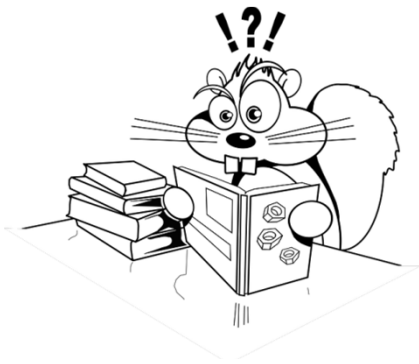




MISapplications of Evolutionary Insights

It does happen, with all insights...



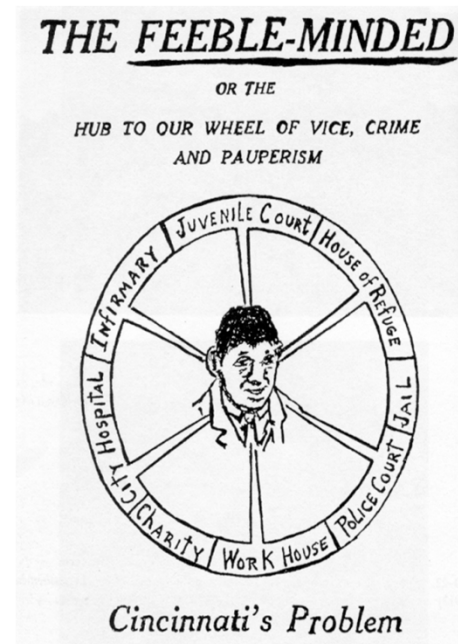
Mistakes have been made...

- Introduction of cane toad to Australia to fight beetle pests
 - Didn't consider biology enough
- Introduction of European starling to US (100 birds released by one person in 1890's)
 - Didn't consider biology **at all**



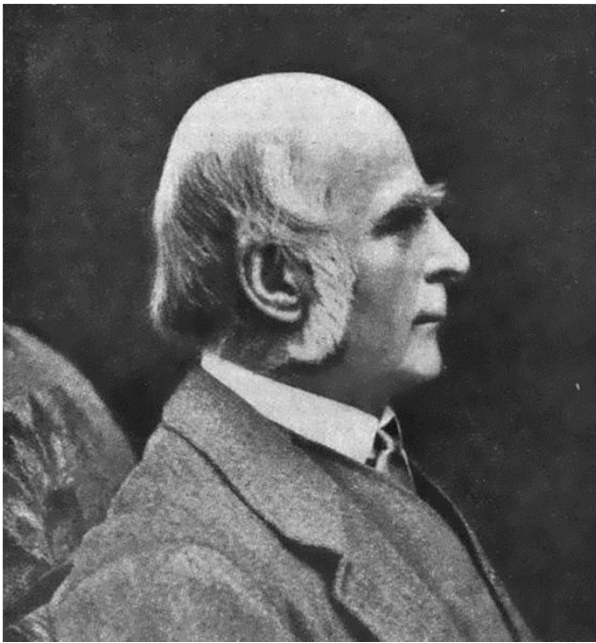
Evolutionary concepts have been used to justify other agendas...

- The “evolutionary concepts” aren’t wrong, but the applications are wrong or questionable.
- We’ll discuss “Social Darwinism” and eugenics



“Social Darwinism”: Francis Galton

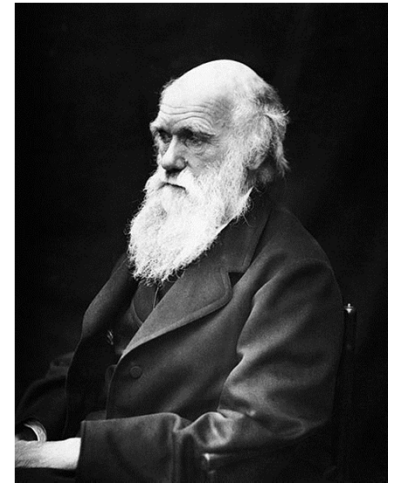
(Darwin’s cousin)



- Mental traits inherited
 - IQ, talents
- Heredity should be a conscious decision
 - *Should* have “more fit” individuals breed more than “less fit”
 - Welfare & insane asylums and medicine let “less fit” individuals reproduce

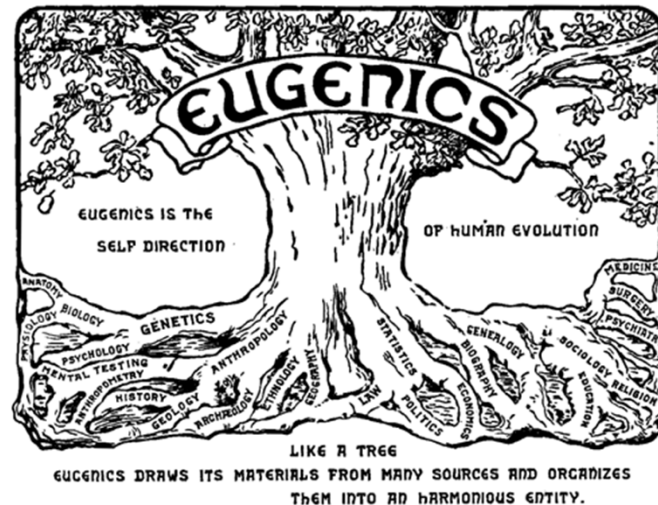
Darwin responds... (1871)

- “Some elimination of the worst dispositions is always in progress, even in the most civilised nations.”
 - Criminals executed or jailed
 - Insane individuals confined or suicidal
 - “Violent & quarrelsome men often come to a bloody end.”
- Argues **against** any “check on sympathy”
- Says expecting weak to not marry won’ t happen



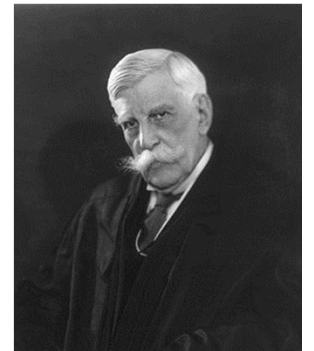
“Eugenics” on the rise anyway...

- **Eugenics**: the attempt to improve the human race by eliminating defectives from gene pool
- 1924: Commonwealth of Virginia adopts statute authorizing ***compulsory sterilization of mentally retarded*** (not repealed until 1974)



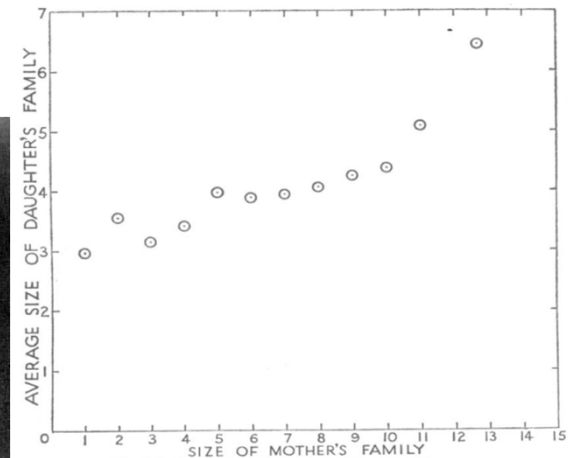
“Buck vs. Bell”

- Virginia inmate at mental institution (Carrie Buck) to be sterilized for “immorality”
- Supreme Court (274 U.S. 200 (1927)) upholds sterilization
 - Oliver Wendell Holmes— “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. ... Three generations of embeciles are enough.”
 - FYI, her grandkid was in the honor roll at school...



Ronald Fisher (1930) advocates...

- Reiterates hereditary basis of offspring number and “temperamental qualities”
- “the birth-rate is much higher in the poorer than the more prosperous classes”
- “A redistribution of births ... would be attended by economic advantages”
 - Redistribution should favor the “more successful”



Nazi Germany also adopts

- Nazi euthanasia program (Aktion T4) instituted to eliminate "life unworthy of life."
 - People with disabilities seen as drain on resources and killed



Nazi Germany also adopts

- Nazi euthanasia program (Aktion T4) instituted to eliminate "life unworthy of life."
 - People with disabilities seen as drain on resources and killed
- BUT, **contrary to claims**, Hitler did not follow Darwin's perspective in his actions
 - No reference to Darwin in *Mein Kampf*
 - Darwin DISAPPROVED of eugenics
 - Hitler:
“For it was by the Will of God that men were made of a certain bodily shape...”



Why is “eugenics” wrong?

- As Darwin said, selection is still operating...
- Heritability of “bad” traits not always high
- Reduces variation that may be helpful in case of change in environment
 - Would Bill Gates or Steve Jobs have been “above average” 500 years ago?
- Who’s to decide what’s “best”?
- Fundamentally– dictating who can marry/ reproduce is considered immoral



Ultimately...

There's no inherent “good” or “evil” in science.

It's nonetheless incumbent upon us as scientists and as citizens to consider the ramifications of how we interpret science, to take great care in *how* we present science, and to behave morally.



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