The Ethics of Biotechnology and the Art of Patricia Piccinini

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Ethics and Visual Representation

Final Project

Diane Zeeuw

4/18/14

Biotechnology and genetic engineering inspire ethical and moral dilemmas. Some artists are inspired by the continuing advancements in biotechnology and genetic engineering and are creating work to raise awareness about the ethical and moral implications of such advancements. Patricia Piccinini is one of those artists. Piccinini's artwork is interested in the human form and the possibilities of that form to be manipulated and altered through the use of experimental biotechnology. She creates life size sculptures of imagined human-animal hybrid creatures to inspire conversation about the ethical concerns and possibilities of biotechnology. I will be exploring the artist's work and evaluating it through the use of the ideas of Noel Carroll, to determine if art can be used to influence the moral and ethical response to biotechnology.

Biotechnology, in general, is a large field of a wide range of processes that involves modifying living organisms for the benefit of humanity. Dr. Michael Fox explains that, "Through genetic-engineering technology, we now have the power to profoundly alter all life forms and the very nature of nature- the natural world, or earth's creation".[1] The domestication of animals and cultivation of plants and improvements to these organisms through selective breeding by artificial selection and hybridization are the origins of biotechnology. Today, Bioengineering is the application of the principles of engineering and natural sciences to tissues, cells and molecules. It is the use of knowledge from working with and manipulating biology to achieve a result that can improve functions in plants and animals.[2]

Bioethics is an emerging field that looks at the ethical and moral dilemmas that are beginning to arise with the continuing advancement of biotechnology. Through genetic alteration, humanity can now determine their continuing evolution. But with such power, ethical and moral dilemmas arise. In *Being Good: A Short Introduction to Ethics*, Simon Blackburn

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[1] Dr. Michael W. Fox. *Beyond evolution: the genetically altered future of plants, animals, the earth—and humans*. New York, N.Y.: Lyons Press, 1999. pg. 157.
[2] Dr. Michael Fox. *Beyond Evolution*.

writes that, “Eugenics may look set to come back with a vengeance as science continues to unravel the genetic code, raising Frankenstein-like visions of human beings designed to order out of the genome parts store”.[3] With new technologies developing so fast, ethical problems start to come to light. If we can alter the genetic makeup of an embryo in the womb and assign desirable traits to the unborn human, to what extent do we pursue perfection? What qualifies as a desirable trait? Are the lives of those with “undesirable” traits less valid? Is it ethical to use the stem cells from aborted fetuses? Are only those with financial means able to pursue genetic alteration? Is it ethical to raise animals or even human clones for replacement organs?

The people who have the hardest time accepting genetic manipulation and embryonic stem cell research are those from highly conservative communities and religious organizations. I interviewed a conservative religious leader in a small town in the highly conservative state of Wyoming, Scott Pilch, who until just recently held the position of Stake President in the Church of Jesus Christ of Latter Day Saints in Evanston, Wyoming. When asked about his position on the use of embryonic stem cell research he gave me the church’s official stance, which is:

> While the First Presidency and the Quorum of the Twelve Apostles have not taken a position at this time on the newly emerging field of stem cell research, it merits cautious scrutiny. The proclaimed potential to provide cures or treatments for many serious diseases needs careful and continuing study by conscientious, qualified investigators. As with any emerging new technology, there are concerns that must be addressed. Scientific and religious viewpoints both demand that strict moral and ethical guidelines be followed.[4]

Even one of the most conservative organizations is cautiously optimistic. Mr. Pilch then informed me that he and his family could actually benefit from these kinds of biotechnological

[3] Simon Blackburn. *Being good: a short introduction to ethics*. Oxford: Oxford University Press, 2002. Pg. 58.
[4] Scott Pilch (Former Stake President of LDS Church in Evanston, WY), e-mail communication to the author, April 15 2014.

advancements as his wife has Multiple Sclerosis. Stem cell research is one of the ways that scientists and doctors are trying to cure the disease.[5]

Patricia Piccinini is an Australian mixed media artist that uses mixed media and sculpture to explore the possibilities of genetic engineering and experimental biotechnology. She creates human scale, hyper-realistic sculptures. Her subjects are creatures from her imagination that are the possible result of the intermingling of human and animal DNA. Piccinini's human-animal hybrid creatures blur the line between reality and fiction, possible and impossible, grotesque and endearing. The advancements brought forth through biotechnology provide Piccinini with ideas and directions to create her work.

Piccinini's work is interested in the human form and the moral and ethical impact of the potential for it to be manipulated and enhanced through biotechnological means. Her work deals with the ethical concerns that are raised by stem cell research and cloning. She has an ambivalent attitude towards this biological tampering and creates her signature sculptures to prompt conversation about it. Her work is abject and uncanny as crude monstrosities of uncontrolled biotechnological experimentation yet they are sweet and touching upon further observation.

In the article, *In Another Life*, on her website, Piccinini writes about her imagined creatures: "I am particularly fascinated by the unexpected consequences, the stuff we don't want but must somehow accommodate. There is no question as to whether there will be undesired outcomes; my interest is in whether we will be able to love them."[6] In *Speculative Fabulations for Technoculture's Generations*, Donna Haraway writes about her response to the Piccinini's creatures, and it is a positive one: "Looking after imperfect, messy, really existing, mortal beings

[5] Idid.
[6] Patricia Piccinini. *Writings*, http://www.patriciapiccinini.net/.

is much more demanding-not to mention playful, intellectually interesting, and emotionally satisfying-than living the futuristic nightmare of techno-immortality"[7]

The reactions that Patricia Piccinini's sculptures could generate are those of the abject variety. Kristeva, a Bulgarian-French philosopher wrote about the abject in, *The Powers of Horror: An Essay on Abjection*. Abjection's broadest definition is: the state of being cast off. Kristeva describes abject as the reaction, like horror or vomit, to the breakdown in meaning caused by the border between subject and object or self and other. The abject "disturbs identity, system, order. What does not respect borders, positions, rules".[8] Objects like spit, vomit, feces, and an open wound elicit the abject response. These objects threaten the boundaries of inside and outside the body. Every time we see bodily fluids we view it as threatening our cleanliness and propriety.

Kristeva describes the corpse as the ultimate abject. A corpse shows the breakdown of the distinction between subject and object that is essential for the creation of our identity and entrance into the symbolic order. When we see a corpse we are confronted with our own mortality. Kristeva writes, "The corpse, seen without god and outside of science, is the utmost abjection. It is death infecting life. Abject".[9] Kristeva describes how the corpse demonstrates your inevitable death:

> A wound with blood and pus, or the sickly, acrid smell of sweat, of decay, does not signify death. In the presence of signified death- a flat encephalograph, for instance- I would understand, react, or accept. No, as in true theater, without makeup or masks, refuse and corpses show me what I permanently thrust aside in order to live. These bodily fluids, this defilement, this shit are what life withstands, hardly and with difficulty, on the part of death. There I am at the border of my condition as a living being.[10]

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[7] Donna Haraway. "Speculative Fabulations for Technoculture's Generations:Taking Care of Unexpected Country." *Australian Humanities Review* 50 (2011). http://press.anu.edu.au/
[8] Kristeva, *Powers of Horror: an Essay on Abjection*. New York: Columbia Unversity Press, 1982. Pg. 4.
[9] Ibid. pg. 4.
[10] Ibid. pg. 3.

It is not a lack of cleanliness or health that causes the abject when viewing Piccinini's creatures, but what disturbs identity, system, and order. The creatures dreamed up by Piccinini trigger the abject response by disrupting the boundaries between human and animal, real and unreal, natural and artificial. The creatures are in-between, ambiguous, and composites.

Her composite creatures are created to have a sense of hyperrealism. They are created on a human scale, and constructed with flesh-like silicone and fiberglass. Human and animal hair is individually and realistically inserted into the sculpture. The tiny details like moles and wrinkles are included to add more believability to the possible existence of the creature. It's the tiny details and imperfections on the "skin" of the creatures that lend a sense of reality to the creatures. They creatures are unnatural in that they do not actually live and breathe, but they appear natural, as if the sculptures could be found in reproductions in natural history museums. Piccinini's knowledge of biology and attention to detail provide the means to create representations of creatures that do not exist, but could, scientifically, be plausible.

Patricia Piccinini's intention for creating her artwork is to inspire conversation about the possibilities of biotechnology and genetic engineering. She claims to try to address the ethical questions and concerns brought forth by the advancements of biotechnology by using emotion and empathy. She writes, "We often tend to approach ethics as something sterile, especially in regards to biotech or GE (genetic engineering). In some ways it is useful and important because sadly, emotion and empathy often conflict".[11] She feels that by not combining ethics and empathy they become out of touch with human reality. "In the past we communicated ethics through emotionally charged stories; mythology. Myths often act to explain a complex and confusing world and clarify our place and responsibilities in it"[12]. She explains that people, other

[11] Patricia Piccinini, *Writings*.
[12] Ibid.

creatures and gods populated myths. These other beings could not be observed in the real world but they did reflect some aspect of it. She says, “In some ways I am attempting to create mythical beings that reflect the complex ethical issues of our times”.[13]

When it comes to viewing Patricia Piccinini’s artwork, one cannot help but be impressed by the craftsmanship and sheer creativeness and imagination that went into creating them. But it is her intention for her works to transcend the purely aesthetic experience for the viewer. She wants to instigate conversation about biotechnology and the ethical and moral quandaries that arise.

Moralism is the view that the aesthetic value should be determined by its moral value. Formal features are less important when judging an artwork through the lens of moralism. Noel Carroll takes the stand as a Moderate Moralist when he assesses artwork. The opposition of moralism is Autonomism. Autonomism says that the aesthetic value of an artwork is autonomous from other kinds of value, like moral value. Aestheticism and Autonomism are nearly identical views. The Aesthetic value is the highest of all other values. The proper way to view art is to respond purely to the art’s aesthetic qualities. Because the autonomists are able to define the characteristics of art, its formal elements, they can judge a work of art objectively based on its aesthetic qualities. Bringing moral or other social values into viewing an artwork is a mistake. Such a view ignores the fact that some artworks are culturally created and are “inextricably bound up with important social or moral values” [14]. Noel Carroll thinks that, “autonomists overlook the degree to which moral presuppositions play a structural role in the design of artworks”.[15] Carroll believes that a person’s moral understanding allows them to appreciate

[13] Patricia Piccinini, *Writings*.
[14] Ella Peek, http://www.iep.utm.edu/ under Section 2: Radical Autonomism and Radical Moralism
[15] Ibid. Section 3b: Moderate Moralism.

narrative art. This would mean that narrative artwork is incomplete and the viewer needs to fill in the missing information, which would be supplied by their moral powers.

Noel Carroll writes about Allen Carlson's position as "the natural environmental model" as a way to appreciate nature in the essay titled "On Being Moved by Nature: Between Religion and Natural History" in *Beyond Aesthetics*. Carlson claims that aesthetic appreciation of nature depends on the knowledge of nature provided by education of natural history, science, or common sense or the knowledge passed down by one's predecessors. Carlson feels that to appreciate nature, one has to understand the ecological and evolutionary significance of natural phenomena. Carroll explains that the ideal nature appreciator for Carlson, "is a naturalist-someone who contemplates nature in light of scientific concepts and laws and whose project is to render nature intelligible".[16] Carroll finishes the thought by writing, "The motive for looking toward nature is scientific curiosity and the pleasure to be had from nature on this view…is the pleasure of scientific understanding".[17]

The argument that Carlson is making could be applied to why some people really respond to Piccinini's imagined creatures. Piccinini understands biological processes and naturally evolved biology and she uses this knowledge to create creatures that appear to be scientifically accurate or at least scientifically plausible. This effect creates an aesthetically interesting piece to those with some understanding of science, biology, or experience or observation of naturally occurring life forms, which should be everyone.

Carroll mentions that Carlson does not factor in the way that emotions are involved in evaluating situations. Carroll says, "Our emotions guide attention and shape perception. They organize information for us. They are biologically rooted devices that enable us to navigate our

[16] Noel Carroll, *Beyond Aesthetics*. Cambridge, UK: Cambridge University Press, 2001, pg. 385.
[17] Ibid. 385.

way through situations and filter incoming stimuli".[18] Carroll explains that emotions, like fear, are the body's way to take in stimuli and organize it in a way so that only certain elements stand out and one can react quickly to avoid the situation that is causing this sudden danger that one should fear. He gives the example: "We first detect the automobile hurtling at us and then our fear further apprizes us of its lethal velocity and the absence of any accessible escape routes. Our emotions filter the situation and structure it. We do not attend to the color of the car, but to its direction".[19] Piccinini's work does not necessarily inspire fear, but more than likely inspires a more tender and loving emotional response.

This function of organizing and evaluating the correct emotional response can be used in aesthetic appreciation. Carroll describes viewing Mt. Cook and the emotional response: "The grandeur takes my breath away, my emotional state guides my perception and my thinking…I imagine its great weight…it prompts me to notice how small great trees seem next to it; and so on. My emotional response unifies my cognitive and perceptual reaction to the scene".[20] Details are picked out and emphasized. Not everything in view is pertinent to the state of grandeur he felt. His attention was selective and organized. When one experiences one of Piccinini's sculptures, the initial response could be an abject one. The creatures are strangely bordering the line between real and unreal, human and animal. But upon closer examination, those feelings of unease could be dissipated by the observation of the anthropomorphic eyes and calmingly human facial expressions. The viewer's mind sorts past all of the elements that once made the creature no more than a creature, and begins to register that these beings may be more human and loving than thought at first. In an interview with Laura Fernandez Orgaz, Piccinini talks about the importance of emotion in her work. "I am just as interested in the characters and their

[18] Noel Carroll, *Beyond Aesthetics*. 387.
[19] Ibid. 388.
[20] Ibid. 388.

relationships and narratives. There are conceptual and political issues that underlie all of my work, but the core of it is emotional and narrative. My real interest is how the conceptual or ethical issues are transformed by emotional realities. I think that all of my work has that emotional dimension that shifts the apparent rational implications".[21]

Piccinini plays on the viewers' emotion by instilling pathos into her imagined creatures. She gives them gentle eyes and a caring posture and gesture. She balances the feelings of the abject repulsion with love, and straddles the line between the anthropomorphic forms and forms of the other. Piccinini wants the viewer to take time and actively observe the piece and to ponder what he or she is looking at. If the sculptures were too monstrous the viewer would not think about what Piccinini wants them to think about and they would dismiss the piece entirely. She tries to avoid too much science fiction or horror in her pieces. She wants them to stay rooted in the realm or real animals. Piccinini says, "I don't want to shock people because that keeps them from thinking".[22] By providing her creatures with anthropomorphic features and kind facial features, the viewer can relate to the creature and begin to ponder the creature and the biological and technological processes that would lead to something like that existing in the real world, and what kind of moral and ethical concerns would arise if such a scientific endeavor was ever realized.

Patricia Piccinini is creating work that emphasizes the possibilities of genetic engineering. She claims to not take a stand either for or against the advancements of the scientific pursuit, but by creating her imagined creatures and instilling in them a sense of empathy and providing the viewer an emotional connection, she is creating work that seems to view the advancements of genetic engineering as a positive force. Her intention is to create work

[21] Laura Fernandez Orgaz & Patricia Piccinini, 2007.
[22] Ibid.

that promotes conversation about the possibilities and the ethical and moral concerns of biotechnology. Her creatures are equal parts cute, cool, and weird and provide and undeniably aesthetic experience that is enhanced by the emotional connection that is present in her work.

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Scott Pilch, (Former Stake President of LDS Church in Evanston, WY), e-mail communication to the author, April 15 2014.

The Ethics of Biotechnology and the Art of Patricia Piccinini

Seth Marosok

Introduction

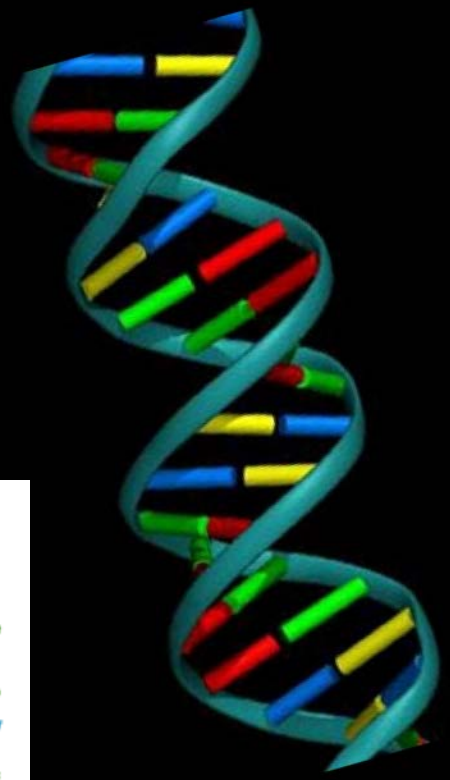
- Can art be used to influence the moral and ethical response to biotechnology?

Outline of Presentation

- Introduce the ideas of Biotechnology
  - Pros and Cons
  - Ethical concerns
- Ethics
  - Greek Virtue Ethics
  - Judeo-Christian Tradition
  - Utilitarianism
- Patricia Piccinini
  - Artworks
  - Intentions
- Abjection
- Other Artists
- Conclusion

What is Biotechnology?

- Biotechnology
- Bioengineering



Pros and Cons of Biotechnology

Pros

- Prolonged life expectancy
  - Replacement organs and tissues
  - Cures
- Design offspring with desirable traits
- Enhanced Food Production

Cons

- Mutations
- Drug Resistant Viruses
- Biological Weapons
- GMO foods

Pros

- Prolonged Life Expectancy

Misao Okawa, 116

Pros

- Replacement organs and tissues

Anthony Atala: Printing a human kidney

http://www.ted.com/talks/anthony_atala_printing_a_human_kidney#t-5623

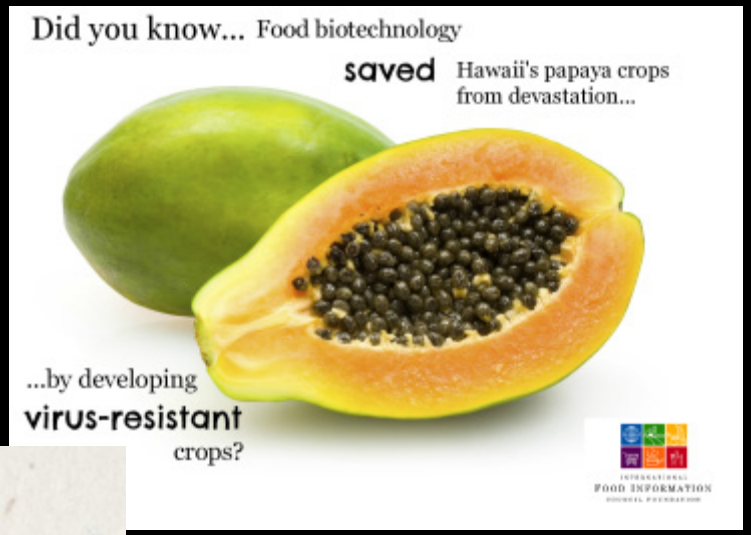
Link to Ted Talk video filmed March 2011.

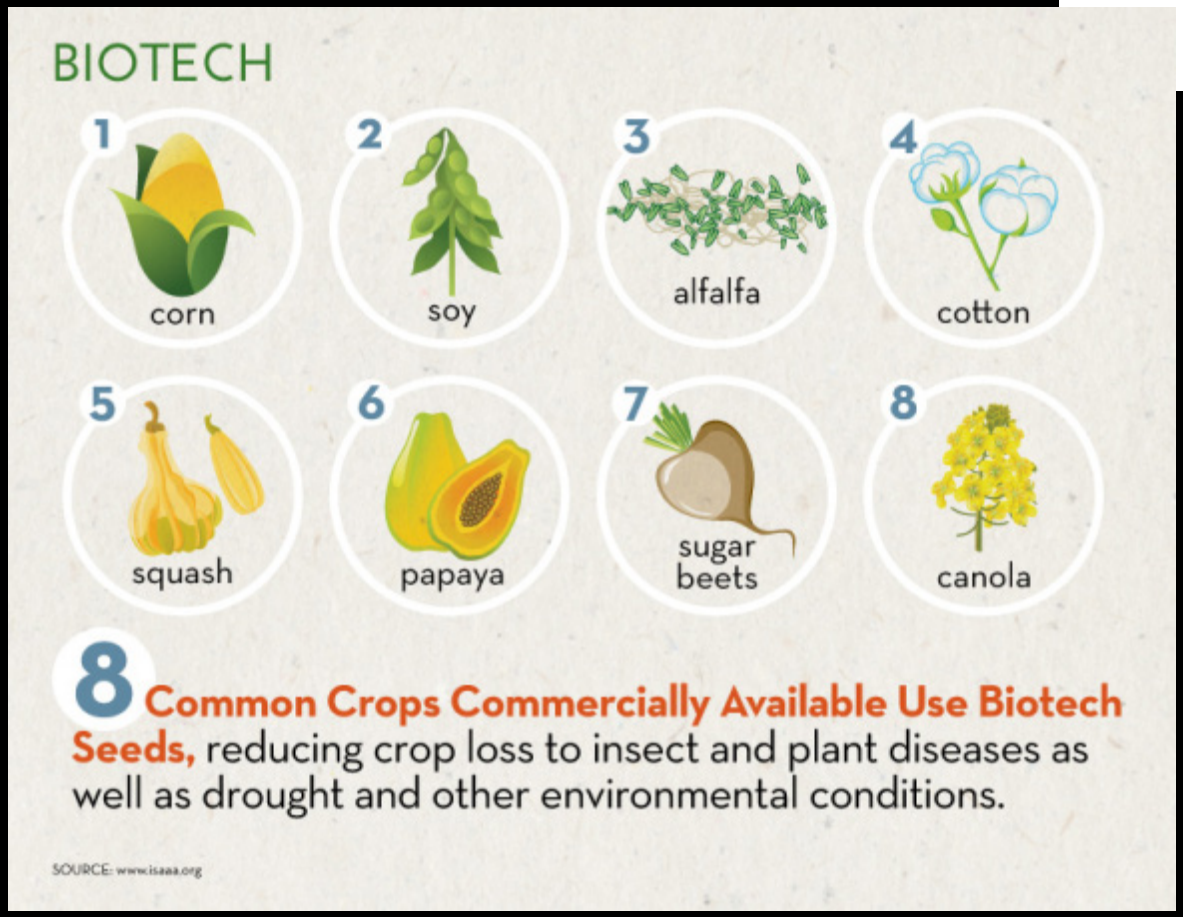
Pros

- Cures for diseases

Pros

- Food biotechnology





Pros

- Desired traits

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 our parents 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 confounding 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 genes or combination of genes responsible for most of our physical and mental attributes hasn't even been identified yet, making most 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 finally 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 brings either an X or a Y to the fertilization party.

As it happens, Y chromosomes have slightly less mass 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 lifestyle 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

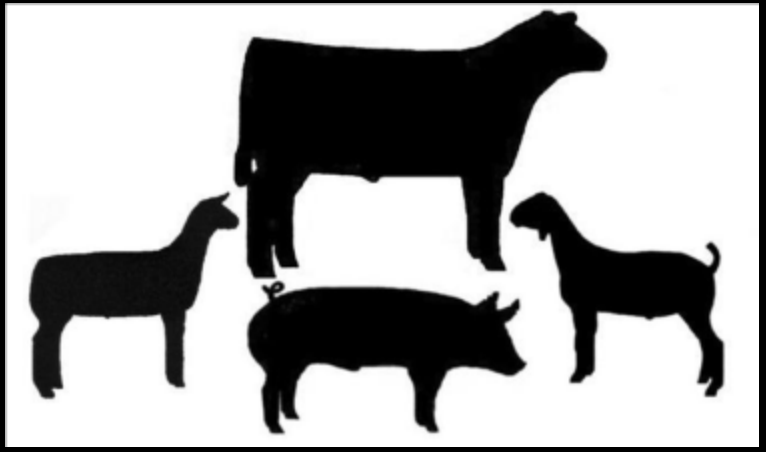
	Yes
Rule out a fatal disease	66%
Ensure greater intelligence	12%
Influence height or weight	12%
Determine sex	11%

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

Yes 39% No 55%

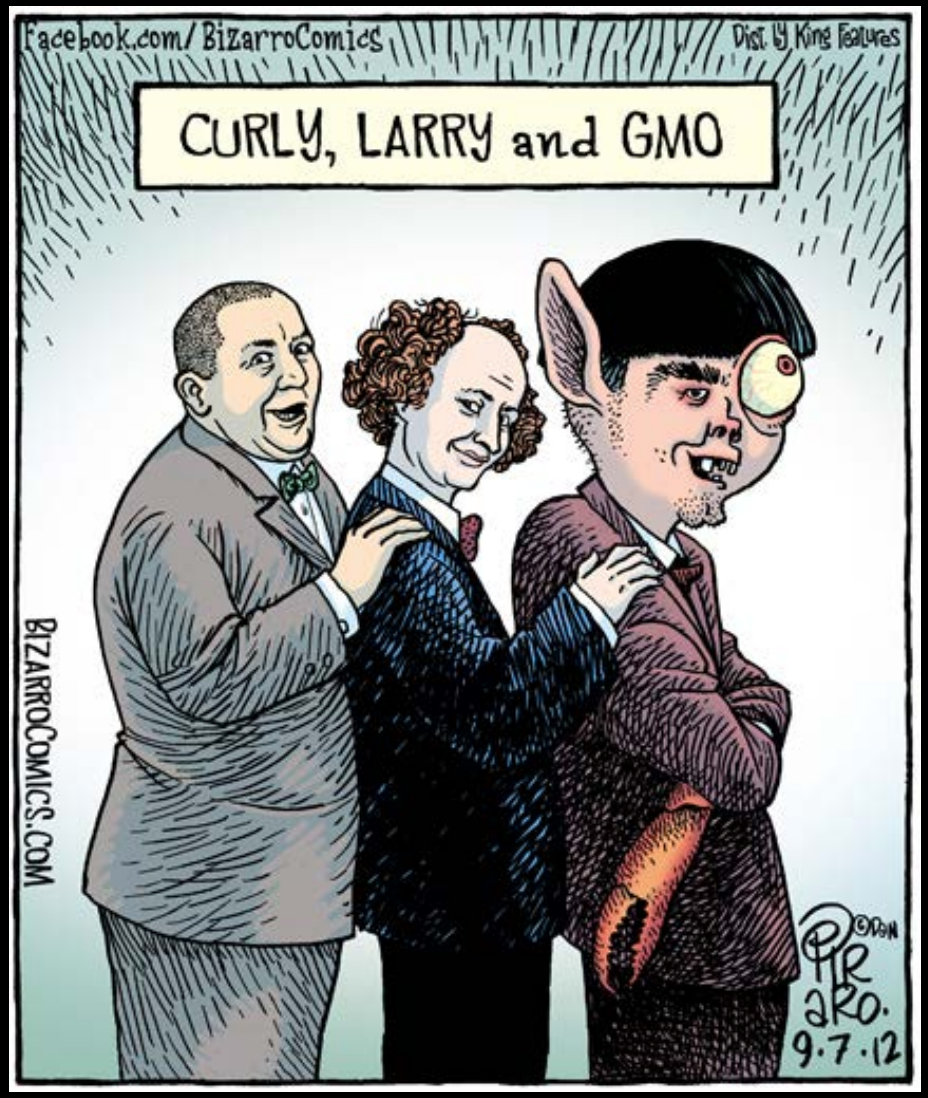
TIME, JANUARY 11, 1999

Illustrations for TIME by John Craig



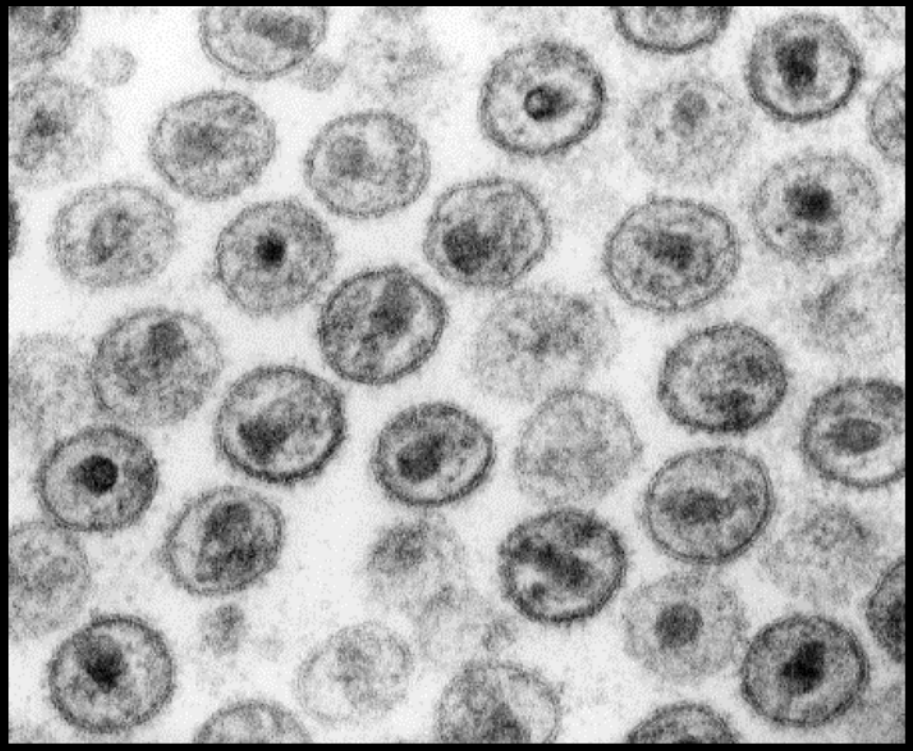
Cons

- Mutations



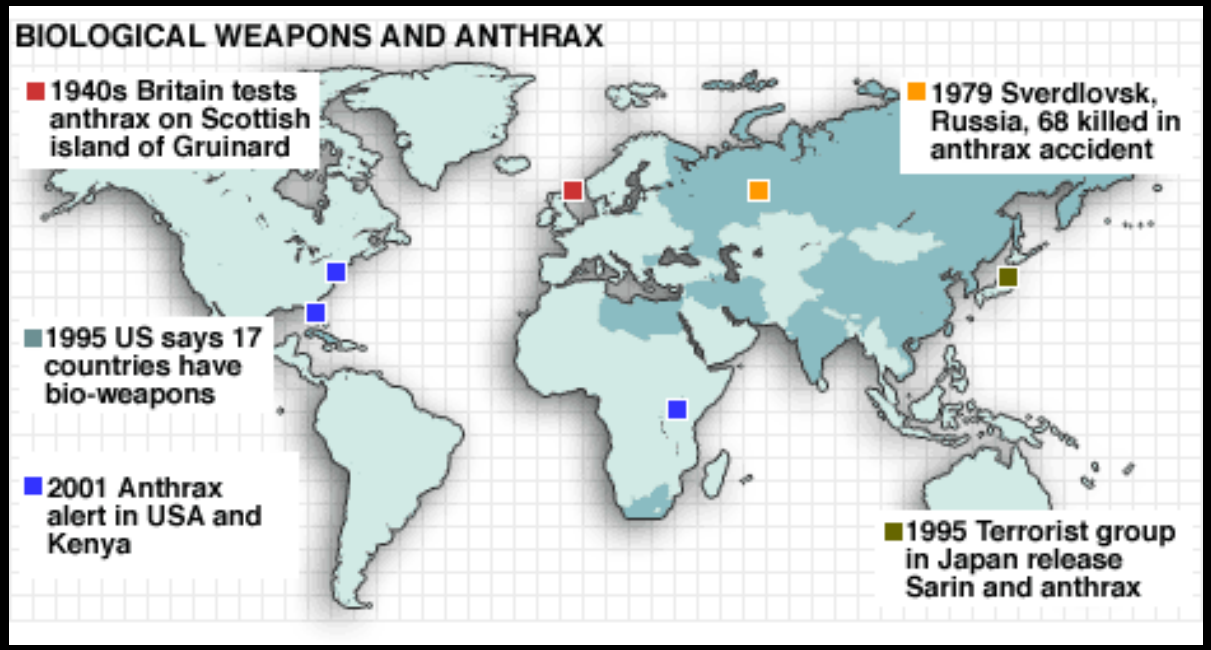
Cons

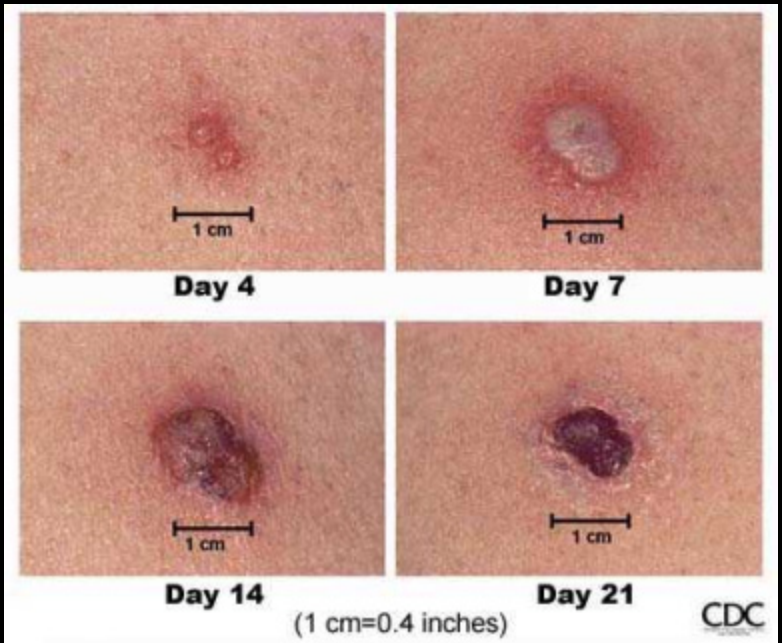
- Drug resistant viruses



Cons

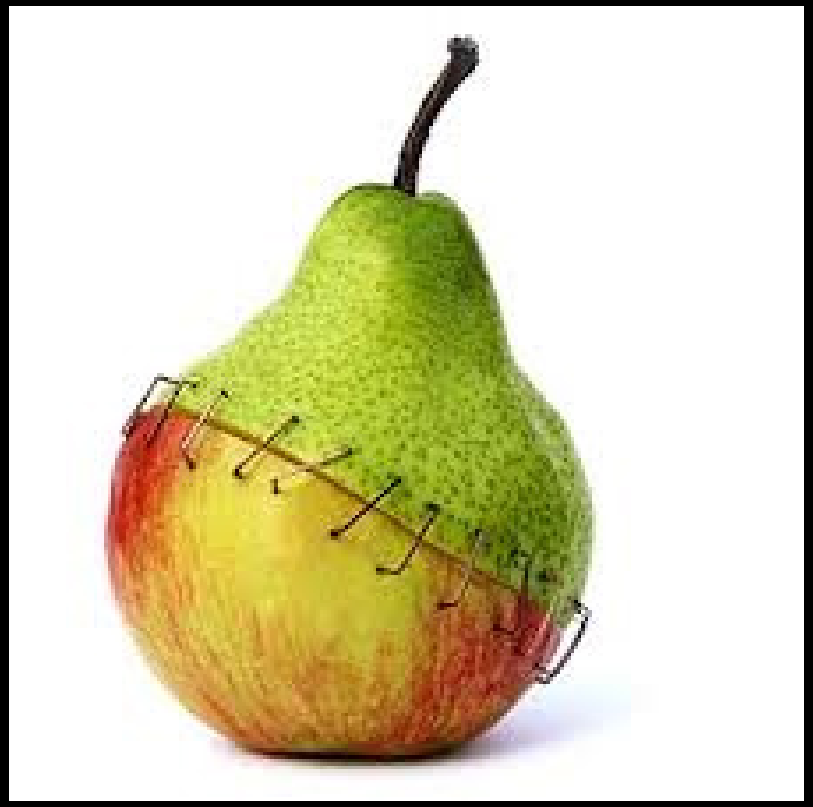
- Biological weapons





Cons

- Genetically Modified Organisms



Biotech and Ethics

- Embryonic stem cells research
- Eugenics programs
- GMO foods
- Resurrect extinct animals
- Clone a dead child
- Growing clones or animals for the sole purpose of harvesting their organs

What are limits of biological enhancement?

- What qualifies as enhancement?
- Should only those with the means be allowed enhancement
- Divide between genetically inferior/superior
- Do the lives of those labeled inferior have less value?

Greek Virtue Ethics

- Autonomy of individual and maximizing of individual responsibility
- Individual human excellence
- Strive for human fulfillment
- Strive to maximize our abilities
  - Not all born with the same capacity for excellence

Judeo-Christian Tradition

- Based upon faith, and belief in moral absolute in the form of divine lawgiver
- Our responsibility to discern immutable laws that should govern our actions
- We are all equal in the eyes of god

Utilitarianism

- Socially based theory of ethics from Jeremy Bentham and John Stuart Mill
- Of options available, we must choose the one that produces the greatest aggregate good

Patricia Piccinini

http://www.patriciapiccinini.net/

Piccinini and Bioengineering

https://www.youtube.com/watch?v=Swx7ewLxyfw

Link to the video “Skywhale” on YouTube. Film by Blueboat

http://www.blueboat.com.au/

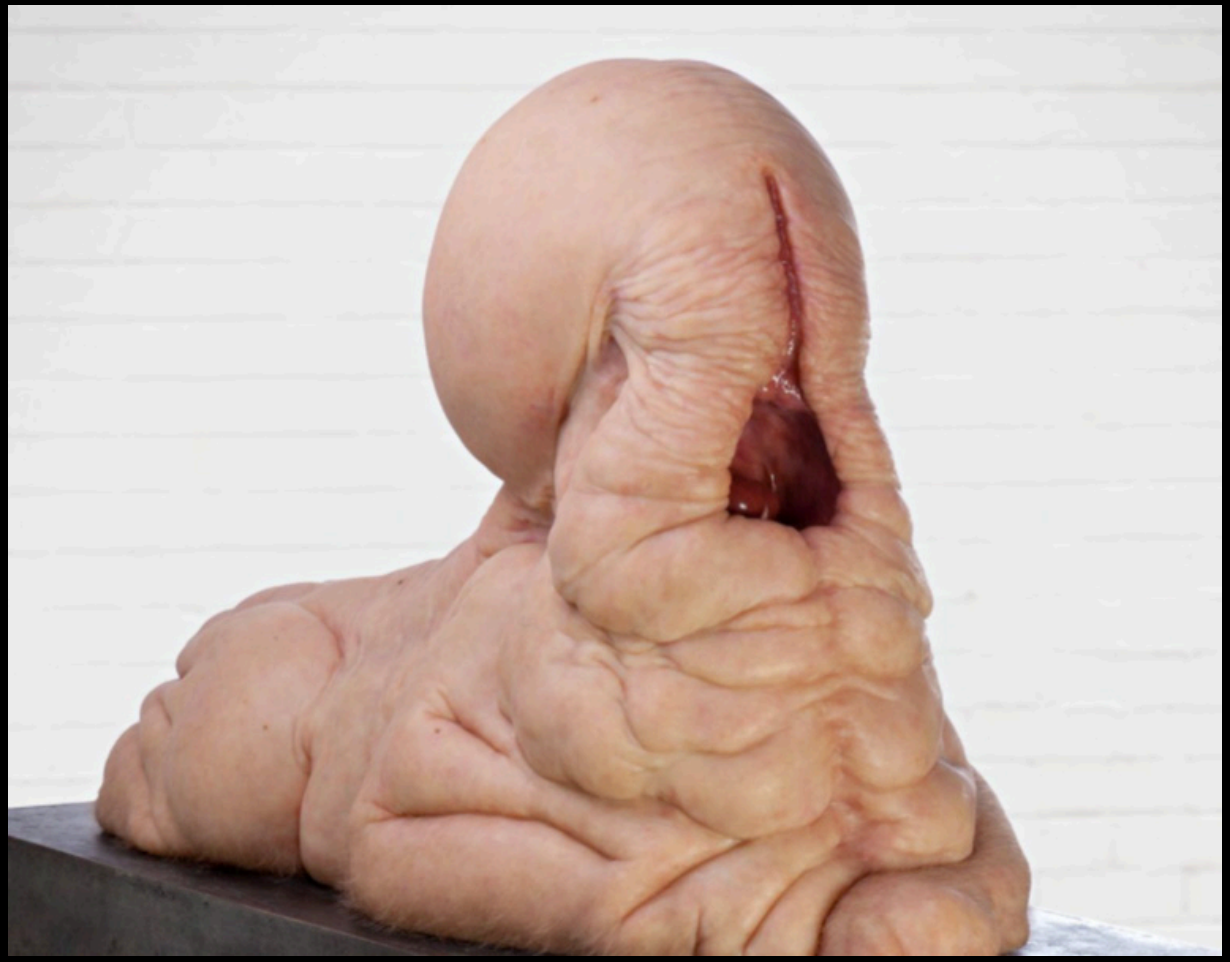
Piccinini and Myth

- Emotion
- Empathy
- Ethics

Protein Lattice

Still Life with Stem Cells

Sphinx



Litter

The Young Family

Big Mother

Undivided

The Carrier

Leather Landscape

Leather Landscape

Game Boys Advanced

Julia Kristeva

Powers of Horror

Abject

- The abject refers to the reaction (horror, vomit) to a breakdown in meaning caused by the loss of distinction between subject/object or self/other
- It is thus not lack of cleanliness or health that causes abjection but what disturbs identity, system, order. What does not respect borders, positions, rules. The in-between, the ambiguous, the composite.

Piccinini's Abject

- Breakdown of Boundaries Between:
  - Human and Animal
  - Reality and Fiction
  - Inside and Outside
- Hyperrealism
- Pathos that lessens Abject response

Intentions

- Piccinini's intention is not to create moral or immoral images- people are going to bring their own morals and ethical worldviews into viewing her work.
- Her goal is to create work that would inspire conversation or to learn about the possibilities of Biotechnology, good or bad

Biotech Gone Awry in Film

- Gattaca (1997)
- Splice (2009)

Gen-pets, by Canadian sculptor Adam Brandeis

Ear on Arm, by Stelarc

Conclusion