The Biopolitical Imagination
A New Politics of Human Biotechnology

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What we talk about when we talk biopolitics

Not just Foucault…

Wikipedia's 13 definitions include

- The political application of bioethics
- A political spectrum that reflects positions towards the sociopolitical consequences of the biotech revolution
- Political advocacy in support of, or in opposition to, some applications of biotechnology
- Public policies regarding some applications of biotechnology

CENTER FOR GENETICS AND SOCIETY

Mission statement

For responsible uses and effective social governance of human genetic and reproductive technologies

Values

- social justice
- human rights
- the public interest

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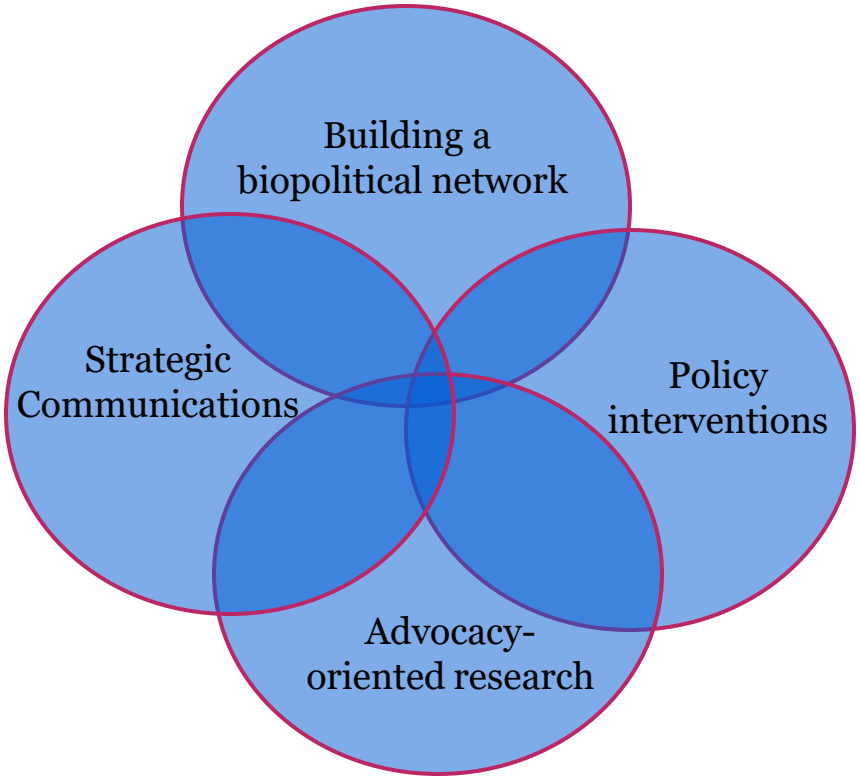
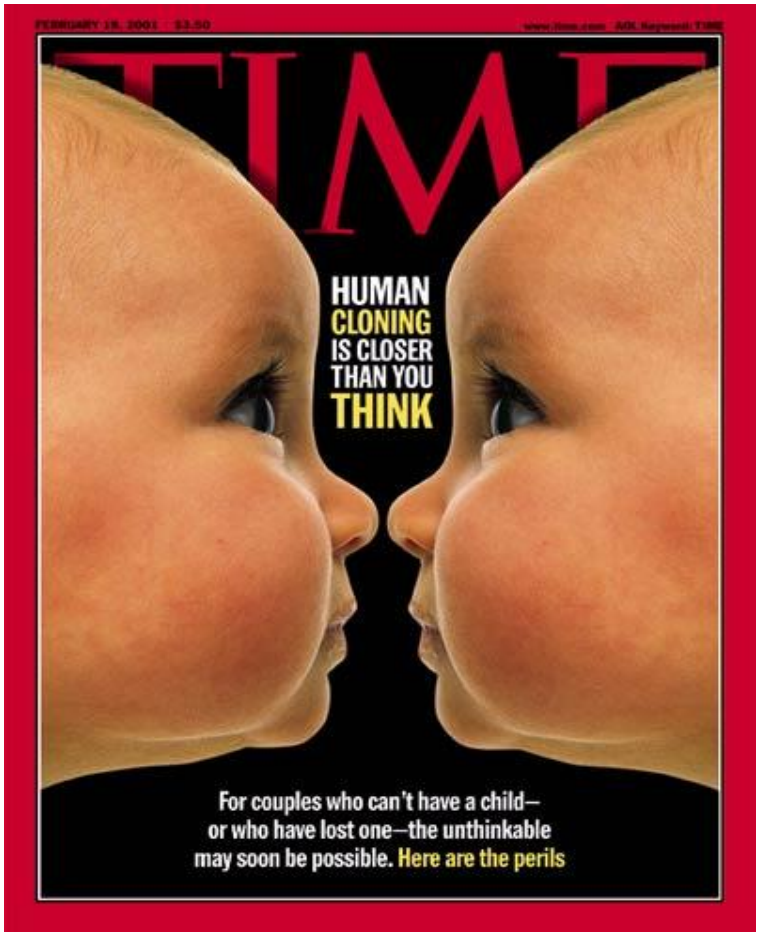


Cloning humans?



Redesigning humans?

THE FUTURE OF MEDICINE

Parents can now pick a kid's sex and screen for genetic illness. Will they someday select for brains and beauty too?

Designer Babies

By MICHAEL D. LEMONICK

UNTIL JUST A FEW YEARS AGO, MAKING A BABY BOY OR A BABY GIRL WAS PRETTY MUCH A HIT-OR-miss affair. Not anymore. Parents who have access to the latest genetic testing techniques can now predetermine their baby's sex with great accuracy—as Monique and Scott Collins learned to their delight two years ago, when their long-wished-for daughter Jessica was born after genetic prescreening at a fertility clinic in Fairfax, Va.

And baby Jessica is just the beginning. Within a decade or two, it may be possible to screen kids almost before conception for an enormous range of attributes, such as how tall they're likely to be, what body type they will have, their hair and eye color, what sorts of illnesses they will be naturally resistant to, and even, conceivably, their IQ and personality type.

In fact, if gene therapy lives up to its promise, parents may someday be able to go beyond weeding out undesirable traits and start actually inserting the genes they want—perhaps even genes that have been crafted in a lab. Before the new millennium is many years old, parents may be going to fertility clinics and picking from a list of options the way car buyers order air conditioning and chrome-alloy wheels. "It's the ultimate shopping experience: designing your baby," says biotechnology critic Jeremy Rifkin, who is appalled by the prospect. "In a society used to cosmetic surgery and psychopharmacology, this is not a big step."

The prospect of designer babies, like many of the ethical conundrums posed by the genetic revolution, is confronting the world so rapidly that doctors, ethicists, religious leaders and politicians are just starting to grapple with the implications—and trying to decide how they feel about it all.

They still have a bit of time. Aside from gender, the only traits that can now be identified at the earliest stages of development are about a dozen of the most serious genetic diseases. Gene therapy in embryos is at least a few years away. And the gene or combination of genes responsible for most of our physical and mental attributes hasn't even been identified yet, making moot the idea of engineering genes in or out of a fetus. Besides, say clinicians, even if the techniques for making designer babies are perfected within the next decade, they should be applied in the service of disease prevention, not improving on nature.

But what doctors intend is not necessarily what's going to happen. Indeed, the technology that permitted the Collinses lawfully to pick the sex of their child was first used to select for health, not gender per se. Adapting a technique used on livestock, researchers at the Genetics & IVF Institute in Fairfax took advantage of a simple rule of biology: girls have two X chromosomes, while boys have one X and one Y. The mother has only Xs to offer, so the balance of power lies with the father—specifically with his sperm, which bring either an X or a Y to the fertilization party.

As it happens, Y chromosomes have slightly less DNA than Xs. So by staining the sperm's DNA with a nontoxic light-sensitive dye, the Virginia scientists were able to sort sperm by gender—with a high rate of success—before using them in artificial insemination. The first couple to use the technique was looking to escape a deadly disease known as X-linked hydrocephalus, or water on the brain, which almost always affects boys.

But while the technique is ideal for weeding out this and other X-linked disorders, including hemophilia, Duchenne muscular dystrophy and Fragile X syndrome, most patients treated at Genetics & IVF want to even out their families—a life-style rather than a medical decision. The Fairfax clinic has been willing to help, but such a trend doesn't sit well with some other practitioners. "Our view at the moment," says Dr. Zev Rosenwaks, director of the Center for Reproductive Medicine and Infertility at Cornell Medical Center in New York City, "is that these techniques should be used for medical indications, not family balancing."

But now that parents know that the technology is available, and that at least some clinics will let them choose a child's gender for nonmedical reasons, it may be too late to go back. In a relatively short time, suggests Princeton University biologist Lee Silver, whose book *Remaking Eden* addresses precisely these sorts of issues, sex selection may cease to be much of an issue. His model is in vitro fertilization, the technique used to make "test-tube" babies. "When the world first learned about IVF two decades ago," he says, "it was horrifying to most people, and most said that they

WHAT PEOPLE THINK

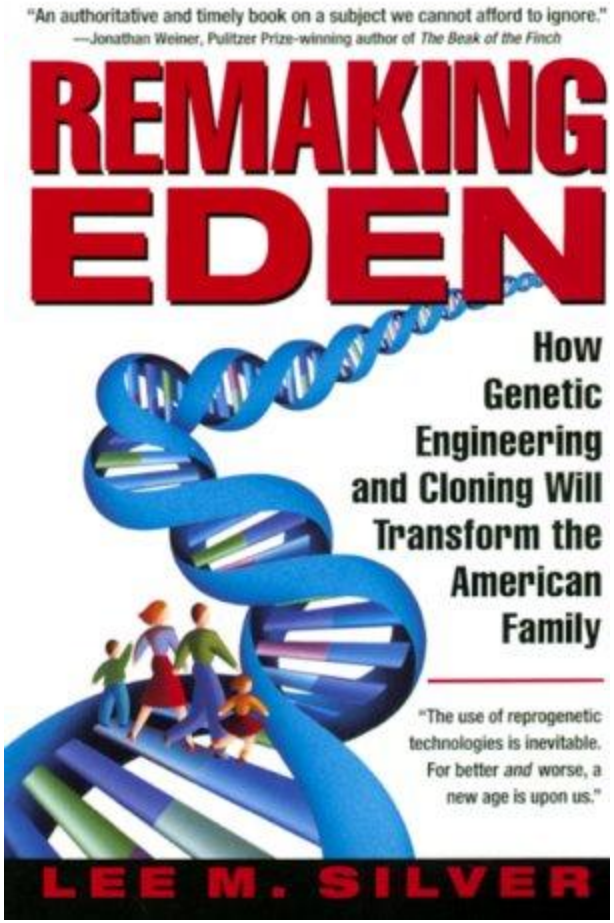
	Yes
Rule out a fatal disease	60%
Ensure greater intelligence	33%
Influence height or weight	12%
Determine sex	11%

Should parents with genetically linked diseases be required to test their children for them?

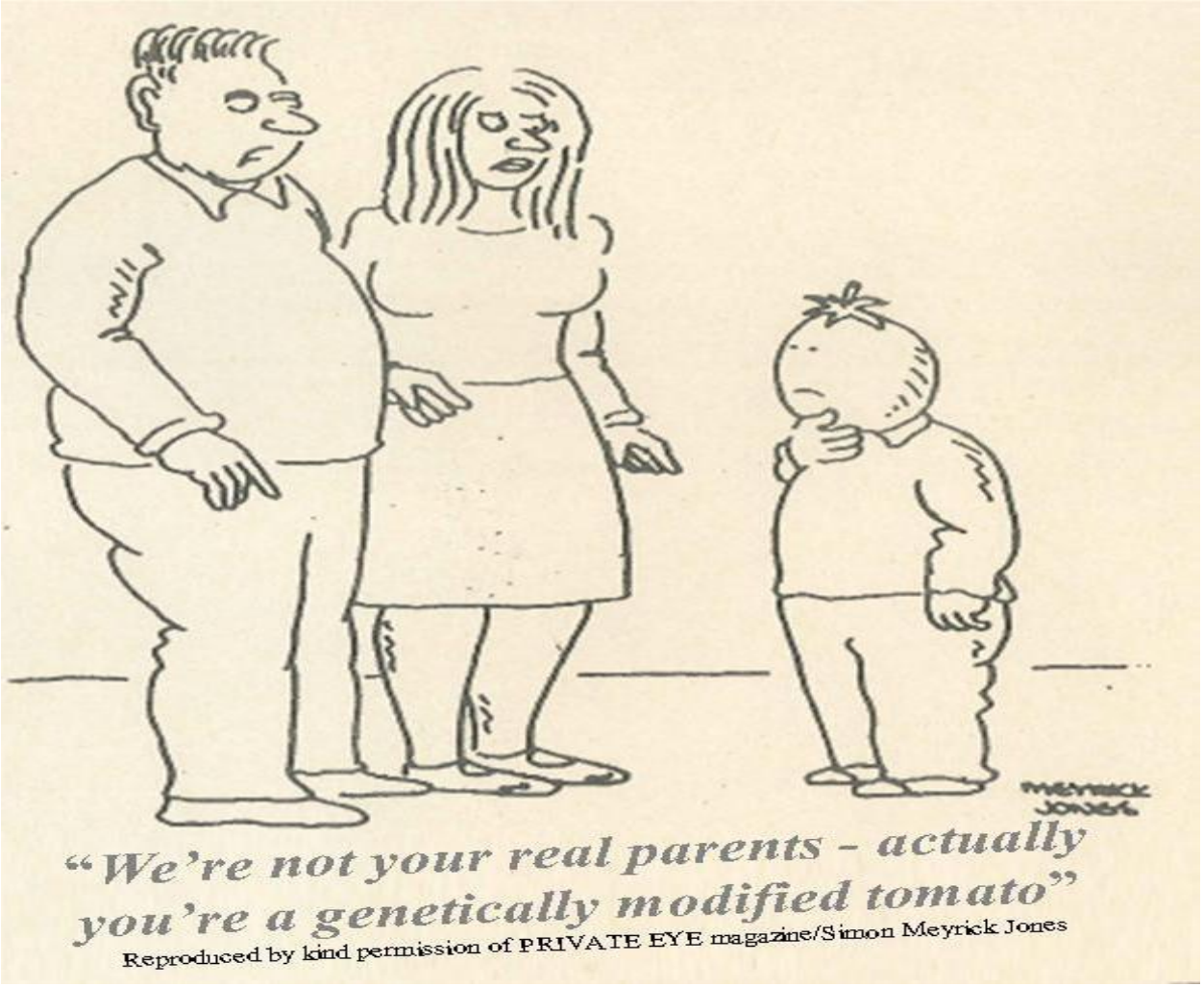
Yes 39% No 35%

TIME, JANUARY 11, 1999

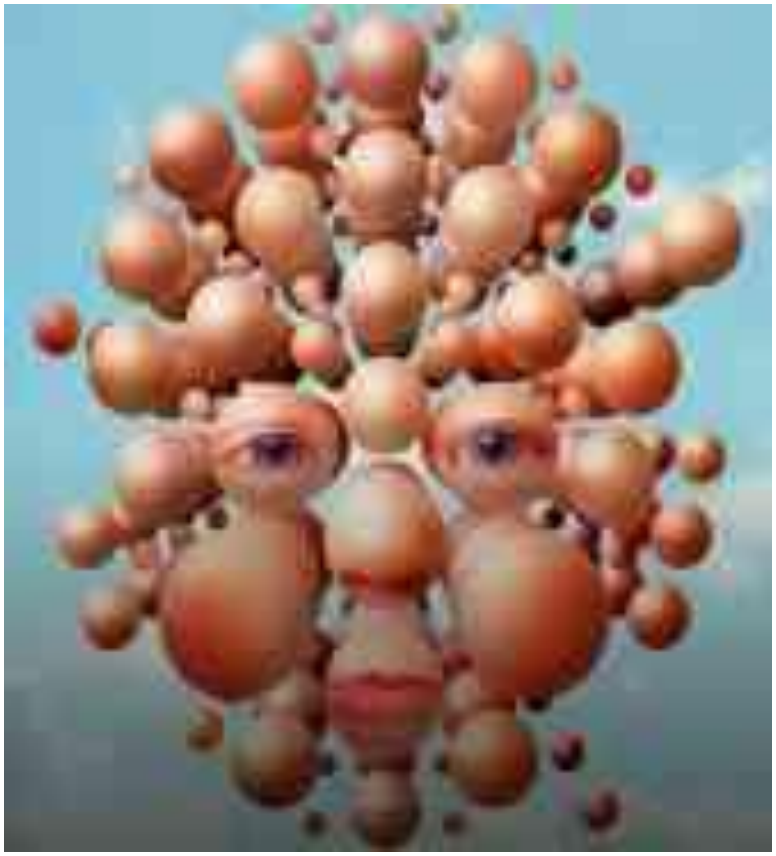
Illustrations for TIME by John Craig



Science or sci fi?



Current news



MIT Technology Review

March 5, 2015

Featured Story

Engineering the Perfect Baby

Scientists are developing ways to edit the DNA of tomorrow's children. Should they stop before it's too late?

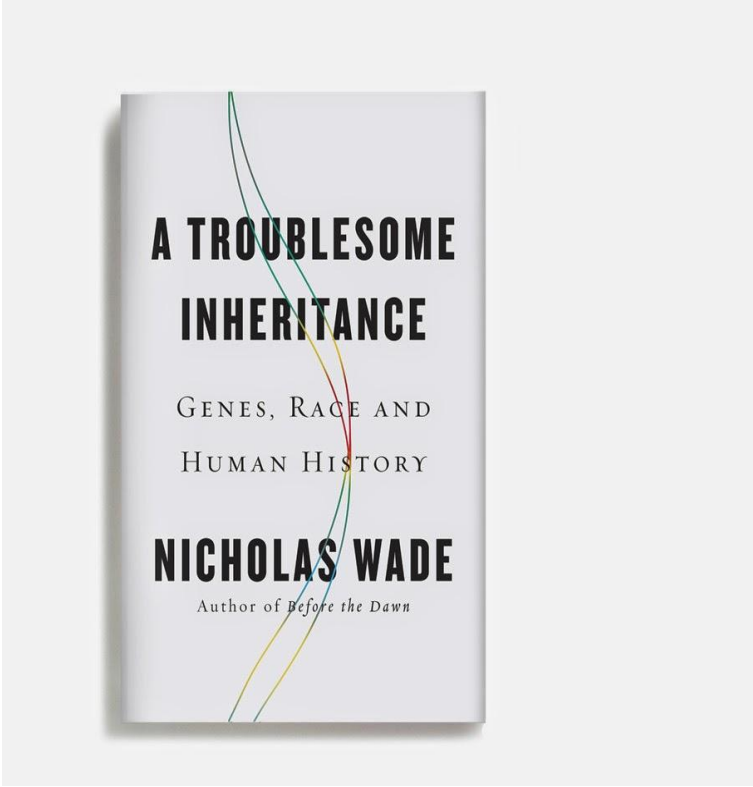
Technologies and practices

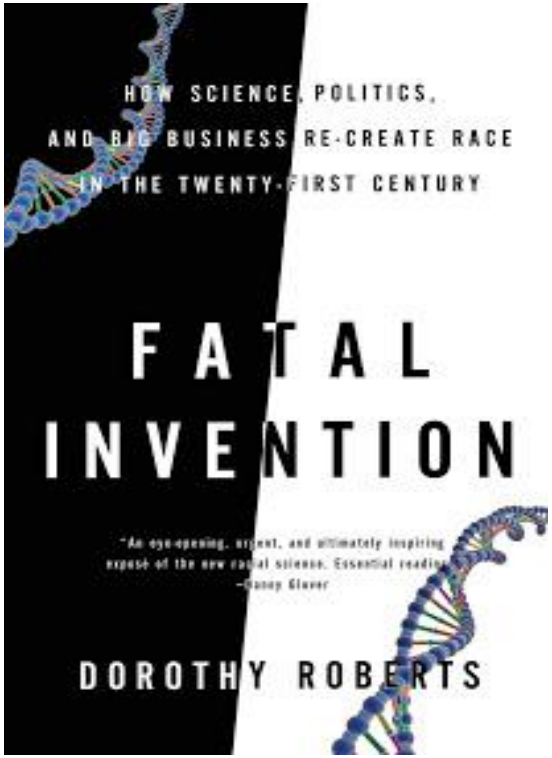
Egg freezing and “chill parties”

Surrogacy in India

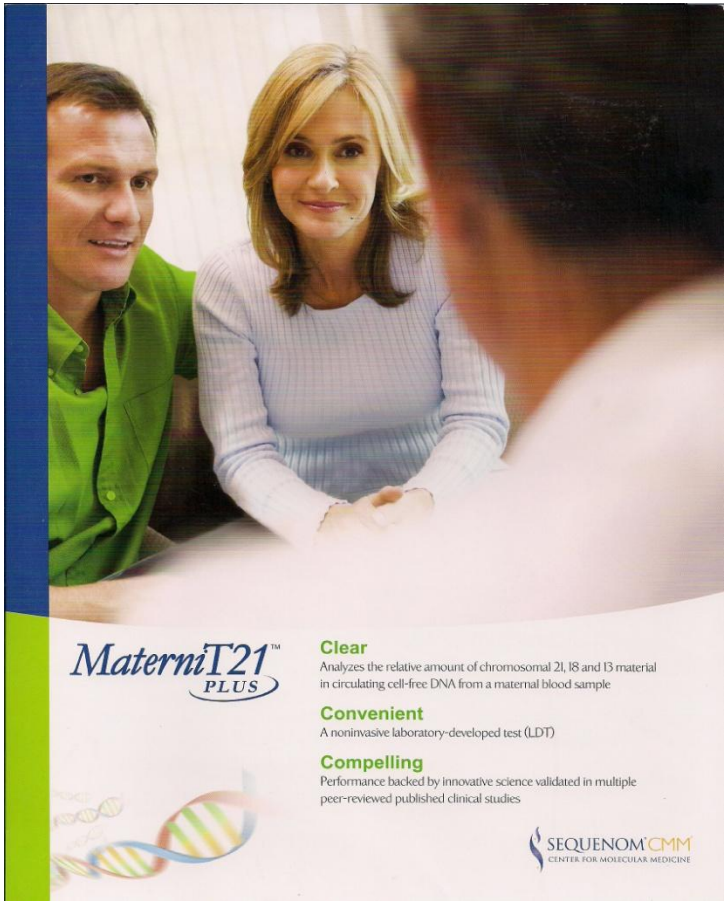
Surrogacy in India

Biological race resurgent



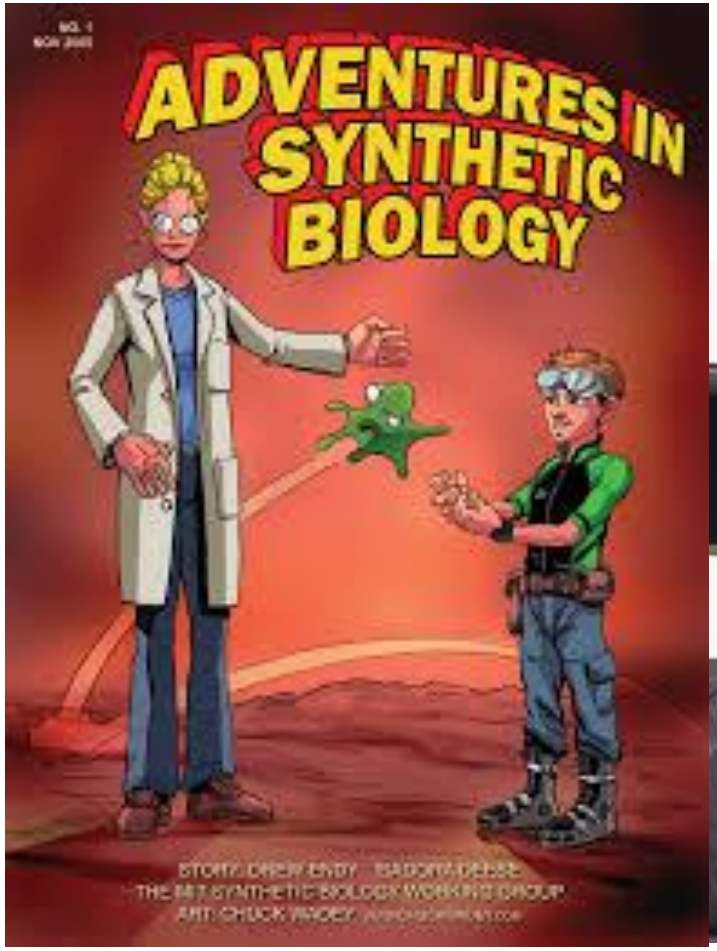


Genetic testing



23andMe

Synthetic life, engineered humans



Cross-cutting concerns #1

Reclaiming human biotechnologies for the public interest and common good by countering policies, practices and ideas that

- reinforce unjust social hierarchies
- foster genetic reductionism and biological determinism and strengthen biological understandings of race
- elevate individualism in biotechnological, biomedical and bioethical matters

Cross-cutting concerns #2

Reclaiming human biotechnologies for the public interest and common good by countering policies, practices and ideas that

- make unwanted alterations to what it means to be human, often by commodifying human biological processes and materials
- threaten privacy and civil liberties in new ways
- challenge democratic accountability in the development, use and governance of biotechnologies, often by assuming that technology is neutral and autonomous

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Technologies and practices