went on to chair the Committee on Eugenics of the Immigration Restriction League in 1909.

The American Breeder’s Association (now called the American Genetic Association) was established in 1903 to disseminate the latest knowledge on how to plant and harvest more robust strains of corn and other produce. Membership included Alexander Graham Bell, David Starr Jordan, and Luther Burbank. In 1906, Davenport urged the Association to include a eugenics section to investigate heredity in the human race with the goal of breeding humans with superior traits.

In 1910 Davenport, with the American Breeders Association, founded the Eugenics Record Office (ERO) based at Cold Spring Harbor Laboratory on Long Island, New York. Harry Laughlin, who ironically died of epilepsy, was appointed the director of the ERO, with an advisory panel that included a Harvard physiologist, a Princeton psychiatrist, a University of Chicago economist, and Alexis Carrel, winner of the Nobel Prize in Medicine.

The ERO’s first mission was “to identify the most defective and undesirable Americans, at least 10 percent of the population.”^{6, p 59} Davenport used the Stanford-Binet intelligence quotient test to identify the feeble-minded. Even in 1911 the test was viewed as culturally flawed as it contained questions about tennis nets, bowling, Broadway stars, operatic masters, and fine cooking.

With the help of funding from the Andrew Carnegie Foundation, over the course of 29 years the ERO collected hundreds of thousands of pedigrees that documented the heritability of “criminality,” epilepsy, bipolar disorder, alcoholism, and “feeble-mindedness,” a catchall term used to describe varying degrees of mental retardation and learning disabilities. Ignoring the possible influence of environmental factors, Davenport focused on “terminating the bloodlines” of the “submerged tenth” of the populations with “defective germ-plasm.”^{6, p 58}

At the First International Eugenics Congress in 1912, a Carnegie Institute-supported paper, “Preliminary Report of the Committee of the Eugenic Section of the American Breeder’s Association to Study and to Report on the Best Practical Means for Cutting Off the Defective Germ-Plasm in the Human Population” (“Breeder’s Report”), analyzed the problem of the “unfit” and emphasized the pressing need to find solutions.¹¹ The paper presented a variety of remedies to “cut off the supply of defectives” and “eliminate from human stock” the poor, feeble-minded, insane, deformed, deaf, blind, epileptics, and criminalistic.

The well-respected psychologist Henry H. Goddard favored segregation during reproductive years. Davenport favored sterilization and immigration restriction as primary methods to deal with the genetically defective. He created a hierarchy of nationalities, rating them from the most desirable Anglo-Saxon and Nordic peoples to the Chinese and Japanese immigrants, who were almost completely banned from entering the country.

Euthanasia

Euthanasia has been described by eugenicists as the painless killing of an unworthy life.^{6, p 247} The Breeder’s Report listed 10 solutions to the problem of the unfit. Point eight was euthanasia. Fortunately, eugenic breeders believed American society was not ready to implement an organized lethal solution.

However, many mental institutions and doctors practiced passive euthanasia on their own. Eugenicists believed that when tuberculosis was fatal it was due to defective genes, not bacteria. One institution in Lincoln, Ill., fed its incoming patients milk from tubercular cows, believing that a eugenically strong individual would be immune. The result was annual death rates of 30 percent to 40 percent at Lincoln. Other doctors at mental institutions engaged in lethal neglect.^{6, p 255}

Hollywood helped to legitimize euthanasia. A 1917 advertisement for *The Black Stork*, one of many pro-eugenics films, proclaimed “Kill Defectives, Save the Nation.”¹²

Black American Support for Eugenics

In 1905, the Harvard-educated professor and civil rights activist W.E.B. DuBois adopted eugenic principles. He believed “only fit blacks should procreate to eradicate the race’s heritage of moral iniquity.”¹³ Dr. Thomas Wyatt Turner, a charter member of the NAACP, and many black academics at Tuskegee, Howard, and Hampton universities promoted “Assimilationist Eugenics.” They proposed that “The Talented Tenth” of all races should mix, as the best blacks were as good as the best whites. These folks were a bit more evolved in that they believed genetics was co-equal with environment. In later years the NAACP promoted eugenics theory by hosting “Better Baby” contests with the proceeds going to its anti-lynching campaign.

State-Sponsored Sterilization

It was clear from Dr. Ochsner’s journal articles and presentations that forced sterilization was practiced in the late 1800s. No data on the victims exist prior to the first involuntary sterilization law in Indiana in 1907.

In 1914, Harry Laughlin published a Model Eugenical Sterilization Law that would authorize sterilization of the “socially inadequate,” that is, those supported in institutions or maintained wholly or in part at public expense. He and his supporters reasoned that sterilization was cost-effective: segregation for life cost some \$25,000 and sterilization a mere \$150.

The model law encompassed the “feebleminded, insane, criminalistic, epileptic, inebriate, diseased, blind, deaf, deformed, and dependent”—including “orphans, ne’er-do-wells, tramps, the homeless and paupers.” Eighteen states passed laws based on Laughlin’s 1922 revised model law.¹⁴ By the 1920s, 33 states had compulsory sterilization laws.

Sixty-four thousand people were forcibly sterilized in 30 states from the early 1900s to the mid-1970s. Once eugenics was discredited in the 1940s, the new rationales for sterilization were solving social problems and cutting the welfare rolls. In North Carolina, an IQ of 70 or lower qualified for sterilization. Here, state social workers could file petitions for sterilization. One social worker sterilized her entire caseload.¹⁵

Margaret Sanger and Birth Control

Margaret Sanger, well-known as the founder of Planned Parenthood, was a proponent of negative eugenics, that is, reducing reproduction by those considered unfit. She believed that birth control was the fundamental element of eugenics. She disagreed with the ERO about “positive eugenics,” whereby superior persons are encouraged to produce more children.

Sanger founded the Birth Control League in 1917. The name was changed to Planned Parenthood in 1942. In her 1922 book, *The Pivot of Civilization*,¹⁶ in a chapter entitled “The Cruelty of Charity,” Sanger criticized philanthropy, as it tends to perpetuate “human waste.” She also advocated mandatory IQ testing for the lower classes and the issuance of government-approved parenthood permits as a prerequisite to having a child. In her 1932 essay, “My Way to Peace,” Sanger proposed that “the whole dysgenic population would have its choice of segregation or sterilization.”¹⁷

Eugenics and the Law

The infamous 1927 *Buck v. Bell* Supreme Court case made eugenical sterilization the law of the land.¹⁸ The case arose from Virginia’s Eugenical Sterilization Act based on Laughlin’s model law. The plaintiff, Carrie Buck, a 17-year-old girl from Charlottesville, was the first person chosen for sterilization. Carrie had a child out of wedlock—likely as the result of a rape by a friend of her foster family. Since her mother was a prostitute, the Virginia Colony Asylum decided that Carrie should be institutionalized because she and her mother Emma shared the hereditary traits of “feeblemindedness” and sexual promiscuity.

A legal challenge was mounted. At her trial, the Colony superintendent testified that Emma Buck had “a record of immorality, prostitution, untruthfulness, and syphilis.” Further, “these people belong to the shiftless, ignorant, and worthless class of anti-social whites of the South.”^{18, p 134}

A sociologist and a Red Cross nurse examined Carrie’s baby and decided she was “below average” and “not quite normal.”^{18, p 117} Relying on these comments, the judge concluded that Carrie should be sterilized to prevent the birth of other

“defective” children.

On appeal to United States Supreme Court, Justice Oliver Wendell Holmes, Jr., a student of eugenics, wrote the formal opinion for the Court:

Carrie Buck is the probable potential parent of socially inadequate offspring, likewise afflicted, that she may be sexually sterilized without detriment to her general health and that her welfare and that of society will be promoted by her sterilization.... It is better for the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. Three generations of imbeciles are enough.^{18, p 208}

School records prove that Carrie’s daughter Vivian was not feebleminded. Her first grade report card showed that Vivian was a solid “B” student, received an “A” in deportment, and had been on the honor roll.^{8, p 190} Sadly, she died at age 8 from enteritis—probably a preventable childhood disease. Carrie was released and became a housekeeper and an avid reader, and she married a carpenter in 1932.

The *Buck v. Bell* precedent allowing sterilization of the “feebleminded” has never been overruled.

In 1942, *Skinner v. Oklahoma* was the second Supreme Court case challenging forced sterilization.¹⁹

Oklahoma was one of 13 states permitting involuntary sterilization of criminals. Jack Skinner was a three-time felon, guilty of stealing chickens at age 19, and convicted twice in later years for armed robbery.

Justice William O. Douglas began his opinion by pointing out:

Marriage and procreation are fundamental to the very existence and survival of the race. The power to sterilize, if exercised, may have subtle, far-reaching and devastating effects. In evil or reckless hands, it can cause races or types which are inimical to the dominant group to wither and disappear.^{19, p 541}

The Court struck down the law based on the Fourteenth Amendment’s Equal Protection clause because under the legislation, a three-time chicken thief could be sterilized while a three-time embezzler could not. Justice Douglas specifically distinguished *Skinner* from *Buck* because the law in *Buck* allowed a hearing for the person to be sterilized.^{19, p 538}

Despite the *Skinner* case, sterilization of people in institutions for the mentally ill and mentally retarded continued through 1974.

The final nail in the coffin for state-sponsored sterilization was the 1974 case of *Relf v. Weinberger*.²⁰ In Alabama in 1973, officials from the Federal Community Action Program (an anti-poverty program for minorities) took the Relf girls, Katie, 16, Mary Alice, 14, and Minnie, 12, to a doctor who inserted an IUD in Katie and sterilized Minnie and Mary Alice. Their mother signed the consent form after being told only that the girls would receive “some shots.”²¹ The district court in striking down the federal sterilization guidelines, noted that “an indefinite number of poor people have been improperly coerced into sterilization.”²² The appeals court affirmed and called for new clear federal guidelines with respect to minors, incompetent adults, and consent.

The *Relf* case brought to light other highly unethical practices including the so-called “Mississippi appendectomies” or stealth sterilization during other surgeries. *Relf*, coupled with the just-completed congressional hearings on the abominable Tuskegee syphilis experiments, exposed the government’s role in violating individual rights.

Genomic Medicine

Even before the 30,000 genes in the human genome were fully sequenced in 2003, genetic screening was commonly used. Genetic screening of potential parents allows physicians to screen for as many as 400 hereditary conditions. Post-pregnancy screening to predict certain conditions in the fetus is widely available and has become routine.

Moving closer to a eugenic frame of mind is pre-implantation genetic screening, in which embryonic samples are examined before uterine implantation. Here the lab can diagnose chromosomal structural aberrations or disorders due to a single gene only (autosomal recessive, autosomal dominant, or X-linked), so-called 3,000 “Mendelian diseases.” Then only healthy embryos are implanted.

Ooplasm transfer is a technique to enhance fertility, not to specifically diagnose or modify the embryo. Here, the transferred material (proteins, RNA, small molecules, and organelles) from a healthy ovum is transferred to an egg of the woman with fertility problems. The offspring have the DNA of two women and one man. More than two dozen births attributed to ooplasm transfer have been reported by three clinics since 1998. In 2002, the Federal Drug Administration halted this procedure but is reconsidering its re-introduction.

One type of genetic engineering is already in use. Somatic modification (sometimes called negative engineering) adds genes to the somatic cells. Somatic cells make up organs like skin, liver, heart, lungs, etc., and these cells vary from one another. This type of genetic therapy attempts to repair or treat diseases, such as Type 2 diabetes, Parkinson’s disease, atherosclerotic heart disease, stroke, Alzheimer disease, and cancer. Here, the changes are not passed along to descendants.

The purpose of germline modification or positive engineering is to enhance a person’s genes. This process would change the genes in reproductive cells, i.e., sperm cells, egg cells, and cells from very early embryos. These changes would be passed along to the person’s offspring. This is considered a line that science should not cross. Some advocates say this is the next step in reproductive freedom.

Can genomic medicine be framed as 21st-century eugenics? Certainly, germline modification may start with good intentions but could be used to modify embryos not for health reasons, but for the sake of “improvement” or “designer babies.” Look how quickly we have moved from disease screening to pre-emptive abortions and “savior” siblings. You decide.

Conclusion

Eugenics was the science of the day, but it was based on poor research and largely based on value judgments put forth as scientific facts. Eugenics was a conduit for prejudices and an opportunity for social engineering.

More than with other programs that intervene in the conduct of our lives, with eugenics many serious questions arise. Who will exercise control? Who decides which genes are defective? Who decides abnormal behavior? Who decides the genetic worth of prospective human beings?

The real lesson is that eugenic programs could not have been successful without the state—the state that was willing to trammel the civil rights of individuals for the supposed common good. Hitler took his cue from American eugenics. Fortunately, his excesses brought the folly and inhumanity of this “scientific” endeavor to light. America’s commitment to personal autonomy needs to continue to supersede any future efforts at government social control.

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