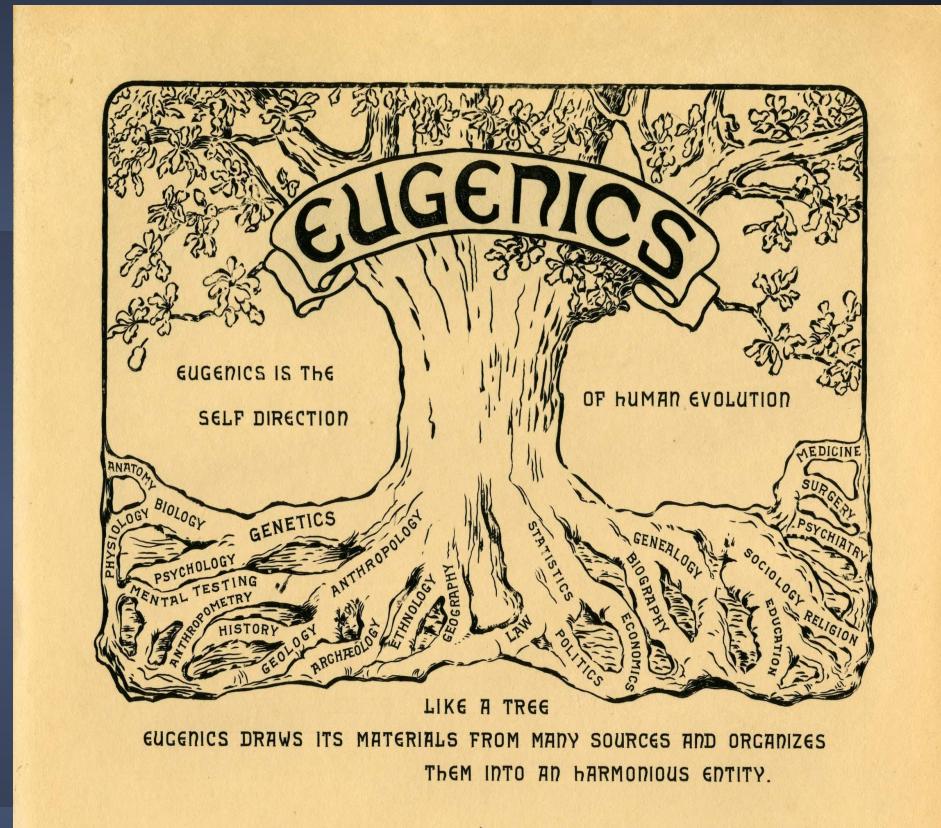


Eugenics



By: Erica, Max, Nisha, and Yasmine

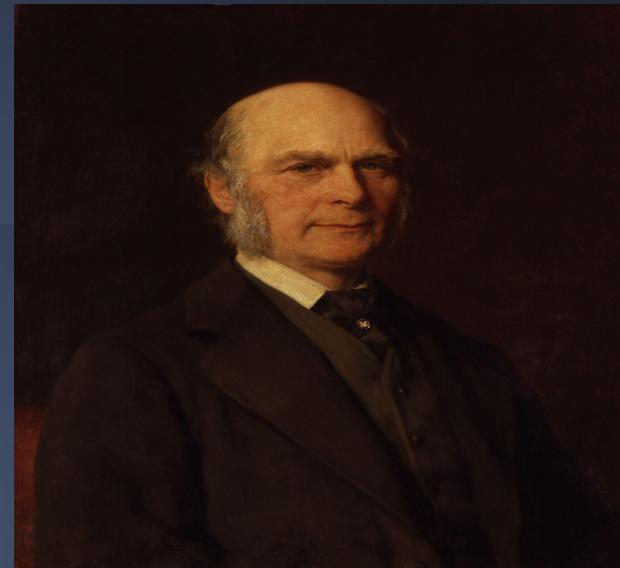
History of Eugenics

Pre-Galtonian Discoveries

- Plato-believed human reproduction should be monitored and controlled by the state, the early version of the Eugenics.
- In his Republic - he wants everyone to be equal, no gender difference; therefore, he came up with the idea of giving a method for reproduction in this infallible society.

Francis Galton

- In 1883, he introduced idea of “Eugenics” from Darwin’s “Origin of the Species” that explain the development of plant and animal species, and desired to apply it to humans.
- It is the science of improving a human population by controlled breeding to increase the occurrence of desirable heritable characteristics.



Definition

- Galton defined eugenics as “the study of all agencies under human control which can improve or impair the racial quality of future generations”
- In other words, the improvement of human genetic traits through the promotion of higher reproduction of people with desired traits (positive eugenics), or reduced reproduction and or sterilization of people with less-desired or undesired traits (negative eugenics), or both.

Pros

Disease Screening

- Screen up to 400 hereditary conditions
- Diagnose and eliminate potential conditions in advance



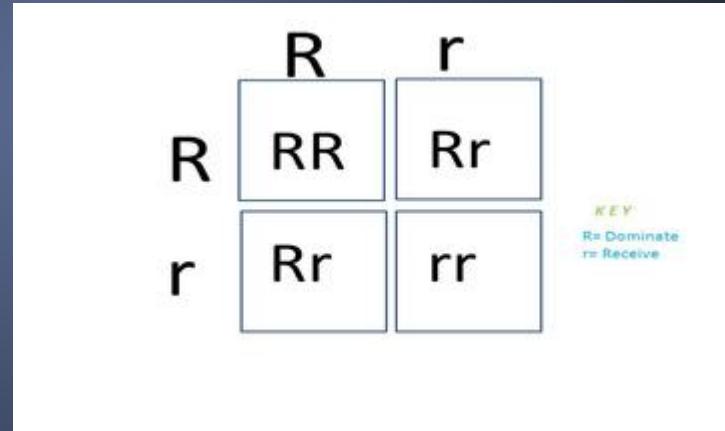
Pre-Implantation Diagnosis

- Ability to diagnose/eliminate genetic disorders in samples before implantation for women
- Down Syndrome
- Inherited colon cancer
- Inherited breast cancer
- Only eliminates half of inherited genetic disorders

Gender Control

- Ability to control a child's gender considered an advantage
- Prevent pre-birth stereotyping

- ❑ Breed Best Genetic Traits
- ❑ Intelligence
- ❑ Strength



Cons

Discrimination

- ❑ No personal rights
- ❑ Force reproduction
- ❑ Others die off... soon another would have to fill its place
“Bigger and Better”

Greed

- ❑ Who's to say what is considered the top traits?
- ❑ Example: Nazis
- ❑ It became all about power (authority)



Economy

- ❑ No class, poor or rich, extremes of both.
- ❑ No importance on that of physical labor.

“They are above it”

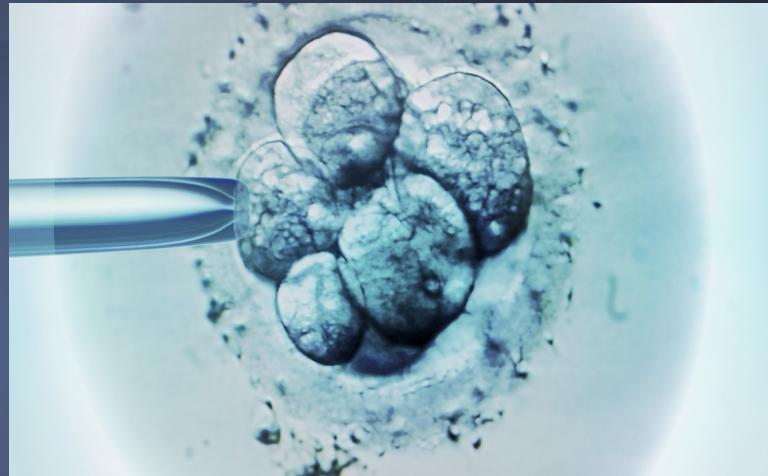


Offspring

- Bring about more complex diseases
- Diverse genes would be limited
“Bigger and Better”
- Crossing chromosomes leads to mental and motor disabilities

Current event info

- China was ordered to ‘rein in’ scientist who have edited DNA of human embryos, a practice banned in Europe.
- The team led by Junjiu Huang attempted to head off fear of eugenics by claiming the embryos were ‘non-viable’
- China was becoming the ‘Wild West’ of genetics research saying it was first step towards designer children and called for worldwide ban on the practice.



- The work was reported in the journal Protein and Cell after the prestigious science journals Nature and Science refused to publish the study on ethical grounds.
- The team used a gene-editing technique as CRISPR/Cas9 discovered by scientists at MIT
- CRISPR technique uses bacterially derived protein to cut- away a particular gene.
- The technique been used in adult cells and animal models but never in human embryos.
- Gene-editing say it could eradicate devastating inherited diseases

- ❑ Set out to see if the procedure could replace a gene in a single-cell fertilized human embryo
- ❑ team used embryos they obtained from the fertility clinics
- ❑ injected 86 embryos with Cas9 protein and left them for two days allowing gene-editing to take place
- ❑ 71 embryos survived, 54 genetically tested
- ❑ found number of unexpected mutations in genes which should not have been affected by the technique