

The Ethics of Stem Cell Research

Ethics
Matters

Lectures in
Applied Ethics

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Introduction

The debate over the ethics of stem cell research continues in the United States.

After an eight-year moratorium on the development of new stem cell lines, on March 8, 2009 the Obama administration approved the use of new stem cell lines in research.

Our purpose is to situate the arguments within larger theoretical terms.



THE BRIEFING ROOM

THE WHITE HOUSE

Office of the Press Secretary

FOR IMMEDIATE RELEASE

Monday, March 9, 2009

Remarks of President Barack Obama - As Prepared for Delivery

Signing of Stem Cell Executive Order and Scientific Integrity Presidential Memorandum
Washington, DC
March 9, 2009

Today, with the Executive Order I am about to sign, we will bring the change that so many scientists and researchers; doctors and innovators; patients and loved ones have hoped for, and fought for, these past eight years: we will lift the ban on federal funding for promising embryonic stem cell research. We will vigorously support scientists who pursue this research. And we will aim for America to lead the world in the discoveries it one day may yield.

At this moment, the full promise of stem cell research remains unknown, and it should not be overstated. But scientists believe these tiny cells may have the potential to help us understand, and possibly cure, some of our most devastating diseases and conditions. To regenerate a severed spinal cord and lift someone from a wheelchair. To spur insulin production and spare a

Consequentialism vs. Deontology

Consequentialist moral theories maintain that the rightness or wrongness of an action is dependent on its consequence

- How do we measure these consequences?
- Consequences for whom?

Deontological moral theories maintain that the rightness or wrongness of an action is dependent on its conformity to certain fundamental rules.

- What are the fundamental rules?

Consequentialist Considerations

Human embryonic stem cell (hESC) research offers great promise of cures for otherwise incurable conditions: spinal cord injuries, ALS, Alzheimer's, Parkinson's, etc.





The Deontological Case

Utility does not trump basic rules

If the embryo is a human, then it has a right to life

It the embryo has a right to life, it cannot be destroyed any more than we could intentionally kill a few children to save many others.

Consequentialist Rejoinder

Benefits of hESC research potentially far outweigh costs.

Embryos would otherwise have been discarded anyway after they have been abandoned following IVF treatment.

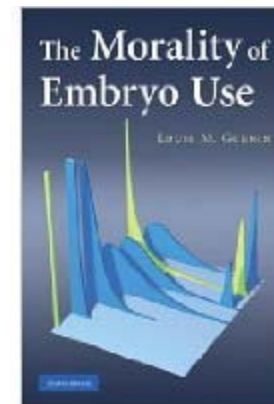
- About 400,000 frozen embryos in the United States alone
- Isn't it better to put these frozen embryos to some good use rather than just destroy them?

Consequentialism Rejoinder, 2



- Lou Guenin, who teaches ethics at Harvard Medical School, argues that:
- “We have a duty, when our means allow, to aid those who suffer. If we spurn epidosembryo [human embryonic stem cell] research, not one more baby is likely to be born. If we conduct research, we may relieve suffering. Therefore epidosembryo research is permissible and praiseworthy.”

- **ESSAYS ON SCIENCE AND SOCIETY** “Morals and Primordials.” *Science* 1 June 2001: Vol. 292. no. 5522, pp. 1659 – 1660.
- Louis Guenin, *The Morality of Embryo Use* (Cambridge: Cambridge University Press, 2008).



When is it human?

At what point does this entity become a human being with a right to life?

- The point of conception
- The point of implantation

Early candidates for such morally significant points of demarcation include:

- the initial appearance of the primitive streak (19 days),
- the beginning of the heartbeat (23 days),
- the development of the brain waves (48 days),
- the point at which essential internal and external structures are complete (56 days) and
- the point at which the fetus begins to move around (12-13 weeks).

The Soul

In Christianity, it is often the soul which confers rights on an entity
Today, many Christians maintain that the soul arrives at the moment of conception

Thomas Aquinas

- The soul arrives around the third month (quickenning)
- Matter has to be sufficiently developed in order to receive it

If the soul arrives at some point after conception, then hESC research may be morally permissible.

- Some Catholic theologians do not see ensoulment prior to the primitive streak at 14 days.

Jewish thought generally sees stem cell research as permissible because it considers the embryo to be genetic material until implanted in a uterus.

Some Protestant religions support stem cell research.

Religious Arguments

For various religious perspectives, see the report of the National Bioethics Advisory Council:

- http://www.bioethics.gov/reports/past_commissions/nbac_stemcell3.pdf

Includes various Christian views (including strict **Catholic view**), Judaism and Islam.

Jewish thought generally sees stem cell research as permissible because it considers the embryo to be genetic material until implanted in a uterus.

Some **Protestant religions** support stem cell research.

- Ronald Cole-Turner defends a view of the “relative value” of human embryos—more than cells, less than persons.
 - <http://www.counterbalance.net/stemcol/rct-frame.html>
 - Cole-Turner’s Burke Lecture on the genetic revolution and designer babies: <http://www.youtube.com/watch?v=hRrNwFFta5w>

The Trajectory Argument

The non-religious version of the soul argument is the trajectory argument:

- As soon as an entity is on the trajectory toward become a full human, it deserves human rights.

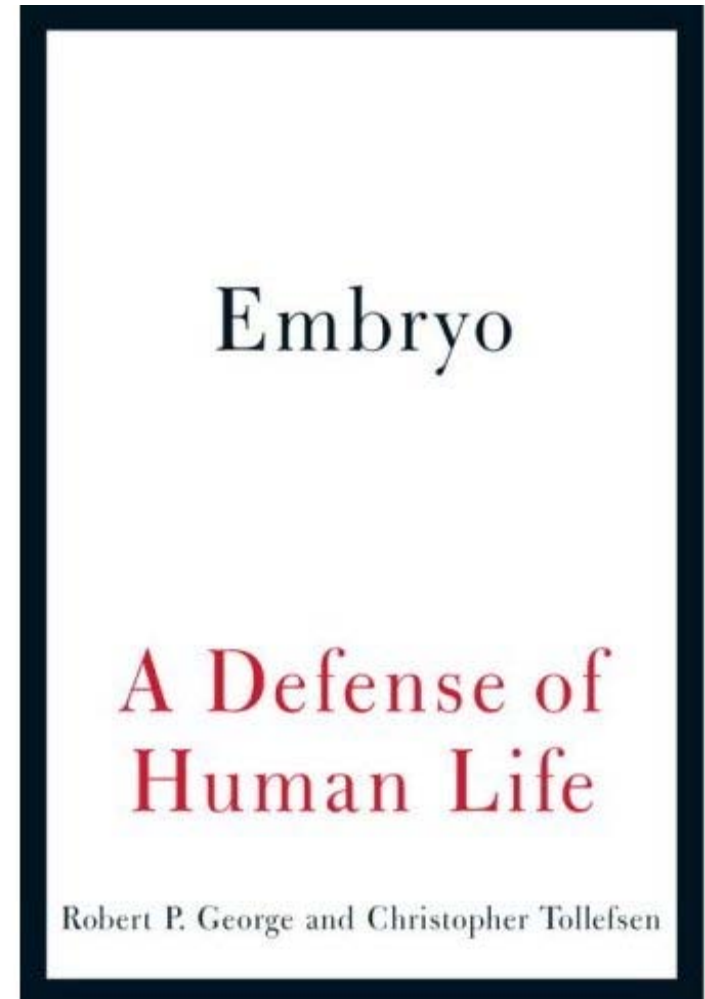
Two questions

- Is an embryo in a Petri dish on the trajectory?
- Does an acorn have the same rights as an oak tree? It's on the trajectory, but...

The Trajectory Argument, 2

Robert P. George (Princeton Law) and Christopher Tollefsen (South Carolina, philosophy) argue that “the fetus, from the instant of conception, is a human being, with all the moral and political rights inherent in that status.” It has the full human DNA and is on the trajectory of being a human being.

They advocate embryo adoption for spare embryos left over from IVF



The Trajectory Argument, 3



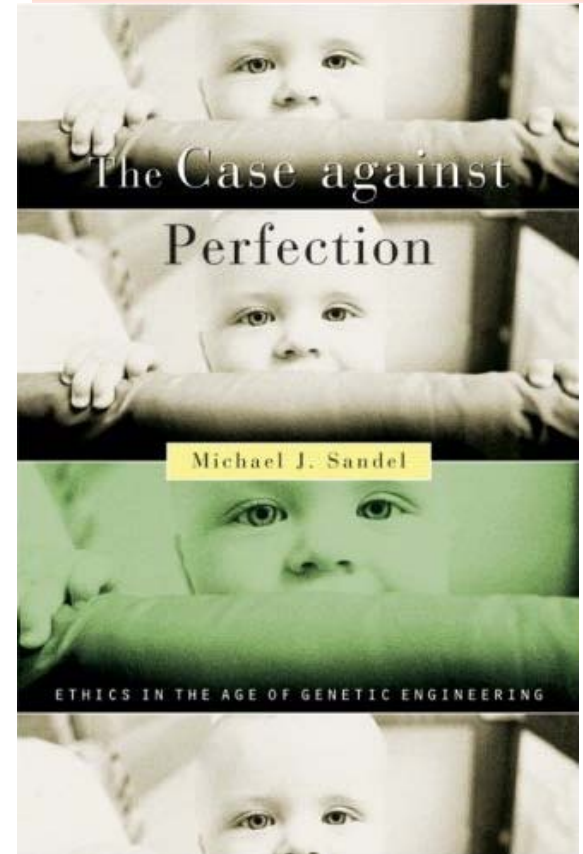
Michael Sandel, the Bass Professor of Government at Harvard who specializes in theories of justice, argues:



“The fact that every person began life as an embryo does not prove that embryos are persons. Consider an analogy: Although every oak tree was once an acorn, it does not follow that acorns are oak trees, or that I should treat the loss of an acorn eaten by a squirrel in my front yard as the same kind of loss as the death of an oak tree felled by a storm.

Despite their developmental continuity, acorns and oak trees are different kinds of things.

So are human embryos and human beings.”



Consequentialism Refined

Could this money be spent more effectively on other health programs?

- Could it, for example, be spent more effectively for basic healthcare, preventive medicine, wellness programs?

Would such funding be available for anything else except hESC research?

Understanding the Disagreements

- We can see this as deontologists vs. consequentialists, or
We can see both sides as saying that we must respect
human life, but differing as to the definition of human life
- One principle, two different ways of applying it.

Ontology vs. Conventionalism

Is the newly-created embryo a human person with full rights? The answer to this question may be:

Objective, rooted in the nature of things, in ontology

Political, rooted in social conventions about what we *decide* to call human.

Example: how do we decide whether something is a planet or not?

Middle Ground?

The Respect Argument

Some who are not opposed to the destruction of embryos *per se* still maintain that if we can find other ways of obtaining equivalent cells, then we should give preference to those ways.

Respect for:

Embryos, even if they are not yet persons

- Principle: although embryos are not yet persons, they will become human beings under appropriate conditions and thus are deserving of respect, but not the full respect given to adult human beings.

Other citizens who have different moral convictions.

- Principle: If two courses of action achieve equal scientific results, and if one does not offend the deep moral convictions of a portion of the population, we should give preference to that alternative.

See presentation on “Alternative Sources of Human Embryonic Stem Cells”

See Evan Y Snyder, Lawrence M Hinman & Michael W Kalichman, “Can science resolve the ethical impasse in stem cell research? *NATURE BIOTECHNOLOGY* 24, 4 (APRIL 2006), 397-400.

Consensus Statement

“We recognize that human embryonic stem cell research holds promise for research and clinical applications and that some people have serious ethical objections to current methods of deriving human embryonic stem cells on the grounds that they involve the destruction of human embryos. As a result, there will be continuing ethical controversy and restrictions on federal funding. If scientists came up with ways to derive human pluripotent stem cells in a manner that meets the objections of those who oppose the destruction of human embryos, this would both diminish the ethical controversy and enable federal funding. Federal funding will ensure that research will be conducted with uniform national standards of oversight, sufficient peer review, and transparency. Preliminary research discussed at this conference encourages us to believe that scientific solutions to this ethical concern may be feasible and provides a reason for pursuing such alternatives.”

See Michael W. Kalichman and Lawrence M Hinman, “Consensus and the Search for Pluripotent Stem Cells,” *Stem Cell Reviews*, Vol. 1 (2005), 288-89.

Consensus Statement, 2

Agreement to this statement entails recognition of several areas of common ground:

1. Even opponents of human embryonic stem cell research recognize that there is significant, potential value in conducting such research.
2. Even proponents of such research understand that such research raises serious moral concerns for some.
3. At least in the near term this area of research will be subject to a restricted role of the federal government in funding.
4. An absence of federal funding also means an absence of federally mandated standards and publicly available information, both of which could further limit progress in this area of science.
5. One resolution for freeing up federal support would be to develop a means for deriving pluripotent stem cells in a way that would be acceptable to those most concerned about the current necessity for destroying human embryos.
6. Several lines of ongoing research could lead to solutions that would meet the needs of both sides in this debate.

Conclusion

Opposing sides in this debate are embedded in different worldviews

- This makes changing one's mind very difficult

We can see some advocates of both sides of the hESC debate as accepting the general principle of respect for innocent human life; their disagreement may not be over the principle, but over the way in which the principle is to be applied in particular cases.