

What Do We Owe to Embryos?

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ABSTRACT: A significant moral question for those who affirm the ontological and moral status of human embryos as *persons* is what ought to be done with respect to the multitude of embryos that have been created through IVF and are now indefinitely cryopreserved. I first affirm the status of embryos, including those in cryopreservation, as persons by defending their possession of an *intrinsic active potentiality* for the definitive activities of persons. I then turn to the question whether we have positive obligations toward human embryos to promote their life and health as fundamental goods. In particular, I defend the moral liceity of the “adoptive rescue” of cryopreserved embryos as a supererogatory act on the part of pro-life individuals or couples. I also respond to the charge of inconsistency for those who affirm embryonic personhood and yet do not act to counter the phenomenon of “natural embryo loss.”

THERE ARE APPROXIMATELY 400,000 cryopreserved human embryos being maintained in IVF clinics in the U.S. alone.¹ Originally created for the purpose of being available to infertile individuals or couples for uterine implantation, many of these embryos are no longer desired for that purpose once their parent(s) have elected not to have any more children. The question of what can or ought to be done with these embryos has been the subject of tremendous controversy, especially since the development of the technique to isolate pluripotent human embryonic stem cells in 1998.² On one side of the debate are those who argue that such embryos have little or no moral status compared to the potential benefits of therapeutic breakthroughs

¹ David I. Hoffman, Gail L. Zellman, C. Christine Fair, Jacob F. Mayer, Joyce G. Zeitz, William E. Gibbons, and Thomas G. Turner, Jr., “Cryopreserved Embryos in the United States and their Availability for Research,” *Fertility and Sterility* 79/5 (2003): 1063-69.

² See James A. Thomson, Joseph Itskovitz-Eldor, Sander S. Shapiro, Michelle A. Waknitz, Jennifer J. Swiergiel, Vivienne S. Marshall, and Jeffrey M. Jones, “Embryonic Stem Cell Lines Derived from Human Blastocysts,” *Science* 282 (1998): 1145-47.

that are hoped for from stem cells. On the other side are those who argue that these embryos should never have been created in the first place because of the intrinsic immorality of IVF. Nevertheless, their illicit origin has no negative bearing on their moral status, just as a child conceived through rape nevertheless bears the same moral rights as a child conceived through marital intercourse. Given the judgment that cryopreserved embryos have the same status that you and I have as *persons*, there arises a question about what moral obligations are owed to them. Clearly, a strict *negative* obligation not to kill or otherwise harm such embryos follows from their inviolable moral status, and this judgment leads to moral condemnation of IVF, abortifacient contraception, and the embryo-destructive derivation of pluripotent stem cells.

Given that human embryos must (at least) be preserved and not destroyed, are there any further *positive* obligations that we owe to them? One answer to this question has been put into practice by individual women and couples who have elected to *adopt* some of these embryos from their genetic parents once their parents no longer require them but are resistant to allowing their embryos to be destroyed for research purposes. This practice of embryo adoption, however, has been the subject of controversy among Roman Catholic bioethicists. Some see this as a heroic act of love that fulfills the Church's mandate to preserve and protect innocent human life. Others see it as illicit insofar as a woman who has another couple's embryos implanted in her uterus will become pregnant through a means other than natural sexual union with her husband.³ But even those who grant the moral permissibility of embryo adoption consider it to be a *supererogatory* act and not a fundamental duty that any Catholic women or couples are morally bound to do. In a similar vein, no Catholic individual or couple is morally obligated to adopt children already born from orphanages or foster homes.

Proponents of human embryonic stem-cell research have focused

³ On this debate, see Sarah-Vaughan Brakman and Darlene Fozard Weaver, eds., *The Ethics of Embryo Adoption and the Catholic Tradition: Moral Arguments, Economic Reality and Social Analysis* (Dordrecht: Springer, 2007); and Thomas V. Berg and Edward J. Furton, eds., *Human Embryo Adoption: Biotechnology, Marriage, and the Right to Life* (Philadelphia PA: National Catholic Bioethics Center, 2006).

on this lack of a binding positive obligation to “rescue” cryopreserved embryos as an indication that the moral status of such entities is not equivalent to that of, say, a child drowning in a pool. Presumably those individuals who have the means to do so would be morally obligated in the strict sense to try and save such a child. Such ethicists also point to the natural phenomenon of “embryo loss” as a basis for claiming that, if all conceived embryos are persons with the same moral status that you and I enjoy, then there is a natural “scourge” happening that causes more death than any war, disease, or natural disaster in human history, and yet there is no clarion call, even from the most vociferous pro-life supporters, to discover the causes of the loss of so many innocent human lives and to develop a treatment to stop this loss. In this paper I will first briefly affirm the reasons that support the ontological and moral status of human embryos, including those in cryopreservation, as persons. In the second half, I will turn to the question whether we have positive obligations toward human embryos.

Ontological and Moral Status of Human Embryos⁴

Those who oppose human embryonic stem cell research often argue for their position on the basis of the ontological and moral status of human embryos. They hold that it does not matter whether the embryo is present inside its mother’s reproductive tract or in a cryopreservation tank.⁵ Nevertheless, the extreme conditions – both internal and external – that characterize a cryopreserved embryo can cast doubt on the view that such an embryo, unlike a normally developing embryo *in utero*, is a person. Nicholas Tonti-Filippini refers to such an embryo as having a “quasi-living existence.”⁶ He recommends, though, that we give a cryopreserved embryo the “benefit of the doubt” and treat it as a person insofar as the intrinsic *potentiality* for the embryo to exhibit such activities persists, even though the activities that characterize a living

⁴ This section is derived from Jason T. Eberl, “Metaphysical and Moral Status of Cryopreserved Embryos,” *Linacre Quarterly* 79/3 (2012): 304-15.

⁵ See Germain Grisez, *The Way of the Lord Jesus*, vol. 3, *Difficult Moral Questions* (Quincy IL: Franciscan Press, 1997), p. 240; William E. May, “On ‘Rescuing’ Frozen Embryos,” *Nat’l Catholic Bioethics Quarterly* 5 (2005): 53.

⁶ Nicholas Tonti-Filippini, “The Embryo Rescue Debate,” *National Catholic Bioethics Quarterly* 3 (2003): 134.

human organism are not present while an embryo is cryopreserved.

What type of potentiality characterizes a cryopreserved embryo with regard to its life functions? Stephen Hanson argues that the potentiality of a cryopreserved embryo is categorically different from that of an *in vivo* embryo:

A frozen embryo will not become an adult human being without significant external interference. It is not actively developing towards any future state.... In its frozen state, the embryo will not grow, develop, or change at all over time. It is not dynamic. Its lack of active potential is not merely a matter of its chances of being selected and successfully implanted; its developmental process has been “switched off” by the freezing process, and cannot recommence without a significant change in the embryo’s status.⁷

It seems that a cryopreserved embryo has only a *passive* potentiality to engage in definitive human activities. The primary reason for saying that a sperm or an ovum has only a passive potentiality in this regard is that they each require something external to themselves to change them. An ovum does not have *per se* a capacity for sentience or rationality but the new individual produced by the changes that take place at fertilization does have such capacities once the haploid genome of the ovum is complemented by the haploid genome provided by the sperm that fertilizes it. For Hanson, a cryopreserved embryo requires something external to itself, an IVF technician, to change it, viz., by removing the cryopreservative, rehydrating it, and thawing it. Only in this way can it develop into a fully actualized person. In my own view, however, the difference between an ovum’s dependence on a sperm cell and a cryopreserved embryo’s dependence on an IVF technician is that an ovum’s nature is *altered* in the process of fertilization from being a merely living gamete cell to being a dynamically integrated organism that is alive in its own right and capable of developing such faculties as sentience and rationality. A cryopreserved embryo does not suffer a change in its nature by what the IVF technician does; rather, it experiences a *restoration* of the capacities for growth and development

⁷ Stephen S. Hanson, “More on Respect for Embryos and Potentiality: Does Respect for Embryos Entail Respect for In Vitro Embryos?” in *Theoretical Medicine and Bioethics* 27 (2006): 219–20.

that it already had prior to being anhydrated and frozen. Its nature as a human embryo remains the same from its conception, through its cryopreservation, to its thawing and implantation.

Admittedly, the claim that a cryopreserved embryo's nature is "restored" when it is thawed – rather than it being "altered" by the freezing process and then changed back – might appear question-begging. But, in fact, the cryopreservation process does not permanently destroy an embryo's capacity to develop into a more fully actualized human person, and this is evidence that a being that is essentially "human" remains in the case of a cryopreserved embryo. The process of thawing does not make it a different type of being. Rather, it will either become more fully actualized as a human person or it will die. Although the water that is artificially removed by cryopreservation is certainly essential to the embryo's organic functioning (just as for the adult), the mere fact of the successful reversal of cryopreservation provides evidence that the presence of such water is what makes an embryo's the kind of substance that it is. Although the water is crucial for the embryo's development and necessary for it to function as a living organism, the provision of water does not change the nature of the entity.

An embryo's *moral* status, whether it is developing *in utero* or is frozen, follows from its metaphysical status as a person. A human person has an intrinsic and fundamental value as a living, sentient, and rational substance. Rationality, according to Thomas Aquinas, is the highest capacity to be found among living substances because it enables a person to perform a type of action that surpasses all other living beings. Human beings can come to know universal truths and can determine their own actions.⁸ Hence, he says, the term "person" is rightly attributed to rational beings insofar as they have a special *dignity*, i.e., a particularly high degree of intrinsic value compared to other natural substances.⁹ Life, Aquinas further contends, is a fundamental good for human persons.¹⁰ Without life, none of a human person's other inherently valuable capacities – including rationality – could be actual-

⁸ See Thomas Aquinas, *Summa theologiae* I, q. 29, a. 1.

⁹ See *ibid.*, I, q. 29, a.3.

¹⁰ See *ibid.*, I-II, q. 94, a. 2; see also John Finnis, *Natural Law and Natural Rights* (Oxford UK: Clarendon Press, 1980), p. 86.

ized in the service of contributing to the overall goodness of the natural world in which we exist and flourish. To act against the existence and flourishing of a human person thus constitutes a morally impermissible act that must be avoided on account of the ethical mandate not to destroy, injure, or impede the life of an innocent human person. As will be discussed in what follows, it is arguable that a *positive* moral duty to “promote” the life and health as fundamental goods of human persons also follows from Thomistic moral theory.¹¹

Challenge to the Argument from Potential

These conclusions concerning a human embryo’s ontological and moral status are premised upon the claim that an embryo possesses an *intrinsic active potentiality* to develop the biological structures necessary to support the definitive activities of a person, viz., self-conscious rational thought and autonomous volition. The claim that an embryo possesses such a potentiality and that its doing so entails that it has the same ontological and moral status that you and I enjoy has been challenged since the early days of the abortion debate. Marco Stier and Bettina Schoene-Seifert present a significant attack upon this claim. They argue that there would need to be a grounding for the “normative superiority” of embryonic potentiality that can be actualized within the standard reproductive environment to the potentiality that is triggered by mechanisms utilized to convert somatic cells into *induced pluripotent stem cells* (iPSCs) and to cultivate such cells into embryos with the same developmental trajectory as naturally produced embryos.¹² In my view, the most favorable supportive argument invokes the *active/passive* potentiality distinction: conceived embryos possess an active potentiality to develop a brain capable of self-conscious rational thought and autonomous volition; a somatic cell or iPSC has only a passive potentiality for such.

Steir and Schoene-Seifert counter this position by claiming, first,

¹¹ See Jason T. Eberl, Eleanor K. Kinney, and Matthew J. Williams, “Foundation for a Natural Right to Health Care,” *Journal of Medicine and Philosophy* 36 (2011): 537–57.

¹² See Marco Stier and Bettina Schoene-Seifert, “The Argument from Potentiality in the Embryo Protection Debate: Finally ‘Depotentialized?’” in *American Journal of Bioethics* 13/1 (2013): 19–27.

that pre-implantation embryos fail to exhibit one of the crucial requirements for the claim that they have an active potentiality for self-conscious rational thought and autonomous volition – viz., that they maintain *numerical identity* as this potentiality becomes actualized. Steir and Schoene-Seifert base this judgment on the argument from the possibility of natural embryonic *twinning*. This argument, however, has been subject to much discussion and there are compelling reasons to doubt its ability to undercut an embryo's numerical identification with the actualized person into which it will develop.¹³

Putting this point aside, though, Steir and Schoene-Seifert mount a more effective critique by claiming that numerical identity may also obtain between a somatic cell – the iPSC into which it may be converted – and the embryo that can be created if the iPSC is grafted within a tetraploid embryonic cluster and implanted. Their fundamental claim is that the conversion of a somatic cell into an iPSC and then into an embryo requires only “switching on and off” gene expressions” – something that is also required for a naturally created embryo and that is accomplished via “biochemical triggers” from the maternal environment. They conclude that both a naturally conceived embryo and a somatic cell that may be converted into an iPSC (and perhaps an embryo as well) are the same type of entity insofar as each possesses “the ability to actualize certain of its latent active potentials in certain environments...due to the cell's intrinsic nature.”¹⁴

Unfortunately for their argument, however, these distinct types of cells – a zygote and a somatic cell or iPSC – are not as similar to one another in their intrinsic developmental potential as Stier and Schoene-Seifert claim. First, as Insoo Hyun notes, converting a somatic cell into an iPSC is not a simple matter of “triggering” a set of latent active potentialities. Once a naturally pluripotent cell becomes sufficiently differentiated to be a particular type of somatic cell, pluripotency can only be restored *and maintained* via “constant human intervention in vitro,” including “fibroblast growth factor and activin/nodal signaling”

¹³ See Jason T. Eberl, “A Thomistic Perspective on the Beginning of Personhood: Redux,” *Bioethics* 21 (2007): 283-89; Stephen Napier, “Twinning, Identity, and Moral Status,” *American Journal of Bioethics* 13/1 (2013): 42-43.

¹⁴ Stier and Schoene-Seifert (2013), p. 26.

so as to prevent differentiation recurring. In other words, “pluripotency is not a ‘natural’ or ‘stable’ property of a cell.”¹⁵ Second, once converted, an iPSC can become an embryo only if combined with a tetraploid embryo that is created by the fusion of two embryos with not just one but with several genetically identical iPSCs grafted between them; the two embryos are destroyed in the process.¹⁶ Although, assuming successful implantation and gestation, the child that comes to be born will have the diploid genetic identity of only the engrafted iPSCs, the *entire* tetraploid structure must implant in order for the cluster of iPSCs to develop successfully. Thus, the entire structure should be considered the “embryo proper” and not just the iPSCs.¹⁷ Hence, neither a single iPSC nor the somatic cell from which it is derived can be considered to be numerically identity to an embryo that may be created from it. Ontologically, a somatic cell or iPSC is akin to a sperm or ovum and not to a zygote.

Positive Moral Obligations toward Human Embryos

(1) Adoptive Rescue of Cryopreserved Embryos

In criticizing the arguments of Stier and Schoene-Seifert, Hyun nevertheless affirms their general conclusion, viz., that any argument in favor of a human embryo having the moral status of a person is unsound. One criticism that he offers is this: “Embryo protectionists who would insist that *ex vivo* embryos have a right to life (because of their potential or some other reason) must also insist that this right creates in women a corresponding moral duty to accept implantation and gestation to term.”¹⁸ This point, however, does not seem to be a very effective criticism insofar as many (if not most or all) “embryo protectionists” would generally accept that women who are the genetic mothers of cryopreserved embryos have such a moral duty. Of course, whether such a moral duty should be *legally* enforced is a separate question altogether.

¹⁵ Insoo Hyun, “The Embryo Potentiality Argument Revisited: ‘Once More Unto the Breach, Dear Friends,’” *American Journal of Bioethics* 13/1 (2013): 28.

¹⁶ See Thomas V. Cunningham, “Skepticism about the ‘Convertibility’ of Induced Pluripotent Stem Cells,” *Amer. Journal of Bioethics* 13/1 (2013): 41.

¹⁷ See Hyun (2013), p. 29.

¹⁸ *Ibid.*

Perhaps it is the problematic nature of legal enforcement that Hyun has in mind.

A related question is what moral duties follow, and upon whose conscience, if the genetically-related mother of a set of cryopreserved embryos fails in her moral duty to have them implanted in her own uterus so as to attempt pregnancy. *May* or *ought* single women or couples who are “embryo protectionists” take this moral mantle upon their shoulders through “adoptive rescue” of these embryos?

The question of whether a woman or a couple *ought* to do so turns, in part, upon whether such an act is more like “adoption” or more like “rescue.” It is more like the former if we consider cryopreserved embryos to be akin to a born child in an orphanage or foster home, whose adoption by a loving family is typically considered a non-obligatory *supererogatory* act. But there is a crucial difference in that a born child in such circumstances is *alive* and *flourishing*, even if not flourishing as well as might be possible in a more stable familial environment. While a cryopreserved embryo is alive in the most basic sense of the term, it is certainly not in any way flourishing since its developmental potential has been completely arrested. This seems to make such an embryo more akin to a drowning child whom one could, and therefore morally *should*, rescue from the jaws of death. The fact that a cryopreserved embryo is not *immediately* threatened with death, as is the drowning child, does not detract from its need of rescue since embryos cannot be cryopreserved indefinitely and remain viable for implantation. Interestingly, Section 14 of the U.K. Human Fertilisation and Embryology Act of 1990 stipulates that embryos can be cryopreserved only for up to five years.¹⁹ Death is the unavoidable end for cryopreserved embryos if not rescued by adoption.

Nevertheless, the case is not like jumping into a lake to save a drowning child, with the worst consequence being that one gets wet. Assuming that the rescuer is a good, strong swimmer and so is in little or no danger of drowning, and that there are no further obligations to a child who is pulled from the lake and has been given any requisite medical attention. The adoptive rescue of human embryos, on the other

¹⁹ See http://www.legislation.gov.uk/ukpga/1990/37/pdfs/ukpga_19900037_en.pdf (accessed May 25, 2013).

hand, involves submitting to a medical procedure that would implant the embryos. With this comes the possibility of complications in both pregnancy and childbirth, and then the demands of raising any born children, of which there may be more than one per cycle.²⁰

On account of these aspects of risk-acceptance and personal commitment there seems to be quite a difference between saving a drowning child and gestating one or more cryopreserved embryos. While there is a clear moral duty on the part of a strong swimmer at the scene to rescue a drowning child, there is not a strict moral duty to rescue cryopreserved embryos by means of adoption, implantation, gestation, birth, and the lifelong commitment to raise any children born. This difference permits us to conclude that there is sound reason supporting the claim that rescuing a cryopreserved embryo is a supererogatory act and thus does not betray an inconsistent attitude regarding the moral status of born children and embryos.²¹

(2) A Natural “Scourge”?

Another challenge to the claim that cryopreserved embryos have the moral status of persons is premised upon the fact that an excessive number of embryos naturally conceived fail to implant in the uterus and are thereby lost as by-products of natural procreative activity. A reasonably conservative estimate is that, for every live birth, at least three embryos have been conceived but “miscarried” when they fail to

²⁰ Some proponents of adoptive rescue of embryos allow for a single woman to gestate and give birth to one or more children, but then allow another individual or couple to legally adopt and raise the child(ren). See John Berkman, “Virtuous Parenting and Orphaned Embryos” and Peter F. Ryan, “Our Moral Obligation to the Abandoned Embryo,” both in Berg and Furton (2006). Regardless of whether this form of adoptive rescue is morally licit, the impregnated woman is still undergoing the implantation process and subsequent pregnancy with one or more fetuses gestating, and concluding with childbirth, all of which carry some potential for medical complications, even death in extreme circumstances.

²¹ For further discussion of the moral permissibility of embryo adoption, see Brandon P. Brown and Jason T. Eberl, “Ethical Considerations in Defense of Embryo Adoption” in Brakman and Weaver (2007).

implant.²² Another estimate is that half of all conceived embryos fail to implant.²³ Either way, a significant number of embryos are lost to implantation failure on a regular basis. John Harris considers the acceptance of natural embryo loss to be a significant challenge to those who claim that all conceived embryos are persons:

How are we to think of the decision to attempt to have a child in the light of these facts? One obvious and inescapable conclusion is that God and/or nature has ordained that “spare” embryos be produced for almost every pregnancy and that most of these will have to die in order that a sibling embryo can come to birth. Thus, the sacrifice of embryos seems to be an inescapable and inevitable part of the process of procreation.²⁴

A typical rejoinder here is to conjecture that embryos that fail to implant must not have been viable for some congenital reason, such that, even if they had successfully implanted and were gestated to term, they would never have been able to develop a brain capable of self-conscious rational thought and autonomous volition. This would indicate that they had no intrinsic active potentiality for such development and hence were not persons. But this response is problematic for two reasons. First, to be consistent, one would have to hold that congenitally anencephalic infants are also not persons since they also evidently never possess an intrinsic active potentiality to develop a brain capable of self-conscious

²² See C. E. Boklage, “Survival Probability of Human Conceptions from Fertilization to Term,” *International Journal of Fertility* 35/2 (1990): 75-94.

²³ See Toby Ord, “The Scourge: Moral Implications of Natural Embryo Loss,” *American Journal of Bioethics* 8/7 (2008): 13.

²⁴ John Harris, “Stem Cells, Sex, and Procreation” in *Bioethics: An Anthology*, 2nd ed., ed. Helga Kuhse and Peter Singer (Malden MA: Blackwell, 2006), p. 551. Another version of this argument, premised upon a presumed metaphysical picture of what happens in cases of monozygotic twinning, is presented by Jeff McMahan, “Killing Embryos for Stem Cell Research,” *Metaphilosophy* 38 (2007): 170-89. McMahan’s argument is effectively rebutted by Stephen Napier, “Vulnerable Embryos: A Critical Analysis of Twinning, Rescue, and Natural-Loss Arguments,” *American Catholic Philosophical Quarterly* 80/4 (2010): 781-810.

rational thought and autonomous volition.²⁵ Second, empirical evidence indicates that only 30% to 60% of spontaneous abortions – including those that occur after uterine implantation – come about as the result of chromosomal defects,²⁶ though one study puts the number as high as 80%.²⁷ Either way, calculating the actual number of failed implantations and their causes remains somewhat of a “black box.”²⁸

It does not follow from this phenomenon of natural excess embryos that one may *intentionally* create and destroy excess embryos, as is done routinely in IVF and in harvesting pluripotent stem cells.²⁹ But it does raise the question of whether there is a moral obligation to attempt to develop some sort of treatment to prevent natural embryo loss – what Toby Ord dramatically, and with irony, refers to as “the Scourge.”³⁰ For instance, setting aside moral objections to conception that occur outside of marital intercourse, if an IVF technique were developed that required only a single embryo to be created per cycle and if successful uterine implantation were virtually guaranteed, would there be a moral obligation to cease natural procreative activity and to utilize IVF, so as to avoid the loss of up to three conceived embryos naturally?³¹

Answering this challenge requires weighing the strength of a *positive* obligation to save persons from *naturally* occurring death

²⁵ I am referring here only to *congenitally* anencephalic infants. Infants whose anencephaly was caused by *extrinsic* environmental conditions, such as severe lack of folic acid in their mother’s diet, arguably possess the active potentiality for fully actualized personhood *ab initio*, but their ability to actualize this potentiality has been compromised.

²⁶ See F. R. Bieber & D. G. Driscoll, “Evaluation of Early Pregnancy Loss” in *Diseases of the Fetus and Newborn*, 2nd ed., ed. G. B. Reed, A. E. Clairveaux, & F. Cockburn (London UK: Chapman & Hall, 1995), pp. 175-86.

²⁷ J. L. Simpson, “Causes of Fetal Wastage,” *Clinical Obstetrics and Gynecology* 50/1 (2007): 10-30.

²⁸ See N. S. Macklon, J. P. M. Geraedts, and B. C. J. M. Fauser, “Conception to Ongoing Pregnancy: The ‘Black Box’ of Early Pregnancy Loss,” *Human Reproduction Update* 8/4 (2002): 333-43; Thomas A. Marino, “Natural Embryo Loss: A Missed Opportunity,” *American Journal of Bioethics* 8/7 (2008): 26.

²⁹ See James J. Delaney, “Embryo Loss in Natural Procreation and Stem Cell Research,” *National Catholic Bioethics Quarterly* 12/3 (2012): 461-76.

³⁰ See Ord (2008).

³¹ See Harris (2006), p. 553.

against the inherent goods of natural procreative activity and the putative evils of giving up such activity for the sake of the modified IVF procedure just described. For the purpose of this discussion, I lay aside the response that natural procreative activity is of incomparable value as the result of its being the divinely-ordained method and the *only* morally licit method by which human beings may be created. Any response to “the Scourge” will be stronger if it does not need to rely upon any theological premises.³²

An initial response to the challenge of “the Scourge” is simply to bite the bullet and to accept that society ought to do whatever it can to prevent natural embryo loss, just as we do for cancer, HIV, and other life-threatening illnesses.³³ Such efforts to ameliorate genetic abnormalities that result in pregnancy loss are indeed already underway.³⁴ The limit of this obligation will, of course, be determined by the “ought implies can” principle. At present at least, there seems to be little that we can do to prevent natural embryo loss other than by earlier methods of detecting pregnancy, followed by better prenatal care. Most women do not even suspect that they are pregnant until after uterine implantation, by which point occurrences of spontaneous miscarriage drops off significantly.

There are also potential *moral* limits to what might be done to prevent “the Scourge” if the only effective means of researching the problem and testing potential solutions were to involve significant risk to the health or lives of embryos or pregnant women.³⁵ Related to this latter point, it is also arguable that, given limited resources, there is sound moral reason to privilege the lives of persons who have already actualized their potentialities for self-conscious rational thought and autonomous volition to formulate life-plans for themselves and are

³² Taking God out of the picture for the sake of discussion also allows us to set aside the implicit problem of why God would allow such widespread natural evil to occur.

³³ See Sarah-Vaughan Brakman, “Natural Embryo Loss and the Moral Status of the Human Fetus,” *American Journal of Bioethics* 8/7 (2008): 23.

³⁴ See J. E. Warren and R. M. Silver, “Genetics of Pregnancy Loss,” *Clinical Obstetrics and Gynecology* 52/1 (2008): 84-95.

³⁵ See Marianne Burda, “Letting Nature Take Its Course,” *American Journal of Bioethics* 8/7 (2008): 25.

active participants in the moral community such that the lives of others may be negatively impacted by their loss of health or life. This does not belie the claim that embryos are persons with the same basic moral status and right to life, precluding any negative interference with their life or development. But allocating resources to fulfill a positive obligation to prevent the loss of embryonic life – prior to having actualized the potentialities just cited – may not be as stringent when weighed against the imperative to fulfill the same obligation to those who are at a higher level of developmental flourishing.³⁶ On first glance, this claim may sound unpalatably *utilitarian*. In fact, it refers only to the fulfillment of putative *positive* obligations. It does not justify intentionally killing or harming an embryo to benefit a more fully actualized person.

These points, however, do not allay the necessity to confront the question of whether defenders of embryonic personhood would need to yield to the use of a hypothetical (but not unrealistic) IVF technique that would not involve the creation of more embryos than will be implanted and whose success rate is superior to natural attempts at pregnancy, as morally preferable to natural procreative activity. Given a positive obligation to do whatever is possible, within technical and moral limits, to prevent natural embryo loss, one would have to identify a strict *negative* obligation that is violated by procreating in this fashion.

The Congregation for the Doctrine of the Faith, in both *Donum vitae* and *Dignitas personae*, affirms a *moral right* – and a corresponding *duty* – of a woman to become pregnant only through the conjugal act with her husband.³⁷ While this point goes outside the scope of this paper, an effective negative response to the question at hand will require not only affirming that there is such a right that is violated by any use of IVF technology for procreation but also that the strength of this right overrides any positive moral obligation to stave off natural embryo loss, for negative obligations not to violate certain putative rights do not always automatically override positive obligations.

³⁶ See Robert F. Card, “Scouring the Scourge: Spontaneous Abortion and Morality,” *American Journal of Bioethics* 8/7 (2008): 28.

³⁷ See Congregation for the Doctrine of the Faith, *Donum vitae* (1987), II.A.1; *Dignitatis personae* (2008), §12.

Furthermore, the foundation for this right and the corresponding obligation should not merely be faith-based if it is to support public prohibitions on embryo-destructive research as well as public support of research to prevent natural embryo loss and embryo adoption programs.