

Charles Benedict Davenport (1866–1944)

Charles Benedict Davenport was an early twentieth-century experimental zoologist. Davenport founded both the Station for Experimental Evolution and the Eugenics Record Office at Cold Spring Harbor in New York. Though he was accomplished as a statistician and as a scientist, Davenport's also has a legacy as the scientific leader of the eugenics movement in the US. Eugenics, an attempt to apply genetic science to improve humanity by selective breeding, was a major public health movement in Europe and the United States in the twentieth century prior to World War II. Davenport's involvement in the eugenics movement helped pave the way for the sterilization of tens of thousands of US citizens.

Davenport was born in Stamford, Connecticut, on 1 June 1866. His mother was Jane Joralemon Dimon Davenport, and his father was Amzi Benedict Davenport. A teacher and founder of a private academy in Brooklyn, Davenport's father educated him at home until he was 13. By most accounts an overbearing and controlling man, Davenport's father insisted that Davenport pursue a degree in civil engineering.

Davenport graduated from the Polytechnic Institute of Brooklyn with an undergraduate degree at the age of 20, after which he worked on a railroad survey in Michigan for nine months. Davenport's mother was very supportive of his long-standing interest in science and nature. She funded most of his studies. Davenport graduated with an undergraduate degree in Zoology from Harvard in 1889. He stayed at Harvard and obtained his PhD in 1892 under the direction of E. L. Mark.

Upon receiving his doctoral degree, Davenport became an instructor in zoology at Harvard. The University of Chicago in 1899 offered him a position that he immediately accepted. Davenport taught in Chicago until 1904, achieving the rank of associate professor under department chair Charles Otis Whitman, who encouraged him to expand the study of heredity at the Marine Biological Laboratory in Woods Hole, Massachusetts.

Meanwhile, Davenport had become director of the summer school for secondary and college teachers at the Biological Laboratory at Cold Spring Harbor. Through his connections there, he persuaded the Carnegie Institution of Washington to fund the Station for Experimental Evolution at Cold Spring Harbor, a center for the study of heredity based on the newly rediscovered work of Gregor Mendel. Davenport left the University of Chicago in 1904 to become the full time director of this station.

Davenport wanted to expand the study of heredity in humans. In 1910, he persuaded the widow of E. H. Harriman to endow a research facility dedicated to eugenics. The Eugenics Record Office at Cold Spring Harbor, funded by Harriman and later by the Carnegie Institution, became a clearinghouse for the research data created by field workers in the growing eugenics movement. Davenport, director of the Eugenics Record Office, also maintained his directorships at the Station for Experimental Evolution and the Biological Laboratory.

Davenport published many scientific papers with his wife, Gertrude Crotty Davenport, an embryologist and geneticist. He was also the author of several animal genetics studies, a manual for geneticists called *Statistical Methods with Special Reference to Biological Variation* (1904), and *Heredity in Relation to Eugenics* (1911). This latter book constituted an argument for state control of human breeding, especially of those deemed genetically unfit because of a history of criminal behavior, mental illness, poverty, or feeble-mindedness, a term used at the time to describe low intelligence. The book also called for state sponsorship of incentives for the procreation of the wealthy and intelligent. Davenport presented a great deal of data about heredity gathered by the

Eugenics Record Office, which modern reviews found problematic.

Davenport subscribed to the theory of heredity put forth by August Weismann, which discounted environmental effects on inherited characters. The first chapter of his 1906 book *Inheritance in Poultry* describes this theoretical foundation, and names a few of his other scientific influences, referencing earlier work on the subject of heredity by Charles Darwin, Karl Wilhelm von Nägeli, and Francis Galton. Galton's studies of identical twins were particularly relevant to Davenport, because they supported his scientific claims that genetics mattered more than upbringing. Indeed, in the early days of his attempts to pull together funding and premises for the Eugenics Record Office, Davenport had sought the advice of Francis Galton, the father of the eugenics movement, and that of his protégé Karl Pearson.

Two leading geneticists of the time, Thomas Hunt Morgan and Herbert Spencer Jennings, both dismissed and discounted Davenport's work. Mendel's work had been rather recently rediscovered, and Davenport used a somewhat simplistic system of Mendelian inheritance when, for example, he suggested that a trait such as insanity could be traced and understood by constructing a pedigree of it, as though only one Mendelian character were involved. Much of Morgan and Spencer's own research showed that multiple genetic factors often went into producing complex traits. Both claimed that Davenport was producing results that would, in time, be discarded by scientists.

Neither Morgan nor Jennings, however, spoke out strongly against the political ramifications of Davenport's work. Harry Laughlin, Davenport's colleague and supervisor of operations at the Eugenics Record Office, was a strong activist for the eugenics cause, and had much influence over policy makers. With Davenport's knowledge, if not his explicit support, Laughlin drafted model legislation language for compulsory sterilization laws and immigration restrictions based on eugenic science.

The sterilization laws were adopted in the US with modifications by thirty-three state legislatures, including Oregon, California, and Virginia, which passed the Virginia Sterilization Act in 1924. Furthermore, such laws and programs were Germany's models for its sterilization program in the 1930s and early 1940s. The immigration restrictions, which placed quotas on the number of immigrants that would be admitted from Eastern Europe, allegedly a source of weak genetic stock, were adopted by the US Congress and not modified for some years. They have not been repealed in full.

Davenport was a member of sixty-four scientific societies, including the American Philosophical Society and the National Academy of Sciences. He received the National Institute of Social Science's gold medal in 1923, and in 1934 was president of the Third International Congress of Eugenics. By the mid-1930s, eugenics had fallen out of favor with both the scientific community and policy makers.

Davenport retired from his three directorships at Cold Spring Harbor in 1934, staying at the facility only as a researcher. While his eugenics work dominates his legacy, Davenport also helped introduce statistical methods to the study of evolution. Davenport died at Cold Spring Harbor on 18 February 1944.

Sources

1. Carlson, Elof. "Scientific Origins." The Image Archive on the American Eugenics Movement. http://www.eugenicsarchive.org/html/eugenics/essay_2_fs.html. (Accessed May 1, 2011).
2. Davenport, Charles Benedict. *Statistical Methods with Special Reference to Biological Variation*. New York: John Wiley and Sons, 1904. <http://www.archive.org/details/statisticalmeth00davegoog> (Accessed May 1, 2011).
3. Davenport, Charles Benedict. *Inheritance in Poultry*. Washington, D. C.: Carnegie Institution of Washington, 1906.
4. Davenport, Charles Benedict. *Heredity in Relation to Eugenics*. New York: Henry Holt and Co., 1911. <http://www.archive.org/details/heredityinrelat02davegoog> (Accessed May 1, 2011).
5. Mieklos, David. "Research Methods." The Image Archive on the American Eugenics Movement. http://www.eugenicsarchive.org/html/eugenics/essay_3_fs.html. (Accessed May 1, 2011).

6. Paul, Diane B. *Controlling Human Heredity: 1865 to the Present*. Amherst, New York: Prometheus Books, 1998.
7. Reilly, Phillip R. *The Surgical Solution: A History of Involuntary Sterilization in the United States*. Baltimore: Johns Hopkins University Press, 1991.
8. Shor, Elisabeth N. "Davenport, Charles Benedict" *Dictionary of Scientific Biography* 3: 589-590.
9. Witowsky, Jan Anthony. "Charles Benedict Davenport: 1866-1944." In *Davenport's Dream: 21st Century Reflections on Heredity and Eugenics*, eds. Jan Anthony Witowsky and John R. Inglis, 35-58. Cold Spring Harbor, New York: Cold Spring Harbor Laboratory Press, 2008.