

Galton's Ghost
The Eugenics Movement in the
History of Statistics

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Why Study History?

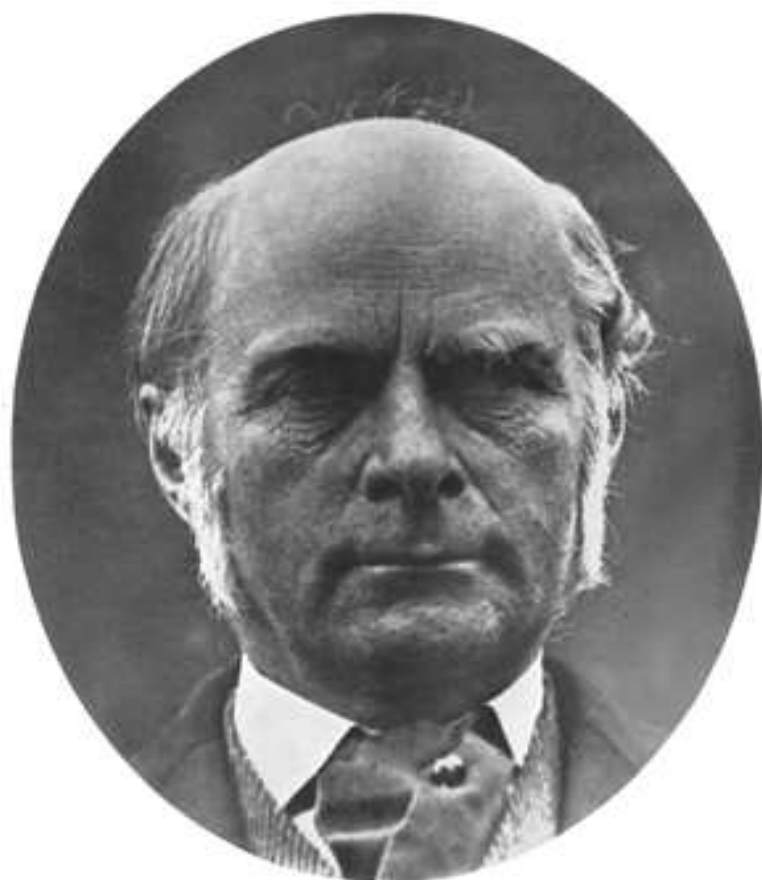
- It helps explain the present.
- It helps predict the future.
- It is consistent with my Neo-Marxist roots.
- In this specific case, in order to see how the Eugenics movement still influences how we conduct statistical analyses.

The Scientific World in 1859

- The impact of publishing Darwin's work, 'Origin of the Species' was profound and immediate.
- He was denounced by Bishop Samuel Wilberforce for his 'atheistic' ideas.
- Other scientists of the day, Joseph Hooker and Thomas Huxley, accepted his ideas based on the voluminous supporting data that Darwin included in his book.

Francis Galton

- Galton was a half-nephew of Charles Darwin, and fervently believed in the contents of 'Origin of the Species'.
- 'The publication in 1859 of the *Origin of Species* by Charles Darwin made a marked epoch in my own mental development, as it did in that of human thought generally. Its effect was to demolish a multitude of dogmatic barriers by a single stroke, and to arouse a spirit of rebellion against all ancient authorities whose positive and unauthenticated statements were contradicted by modern science.'



The Birth of Eugenics

- Francis Galton invented the word 'Eugenics' to describe a science to improve 'the inborn qualities of a race'.
- The root of Galton's concern was that overbreeding in the British lower classes were producing new generations, each with less mean intelligence than the last.

Natural Selection

- Galton's ideas came from work on animal husbandry, where in the thirty years since the publication of *Origin of the Species*, British farmers had learned how to improve production through selective breeding of animals.
- The argument for 'prescriptive' Eugenics was to apply this lesson to human reproductive processes.

Statistical Modeling

- Galton used a form of regression to demonstrate the relationship between the physical characteristics of mothers and children (see handout).
- He also argued, in his book 'Hereditary Genius' that intelligence was one of these inherited characteristics.

Galton's Influence on Karl Pearson

- 'The right to live does not connote the right of each man to reproduce his kind ... As we lessen the stringency of natural selection, and more and more of the weaklings and the unfit survive, we must increase the standard, mental and physical, of parentage.'

Karl Pearson in *Darwinism, Medical Progress and Parentage* (London 1912).

Galton's Influence on Fisher

- Fisher cites Galton in stating 'The system of social promotion shows itself as a machine acting with the automatic certainty of natural law, uniting the highest forms of ability with relative sterility or defectiveness of reproductive instincts at one end of the scale; and, at the other, the lowest grades of ability with all the genetic determinants of high fertility.' *The Social Selection of Human Fertility, 1932 Herbert Spencer Lecture.*

Eugenics in the US

- ‘The normal man goes to war, the man of low intelligence is left at home. The next generation bears the loss of the former plus the burden of the latter *and his children*. Florence Mateer, ‘The moron as a war problem.’ *Journal of Applied Psychology*. Volume 1, Pages 317-320, 1917.

Galton's Ghost

- Galton's use of regression to predict human characteristics also reappears in the development of standardized intelligence tests.
- Henry Goddard used IQ tests to segregate the mentally retarded with an aim to stopping them from reproducing.
- In 1913 Goddard was put in charge of screening immigrants trying to come to the US
- In 1917 he reported that approximately 80% of the European immigrants trying to enter the US were 'feeble-minded', and they were denied entry to the US on this basis.

Eugenics and Events Leading to the Holocaust

- Eugenic Theory was the intellectual basis for the Nazi treatment of Jews, Gypsies and Slavs in the events that led to the Holocaust.
- 1933 sterilization of the mentally ill
- 1935 marriage laws prohibiting marriage between Jews and Gentiles
- 1938 Kristallnacht
- 1939 The 'St Louis' voyage

Holocaust Chronology

- 1939-1945 The murder of 5,000 children with birth defects
- 1940-1941 70,000 'mercy deaths' of those with 'incurable' illnesses
- 1939-1941 Jews are segregated into ghettos
- 1941 Death camps are begun, from 1941 to 1945 approximately six million jews died

And his continued influence on Sir Ronald Fisher

- *'Hereditary Genius* [by Francis Galton] stands to-day as one of the great books of the nineteenth century. This is not due to its influence on popular thought, but to its inherent qualities.' R. A. Fisher's Review of the reprint of the second edition of *Hereditary Genius*. *Eugenics Review* **43**, 37, 1951.

Galton's Ghost

- The Randomized Clinical Trial
- Most of Fisher's work was done in agricultural research, and then applied directly to human research
- As a consequence, most of Fisher's designs do not properly account for human choice
- People make choices that plants do not make, often making randomization schemes ineffective (Fogg and Gross, 2000)

Experimental Design

- Experiments with humans will never be successful unless the interests of the participants are placed ahead of any other considerations (Gross and Fogg, 2001).
- If participants think that they are being placed at a disadvantage by participating in an experiment, they will leave, and any hope of achieving randomization will be lost.

Psychometrics

- The field of measuring human intellect is still a remnant of Galton's anthropometric laboratories.
- Current measures of intelligence focus on the most static definitions of intelligence.
- 'Walk into a remedial classroom in OPRF, and all you see are angry, black males.'

Where have all the Eugenecists gone? To the political right...

- 'In the '70s and '80, Muslims had children - those self-detonating Islamists in London and Gaza and Bali are a literal baby boom - while westerners took all those silly books about overpopulation seriously. A people that won't multiply can't go forth or go anywhere. Those who do will shape the world we live in.' Mark Steyn, 'Vale of Tears?' *The Australian*, 2/16/06.

...and to the left

- **Rotterdam, Netherlands (LifeNews.com)** -- A pro-abortion city councilwoman in Rotterdam says that forced abortions should be used to curb the "problem" of unwanted children in Holland and its territories.

Alderman Marianne van den Anker of the Leefbaar Rotterdam (LR) party says the forced abortion and contraception would reduce the incidence of child abuse.

- Van den Anker has two children and is the official in charge of the city's health issues. (2/21/06)

What should we do?

- Jacob Klein 'Greek Mathematical Thought and the Origins of Algebra'
- It isn't sufficient for a scientific model to be logical and internally consistent.
- If the actions associated with a theory are inherently unethical, it doesn't matter whether it is analytically correct or not, it can't be good science.

The Bottom Line

- Western view that science is an entirely analytical pursuit is false.
- Imperative issues about what we ought to do are more important than whether we are capable of doing them.
- Statisticians have an obligation to try to make sure that we don't revisit our mistakes of the past.