Johann Friedrich Blumenbach (1752-1830)

- *De generis humani varietate nativa* (1776) (*On the Natural Varieties of Humans*)
- Five-fold classification scheme: Caucasian, Mongolian, Ethiopian, American, and Malayan
- External characteristics as well as cultural / behavioral factors
- Now... internal characteristics of classification at the level of DNA
Genes and Race

A huge debate raging among circles of molecular biologists, populations geneticists, biomedical researchers, demographers, sociologists of science and medicine, historians of science and medicine: can one speak of race at the level of DNA.

Much is at stake: understanding the biology of difference, national statistics, affirmative action, redressing the sins of the U.S. medical community’s past.
The Debate

✧ “Essentialists”
✧ “Social Constructivists”
✧ “Anti-Essentialists”
The Context: Genes and Race

✧ Genetic tests used to trace ancestry and determine genetic predispositions to diseases
  ✧ Pharmacogenomics and personalized medicine
  ✧ “Be your own expert!”
  ✧ Capitalism
DNA Testing Companies

✧ 23andme.com, Knome, deCODE Genetics, Navigenics

✧ “Knowing how your genes may impact your health can help you plan for the future and personalize your healthcare with your doctor.”

✧ “You can fill in missing branches of your family tree” by using “revolutionary tools to complete your ancestry with your DNA.”

✧ “Uncover the heritage in your genes.” “Where in Africa or Europe did your ancestors live?”

✧ “If you're African-American, 23andMe can tell you approximately what fraction of your ancestors were African, and what fraction were European. If you're of European descent, we can pinpoint what populations your DNA is most similar to.”

✧ “Using a technique called Ancestry Painting, 23andMe can determine whether you have any Native American ancestors within the past five generations.”

✧ All for the low price of $207
Imagine the Following Scenario

✧ An individual sends a sample of her/his epithelial cells to 23andme.com and s/he gets the results back several months later: circa 50% of her/his DNA markers are Irish in origin, indeed s/he is descended from the Niall of the Nine Hostages, a fourth-century Irish warlord.
So, what do you think this person looks like?
Henry Louis Gates,
“Faces of America” (PBS, 2010)
The Biology (and Politics) of Difference

- Circa 99.5% similarities among humans
- International Haplotype Map: that 0.5% difference important for understanding health and human variation.
- Single Nucleotide Polymorphisms (SNPs)
- Ancestry-Informative Markers (AIMs): SNPs that exhibit substantially different frequencies between populations from different geographical regions
- Is the genetics of difference tantamount to the genetics of race?
- How legitimate is it to classify differences among peoples based on race?
- There are numerous ways to characterize difference (e.g. geography, local adaptation, geographic ancestry, etc.).
“Déjà vu all over again?”

✧ Compare and contrast with sins of the medical past: eugenics, Tuskegee

✧ Similarities: the perceived privileging of the biological over the social leading to genetic determinism, the emphasis of precision proffered by a ‘disinterested, objective’ science, the discrimination against those deemed abnormal or simply different, scientific racism, and the role of economics in bolstering these ideologies

✧ Differences: Eugenics was about the collective, “the good of the race.” Current biopolitics- or what Nikolas Rose calls molecular politics, is about the individual. The idea of a single society with a national culture, a national identity, a national population no longer exists. Contemporary biopolitics fits into a political framework of neo-liberalism. As Rose argues, “we have seen an intensification and generalization of the health-promotion strategies developed in the 20th century, coupled with the rise of a private health insurance industry, enhancing the obligations that individuals and families have for monitoring and managing their own health. Every citizen must now become an active partner in the drive for health, accepting their responsibility for securing their own well-being.”

✧ Interesting irony: if it is about the individual, pharmacogenomics, and individualized medicine, why are we speaking about the genetics of race?
Other Critical Differences

- Call for a genetics of race by biomedical researchers of color
- Neil Risch, Stanford geneticist: Molecular genetics should embrace the diversity of races, since “[i]gnoring our differences, even if with the best intentions, will ultimately lead to the disservice of those who are in the minority.”
- Esteban González Burchard, UCSF: if biomedical investigators ignore racial and ethnic backgrounds, and if persons are sampled randomly, the overwhelming majority of participants in clinical studies in the U.S. would remain white. Hence, those of color would once again be discriminated against. In addition, diseases that exhibit racial patterns would never be discovered, and diagnostics and therapeutics never developed.
The Universal Medical Subject

✧ HIV/AIDS epidemic usurped by wealthy white gay males.
✧ 1993 NIH Revitalization Act
✧ 1993 FDA permitted women’s participation in clinical trials of new drugs
✧ It is about the politics of inclusion and exclusion.
Duana Fullwiley, anthropologist of science

✧ By fetishizing race, other important ways to account for human difference will be ignored. There are alternatives.
✧ “Back-and-forth between DNA and its seemingly natural organization by societal descriptors of race works to molecularize race itself.”
Questions

✧ Should we abandon the notion of concepts of race and ethnicity altogether?
✧ Should we use concepts such as geography or geographic ancestry instead of race and ethnicity?
✧ What are the socio-political and economic ramifications of our choices?