The Bioethics of Germline Gene Editing: *Worth the Global Outcry?*

George Annas

ASGCT, Nov. 6, 2019
Washington, DC
Species-Wide Concern?
Eugenics/Genetic Genocide

(Left to right) Maxine Singer, Norton Zinder, Sydney Brenner, and Paul Berg were among the Asilomar Conference. Copyright © National Academy of Sciences.
Can’t Stop it?
World's First Head Transplant
National Academy of Sciences,
August 2001
UN

Declaration on Human Cloning

• Prohibit all forms of human cloning
• Prohibit genetic engineering

» March 8, 2005 (UN General Assembly, 84/34/37/36)
Frames for Regulation
LIFE
November 1982/$2.00

'Cats' Leaps Onto Broadway
The hottest theater ticket in the country

Saving Africa's Big Animals
A radical plan to butcher some of them and sell their meat

Test-Tube Baby Boom
Elizabeth Carr, America's first in vitro baby, at the lab where she was conceived

U.S. News & World Report
September 27, 2004

Miracle Babies
How science is helping childless couples beat the odds
1. Assume new technology is ethical if it has any possible application to reproduction;

2. Assume the new technology will work and produce benefit, and assume harms are speculative and controllable;

3. Assume major values to be taken into account in infertility clinic are economic (efficiency, supply and cost), not ethical.

Implicit decision-making rules of the ethics committee of the American Society of Reproductive Medicine

ASSISTED REPRO FRAME
Consumer Good or Human Experiment?

- “right” to a genetically-related child?
- genetic duplicate?
- Inherently unethically risky experiment?

- Species/Individual Consent (*necessary but not sufficient*)
- To experiment
- To monitoring
• H1N1
• Polio
• Ebola
• Zika
• Ebola