

# On the Moral Significance of the Distinction Between Spare and Created Embryos

“Subjectivism is still rampant in the philosophy of science”

– Karl Popper, *Conjectures and Refutations*

“Ignorance Is Strength”

– George Orwell, *1984*

“Religious views cannot be the basis for public policy in a pluralistic, religiously diverse society”

– Ronald M. Green, *The Human Embryo Research Debates*

Embryonic stem cell lines were first derived from human blastocysts in 1998 by James A. Thomson and co-workers [Thomson] barely more than a decade ago. In the same month (November 1998) Michael J. Shamblott and colleagues reported their derivation of pluripotent stem cells from two embryonic sources [Shamblott]. These modestly brief papers have stimulated considerable research activity and unintentionally added kindling to an ongoing firestorm of controversy and debate. The chief battleground in the decades-long dispute has two fronts: (1) whether research on embryos is morally justified or seriously wrong and (2) if research is allowed, what are the permitted sources of necessary embryos.

Those for whom embryo research is seriously wrong do not grant any validity to a discussion of the derivation of such embryos. Regardless, I will consider their views in an overview of the moral standing of embryos and the moral justification of embryo research. Having established the context, I will present the main focus of this paper – the debate concerning permitted sources, i.e., the spare/created distinction.

The broad availability of embryonic stem cells (ESC) considerably enhanced the potential value of embryo research. But such research already held great promise. New

solutions for contraception, enhanced strategies for *in vitro* fertilization (IVF), and methods for preventing genetic diseases had already been recognized as probable outcomes. The impact of any of these breakthroughs would be significant. For example, new methods of contraception would be of benefit worldwide, particularly in developing nations. Also, more effective and possibly easier-to-implement contraception could lower the rate of abortions. Now, basic research utilizing the pluripotentiality of ESC could lead to treatment for disorders as diverse as spinal cord injuries, Parkinson disease, type 1 diabetes, and various malignancies. Embryo research and research on ESC represent a rich new field of endeavor.

IVF is a relatively new procedure, but its general use has spread rapidly since the birth of Louise Brown in 1978 [Sullivan]. There were 138,198 assisted reproductive technology fertility cycles done in 2006, double the number of cycles in 1996. The procedures done in 2006 resulted in 41,343 live births [CDC]. The rapid acceptance of IVF as standard procedure has not been accompanied by technical improvements in its application. In the U.S. a ban on federal funding of IVF and IVF research created a windfall of opportunity for the private sector. In 2008 IVF represented a \$3 billion self-regulated industry [Orenstein].

No federal funding means an absence of federal human subjects regulation and no federal oversight [Green 15]. As IVF is in great demand and the success rate is acceptable, there has been no need for the private sector to conduct research that would specifically benefit the patient. Additionally, IVF procedures used in some clinics do not follow best practice standards. For example, ethically questionable techniques such as implanting six to eight embryos increase the percentages of a live birth, artificially improving the clinic's

success rate. The immediate results of these practices are extraordinarily high rates of multiple births. For example, 32% of IVF births are twins. Among births resulting from sexual intercourse, only 1–2% are twins (Orenstein).

Federally funded embryo research could lead to many advances that would standardize and improve IVF methodology. For example, at present the potential side effects of hyperovulation procedures include ovarian hyperstimulation syndrome, functional cysts, headaches, and mood changes. Basic research could also lead to reductions in the prevalence of infertility via enhanced understanding of intrauterine requirements for implantation and the optimal intrauterine environment for embryo growth and development.

Research on embryos could improve understanding of normal and abnormal cell growth and differentiation and facilitate developing methods for prevention and treatment of cancer [Steinbock 1992, 204]. Similarly, embryo research is critically important in future explorations of gene therapy and related techniques, with potential application in Huntington disease, muscular dystrophy, Down syndrome, cystic fibrosis, and even Alzheimer’s disease. Overall, embryo research has the potential to benefit millions of people over the course of many generations.

None of this is meaningful to opponents of embryo research. Embryo research “directly promotes the destruction of embryonic human life” and destruction of embryos represents “wrongful killing” [Doerflinger]. Regarding the acquisition of stem cells for research, Doerflinger states these materials are “lethally harvested from embryos”. The Catholic church, as a monolithic entity, is opposed to all extracorporeal activities involving embryos. The Vatican’s Instruction *Dignitas Personae* [2008] advises the faithful –

- “The fruit of human generation, from the first moment of its existence, that is to say, from the moment the zygote has formed, demands the unconditional respect that is morally due to the human being in his bodily and spiritual totality”
- Embryos are “the subjects of essential rights and should therefore be protected by law as human persons”
- Experimentation on human embryos “constitutes a crime against their dignity as human beings . . . [and] always constitutes a grave moral disorder”
- “The use of embryonic stem cells . . . even when these are provided by other researchers through the destruction of embryos . . . presents serious problems from the standpoint of cooperation in evil and scandal”
- “The obtaining of stem cells from a living human embryo . . . is consequently gravely illicit”

The moral opposition to research on embryos and on ESC is, in some quarters, firm, forthright, and vociferous in the extreme. On this view, such activities are illicit and constitute crimes.

The views expressed by Doerflinger and in the *Digitas Personae* represent one antipode regarding the moral status of the embryo. On that view, the embryo is a human being with full moral status. The opposite view holds that the embryo has no moral status whatsoever. A middle ground may be sought in which the embryo holds no moral status but yet is entitled to *moral respect*.

The interest view of moral status [Steinbock 2009, 428-429] suggests that only beings with interests have moral status. (For simplicity, I’ll use the term *person* to generically refer to *beings*, although non-persons such as animals and late-gestation fetuses have interests as well.) “Beliefs, aims, goals, and concerns” [Steinbock 1992, 12] generally comprise a person’s interests. If a person has interests, then the fulfillment of that person’s intentions, projects, and goals *matters*. The well-being and welfare of that person *matter* to her. The

interests and concerns of such a person must be considered morally by a moral agent. A person with interests therefore has *moral status*.

In order to have interests a person must be sentient. That person must be capable of having experiences. That person must be aware of her surroundings [Steinbock 2009, 428]. Otherwise the person can have no interests. Sentience is necessary for the capacity to have interests, and sentience is therefore necessary for having moral status.

But embryos are not capable of sentience. An embryo has no organized neural tissue, it has no awareness, and is not capable of sensation. It is not capable of experiences of any kind. Thus, embryos are not capable of having interests. They have no wants, no desires, no goals. On the interest view, embryos have no moral status. But embryos may be entitled to respect and may be considered to have moral value.

Non-sentient beings such as those comprising old growth forests are entitled to respect [Steinbock 2009, 433]. Clay-loving wild buckwheat and the Rocky Mountain Columbine are additional examples of non-sentient beings entitled to our respect. These beings have moral value. Inorganic objects including art and cultural artifacts do not have moral status, but may have considerable moral value. As potent symbols of humanity [Robertson 38], embryos are accorded respect and moral value.

As moral agents we acknowledge the moral value of embryos and accord them respect. We don't dissect human embryos in well-equipped high school biology classes. We don't crystallize vats of embryo DNA and sell the salts as souvenirs at the Smithsonian Institution. We don't use embryos to attempt to produce human-zebrafish chimeras. We do

embryo research to fulfill specific, meaningful, high-impact goals such as improving assisted reproductive technologies, improving contraception, and finding solutions to genetic diseases.

If embryos are to be used in research, how to obtain such embryos remains an open question. Current U.S. law explicitly forbids the use of federal funds for “the creation of a human embryo or embryos for research purposes” or for “research in which a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death” [Public Law]. George Annas described limiting federal funding to research which utilizes stored or surplus embryos from IVF facilities [Annas 1996, 1329], a tactic which might be able to circumvent these restrictions. “Spare” embryos – produced in hyperovulation cycles and unused in IVF procedures – were to be contrasted with embryos created specifically for research. Thus the spare/created distinction was tossed into an already existing murky stew of ethical, legal, and social constraints and considerations.

Creating embryos specifically for research is seen by many as instrumentalism. Created human embryos are intended to be used as a means only – the ends of the embryos are not considered. As embryos may be construed as emblematic of humanity and human potentiality, such instrumentalism violates human dignity [DeVolder 173]. Instrumental use of embryos is disrespectful and dishonors their unique value, as if we were to use the American flag to wipe bugs off our windshields. Embryos have “unique symbolic value” and “deserve society’s respect and protection” [Annas 1989].

Using embryos merely as a means “seems to violate Kant’s principle” [Green 79] of respect for persons. In *Groundwork of the Metaphysics of Morals*, Kant proposed a Formula

of Humanity as an End in Itself – “So act that you use humanity . . . always at the same time as an end, never merely as a means” [Wood 135]. But Kant’s principle is incorrectly applied in the case of embryos. Embryos are not sentient, they have no interests, and they have no ends. They have no consciousness with which to construct ends. Embryos are to be valued, certainly, but “they don’t have a welfare of their own” [Steinbock 1992, 40]. Thus the instrumentalism of creating embryos for the purposes of research is not wrong on the basis of Kantian respect and moral status. It may yet be arguably wrong on the basis of moral value.

The use of spare embryos could possibly obviate the taint of instrumentalism. Such embryos came into being as part of a process of creating new human life. In IVF more harvested eggs are fertilized than are implanted, and the surplus embryos are either frozen for later use or destroyed. Using them for research represents a third alternative. Robertson suggests that for those who support using spare embryos to increase human knowledge, “drawing the line at creating embryos for research” may reaffirm “a commitment to the value of human life” [Robertson 38].

President George W. Bush considered the spare/created distinction when he was preparing his Presidential Statement of August 9, 2001. In this announcement the president got to the heart of the matter early.

Research on embryonic stem cells raises profound ethical questions, because extracting the stem cells destroys the embryo and thus destroys its potential for life. [Bush 2001]

As he sought to develop a federal policy, the president solicited a range of opinions from bioethicists, religious leaders, physicians, colleagues, and friends. From these conversations, President Bush distilled what he described as two fundamental questions: (1) do embryos represent human life and deserve to be protected on that basis, and (2) if spare

embryos will ultimately be destroyed in any case, “shouldn’t they be used . . . for research that has the potential to save and improve lives”.

He noted the tension between conflicting viewpoints, describing a “difficult moral intersection”. The beliefs of those who seek to “protect life in all its phases” were juxtaposed with the research objectives of “saving and improving life”. The president continued by listing the “deeply troubling” activity of creating embryos “solely to experiment on them”. He mentioned the possibility of human cloning and creating “individual designer stem cells”.

Having covered the bases on the right and the left, President Bush headed for home with a centrist declaration: “Embryonic stem cell research offers both great promise and great peril.” He permitted federal funding for research on the 60 stem cell lines in existence, as their embryo sources had already been destroyed. The president did not explicitly state that federal funding would be disallowed for newly created stem cell lines. He rather suggested the federal government would not want to cross

“ . . . a fundamental moral line by providing taxpayer funding that would sanction or encourage further destruction of human embryos that have at least the potential for life.”

President Bush ultimately rejected the spare/created distinction, apparently following the belief that entities with the potential for life should not be destroyed as part of the process of scientific research. He stated, “Even the most noble ends do not justify any means.”

The president made his policies even clearer in his Presidential Statement on Stem Cell Research of April 11<sup>th</sup>, 2007 [Bush 2007]. He emphasized his policies to date have ensured that “federal funds are not used to create incentives to destroy, or harm, or create living human embryos for purposes of research”. He discussed S.5, the Stem Cell Research

Enhancement Act of 2007, which had passed the Senate earlier in the day. S.5 would permit research on spare embryos. The president was concerned that S.5 would allow taxpayer monies to be “spent on the destruction or endangerment of living human embryos”. He promised to veto the legislation if it were to be passed by the House. In the event, S.5 was passed by the House of Representatives on June 7<sup>th</sup>, 2007 and President Bush fulfilled his promise and vetoed the bill two weeks later.

With the advent of a new administration in Washington, the spare embryo bandwagon has a reinvigorated team of horses. Recent National Institute of Health guidelines [July 7, 2009] implemented President Obama’s Executive Order [“Removing Barriers to Responsible Scientific Research Involving Human Stem Cells”, March 9, 2009] and approved federal funding for research on stem cells derived from spare embryos.

But fundamental conceptual problems remain. Regardless of the origin of the embryos, they are destroyed in the research process. Research opponents know this very well. For example, the U.S. episcopal conference's Committee on Pro-Life Activities responded immediately. On the day the NIH guidelines were released, the committee chairman Cardinal Justin Rigali stated “Parents who are asked to consider having their embryonic children destroyed for research will not even have to be informed about all their other options [Naab].” MetroCatholic reported “Now the destruction of human beings in their earliest and most vulnerable stages is promoted and funded by federal taxpayer dollars [MetroCatholic].”

The NIH guidelines make use of a thinly disguised end-around, described by Annas as a “reasonable political compromise” [Annas 2000, 374]. Previously, the NIH had

apparently concluded it could fund research on stem cells obtained from spare embryos which were created in privately funded clinics [National Bioethics Advisory Commission]. The new guidelines seem to be adopting this approach. In plain language, federal funds cannot be approved for stem cell research as a part of which embryos are killed. But federal funds can be approved for stem cell research in which the embryo killing has been done elsewhere, in a non-funded facility. Such circumlocutions, as President Lincoln said, will not fool all of the people all of the time. The Catholic church is certainly not among the fooled. Devolder notes this, too. Those who defend the spare/created distinction “make a moral difference” between the two sources. [DeVolder 171].

But this distinction, although it may be politically practical and at least enable stem cell research to go forward, remains a moral *fata morgana*. If it’s wrong to instrumentalize embryos by creating them for research, then it’s seriously wrong to kill them and use the fruits of that killing for that same research. Lady Macbeth would not have had any less blood on her hands if her husband had used a privately funded knife.

Although the spare/created distinction can’t be parsed with any useful precision, it provides political cover. The Dickey-Wicker amendment, originally passed as a rider to a 1995 appropriations bill, prohibits the use of federal funds for the creation of embryos for research purposes or for research in which embryos are destroyed. Spare embryos are not created for research purposes, so this effectively skirts the Dickey-Wicker amendment’s first proscription. The amendment’s second prohibition is even more dicey, but the NIH guidelines permit federal funding for stem cell research in which the embryo destruction is done elsewhere. “Don’t ask, don’t tell” is the watchword of the day at the NIH.

However, ESC research isn't the only investigation of value that could be contemplated. But Public Law 105 and the Dickey-Wicker amendment forbid any other scientifically valid forms of embryo research. Spare embryos are often not of top quality – many have various defects that caused them to be eliminated from the pool of candidates for implantation. Others have been stored for many years. If spare embryos are the only substrates available, data sets and study results will be compromised ongoingly. As Green states, “Research based on these embryos can lead to seriously misleading conclusions” [Green 75]. Additionally, large pools of high-quality control embryos are needed for research in the areas of fertilization, contraception, genetic analysis, and gene therapy. Owing to considerations of quality and availability, spare embryos are unable to meet this demand.

The stakes are high. A way forward that addresses the concerns of all parties may never be found. On one hand are the tens of millions who would potentially benefit from embryo research. Aligned against them are the very vocal many millions who believe a fully human life begins at conception. For this latter group, finely nuanced bioethical distinctions appear to be irrelevant. Apparently, Kant, Hume, and Locke do not concern them. Destruction of embryos is murder. The prevailing attitude seems to be

*. . . that is all  
Ye know on earth, and all ye need to know* [Keats]

Respect for embryos and respect for human life could be better demonstrated by enabling embryo research. Use as a substrate for basic research aimed at improving the quality of life of living humans would constitute “the greatest respect that could be shown an embryo” [Green 83]. The purpose of such research is to “gain knowledge that will enable us to save lives and prevent misery [Steinbock, 1992 209]. But according to Doerflinger [5], our

concern must be the “needs and fundamental rights of human embryos themselves”. This inexplicable preference is an irreducible spanner in the works, at least in the United States.

In other sovereignties, embryos may be created for research purposes. Important and impactful science is pursued in the United Kingdom and Belgium [Pennings 1060], for example, while maintaining respect for the moral value of embryos. Such research has been permitted in the UK since the enactment of the Human Fertilisation and Embryology Act of 1990.

However, it’s not clear that public policy in the U.S. could move in such a direction. In the U.S., abortion policy and embryo research policy appear to be inextricably linked, at least in the minds of those opposed to both. As an example, the Hyde amendment, enacted in 1976, excluded abortions from Medicaid comprehensive health services. Various exceptions have been added or deleted periodically, permitting Medicaid payments for abortions resulting from rape or incest, and if the pregnancy threatens the life of the prospective mother. The Dickey-Wicker amendment has comparable longevity. The right to abortion itself remains highly contentious. The prospects for expanded embryo research in the U.S. are not bright.

The spare/created distinction provides a glimmer and as such is useful. It’s not enough to light our way, but may yet enable us to place one foot in front of the other and achieve incremental progress.

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