

**ALDOUS HUXLEY'S**

# **BRAVE NEW WORLD**

**NARRATED BY THE AUTHOR**

**ORIGINAL SCORE  
COMPOSED AND  
CONDUCTED BY**

**BERNARD  
HERRMANN**

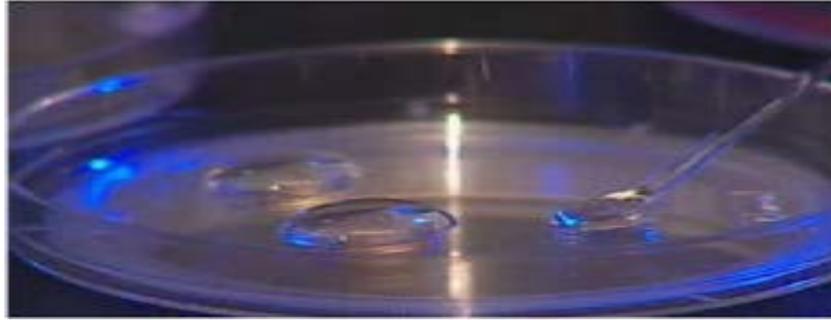
**Original Radio Broadcasts**



LP 2013

People,  
progress, &  
products





§1. Why edit human genomes?

§2. How we might edit human genomes?

§3. Altering or choosing persons?

§4. Why the argument about risk is a red herring...

§5. Should we drink the enhancement kool aid?

§6. Learning from obsolescence

# Genome editing is for enhancement

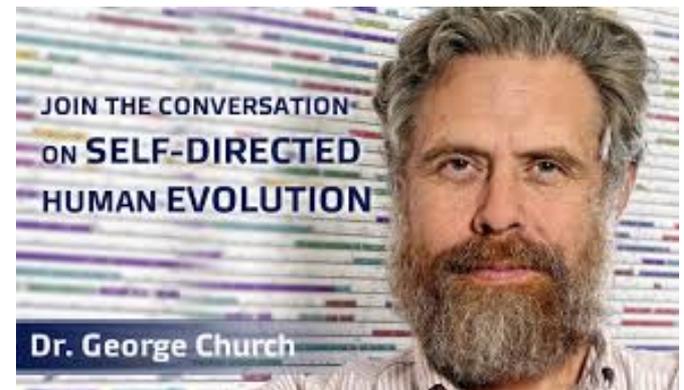
**Health?**

**(“curing” genetic diseases)?**

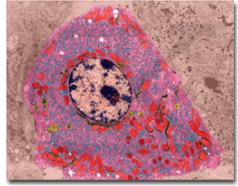


**Genetic relatedness?**

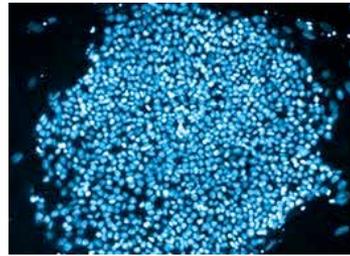
**Human enhancement!**



# One way to edit the human genome...



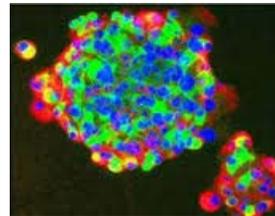
Somatic cell



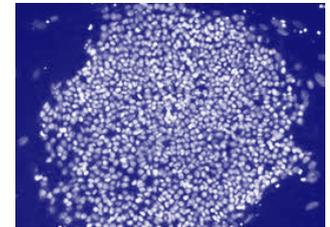
Induced Pluripotent Stem cells  
(same genome)



CRISPR/Cas9



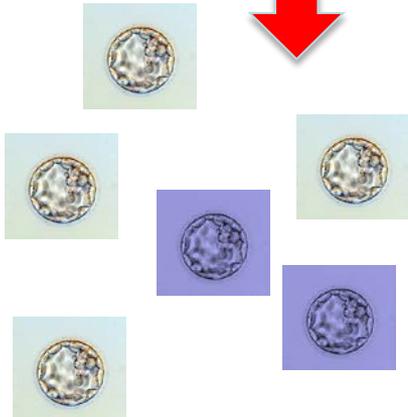
Egg Stem cells  
(GM genome)



GM IPS cells



GM egg



PGD

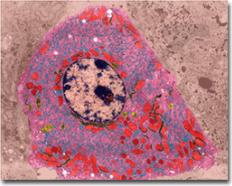


GM embryo

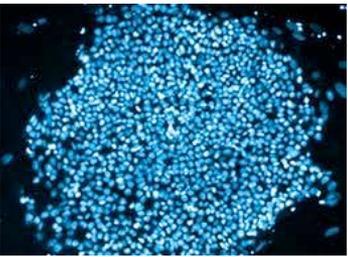


GM Baby

# Another way to edit the human genome...



Somatic cell



Induced Pluripotent Stem cells (same genome)



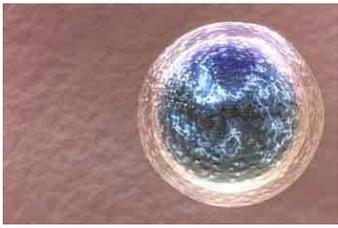
CRISPR/Cas9



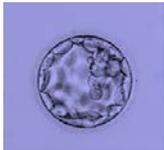
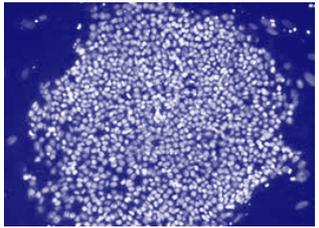
GM iPS cells



Somatic Cell Nuclear Transfer



de-nucleated egg



GM embryo

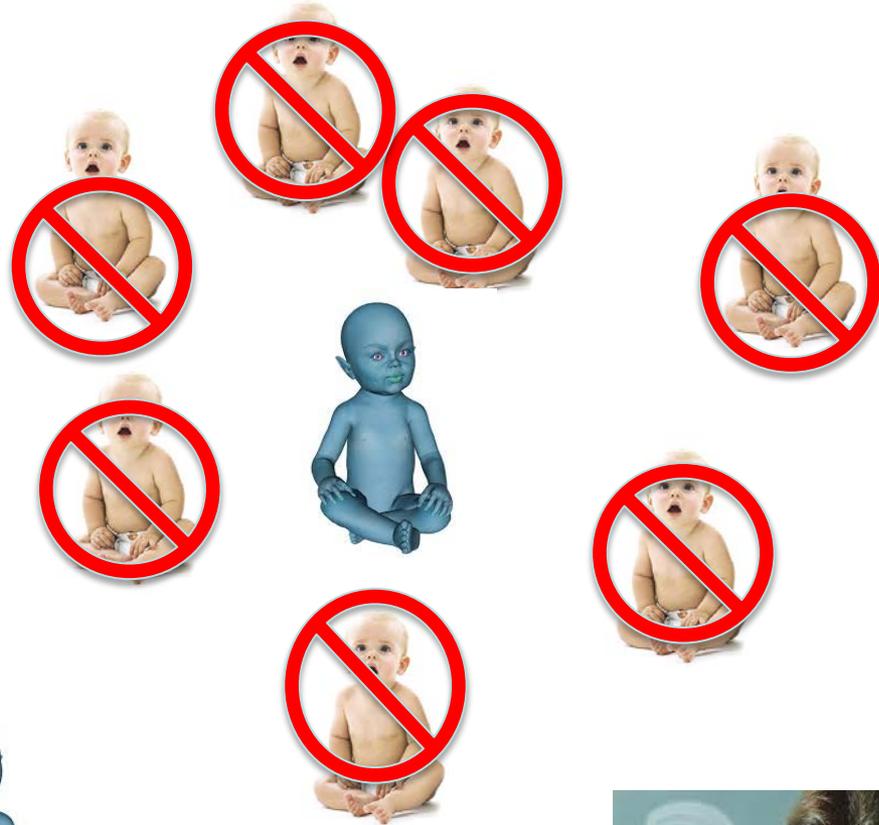
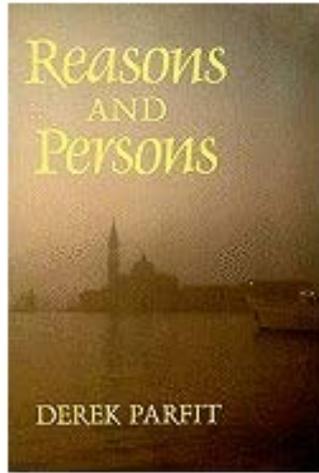


Brave woman

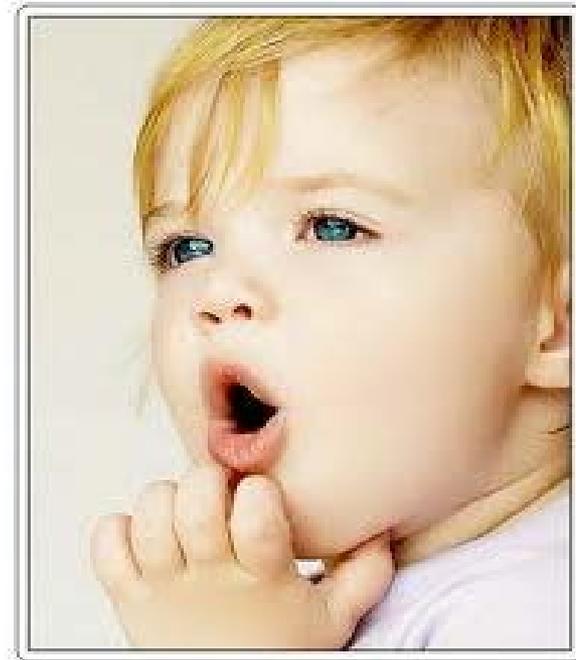


GM Baby

# Altering persons or choosing them?

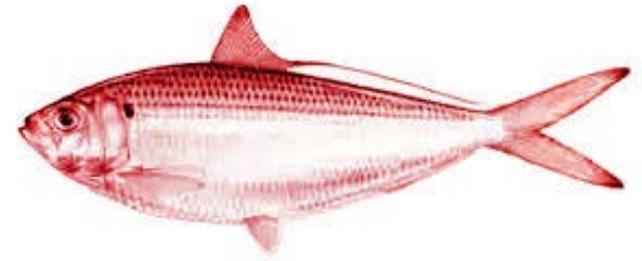


Would you have had a better life if your parents had a child five years younger than you in your place?



**YES / NO**

# Why the argument about risk is a



- First use will inevitably be experimental
  - Risk of children being born with disabilities
- But this risk is endemic to reproductive technologies
  - We still don't know if IVF is safe
  - “Natural” pregnancy involves significant risks
- Coming into existence is risky!





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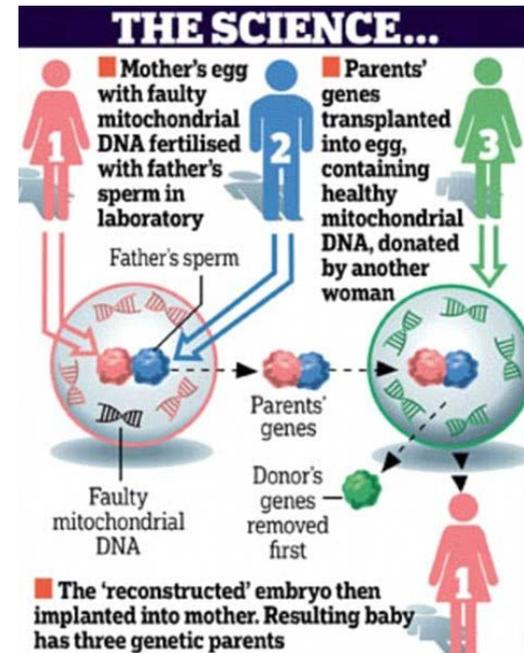
NATURE | NEWS

## Scientists cheer vote to allow three-person embryos

British decision could be a watershed to approving mitochondrial replacement technique in other countries.

Ewen Callaway

03 February 2015



# Should we drink the enhancement kool aid?

- Genes + environment
- Multi-gene traits



# Making people obsolescent?



Rapid progress in gene editing technologies

+

"One shot" enhancement

**=> Obsolescence of enhancements**

# Learning from obsolescence?



Sparrow, R. 2015. Enhancement and Obsolescence: Avoiding an “Enhanced Rat Race”. *The Kennedy Institute of Ethics Journal* 25(3): 231–260, September.

# The social implications of obsolescence?

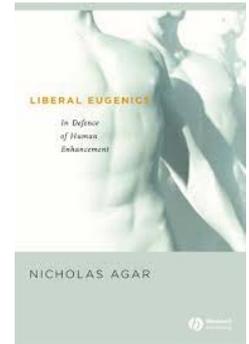


- People will spend most of their lives with obsolete enhancements
- Increased risk of option-regret for parents
- Contraction of the period of full powers
- Social stratification along generational lines
- Implications for the self-understanding of human beings?

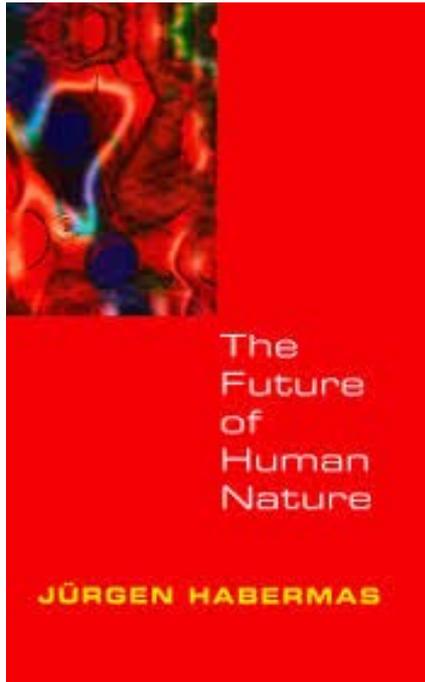
# Design, designers, and human freedom?



**The power of the designers over the designed?**



**An empirical threat to freedom?**



**A political relationship?**



**Technics vs dialogue....**



# The temporal dimension of obsolescence?



- Enhancements are better
- Different “generations” of humans
- Obsolete people
- Implications for the self-understanding of human beings?

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