

# Genetics and Justice: Implications of New Genetic and Reproductive Technologies for women of Color



## *Designer Genes: Not being defined by our DNA*

Presentation at the Race and Membership in American History  
Course in Hayward, CA

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Center for Genetics and Society

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# Center for Genetics and Society



- It is our mission to encourage responsible uses and effective governance of the new human genetic and reproductive technologies.
- We are Pro-Science AND Pro-Regulation
- We adhere to a human rights framework

# Why we are here



- Emerging genetic and reproductive technologies have the ability to:
  - Commodify Bodies of Color
  - Geneticize Disease
  - Deepen Health Disparities
  - Re-ify Race

# Reproductive and genetic technologies

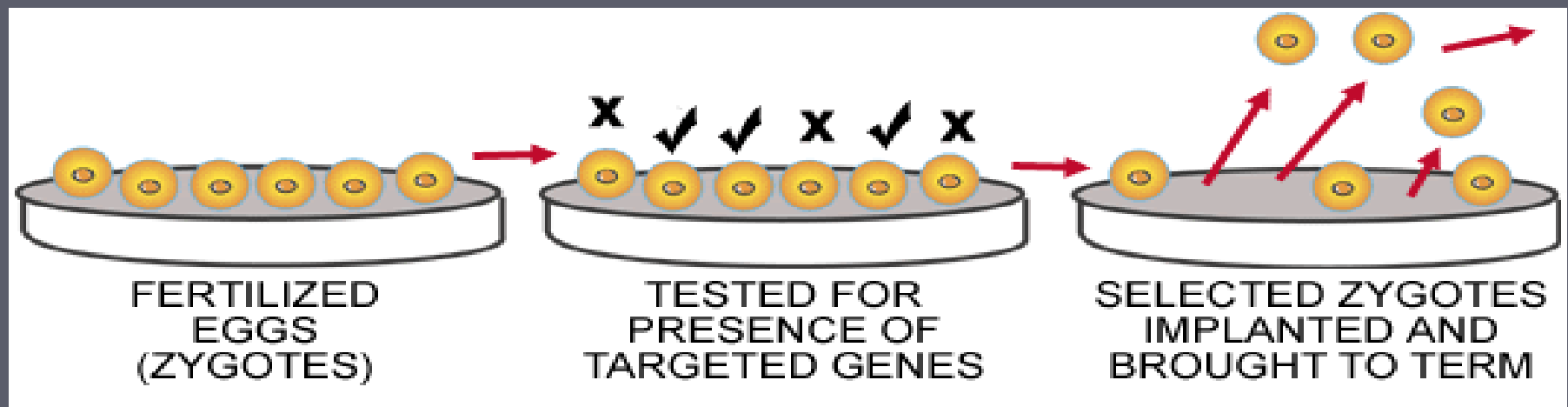


- **Technologies currently in use**
  - Embryo screening -- pre-implantation genetic diagnosis (PGD): for in vitro fertilization
  - Sex selection
  - Stem cell research and research cloning (just beginning)
  - Prenatal screening
- **Technologies on the horizon**
  - Reproductive cloning
  - Inheritable Genetic Modification (IGM) – manipulating genes we pass on to our children

# Pre-implantation genetic diagnosis (PGD)



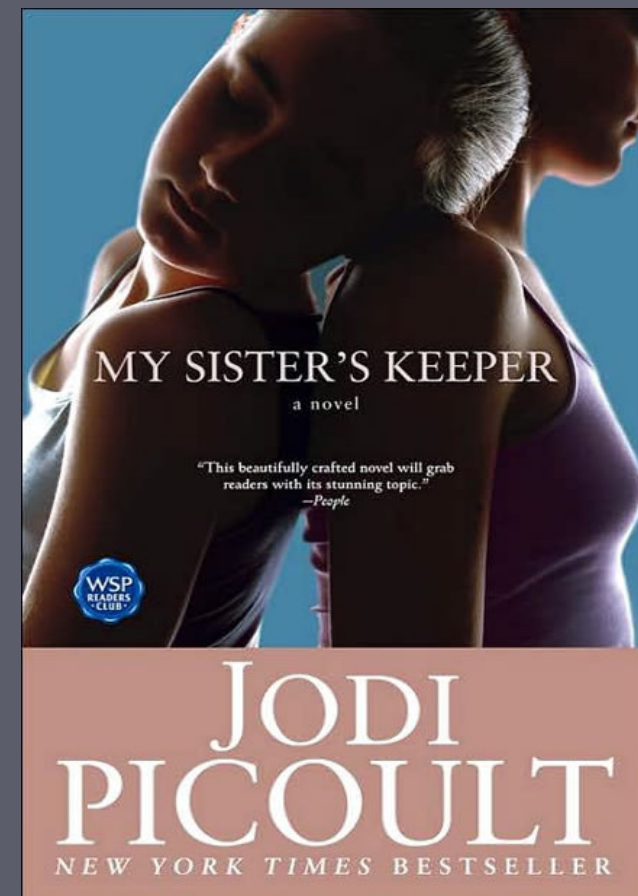
- In-vitro egg fertilization
- At day 3 (8 cells) a cell is extracted for testing
- Only selected (desired) embryos implanted



# Pre-implantation genetic diagnosis (PGD)



- Developed for genetic “disability” de-selection
- More recently –
  - Sex selection
  - Late (adult) on-set diseases –  
—Alzheimer, diabetes
  - Tissue match for existing child needing transplant
  - “Best” embryos, not healthy embryos
- Normalizes genetic selection and desirability



# Pre-conception sex selection



- MicroSort® -- sorts sperm cells carrying Y-chromosome (male) from X-chromosome (female)
- Costs about \$3,200 per try (most need 3 tries)
- 419 Microsort babies born
- Ads in *NY Times* and in-flight magazines

The MicroSort® Gender-Selection Program at GIVF

**Do You Want To Choose the Gender Of Your Next Baby?**



If you want to choose — or need to choose — whether your next baby is a girl or a boy, you may qualify for the MicroSort® gender selection procedure at the Genetics & IVF Institute (GIVF).

Prospective parents come from all over the world to GIVF in suburban Washington, DC. They choose this exclusive *scientifically-based* sperm sorting gender selection procedure, currently in an FDA clinical trial, for several important reasons:

- For prevention of genetic diseases
- For family balancing
- Results so far show 90% success rate for achieving girls and 75% for boys.
- FREE MicroSort for qualifying patients who use Donor Egg or Preimplantation Genetic Diagnosis at GIVF.
- For sensitive, personal attention from a caring staff of professionals, dedicated to the success of your family.

Couples also choose the Genetics & IVF Institute because we are the world's largest integrated provider of infertility and genetic services. Our expertise in the diagnosis and treatment of complex genetic and reproductive disorders is second to none.

To learn more about the Genetics & IVF Institute, and how the MicroSort® technology may help you select the gender of your next child — please visit us at:

**www.givf.com**  
or call us at  
**1-800-277-6607**

Now available in New York and other metropolitan areas through collaborating physicians. Call for details.

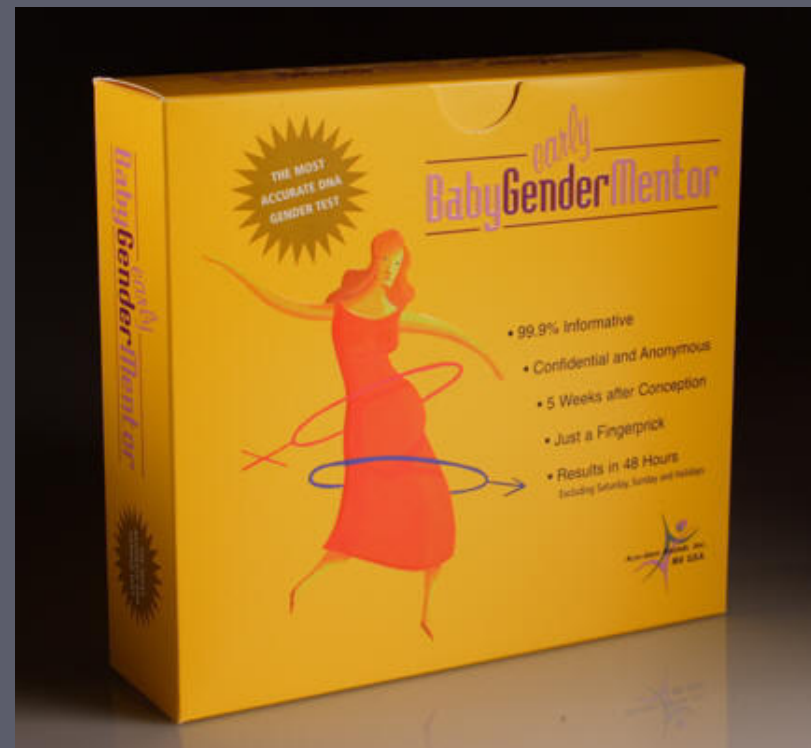
**Caution:** This procedure uses an investigational device limited by federal law to investigational use.

GENETICS & IVF INSTITUTE 

# "At Home" Gender Determination Kits: The Baby Gender Mentor



- Tests maternal blood at 5 weeks to determine fetal sex
- Claims 99.9% accuracy
- Costs: \$275 for kit and DNA analysis
- Results given via internet 1-2 days later

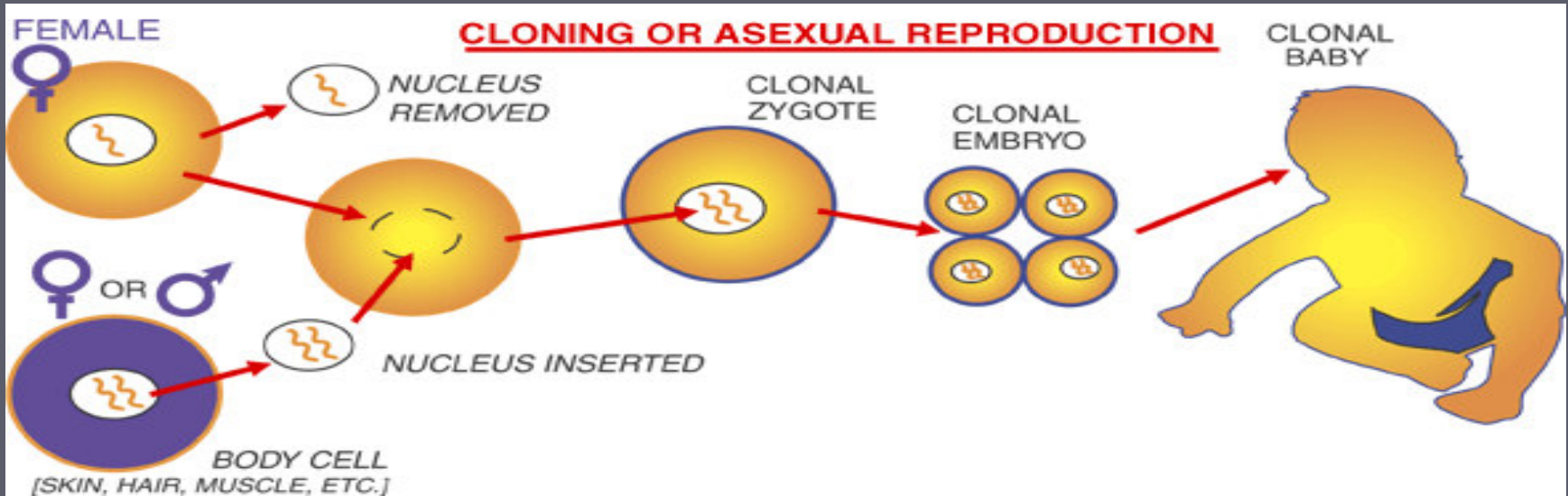
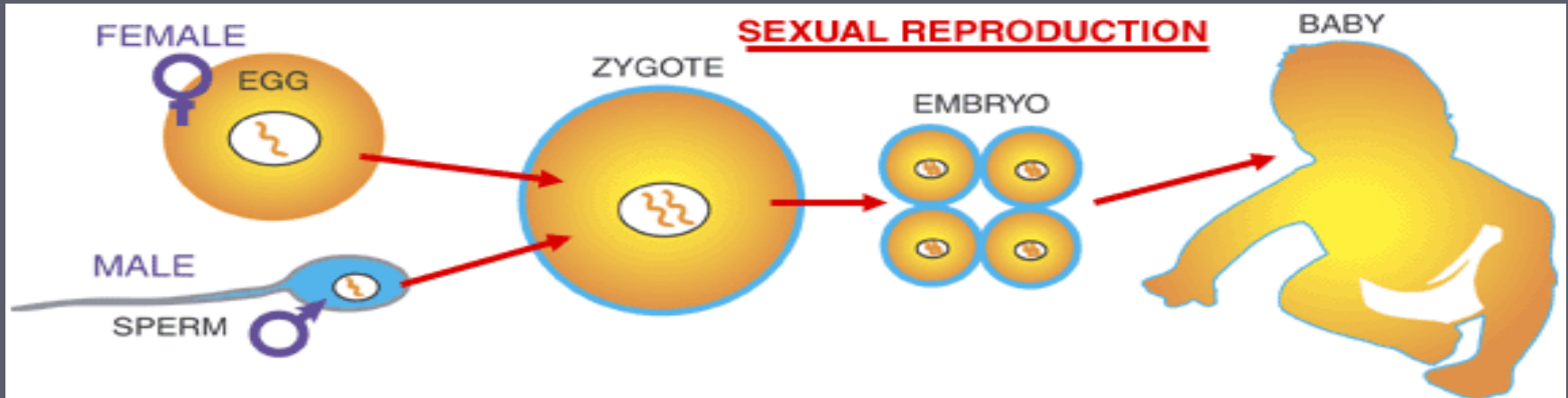


# Technologies on the Horizon

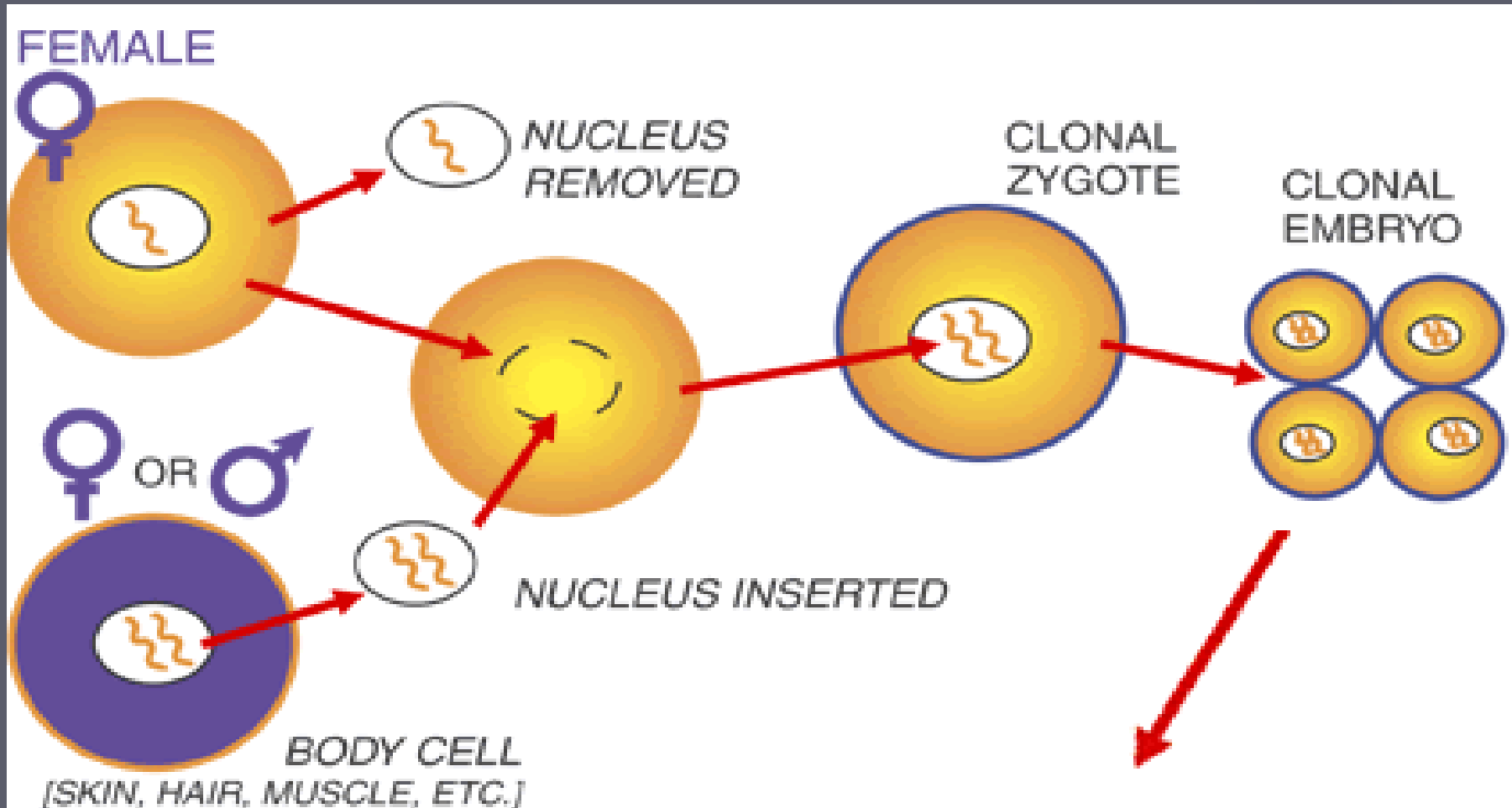


- **Reproductive cloning**
- **Research cloning**
  - Also called *somatic cell nuclear transfer, embryo cloning, “therapeutic” cloning*
- **Non-inheritable genetic modification**
  - Also called *gene therapy, gene transfer, genetic engineering*
  - Changes genes in cells except sperm and egg cells
- **Inheritable genetic modification (IGM)**
  - Also called *designer baby technology, germline engineering*
  - Changes genes in sperm and egg cells, or early embryos

# Cloning



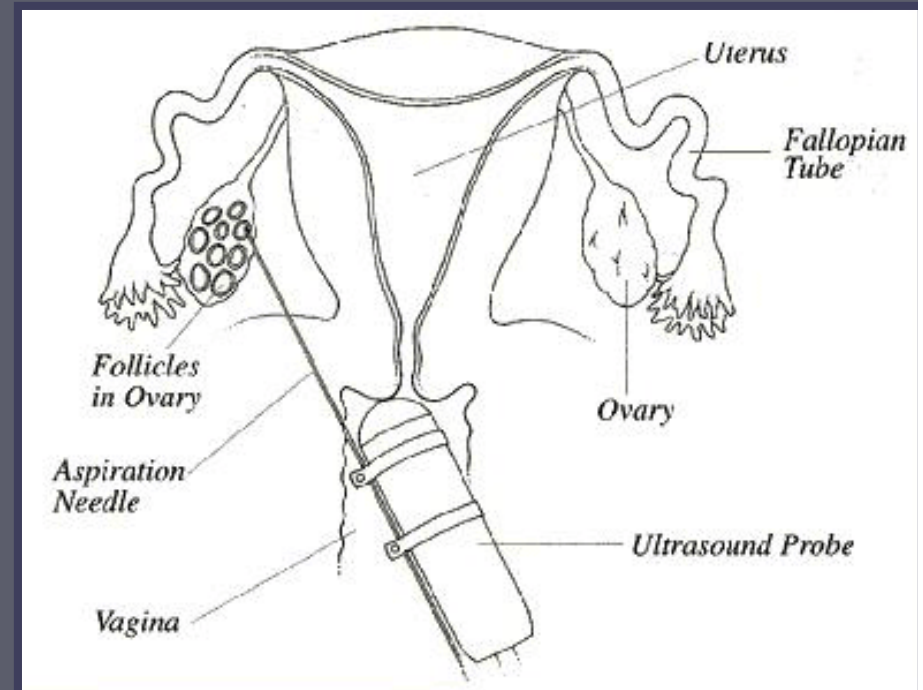
# Research Cloning



# Egg retrieval



- Hormones used to “shut down” and “hyperstimulate” women’s ovaries to produce multiple eggs
- Some adverse health reactions
- No data on long-term health risks



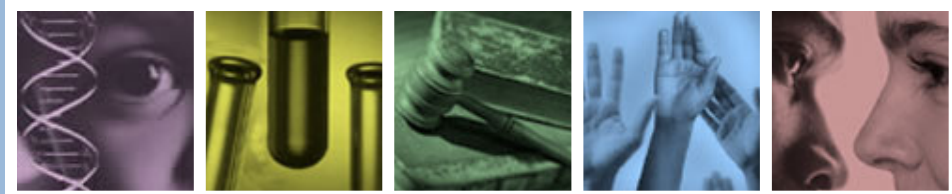


- the possibility of multiple pregnancy seems to be increased by IVF even if only a single embryo is implanted (leading to monozygotic or 'identical' twins). Greater health risks, both to the mother and to the child, are associated with multiple pregnancies than are associated with single pregnancies. This has led to calls for regulation and further research, with the UK's Human Fertilisation and Embryology Authority consulting the public on a range of options which could lead to fewer multiple births



What does this  
technology  
mean for  
Women of color?

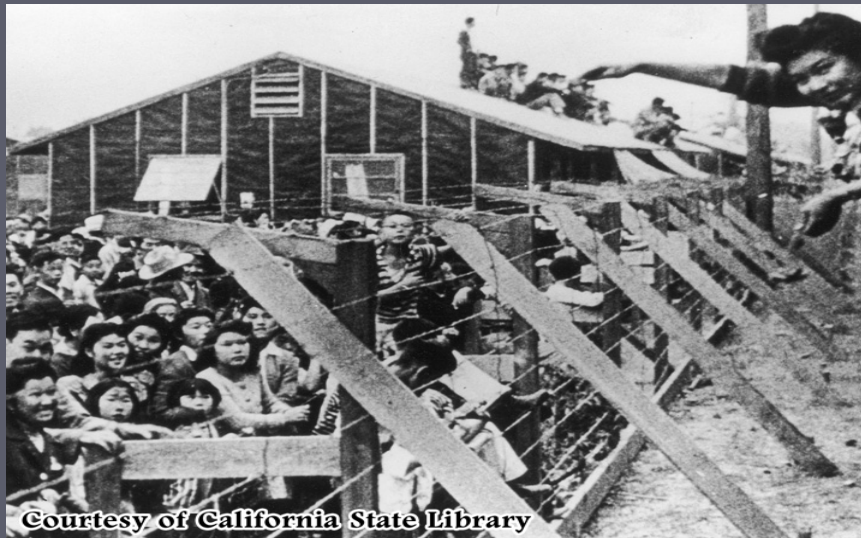
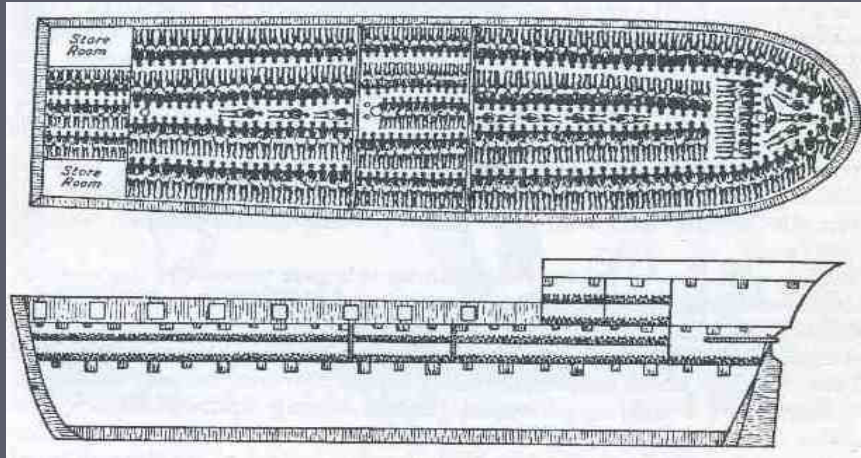
## U.S. History of Racism



# Massacred Natives after the Battle of Wounded Knee



# U.S. History of Racism



Courtesy of California State Library

- Enslavement of Africans
- Internment of Japanese Americans and the taking of their property

# The commodification of bodies of color



## The Auction Block

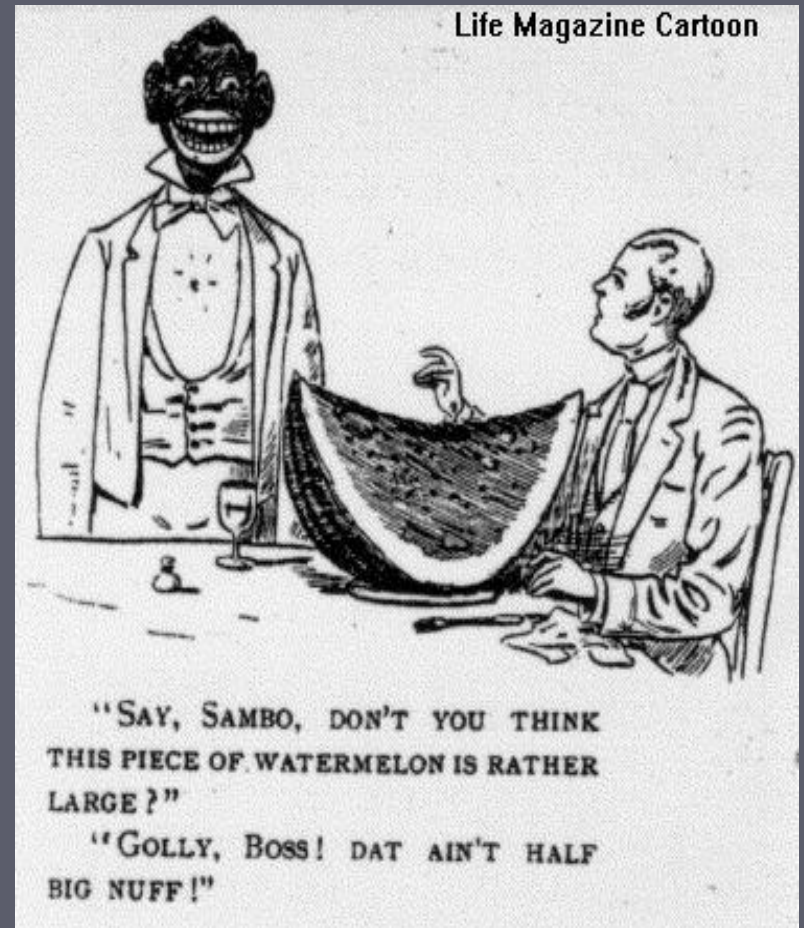
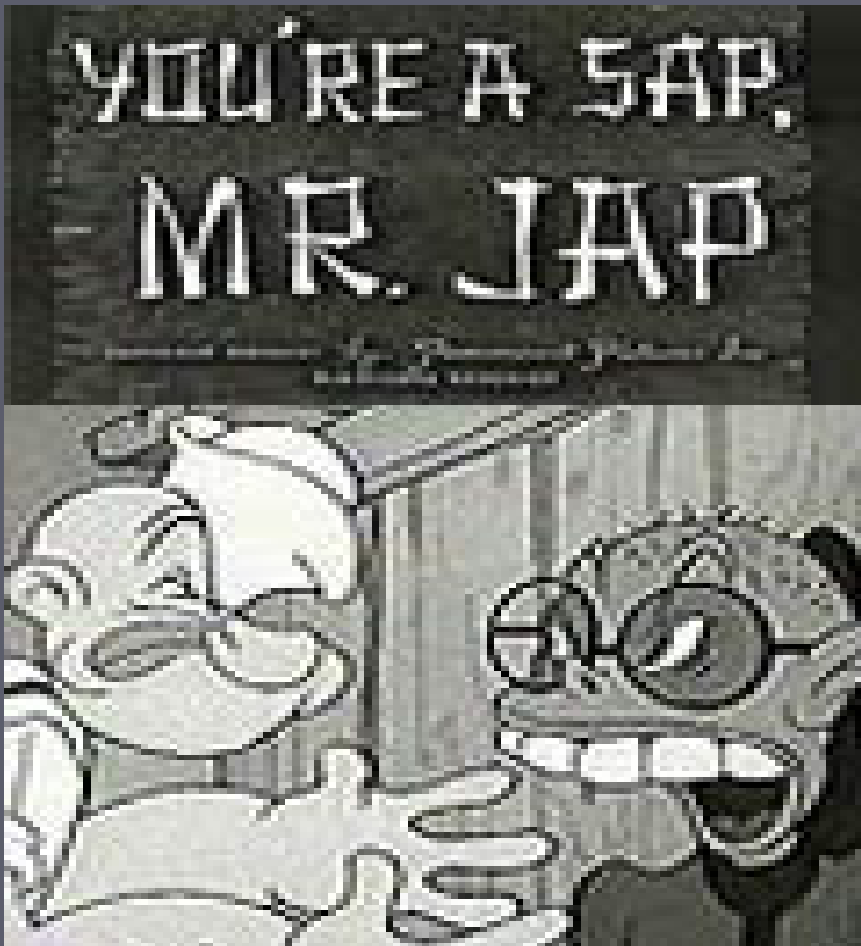


# The Criminalization of Bodies of Color



## The Fugitive Slave Act

# Physical Characteristics of people of color Devalued



# Genetics behind Intelligence and Crime



**SOME PEOPLE ARE BORN TO BE A BURDEN ON THE REST.**

**LEARN ABOUT HEREDITY YOU CAN HELP TO CORRECT THESE CONDITIONS.**

**AMERICA NEEDS**

**LESS OF THESE**      **MORE OF THESE**

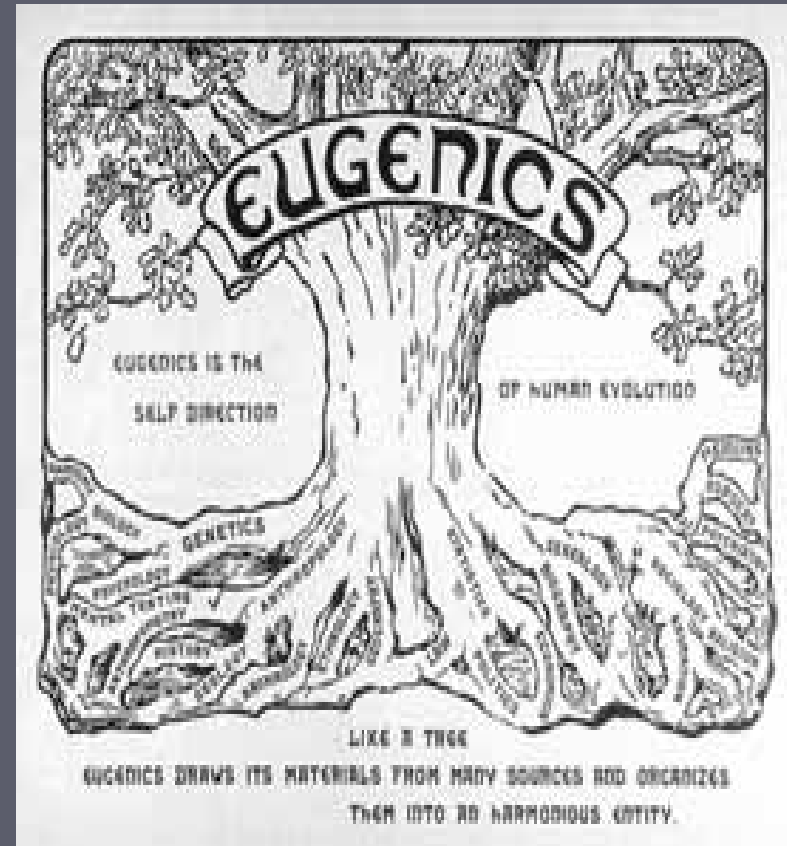
<p>This light flashes every 48 seconds</p> <p>Every 48 seconds a person is born in the United States who will never grow up mentally beyond the stage of a normal 8-year-old boy or girl.</p>	<p>This light flashes every 15 seconds</p> <p>Every 15 seconds \$100 of your money goes for the care of persons with bad heredity such as the insane, feeble-minded, criminals and other defectives.</p>	<p>This light flashes every 16 seconds</p> <p>Every 16 seconds a person is born in the United States.</p>	<p>This light flashes every 7 1/2 minutes</p> <p>Every 7 1/2 minutes a high grade person is born in the United States who will have ability to do creative work and hold leadership. About 1% of all Americans are within this class.</p>
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# U.S. and Eugenics



- Eugenics in the 20<sup>th</sup> Century
  - History of the misuse of genetic theories and science to justify racism
  - United States home to second largest eugenics movement in the world only behind Nazi Germany
  - 1907-1963 more than 64,000 individuals forcibly sterilized in the U.S.



Center for Genetics  
and Society



Genetic Technology  
in the Context  
of a  
Racially Stratified Society

# Making the Connection



Assisted  
Reproductive  
Technology  
and risk of  
women of color  
being  
Commodified

## Which comes first – the egg or the cure?

It could happen to you or your loved one:

- Diabetes
- Heart Disease
- Spinal cord injuries
- Parkinson's disease
- Blindness
- Strokes, AIDS, MS, cancer, among others

Thousands of Americans die everyday  
from diseases that could potentially be  
treated - or even cured - using stem cells

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Women 21-35 years old needed  
to donate eggs for stem cell  
research project.

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*(All procedures will be carried out at an accredited clinic by certified  
medical professionals. Travel, hotel and other expense covered)*

**LET YOUR EGGS BE PART OF THE CURE!**  
Please donate your eggs. Call 202-315-3736



ARTS and the devaluing of physical characteristics of people of color



“Park avenue fertility clinic’s blunder that left a family devastated”



# The Prison Industrial Complex



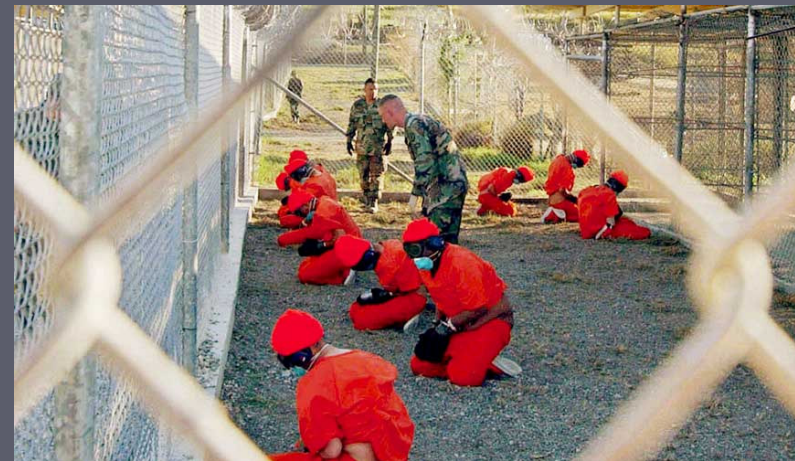
Bodies of color  
disproportionately Imprisoned



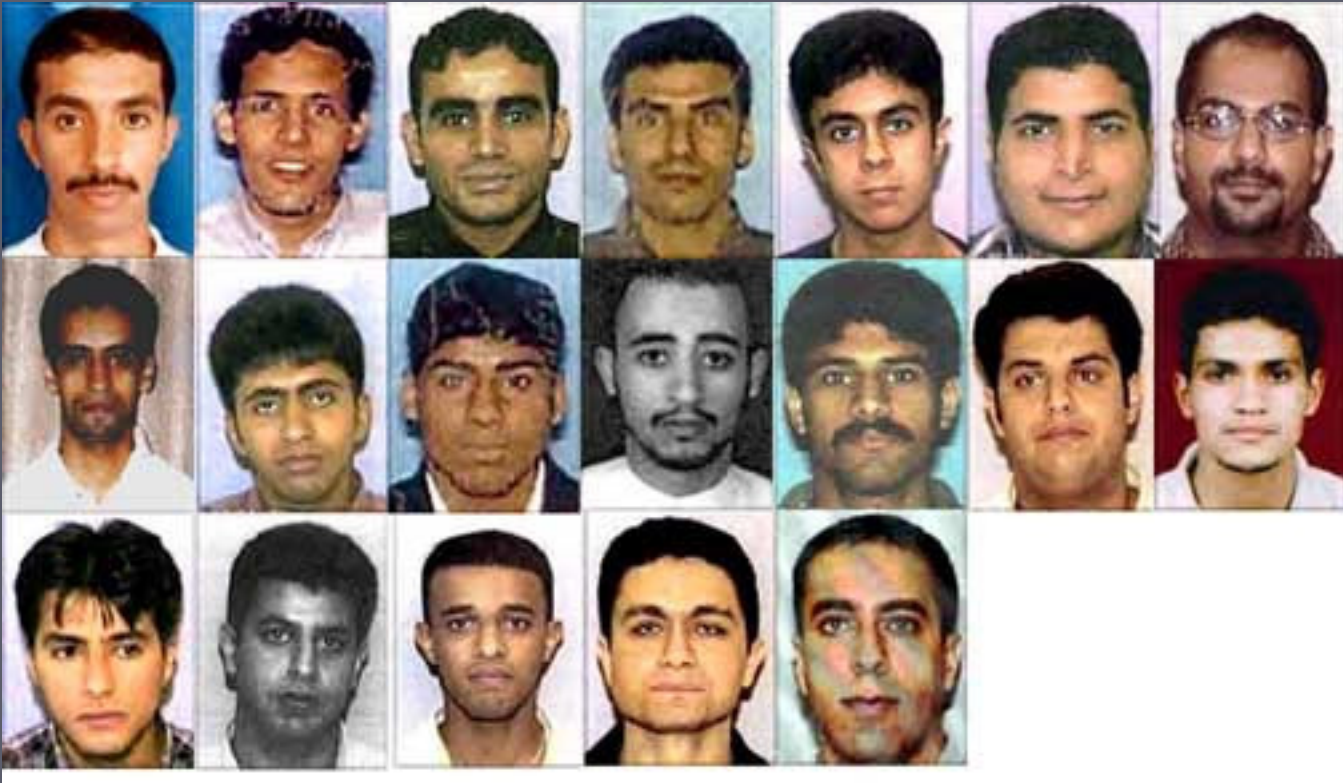
# Making the Connection



## The Prison Industrial Complex and Genetic Technology



# Racial Profiling Resurgence



# Genetic Technology and Racial Profiling



# DNA Dragnets

## 4<sup>th</sup> Amendment Violation?



- “Being approached by a police officer and asked to give a ‘voluntary’ DNA sample could lead a reasonable person to believe that he has no choice but to consent to the request. Such coercive behavior is a violation of the Fourth Amendment to the Bill of Rights which protects an individual’s privacy until evidence is produced and a warrant obtained that would compel an invasive search.”

# 5<sup>th</sup> Amendment Violation?



- Violation against self-incrimination if:
  - Police use coercion to obtain the sample;
  - The use of unreliable witness descriptions to initiate dragnets;
  - The formation of DNA databanks to containing the samples of exonerated individuals
  - The practice of racial profiling when dragnets target one specific group

# DNA Databanks



DNA Identification Act,  
authorizes a national DNA  
database. The Combined DNA  
Index System (CODIS)

The use of DNA in  
Solving Crime



# THE INNOCENCE PROJECT



Genetic Technologies  
have the  
ability to  
deepen  
health disparities

# Genetic Technologies and Health Disparities



Modern Medicine's  
move to  
Geneticize  
Race

# Race-Based Medicine



modern medicine  
searches for the  
biologic  
explanations of  
racial disparities  
in disease





Race does matter: The Michael  
Klag Study confirms the impact  
of social determinants on one's  
health

# Genetic Technology and the Environment



## Environmental Racism

# Genetic Technology and Health Disparity



## Financing Research in Genetic Technology to improve health outcomes

# What are the Risks of Genetic Technology?



- Commodify Bodies of Color
- Criminalize Bodies of Color
- Devalue Physical Characteristics of People of Color
- New Eugenics Movement
- Ignore known social determinants of health
- Funding research that may lead to medical procedures that can only be accessed by the very wealthy Increase existing health disparities