

# Cyber-Eugenics and the Biopolitics of Biotechnology

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Today I'll be speaking about some of the potentially eugenic bioethical and bio-political concerns regarding things like genetic engineering, prenatal testing, natal/prenatal surgeries and other assistive reproductive technologies, and I'll be exploring them through the lens of science fiction and cyber-punk dystopia depictions of such technologies.



You know, the 80s and 90s were prime time for the cyber punk dystopia. A lot of the technology I'll be discussing today was in its infancy, so it was able to be envisioned and theorized to some degree but still with a very limited and sometimes sensationalistic analysis of the ramifications and potential applications. Even still, science fiction is interesting insofar as it lets us imagine multiple, disparate, even conflicting futures: I'll be primarily working with these three works today, Blade Runner (1980s), Gattaca (late 1990s), and an episode of Star Trek: The Next Generation from the early 1990s. All three, in my opinion, are representative of the cyber punk genre, albeit in different ways.

# Cyber-Punk

- High technology dystopia characterized by social, moral, and ethical decadence.
- Technological progress without regard for social inequity and general well-being.
- While many cyber-punk films deal with dystopia, few consider high technology racism, (cis)(hetero)sexism, misogyny, etc.

So if you're not familiar with cyber punk, it's a literary and film genre that focuses on high-technology worlds, usually in dystopic or otherwise morally decadent ways. Bruce Sterling called it "a combination of lowlife and high tech". It's sometimes difficult, in my experience when analyzing these works, to differentiate social commentary from alarmism or sensationalism regarding technology. And for the most part, none of the dystopias I'm looking at really grapple with the gendered, racial, and sexual implications of such dystopic worlds.

# Traditional Eugenics

- Socioeconomics
- Forced sterilization
- Stigma

So, before jumping into high technology, I wanted to distinguish it from the more traditional forms of eugenics, some which are widely recognized, such as forced sterilization enacted by the state and medical professionals, as well as more abstract limitations on reproduction such as socioeconomics, culture, and stigma to motherhood, which is in part responsible for denying children, either biologically or socially, to parents considered “unfit” because of race, disability, or class. The “welfare queen” trope comes to mind, facilitating and justifying the removal of children from the care of their parents.

# New Reproductive Technologies

- In-Vitro Fertilization
- Cryogenic Preservation
- Genetic Engineering
- Prenatal Procedures
- Fetal Surgery
- Gametogenesis
- Postnatal Corrective Procedures

But nowadays, there are new avenues for eugenics thanks to the availability or unavailability of certain biotechnologies. I'm referring to genetic engineering and postnatal corrective procedures as well, but I'll mostly be focusing on prenatal procedures as expanded forms of population control.

# Corrective Procedures

- Cochlear implants
- Autism
- Corrective surgeries for Intersex children

So these are very interesting. Organizations like Autism speaks have long searched for a “cure” to autism, whatever that looks like. They’ve come under fire for their position pretty much constantly in disability rights circles. Similarly, intersex people are subject to a number of corrective genital surgeries and endocrinological procedures, often as infants in routinized ways.

**“The NAD recognizes the rights of parents to make informed choices for their deaf and hard of hearing children, respects their choice to use cochlear implants and all other assistive devices, and strongly supports the development of the whole child and of language and literacy. Parents have the right to know about and understand the various options available, including all factors that might impact development.”**

*-National Association of the Deaf Position Statement on Cochlear Implants*

I'd like to expound a bit upon cochlear implants. Cochlear implants are often purported to “cure” deafness, at least in the popular imagination, but many deaf activists have pointed out the potential for cochlear implants to deprive children of exposure to sign language and other elements of deaf culture. It's become something of a hot-button issue. For example, The National Association of the Deaf actually released a position statement on their use, explaining that “The NAD recognizes the rights of parents to make informed choices for their deaf and hard of hearing children, respects their choice to use cochlear implants and all other assistive devices, and strongly supports the development of the whole child and of language and literacy. Parents have the right to know about and understand the various options available, including all factors that might impact development.”

**“Parents, doctors, mental health professionals, affected adults and family members all care deeply about protecting these children. However, the historical treatment of children born with intersex traits and the reality of society’s intolerance of difference has created so much pain and anger that these different groups of stakeholders have had a great deal of difficulty in communicating with each other.”**

*-InterACT Mission Statement*

As for corrective surgery for intersex children, this is the mission statement for InterACT, an advocacy group for intersex youth. “Parents, doctors, mental health professionals, affected adults and family members all care deeply about protecting these children. However, the historical treatment of children born with intersex traits and the reality of society’s intolerance of difference has created so much pain and anger that these different groups of stakeholders have had a great deal of difficulty in communicating with each other”. Both NAD and InterACT stress the “reproductive autonomy” rationale to a large degree, though InterACT specifically calls into question, once again, how well these routinized procedures are actually communicated to parents.



# Prenatal Screening

- Reproductive Autonomy Rationale vs Public Health Rationale
- “the *public health rationale* approaches prenatal testing, much as it does other screening programs, as designed to reduce the incidence of certain conditions in the population to reduce the burden of disease. This rationale emphasizes the societal consequences of reproduction and the aggregate impact of women’s individual reproductive decisions on the overall health of future populations” (Ravitsky 2017, p. S35).

To switch gears slightly, Ravitsky challenges this notion of “autonomy” of parents and highlights a number of communication failures on the part of medical professionals, in her case as applied to prenatal screening, but I think her critique applies well to both cochlear implants and corrective intersex surgeries. She explains the “reproductive autonomy rationale” of prenatal screening as giving parents the ability to give “informed consent”, and distinguishes this model from the underlying “public health rationale” that aims to enact widespread social change.

# “Informed” Consent

- “The public health rationale construes prenatal testing as a “search and destroy mission” with eugenic undertones.”
- “Rather than facing the challenges of informed consent, health care systems take the easy route of routinization— the integration of screening into pregnancy care in a way that requires little communication and little thinking. This routinization, however, indicates the degree to which the reproductive autonomy rationale for prenatal testing has been a smoke screen, rather than a theoretical framework whose ideals are realized in clinical practice. For decades, this rationale has allowed conversations surrounding pre-natal testing to conveniently cover up the much less palatable public health agenda.” (Ravitsky 2017, p. S36).

The “reproductive autonomy rationale” falls apart when one considers how these procedures are becoming routinized, and Ravitsky explains that parents are seldom fully informed about the potential for people with disabilities to live happy, fulfilling lives. In the context of intersex children, I believe InterACT rightfully points out the communication breakdown that shapes the nature of parental consent. More accurately, this is truly a “search and destroy mission”, and health care systems have routinized these procedures as a normal part of pregnancy care, covering up a much less palatable political strategy rooted to some degree in eugenics.

# Selective Abortion

- “for almost all the conditions screened for during pregnancy, there is no in utero treatment. The only options available to most pregnant women following prenatal diagnosis of a serious disability or health condition are termination of the pregnancy or preparation for the arrival of a child with special needs or health challenges.” (Ravitsky 2017, S34).
- Poor and uneducated families in particular are therefore in a bind - do they abort and try again, or do they prepare to shoulder the “burden” of special needs children?

To go back to prenatal screening and its relation to selective abortion, Ravitsky further explains here that for conditions diagnosed in-utero, currently there aren't really any options for the parents outside of preparation for the special needs of their children - special needs that they may not be fully informed about - or aborting the pregnancy altogether. Of course, we can envision futures where more and more conditions can be treated in-utero, and the place for selective abortion may be gradually reduced, but the effect on demography remains unchanged. As it is, poor and uneducated families are hit the hardest here, and are under more pressure to abort.

# Who wouldn't want a designer baby?

Who wouldn't want a designer baby? Of course, my attempt here is not to shame anyone for the particular choices they have to make for their children.

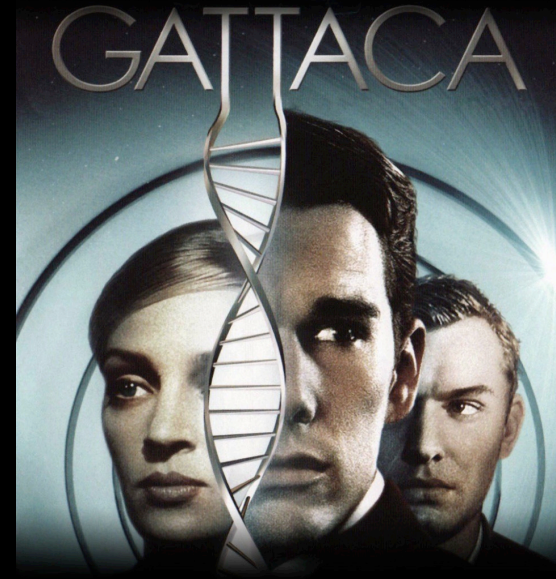


**Don't you want the  
best life for your child?**

Especially when the question is usually framed more like this. The “common sensification” or routinization of these procedures makes the acceptable answers to this question quite narrow. Science fiction has explored the ramifications of this routinization of the public health rationale - for the greater good, so to speak, and I'd like to explore those representations and a little bit of the problems with them.

# Gattaca

- “Valid” vs. “Invalid”.
- Non-genetically altered people are perceived as less valuable, reduced to menial jobs and viewed with disdain.
- Nominally, genetic discrimination is illegal, but a registry of in-valids and valids helps to protect the subordinate position of in-valids.
- No reference to complicating social factors (gender, race, sexuality, etc.).



Enter Gattaca, probably the perfect film for exploring this question. This movie has something of a cult following. It's a story of how Vincent, an "invalid", works to get a job restricted to "valids" and maintains his cover by using the genetic material of a disabled valid to sneak through the constant DNA testing. It's kind of a feel good film about how the "invalids" aren't as "invalid" as society thinks. Unfortunately, there's zero reference to intersectional complicating factors of such a society. What does such a society mean for people with conventional disabilities?

# Star Trek TNG: “The Outcast”

- Enter the J’naii, an androgynous race of humanoid without gender.
- Gender identity is viewed as a “perversion”, but Soren expresses attraction for Commander Riker, as well as a female gender identity, risking forced “psychotectic therapy”.
- Critiques mandatory androgyny, but only within the confines of a heterosexual love affair.



So this is an episode of Star Trek: The Next Generation in which the crew of the Enterprise meet a race of humanoids who have evolved “beyond gender”. Gender identity is considered a perversion, and those expressing it are subject to “psychotectic therapy” aimed at ridding them of gender-specific identity. The show attempts to challenge this by depicting a love affair between a Commander Riker and a J’naii named Soren, who is later because of her love for Riker revealed to consider herself a heterosexual female. This enters more into a realm of sensationalism - challenging but simultaneously reinforcing traditional gender and sexual norms.

# Blade Runner

- “Replicants” are used in off-world colonies for their labor.
- Androids or bio-engineered organisms? Who knows?
- Replicants are “retired” (murdered) after four years of service, to prevent them from developing empathy and discrete personality.
- Once again, little to no exploration of race, gender, or other factors.



You know, I thought a lot about including Blade Runner in all of this, mostly because it's really ambiguous whether or not the “replicants” are androids, bioengineered, or a combination of both. But it's a good exploration of the potential for subjectification of beings as workers and strict control over when they live, who they are, and when they die.



# Is Science Fiction Neoliberal?

Is Science Fiction neoliberal? Well, the timing on these works I've discussed is pretty interesting, mostly coming out of the early 80s into the late 90s. All three are highly individualistic, and focus extensively on a certain "multiculturalism" insofar as these societies are represented as somehow being both highly oppressive and simultaneously post-racial and post-gender. There's this clear assumption that the high-technology future will be beyond these conventional oppressions. I think, as we now enter an age where these technologies are becoming more proliferated and even routine, we as anthropologists can probably agree that this is not the case, at least in 2018. The reality is that life, life-making, and life-saving remains a heavily contested space for body politics.

# Anatomo-politics, Bio-politics, or both?

- Anatomo-politics focuses on the body in regards to “its disciplining, the optimization of its capabilities, the extortion of its forces, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls, all this was ensured by the procedures of power that characterized the *disciplines*” (p. 139)
- Bio-politics “...focused on the species body, the body imbued with the mechanics of life and serving as the basis of the biological processes: propagation, births and mortality, the level of health, life expectancy and longevity, with all the conditions that can cause these to vary. Their supervision was effected through an entire series of interventions and regulatory controls”

And speaking of body politics, enter Foucault. In Volume 1 of the History of Sexuality, Foucault distinguishes between two forms of politics of the body: anatomo-politics and bio-politics. Anatomo-politics focuses on the discipline and surveillance of the body, and the creation of docile subjects. Bio-politics, on the other hand, focuses on the basic biological features of the human body, so for example reproduction, birth, death, health, etc.

- With these new reproductive and genetic technologies, bio-politics increasingly informs and is informed by anatomo-politics.
- The "basic biological features of the human species became the object of a political strategy" (Security, Territory, and Population; p. 16).

However, now that we as individuals at least nominally have increased discretion over our own reproductive choices, these different forms of body politics are becoming even more closely linked. Social pressure and routinized assumptions increasingly shape the process of propagation as part of a specific political strategy - after all, Don't you want the best life for your child?

# Social (re)production

- Assistive reproductive technologies and (pre)natal procedures provide more and expanded opportunities to produce normative subjects.
- Simultaneously, these technologies comparatively restrict and regulate opportunities for marginalized people to reproduce and to be reproduced.
- There is no reason to think that these technologies will not be used to reproduce existing white, cisheterosexual, affluent beauty standards.

So, thinking of this in terms of producing subjects and subjectivities, these technologies provide more and expanded ways to produce normative subjects - both biologically and socially. Given that, there is no reason to think that these technologies will not be used to reproduce existing inequities. We see examples of this everywhere: certain whitening products are already on the market to whiten skin, and corrective surgeries are already common for certain marginalized people, namely deaf folks, intersex folks, and disabled folks. Where “do no harm” begins and politics end is relatively unclear.

# Implications for Anthropology

- Putting “do no harm” into context.
- “Informed consent” ought to be actually informed, with a variety of information, not just regarding “this vs. that” but also regarding sociohistorical and sociopolitical context.
- It is extremely difficult to understand humanity without diversity (not including neoliberal approaches to diversity).

I believe a core part of medical anthropological praxis is to put the medical praxis of “do no harm” into sociopolitical context. And with regards to this topic, we should be particularly mindful because the risks are enormous: it becomes extremely difficult to account for all the varied ways of being human with a potentially shrinking sample size.

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