



## Lecture 15

# “Evolution and Eugenics”

*“Man scans with scrupulous care the character and pedigree of his horses, cattle and dogs before he matches them; but when he comes to his own marriage he rarely, or never, takes any such care.”*

*Darwin, Descent of Man, 1871*

# Motto for today

*“No matter what anybody tells you, words and ideas can change the world.”*

Robin Williams, Dead Poets Society

# Road Map

- Natural selection and human affairs
- A convert to evolution: Francis Galton
- Galton's utopian vision: "eugenics"
- The eugenics movement in Britain
- The eugenics movement in the United States
- The long shadow of eugenics

# Natural Selection and Human Affairs

- In the 1860s, many naturalists expressed doubts about natural selection as the main cause of evolution
- Many more (including Wallace) were skeptical that natural selection could account for human origins
- But at the same time, some who accepted Darwin's theory worried that natural selection might not work on humans once they were civilized, with potentially disastrous consequences
- Today's lecture is the (tragic) story of what became of this particular worry....

# Natural Selection and Civilization

*“In our complicated modern communities a race is being run between moral and mental enlightenment and the deterioration of the physical constitution through the defeasance of the law of natural selection;—and on the issues of that race the destinies of humanity depend.”*

William R. Greg, "On the failure of 'Natural Selection' in the case of Man", *Fraser's Magazine*, 1868

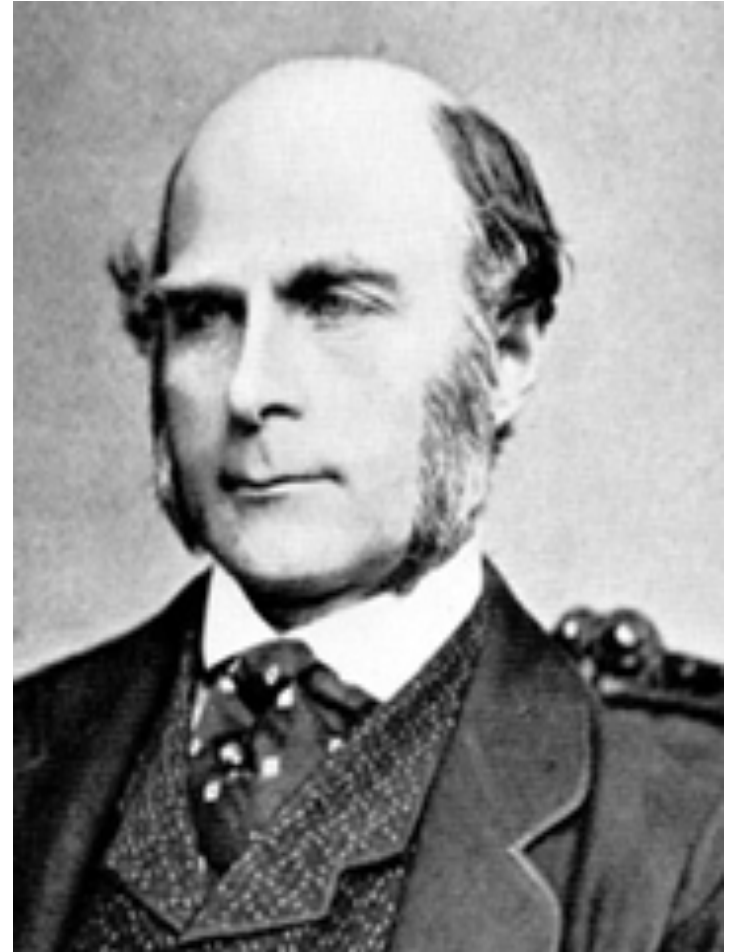
***“...a most intricate problem...”***

*“The advancement of the welfare of mankind is a most intricate problem: all ought to refrain from marriage who cannot avoid abject poverty for their children; for poverty is not only a great evil, but tends to its own increase by leading to recklessness in marriage. On the other hand, as Mr Galton has remarked, if the prudent avoid marriage, whilst the reckless marry, the inferior members will tend to supplant the better members of society.”*

Darwin, *Descent of Man*, 1871

# Francis Galton, 1822–1911

- Darwin's cousin
- Polymath – geographer, meteorologist, statistician, anthropologist, psychologist
- After reading the *Origin*, he devoted the next 50 years to investigating the effects of inheritance on human character
- In 1883, coined the term “eugenics”



# Galton's tribute to Darwin

"I always think of you in the same way as converts from barbarism think of the teacher who first relieved them from the intolerable burden of their superstition... the appearance of your 'Origin of Species' formed a real crisis in my life; your book drove away the constraint of my old superstition as if it had been a nightmare and was the first to give me freedom of thought."

Ever and yours a very  
happily Christmas  
Believe me very sincerely  
Francis Galton.

42 Rutland Gate Sw  
Dec 24 - 1869

My dear Darwin.  
It would be  
idle to speak of the delight  
your letter has given me,  
for there is no one in the  
world whose approbation  
in these matters can have the  
same weight as yours. Next  
is there any one whose  
approbation I prize more  
highly, or purely personal

grounds, because I always  
think of you in the same way  
as converts from barbarism  
think of the teacher who first  
relieved them from the  
intolerable burden of their  
superstition. I used to  
be wretched under the weight  
of the old fashioned 'arguments  
from design', of which I felt  
though I was unable to prove  
to myself, the worthlessness.  
Consequently the appearance  
of your 'Origin of Species'  
formed a real crisis in  
my life; your ~~book~~ book  
drove away the constraint  
of my old superstition as  
if it had been a nightmare  
and gave me freedom of  
thought. I ~~now~~ took forward ungrudgingly  
your final opinion after  
you had quite gone through  
the book. — wishing



## HEREDITARY TALENT AND CHARACTER.

BY FRANCIS GALTON.

### PART I.

THE power of man over animal life, in producing whatever varieties of form he pleases, is enormously great. It would seem as though the physical structure of future generations was almost as plastic as clay, under the control of the breeder's will. It is my desire to show, more pointedly than—so far as I am aware—has been attempted before, that mental qualities are equally under control.

A remarkable misapprehension appears to be current as to the fact of the transmission of talent by inheritance. It is commonly asserted that the children of eminent men are stupid; that, where great power of intellect seems to have been inherited, it has descended through the mother's side; and that one son commonly runs away with the talent of a whole family. My own inquiries have led me to a diametrically opposite conclusion. I find that talent is transmitted by inheritance in a very remarkable degree: that the mother has by no

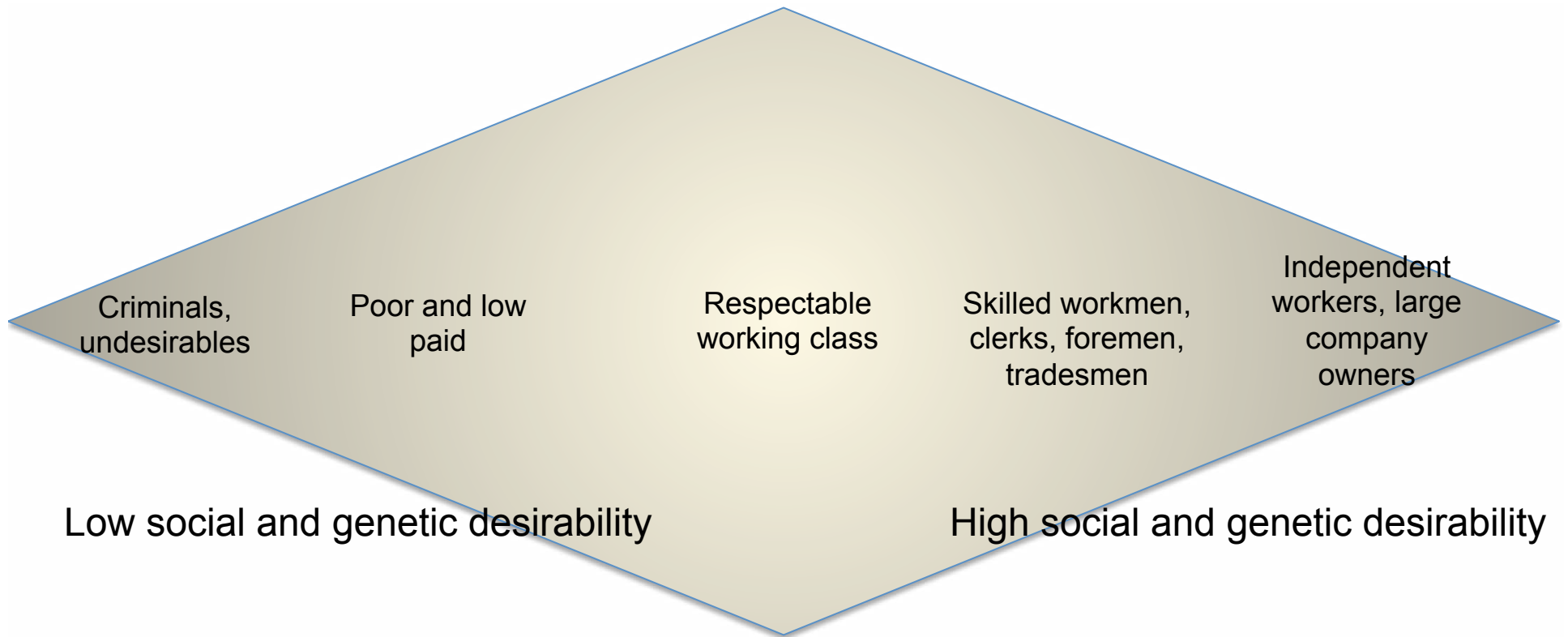
I now proceed to adduce, which I believe are amply sufficient to command conviction. They are only a part of much material I have collected, for a future volume on this subject; all of which points in the same direction. I should be very grateful to any of my readers for information that may help me in my further inquiries.

In investigating the hereditary transmission of talent, we must ever bear in mind our ignorance of the laws which govern the inheritance even of physical features. We know to a certainty that the latter exist, though we do not thoroughly understand their action. The breeders of our domestic animals have discovered many rules by experience, and act upon them to a nicety. But we have not advanced, even to this limited extent, in respect to the human race. It has been nobody's business to study them; and the study is difficult, for many reasons. Thus, only two generations are likely to be born during the life of any observer; clothing conceals shape: and each individual rarely

# Galton's vision “Hereditary Talent and Character”, 1865

- Humans are evolved animals
- Mental as well as physical characteristics are overwhelmingly the result of inheritance
- The “artifice” of civilization means that natural aptitude is not reliably favored by natural selection
- Therefore... *“If a twentieth part of the cost and pains were spent in measures for the improvement of the human race that is spent on the improvement of the breed of horses and cattle, what a galaxy of genius might we not create!”*

# Galton's social hierarchy of genetic worth



# Eugenics

*"Eugenics is the study of the agencies under social control that seek to improve or impair the racial qualities of future generations either physically or mentally."*

Francis Galton, *Inquiries into Human Faculty and its Development*, 1883

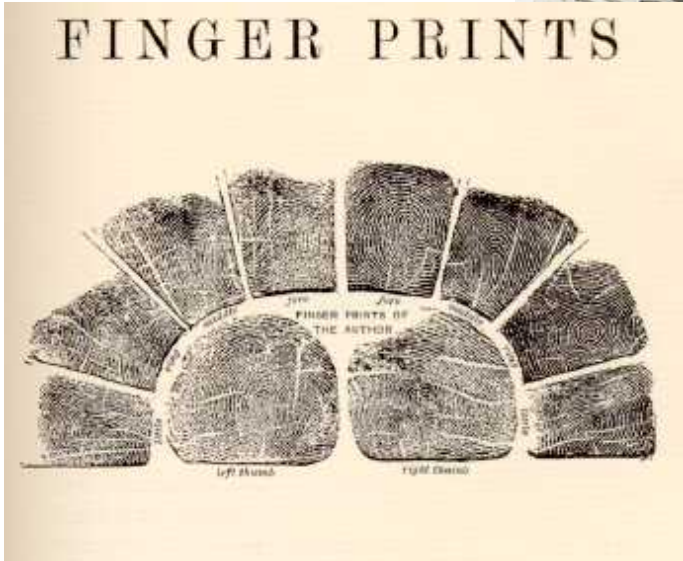
# “Positive” and “negative” eugenics

- *Positive eugenics*

- Encouraging those of high eugenic worth to have children

- *Negative eugenics*

- Discouraging/preventing those of low eugenic worth from having children

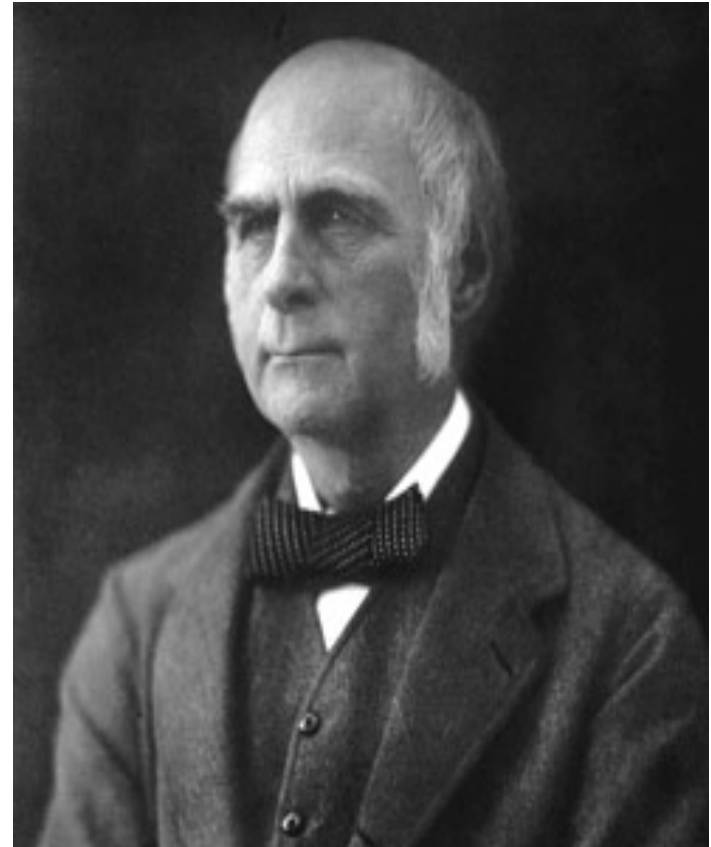


Exhibition, South Kensington, 1884-5.



# Galton's influence

- Invented many techniques of statistical analysis
- Pioneered “nature/nurture” studies (e.g., twin studies)
- Helped launch the mental testing (IQ) movement
- Co-invented forensic finger-printing
- Inspired the international eugenics movement



# The eugenics movement in Britain

- Galton & his protégé Karl Pearson emphasized “positive eugenics and voluntary measures, e.g., financial incentives for eugenic marriages
- Many prominent public figures became supporters, e.g.,
  - Liberal economists William Beveridge, John Maynard Keynes
  - Fabian socialists George Bernard Shaw, H.G. Wells, Sidney Webb
  - Politicians Winston Churchill, Arthur Balfour
- Some “voluntary sterilizations” were performed on mentally ill patients, but no eugenic measures were ever passed into law



# The eugenics movement in the U.S.

- 1894, The Immigration Restriction League adopted eugenic policies aimed at preserving the superior qualities of “American stock”
- 1896, Connecticut passed a eugenic marriage law
  - prohibited anyone who was “epileptic, imbecile or feeble-minded from marrying
- 1906, The American Breeder’s Association was established under direction of biologist Charles B. Davenport
  - to *“investigate and report on heredity in the human race, and emphasize the value of superior blood and the menace to society of inferior blood.”*
- 1907, Indiana passed a compulsory sterilization law

# Charles B Davenport, 1866-1944

- Biologist, Director of Cold Spring Harbor Laboratory (1910)
- Heavily influenced by Galton & Pearson
- Advocate of negative eugenics
- Founded Eugenics Record Office, New York, 1910
- Influenced passage of eugenic sterilization immigration laws



## Davenport's "eugenic creed" (extracts)

*"I believe that I am the trustee of the germ plasm that I carry; that this has been passed on to me through thousands of generations before me; and that I betray the trust if (that germ plasm being good) I so act as to jeopardize it, with its excellent possibilities, or, from motives of personal convenience, to unduly limit offspring."*

*"I believe in such a selection of immigrants as shall not tend to adulterate our national germ plasm with socially unfit traits."*

# International Congresses of Eugenics

## ***1<sup>st</sup>, London 1912***

Organized by Eugenics Education Society, dedicated to Galton, with Major Leonard Darwin presiding; 400 attendees

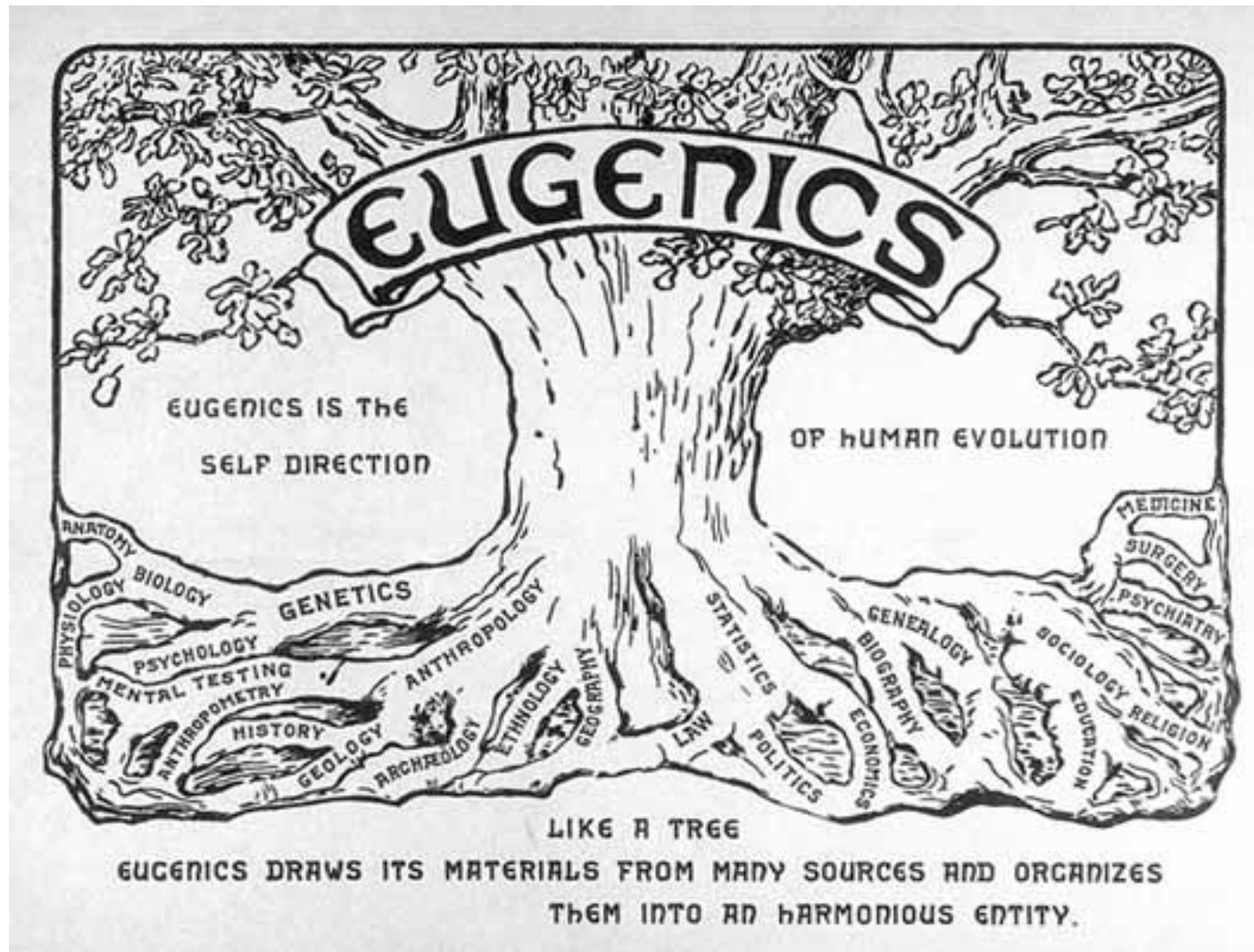
## ***2<sup>nd</sup>, New York, 1921***

Held at American Museum of Natural History; State Dept mailed invitations round the world

Major Darwin advocated the "elimination of the unfit", the discouragement of large families in the "ill-endowed", and the encouragement of large families in the "well-endowed"

## ***3<sup>rd</sup>, New York, 1932***

# New York, 1921



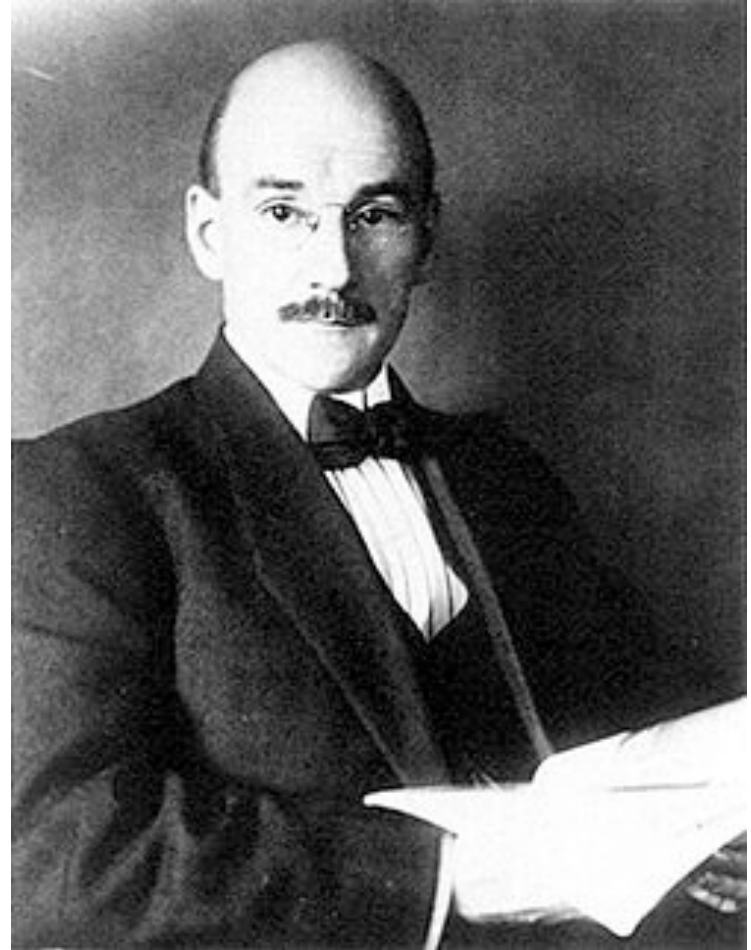
# Good heredity for the sake of “health”



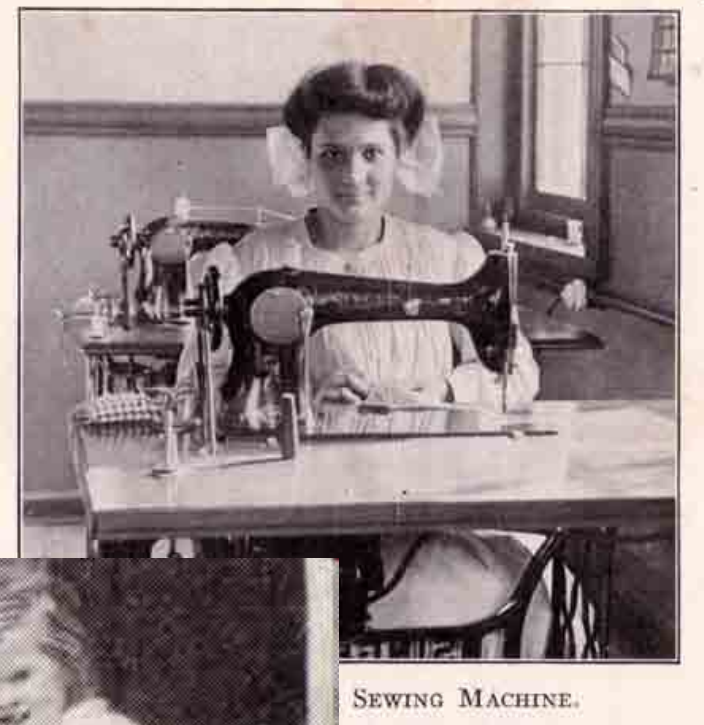
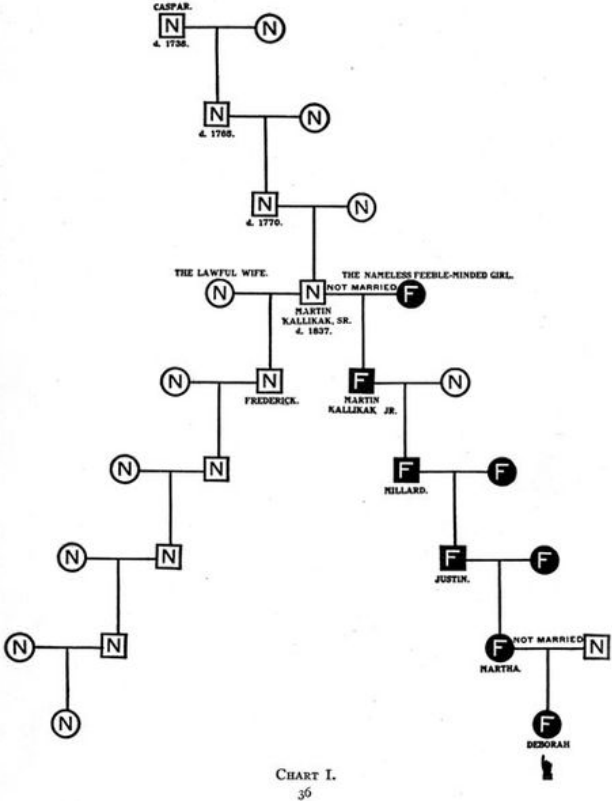
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# Henry H. Goddard, 1866-1957

- American psychologist
- Director, Training School for Feeble-Minded Boys and Girls, Vineland, New Jersey
- Wrote, *The Kallikak Family: A Study in the Heredity of Feeble-mindedness*, 1912
- Leading advocate of use of IQ testing to identify feeble-minded



# The "Kallikaks": Goddard traced the family lineages of feeble-mindedness back across time





# Mental testing on Ellis Island, 1913

- Use of “moron detectors”
- 80% of immigrants were found to be “feeble-minded”
- The deportation rate increased



# Use of IQ tests by US Army

- 1918 IQ tests
- US Army adopted their use with non-English speaking or illiterate recruits
- “Complete the picture”
- 40% found were found to be “feeble-minded”



# A landmark case: Buck vs Bell

- 1924, Commonwealth of Virginia authorized compulsory sterilization of mentally retarded
- Virginia State Colony of Epileptics moved to have 18-year-old Carrie Buck sterilized
- Buck's guardian appealed to Circuit Court of Amherst County
- 1927, Supreme Court ruled 8:1 in favor of State of Virginia



# Carrie Buck and her mother at the Virginia Colony for the Epileptic and Feebleminded



# ***“Three generations of imbeciles are enough”***

*“We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the State for these lesser sacrifices, often not felt to be such by those concerned, to prevent our being swamped with incompetence. It is better for all 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.”*

Oliver Wendell Holmes, Supreme Court justice, *Buck versus Bell*, 1927

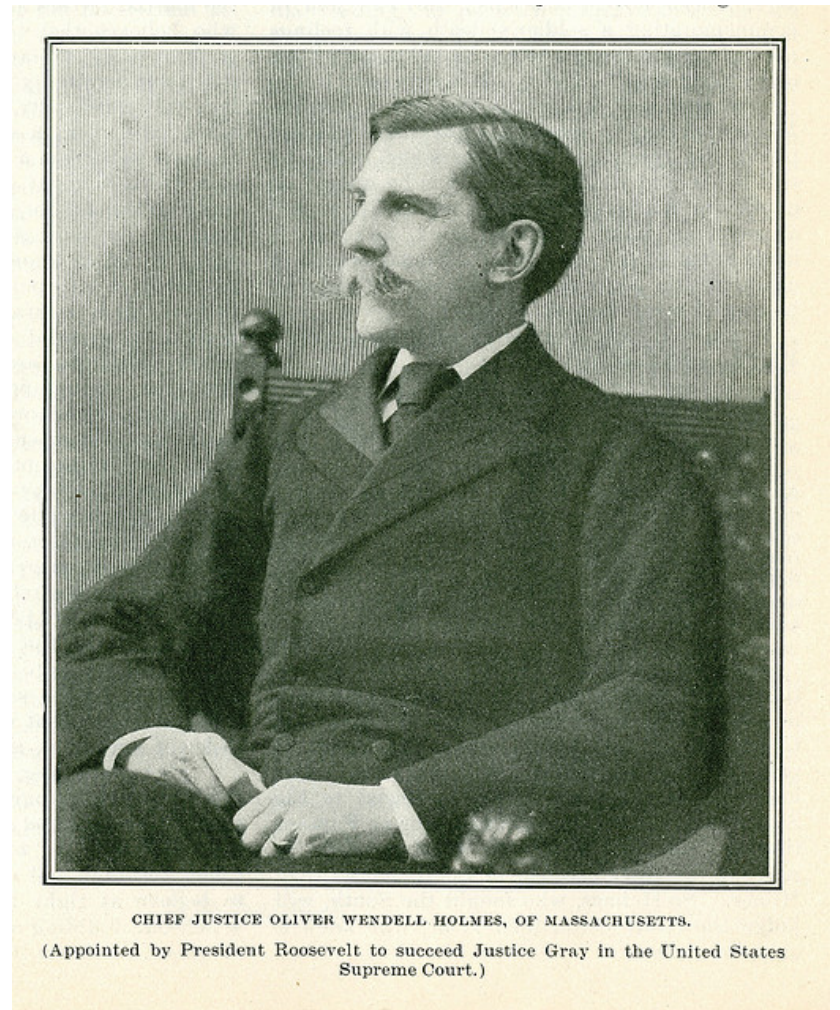


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# The long shadow of eugenics

- Between 1907 & 1963, 64,000 individuals were compulsorily sterilized in the U.S.
- In the early 1930s, Buck vs. Bell was cited by the National Socialist Government in Germany as part of its argument for a coordinated mass sterilization program of mental defectives
- Eventually the Nazis went further, killing tens of thousands of the institutionalized disabled through compulsory euthanasia programs
- When Nazi administrators went on trial for war crimes in Nuremberg after World War II, they justified the mass sterilizations (over 450,000 in less than a decade) by citing the United States as their inspiration.

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# Fitter Families contests and the Cross of Honor of the German Mother





# *“We do not stand alone”*

- Nazi propaganda poster, 1936
- Woman holds baby, man holds shield inscribed with title of Germany's 1933 compulsory sterilization law
- They're surrounded by flags of nations that had enacted (or were considering) similar laws



*“No matter what anybody tells you, words  
and ideas can change the world.”*

Robin Williams, Dead Poets Society

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