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Opposing Views: Arguing FOR Embryonic Stem Cell Research

What Does it Mean to Be Human? *Laurie Zoloth*

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2 November 22, 2005 — Of all the mysteries that surprise and delight us, surely the process by which a human being is created is the most ordinary and the most mesmerizing. In the last three decades, this process has also raised ethical questions that have defined and divided Americans: When does human life begin? What does it mean to be human?

3 Our answers to these questions shape the debate over the use of human embryonic stem cells to understand and hopefully to cure human diseases. If life begins at the instant of conception, then any act to end that life would be wrongful killing. But if human life is a contingent matter, a slow and complex process that unfolds temporally, physically and spiritually — as I believe — then it is possible to speak of times and manners and reasons why other moral appeals may matter more.

4 We are more than our DNA maps, for we are our love, our chance for duty. Careful use of the human blastocyst may be seen as a basic human duty in the face of significant suffering. These are the reasons why people of the deepest faith all over the globe support and defend stem cell research.

5 For most of human history, pregnancy was understood as prelude. Life was understood to begin in stages, the most important one being the birth itself, when a person becomes fully human, accepting the blessing of human family and community and attaining moral status for the Greek philosophers such as Aristotle.

6 For the writers of the first texts and laws of Western religions — Christian, Jewish and Muslim — pregnancy became actual when it was tangible, visible or palpable to the outside world. For them, the soul — God's participation in human beings — needed a form.

7 It was only after microscopes could reveal egg and sperm that such a concept as "life begins at conception" could alter theological and legal traditions, and in part, this is why the Vatican changed its idea about when life began. Prior to the mid-1800s, the Roman Catholic tradition, like Jewish and Muslim law, followed the science of Aristotle — that the first 40 days after conception was "formless" or "like water." Catholic canon law changed to reflect this new policy and the new science in 1917.

8 We know now that much has to occur for fertilization to take place. The egg must be released, it must accept the sperm, the cell wall and the nuclear wall have to be breached, the DNA correctly assembled. Even more has to occur before we can claim a woman is pregnant: The fertilized egg — a blastocyst — must maneuver the fallopian tube, get to the womb and be implanted. Only then can a pregnancy test confirm the event.

9 All along the way to birth, there are critical biological events, a universe of chance and contingency. That is why we greet each child as a miracle. That is also why we question the fate of the hundreds of thousands of human blastocysts created to treat infertility and then left in labs around the world.

10 Beyond the question of life's biological beginning, we need also to decide when our moral obligations to others begin — in this case, to others who suffer and whose own lives are at stake.

11 As a society, in our treatment of infertility, we have already made the decision that it is just and right to treat serious disease by researching and then creating human blastocysts. We allow physicians to experiment on human sperm and human eggs to find the best way to make blastocysts, to make far more than the couple will be able to use, to implant them knowing that only one or two can be carried to term.

12 We have been making blastocysts in the lab for more than two decades, knowing that most will be destroyed routinely. At stake is whether we can use blastocysts made in this way to treat other diseases, like diabetes, Parkinson's or spinal cord injury by using them to make stem cells.

13 We have our duties toward all of life, to be certain. We have duties toward the uncertain microscopic world, duties toward the blastocysts we create. But we have duties as well toward the millions of patients who might be cured by regenerative medicine, just as we did toward infertile women.

14 It is the strong belief in many religious and philosophic traditions that the ethical appeal for healing the suffering neighbor is far more important than the appeal for the blastocyst.

Source: http://www.npr.org/takingissue/takingissue_stemcells.html

Lesson 5

Opposing Views: Nobel Laureates Speak

Nobel Laureates' Letter to President Bush

Eighty Nobel laureates were among those who signed a letter to President Bush urging funding for research on human embryo cells.

To the Honorable George W. Bush,
President of the United States

We the undersigned urge you to support Federal funding for research using human pluripotent stem cells. We join with other research institutions and patient groups in our belief that the current National Institutes of Health (NIH) guidelines, which enable scientists to conduct stem cell research within the rigorous constraints of federal oversight and standards, should be permitted to remain in effect. The discovery of human pluripotent stem cells is a significant milestone in medical research. Federal support for the enormous creativity of the US biomedical community is essential to translate this discovery into novel therapies for a range of serious and currently intractable diseases.

1

The therapeutic potential of pluripotent stem-cells is remarkably broad. The cells have the unique potential to differentiate into any human cell type. Insulin-producing cells could be used to treat — or perhaps even cure — patients with diabetes, cardiomyocytes could be used to replace damaged heart tissue, chondrocytes could be used for arthritis, and neurons for Parkinson's, Alzheimer's, ALS and spinal cord injuries to name a few examples. There is also the possibility that these cells could be used to create more complex, vital organs, such as kidneys, livers, or even entire hearts.

2

Some have suggested that adult stem cells may be sufficient to pursue all treatments for human disease. It is premature to conclude that adult stem cells have the same potential as embryonic stem cells — and that potential will almost certainly vary from disease to disease. Current evidence suggests that adult stem cells have markedly restricted differentiation potential. Therefore, for disorders that prove not to be treatable with adult stem cells, impeding human pluripotent stem cell research risks unnecessary delay for millions of patients who may die or endure needless suffering while the effectiveness of adult stem cells is evaluated.

3

The therapeutic promise of pluripotent stem cells is based on more than two decades of research in mice and other animal models. This research confirms that pluripotent stem cells are capable of generating all of the cell types of the body. Most importantly, the therapeutic potential of these cells has already been demonstrated. Cardiomyocytes generated in the laboratory from these cells have been transplanted into the hearts of dystrophic mice where they formed stable intracardiac grafts. Nerve cells have successfully reversed the progression of the equivalent of multiple sclerosis in mice and have restored function to the limbs of partially paralyzed rats; and insulin-secreting cells have normalized blood glucose in diabetic mice. These findings suggest that therapies using these cells may one day provide important new strategies for the treatment for a host of currently untreatable disorders.

4

While we recognize the legitimate ethical issues raised by this research, it is important to understand that the cells being used in this research were destined to be discarded in any case. Under these circumstances, it would be tragic to waste this opportunity to pursue the work that could potentially alleviate human suffering. For the past 35 years many of the common human virus vaccines — such as measles, rubella, hepatitis A, rabies and poliovirus — have been produced in cells derived from a human fetus to the benefit of tens of millions of Americans. Thus precedent has been established for the use of fetal tissue that would otherwise be discarded.

5

We urge you to allow research on pluripotent stem cells to continue with Federal support, so that the tremendous scientific and medical benefits of their use may one day become available to the millions of American patients who so desperately need them.

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