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Frozen Embryos, Unwanted Pregnancies, and Artificial Wombs: Which Options Are Morally Licit?

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IN A PREVIOUS ARTICLE, I defended why embryo adoption is illicit.¹ More precisely, it is the act of artificially impregnating a woman that is contrary to the natural moral order and renders the practice an illicit one, and not the “praiseworthy” intention to save a human life. While I do not intend to repeat that argument in detail here, in sum, my reasoning proceeds from first re-examining the underlying rationale that the Congregation for the Doctrine of the Faith (CDF) applies in its 2008 *Dignitatis Personae* and its 1987 *Donum Vitae* for other artificial reproductive technologies such as *in vitro* fertilization (IVF), artificial insemination, surrogacy, and the transfer of embryos for infertile couples (an embryo adoption of some kind), all of which were condemned in these two documents as either formally “illicit” or “not ethically acceptable.” When moral theologians listen with care and renewed attention to the underlying rationale in these documents, a single common thread emerges: the reality of what I call “conjugal agency,” namely, that licit actions in reproductive bioethics must respect the role of the spouses in being agent causes of procreation and pregnancy and that this agency must be exercised through conjugal union. The determining criteria for what constitutes a licit clinical procedure versus an illicit one emerges very clearly in these documents once theologians grasp this logic at its root. When this logic is then applied to the question of embryo adoption, it becomes clear that it is illicit for an agent other than the spouse to impregnate his wife and that, in addition, it is illicit for such impregnation to take place outside of conjugal

¹ Irene Alexander, “Is Artificial Impregnation Opposed to the Unity of Marriage? A New Look at Embryo Adoption,” *Nova et Vetera* (English) 16, no. 1 (2018): 47–80.

union. For this reason, I concluded that heterologous embryo transfer and homologous embryo transfer are both intrinsically immoral (in the remainder of this article, the abbreviation “HET” covers both).²

This article is intended to address the next question that naturally arises from my conclusion.³ What then, are the licit moral options? This question is certainly not merely a theoretical one, but in many cases is a pressing and immediate concern for couples who may have used IVF in the creation of their family and now repent of their mistake, but have frozen embryos remaining and continue to pay for their cryopreservation. What options can licitly be pursued if it is true that embryo adoption is illicit and contrary to the unity of marriage? Is leaving these embryos frozen morally acceptable? Is allowing them to “thaw” and die considered murder? Does it go against the teaching in *Donum Vitae* §5 which states, “It is therefore not in conformity with the moral law deliberately to expose to death human embryos obtained ‘in vitro.’”⁴ Could artificial wombs for humans be a licit way of saving the lives of these frozen embryos? This technology is already on the horizon with the successful artificial gestation of premature lambs.⁵ And if frozen embryos could be saved in this way, could not other preborn infants in jeopardy be transferred to artificial wombs? Might not the arrival of artificial wombs actually solve the problem of abortion if mothers could transfer their inconveniently conceived children somewhere else? Christopher Kaczor has forcefully made this argument: “If advocates of abortion such as these are consistent, and really meant what they have said about not desiring the death of the human fetus [only the desire to be rid of the fetus without threatening its life], for at least these defenders of abortion, artificial wombs would end the abortion debate.”⁶ It seems on the surface that it would be a “win-win” situation, for the mother surely does not desire to kill her own child if given another alternative,

² In my previous piece, I was careful to demonstrate that the CDF has not formally declared embryo adoption to be illicit, but seems to intuit a problematic connection between this practice and the other already condemned practices such as IVE, surrogacy, and the transfer of embryos for infertile couples. I demonstrate with clarity what exactly that problematic connection is and responded to criticisms of this view by other scholars.

³ I am grateful to Julia Bolzon, PhD candidate from the John Paul II Institute, who encouraged me to write on this intellectually difficult and heart-wrenching topic.

⁴ CDF, *Donum Vitae* [DV] (1987), §5.

⁵ Tina Hesman Saey, “Faux Wombs Keep Preemie Lambs Alive,” *Science News* 191 (2017): 6.

⁶ Christopher Kaczor, “Could Artificial Wombs End the Abortion Debate?,” *National Catholic Bioethics Quarterly* 5, no. 2 (2005): 283–301.

and pro-life advocates may be satisfied in that the baby will at least have a chance at life. The purpose of my article is to address all of these concerns by providing clarity on the moral objects in each of these specific issues.

I will first address in detail the remaining moral options for the situation of frozen embryos: (1) leaving them in their frozen state, (2) thawing them and allowing them to die naturally, (3) transferring them to an artificial womb for the whole of their gestation, or complete ectogenesis. Second, I will explain why partial ectogenesis may have a licit, albeit extremely limited role in medicine, only for problems in pregnancy which would otherwise lead to miscarriage, stillbirth, or jeopardize the mother's health significantly. I will defend with the utmost strength and resolve that it is a grave moral evil for a physically healthy pregnant mother to remove her child from within her and allow that child to be gestated in an artificial womb as an alternative. I will explain why all people of good will and especially Christians should seriously oppose this option.

The Future of Frozen Embryos

I believe that there are fundamentally two reasons why proponents of embryo adoption are so vocal and insistent in their opinion that embryo adoption is licit, despite not providing strong and compelling arguments to support their view.⁷ The first and main reason is that the alternatives do

⁷ See my critiques of Elizabeth Rex, Christopher Tollefsen, E. Christian Brugger, John Grabowski, Edward Furton, Br. Glenn Breed, and Mark Latkovic in "Is Artificial Impregnation Opposed to the Unity of Marriage?," 74–80. See also the recent article of Melissa Moschella, who, in my opinion, successfully demonstrates that genetic parenthood rather than gestational makes a more significant moral claim; see her "Gestation Does Not Necessarily Imply Parenthood: Implications for the Morality of Embryo Adoption and Embryo Rescue," *American Catholic Philosophical Quarterly* 92, no. 1 (2018): 21–48. Yet, for those who oppose embryo adoption, the key issue is not who is the true mother (genetic, gestational, or adoptive), but whether or not the *act of artificial impregnation* is itself morally licit. Moschella does not address the heart of the issue at all. To a difficult objection raised by Nicholas Tonti-Filippini, that in HET a woman becomes a mother "through an event from which her husband is, in effect, excluded," Moschella replies that this concern is "based on the assumption that gestation creates a special bond in the way that wet nursing . . . does not, and that gestation in and of itself makes a woman a mother in the focal sense," which she has taken the time to disprove. Yet the objection to HET is not at all about the specific communion between mother and child, but whether an agent other than her spouse should make her pregnant in the first place. Does this role not belong specifically to the husband? Should a technician be the one who says to the woman through the act of HET, "I am the one making you pregnant, not your own spouse." Moschella does not sufficiently address the problem that embryo adoption by nature is

not look very good. The cry that embryo adoption “must be licit” and is the “only moral option” seems to stem from an urgency that *rightly* recognizes the poverty of the alternatives. Yet, one of the main reasons that I did not address the alternatives at all in the previous article (aside from lack of space) is that beginning by looking at all of the alternatives and then deciding on which one seems to provide the most therapeutic outcome is a problematic way of navigating difficult issues in moral theology. It is characteristic of a more consequentialist approach which examines the outcomes as determinative of which actions are licit. Pope John Paul II himself is very critical of this way of reasoning in *Veritatis Splendor*. To be clear, my remark is not to suggest that well-meaning Catholic bioethicists are functioning through a consequentialist mode of reasoning in their argumentation; I do not deny that they intend to defend moral absolutes. But on this particular issue, I do believe that it is precisely the poverty of the alternatives that fuels a more particular urgency to promote embryo adoption, over a more careful consideration of precisely how biotechnology ruptures the integrity of the natural law.

The second reason why proponents of embryo adoption insist on its liceity and do not immediately see its problems concerns a deeper in-house issue among scholars in moral theology concerning how to specify moral objects in the Catholic tradition. The novel theory initiated by Germain Grisez and his colleagues considers a good moral act to be one in which the moral agent does not intentionally desire to damage any of the basic human goods. While it is clear that a woman choosing abortion chooses an intentional destruction of human life, how could something as good-hearted as adopting an orphaned embryo into one’s own body with the desire to raise that child be in any way an act that is intentionally opposed to a basic human good? Even if it is opposed to marital unity in that a pregnancy comes about outside of conjugal union, there is no deliberate intention within the acting subject to harm the marital good.⁸ In fact, the act of adoption proceeds from the mutual choice of the couple.⁹ The key issue here, however, is that Grisez’s method of specifying moral actions is his own *novel* yet *influential* theory; it is distinct from the “old” natural law theory, which takes into account the nature of the action in question, and not only “the concept of intention,” towards or against a basic human

contrary to the unity of marriage, a violation of the union between spouses, not mother and child.

⁸ E. Christian Brugger, “In Defense of Heterologous Embryo Transfer,” *National Catholic Bioethics Quarterly* 5, no. 1 (2005): 95–112.

⁹ Moschella, “Gestation,” 46–47.

good.¹⁰ Even Janet Smith in her commentary on Grisez's action theory states very explicitly, "Grisez denies that reason must conform itself to nature."¹¹ As a result, Smith states, "their analysis, especially in its terminology, in many ways resembles traditional modes of analysis; these resemblances can mislead the reader into thinking that their analysis is more aligned within the tradition than, in fact it is."¹² The embryo adoption issue has brought to the forefront of contemporary bioethical thinking an underlying philosophical divide that Catholic bioethicists cannot ignore—the analysis of the moral object by proponents of the "New Natural Law" (NNL) eschews the underlying philosophy of nature as integral to defining what a moral act is.¹³ The new approach eclipses something far more fundamental from the very beginning. While exploring this issue far exceeds the limits of this essay, I mention it because what follows in this essay is my contention that sound moral thinking, especially in bioethics, requires the ethicist to consider *the nature of the action* chosen in specifying the moral object, as distinct from a purely "first-person perspective" where a moral object is determined solely by what the agent understands himself to be doing through his own interior choice, which he then projects onto an otherwise morally neutral external act. My arguments will proceed by taking seriously the philosophy of nature "more aligned with the tradition," as distinct from the novel theory of intentionality towards basic human goods.¹⁴

¹⁰ Christopher Tollefsen, "Is a Purely First Person Account of Human Action Defensible?" *Ethical Theory and Moral Practice* 9 (2006): 441–59. For a defense of the moral meaning of nature in the "old" natural law theory as distinct from the "new natural law" position (NNL), see Edward Feser, "In Defense of the Perverted Faculty Argument," *Neo-Scholastic Essays* (South Bend, IN: St. Augustine Press, 2015), 378–415.

¹¹ Janet, Smith. *Humanae Vitae: A Generation Later* (Washington DC: Catholic University of America Press, 1991), 353.

¹² Smith. *Humanae Vitae*, 353 (emphasis mine).

¹³ See my critique of the NNL position on describing moral objects in "Redefining Direct and Indirect Abortions through 'the Perspective of the Acting Person': A Misreading of *Veritatis Splendor*," *Linacre Quarterly* 86, no. 1 (2019): 1–19.

¹⁴ For more on this debate see: Germain Grisez, John Finnis, and Joseph Boyle, "Direct and Indirect," *The Thomist* 65 (2001): 1–44; Christopher Tollefsen, "Response to Robert Koons and Matthew O'Brien's 'Objects of Intention: a Hylomorphic Critique of the New Natural Law Theory,'" *American Catholic Philosophical Quarterly* 87, no. 4 (2013): 751–78; Tollefsen, "Is a Purely First Person Account of Human Action Defensible?"; E. Christian Brugger, "Direct Killing as Intentional Killing," *Public Discourse* February 19, 2013, thepublicdiscourse.com/2013/02/7486; William May, *Catholic Bioethics and the Gift of Human Life*, 3rd ed. (Huntington, IN: Our Sunday Visitor, 2013), 190–93; Steven A. Long, "A

There is no easy way to say it. The future of frozen embryos is bleak. The three remaining technical options for frozen embryos are as follows: Option 1: leaving them in cryopreservation; option 2: thawing them and allowing them to die, option 3: transferring them to an artificial womb for gestation. To each of these remaining options I now offer a clear articulation of the moral object.

Option 1—Leaving Them in Cryopreservation

Fr. Tad Pacholczyk from the *National Catholic Bioethics Center* suggests that leaving the frozen embryos in cryopreservation is the only currently available ethical choice, aside from the future possibility of artificial wombs. In response to those who ask him what can be done with the frozen embryos, he argues, “The simple answer is that ethically there is very little we can do with our frozen embryos except to keep them frozen for the foreseeable future. No other obvious moral options seem to exist.”¹⁵ He concludes then that,

parents have an obligation to care for their children in this way until some other option becomes available in the future (maybe a sophisticated “embryo incubator” or “artificial womb” of some kind), or until there is a reasonable certainty that they have died on their own from decay or “freezer burn.” Perhaps after a few hundred years, all the stored embryos would have died on their own, and they could

Brief Disquisition regarding the Nature of the Object of the Moral Act according to St. Thomas Aquinas,” *The Thomist* 67 (2003): 45–71; Long, “Fundamental Errors of the New Natural Law Theory,” *National Catholic Bioethics Quarterly* 13, no. 1 (2013): 105–31; Steven Jensen, “Causal Constraints on Intention: A Critique of Tollefsen on the Phoenix Case,” *National Catholic Bioethics Quarterly* 14, no. 2 (Summer 2014): 273–93; Thomas Berg, “A Revised Analysis of the ‘Phoenix Abortion Case’ and a Critique of the New Natural Law Intentionality,” *Nova et Vetera* (English) 15, no. 2 (2017): 365–96; Matthew B. O’Brien and Robert Koons, “Objects of Intention: A Hylomorphic Critique of the New Natural Law Theory,” *American Catholic Philosophical Quarterly* 86 (2012): 655–703; Kevin L. Flannery, “The Multifarious Moral Object of Thomas Aquinas,” *The Thomist* 67 (2003): 95–118; Kevin Keiser, “The Moral Act in St. Thomas—A Fresh Look,” *The Thomist* 74 (2010): 238. See also Steven Brock, *Action and Conduct: Aquinas and the Theory of Action* (Edinburgh: T & T Clark, 1998), 204–5.

¹⁵ Fr. Tad Pacholczyk, “What Should We Do with the Frozen Embryos?,” *Making Sense of Bioethics* (blog of The National Catholic Bioethics Center), June 30, 2009, ncbcenter.org/making-sense-of-bioethics-cms/column-048-what-should-we-do-with-the-frozen-embryos.

finally be thawed and given a decent burial.¹⁶

Fr. Pacholczyk argues that once the damage has been done, there is little hope for rescuing these embryos. He argues not only is it permissible to leave them frozen, even “for a few hundred years,” but that parents of these embryos have a moral obligation to keep paying for their continued cryopreservation since it functions as life support. Fr. Pacholczyk is not alone in this judgment. Catholic bioethicist Fr. Nicanor Austriaco, O.P., also holds a similar position. Fr. Austriaco suggests to potential adoptive parents that “instead of implanting their adopted embryo into the adoptive mother’s womb, [the adoptive parents] could pay to maintain the cryopreservation necessary for the survival of their child until incubators capable of bringing him to term are invented.”¹⁷ Both of these Catholic bioethicists argue that continuing to pay for the frozen embryo’s cryopreservation is a morally responsible act, at least until something like an artificial womb could be invented to gestate them.

Before one can carefully evaluate their arguments, it is important to appreciate first the rationale for the condemnation of cryopreservation as the CDF teaches in *Donum Vitae*:

*The freezing of embryos, even when carried out in order to preserve the life of an embryo—cryopreservation—constitutes an offense against the respect due to human beings by exposing them to grave risks of death or harm to their physical integrity and depriving them, at least temporarily, of maternal shelter and gestation, thus placing them in a situation in which further offenses and manipulation are possible.*¹⁸

There are several condemnations of cryopreserving embryos in this passage. The first argument, presupposed from the prior condemnation of IVF, is that the embryo has already come into being apart from conjugal union and is now left “exposed.” Not only is this act an offense against marital unity, it is also harmful to the child to be willfully brought into being in a situation where the child is deprived of maternal shelter. The person is under the “domination of technology” not because technology was used in the process, but because the clinicians and consenting parties use the tech-

¹⁶ Pacholczyk, “What Should We Do with the Frozen Embryos?”

¹⁷ Nicanor Austriaco, *Biomedicine and Beatitude: An Introduction to Catholic Bioethics* (Washington, DC: Catholic University of America, 2011), 109.

¹⁸ CDF, *DV*, I.6.

nology to act in a way contrary to the order of nature: *a conceived embryo ought to come into being beneath the heart of his mother*. Her pregnancy is the reception of her spouse's conjugal gift. Even more damaging, cryopreservation rips the human person away from his or her natural maternal home by actively disrupting the normal process of gestation.

Now that this first evil has been done, another one follows. To keep the embryo alive, it must be frozen. It is worth sitting with this image for a few minutes. Would parents ever put their young child in their own freezer at home? Doing so would be a grave crime because it would indeed "expose them to the serious risk of death or physical harm" just as cryopreservation does.¹⁹ The CDF also notes that "a high percentage [of embryos] does not survive the process of freezing and thawing."²⁰ Finally, cryopreservation does further damage to the child, not only by depriving him or her of maternal shelter and gestation, but by further exposing the embryo to destructive manipulation and experimentation—not unlike the Nazi's imprisonment of human persons and their highly unethical experiments on them. The embryos' continued exposure to being victims of great moral evil puts them at further risk. They are prisoners of war—the culture war—over the personal meaning of human sexuality and the dignity of the human person.

Yet despite the destruction of "a high percentage" of embryos in the process, the purpose of the cryopreservation of embryos conceived through IVF is precisely to keep them alive for further use, or at least to preserve their lives until further decisions can be made about their fate. One of the strongest condemnations of cryopreservation of human persons in *Dignitatis Personae* is on the following grounds: it is fundamentally "incompatible with the respect owed to human embryos."²¹ While most Catholic bioethicists see the above reasons that I have articulated as the ground for condemning the process of freezing embryos to begin with, few have reflected sufficiently on the unique abomination cryopreservation is according to the natural law. Unlike almost *any* other kind of technology, the process of deep-freezing living embryos causes them to be utterly suspended in their development. For example, an embryo frozen for five years, then later implanted in a woman and birthed as a "newborn" is actually a five-year-old, while simultaneously a "newborn"—odd as that sounds. That is why I am convinced that ethicists must look closer at what cryopreservation does to the human person in relationship to the

¹⁹ CDF, *Dignitatis Personae* [DP], §18.

²⁰ CDF, DP, §18.

²¹ CDF, DP, §18.

inclinations of the natural law. According to the order of nature, the soul as the form of the body is constantly striving for self-preservation with a view to exercising his higher powers—the flourishing in human excellence. The good of the body, such as health, is ordained to the good of the soul. Aquinas describes the natural law not as moral rules, nor even as human goods necessarily, but as “inclinations” of the human person towards various ends: “According to the order of natural inclinations, is the order of the precepts of the natural law.”²² The Thomistic tradition recognizes that the moral law follows the order of nature. The natural world is not “merely physical” but follows an order that is morally determinative. Aquinas describes it this way: The human person shares the inclination to self-preservation in common with all living things; he also possesses the inclination to procreation and education common with animals; as a rational creature he possesses the inclination to know the truth, especially the truth about God, and to live in society.²³ While he shares common inclinations with other lower creatures (plants and animals), he carries them out in a fundamentally human and personal way. If we look closely at the philosophy of nature here in Aquinas’s description of the natural law in terms of its “inclinations,” we can see much more clearly the evil of cryopreservation. Bioethicist Nicholas Tonti-Filippini describes the process of freezing a human person as follows:

Parts of the embryo are separated by the chemical solution and, in that state, the parts of the whole do not relate to one another in any physiological sense except perhaps by being related spatially. The separating effect of the chemical solution and the effect of super-freezing means that the embryo is not integrated or dynamic in the way in which we normally consider to be essential to being a living organism.²⁴

In cryopreservation the embryo is placed in a totally anhydrous state with a chemical solution replacing the natural hydration that normally allows the living organism to grow and develop. Therefore, it is not only the initial freezing, but *the actual current state* of the embryo which gives great cause

²² Thomas Aquinas, *Summa theologiae* [ST] I-II, q. 94, a. 2 (trans. Dominican Fathers of the English Province [New York: Benziger, 1925]).

²³ ST, I-II, q. 94, a. 2.

²⁴ Nicholas Tonti-Filippini, “The Embryo Rescue Debate: Impregnating Women, Ectogenesis and Restoration from Suspended Animation,” *National Catholic Bioethics Quarterly* 3, no. 1 (2003): 111–37.

for alarm. I believe that when we hold a magnifying glass up to the current state of the frozen embryos it becomes clear that they suffer a profound moral evil of an intrinsic kind by being in a state of suspended animation. In suspending the development of the embryo cryopreservation acts in a way absolutely contrary to the order of nature. Not only does it expose the embryos to various physical harm (frost bite, death), or leave them exposed to potential experimentation— even if these were not real risks—*the use of a technology that causes suspended animation of a human person is an evil contrary to nature*. This type of technology actively impedes and forbids the human person to exercise his or her natural inclinations towards the hierarchy of goods. There is no way in which a technology that has this effect on a human person can in any way be compatible with the natural law and the good of the human person. It is for this reason most of all, that cryopreservation is fundamentally “incompatible with the respect owed to human beings.”

In order to see this reality more clearly, it may be helpful to illustrate the contrast with an adult patient on a ventilator. The ventilated patient needs assistance in breathing. The air pushed into the body of the patient *assists* the patient's own natural inclination towards self-preservation; it does not actively *hinder* the inclination. But the continued cryopreservation of frozen embryos is a technology that actively inhibits the human being's inclinations to self-preservation and growth. It contains the ungodly power of suspending the human person in development and therefore in time. If ethicists only look at the consequence of these two different technologies—both keep persons alive—they will miss diagnosing the precise reason for the moral evil that cryopreservation is. Ethicists must always keep in mind that the right use of technology assists the human person in restoring the order of nature whereas the “domination of technology” takes place when that order is disregarded or destroyed by the technology.²⁵ Just as ethicists rightly recognize a great moral difference between achieving procreation through IVF and achieving the same outcome through conjugal union, it is morally significant to recognize what this specific technology does to the human person in the natural order. Cryopreservation does not merely keep the embryo alive; it traps him in a way absolutely contrary to his nature—in a way totally impossible and unheard of in the entire history of the world until the last few decades. The injustice to

²⁵ CDF, *DP*, §12. “Techniques which assist procreation are not to be rejected on the grounds that they are artificial. As such, they bear witness to the possibilities of the art of medicine. But they must be given a moral evaluation in reference to the dignity of the human person.”

the embryo did not happen only once in his or her initial freezing. *Every day of existing as a frozen human person with the natural inclination to develop while being simultaneously hindered in that development is a new day of profound and inconceivable injustice.* To clarify again by contrast, the imprisonment of an innocent adult is a grave crime. He is unjustly denied certain basic freedoms. But the suspension and paralysis of a human being so that he or she can no longer function in a dynamic human way according to the inclinations of his or her being is significantly worse, indeed it is unimaginable. It is in itself contrary to the order of nature and therefore intrinsically evil. Regardless of what this conclusion might imply, it is imperative that ethicists come to terms with the reality of cryopreservation vis-à-vis the natural law. One cannot properly grieve the embryos' situation without adequately reflecting on the full depth of their depravity. Freezing the embryos was not only immoral to begin with, but in the final analysis, their continued existence in a trapped state of being is incompatible with the natural law.

I will provide one final clarification by contrast to illustrate this point. A paralyzed or even unconscious patient still exercises the inclinations of the natural law towards self-preservation, towards development, both physically and spiritually, even if there is a form of physical paralysis. A frozen embryo is not merely physically and temporally paralyzed, but the inclinations or natural striving of the human person are actively hindered until they totally cease. That is why these embryos do not "age" while frozen. By contrast, a patient experiencing paralysis endures physical but not moral evil. A frozen embryo suspended in his being is *currently* experiencing a moral evil unlike anything that man has created in the history of civilization. No human invention or technology has ever halted the human person's natural dynamic striving as cryopreservation has. Injuring a human being is not the same as entirely halting his or her dynamic human activity. Toni-Filippini also makes a similar argument:

Keeping a human embryo in an induced state of arrested development indefinitely does offend against the good of life. It is a quasi-living existence, lacking the characteristics such as biological activity, growth, development, and maturing that are usually associated with life. The living dynamism of the cryopreserved, anhydrous embryo is on hold.

It is difficult to describe what exactly the frozen-anhydrous state is. It is not like a general anesthesia, because even in general anesthesia the body continues to function. Further, the anesthesia is only properly willed in order to block pain experience and to immobilize

so that surgery can be completed without muscle reflexes causing movement. Similarly, it is not like hypothermia caused accidentally through prolonged immersion in cold water or exposure to other cold environments, or the induced hypothermia sometimes used for long and complex surgery on highly vasculated areas or areas of metabolic significance in which a slowed-down metabolism would help. In each of those cases, while functions are slowed down and some are suppressed, some dynamic living activity continues. But in a frozen-anhydrous state all activity ceases.²⁶

In Toni-Filippini's examples one can distinguish between a medical act of slowing down physiological processes in surgery within the context of healing, from the state of totally shutting down the dynamic activity of the living being in its striving towards the hierarchy of ends in its development.²⁷ While Toni-Filippini does not explicitly use the language of an "intrinsic moral evil," it seems that he would agree with me in use of this term to condemn a technology that causes suspended animation of a living human person.

For this reason, then, I disagree with Fr. Pacholczyk, who calls the continued cryopreservation "care" for the human embryo, and more specifically, "ordinary care" versus extraordinary, and therefore encourages parents of these children to continue to pay to keep them cryopreserved. Fr. Pacholczyk states:

Some have suggested that a morally acceptable solution to the frozen embryo problem might come through applying the principle that "extraordinary" means do not have to be undertaken to prolong human life. They argue that to sustain an embryo's life in a cryogenic state is to use extraordinary means and this is not required.

In fact, however, the decision to continue cryopreserving an embryo in liquid nitrogen is not likely an instance of using extraordinary means, since the burden and costs associated with taking care of embryonic children in this way are actually minimal.

²⁶ Tonti-Filippini, "Embryo Rescue Debate," 134.

²⁷ For this same reason, even the cryopreservation of an adult would also be morally evil, and this may be a moral issue in the not-so-distant future. From the outside one might argue that it is just "putting someone to sleep" with the intent of rehydrating him or her in fifty or a hundred years. But in reality, the person is not "sleeping," which is in fact a biologically active process. Suspended animation *totally* ceases the biological functioning of a human organism. This type of act is directly contrary to the human person's inclinations according to the natural law.

When we have children, we have a duty to clothe, feed, care for, and educate them, all of which costs plenty of money. When our children are frozen, we don't need to clothe, feed, or educate them; our care for them can only be expressed by pausing the bill each month to replenish the liquid nitrogen in their storage tanks. This way of caring for our children is obviously unusual, but it does not seem morally extraordinary in terms of achieving the desired end of safeguarding their physical integrity.

Fr. Pacholczyk argues that cryopreservation, while "obviously unusual" can constitute a form of "care" for these children. On his view, it is not even extraordinary care but ordinary, since the burden and costs of keeping the embryos alive are minimal, and all parents have a moral duty to care for their children and provide for their needs. For this reason, he argues that parents of frozen embryos have a moral obligation to continue to pay for their cryopreservation.

My reply to this argument is that the distinction between extraordinary and ordinary care *does not even apply* in this case, because the current state of suspended animation is an intrinsic evil. It is not "care" for the human person *at all*, either ordinary nor extraordinary, because care always "assists" and does not hinder the natural inclinations of the human being. Cryopreservation does not "safeguard their physical integrity" but profoundly disrupts it, even if it continues their existence. The chemical solution disrupts the organism's physical integrity so that the parts of the embryo no longer communicate with one another as one integrative whole. That is precisely why the embryos do not age while frozen.

Both those who argue that they can remain frozen because the care is ordinary and those who argue that they can be removed because the care is extraordinary are missing the essential point that this distinction concerns "care" or assistance for the human person, not fostering an imprisonment of a human organism's dynamic animation. This aspect is what most Catholic bioethicists are missing from properly analyzing the issue. Care *fosters* the natural human *inclinations* towards life and health with the body itself actively participating in its own reintegration; "care" does not chemically disrupt the communication of the parts of the body and so entirely halt the animation of the human person. For example, artificial nutrition and hydration *aid* the human person towards homeostasis, with the human body itself being the own agent of its recovery by taking in nutrition towards growth and healing. Suspended animation disrupts and halts the agency of the organism. That is why the embryos do not need food or water

to survive—odd as that is. Similarly, even extraordinary ventilation assists the human person's own living and dynamic striving for self-preservation, by providing air and assisting in circulation. A frozen embryo does not need air to survive, nor is his or her blood circulating. Suspended animation does not assist, but actively hinders the dynamism of the living human person in an utterly unique and abominable fashion.

The conclusion from this analysis, then, is that *there is, in fact, a moral imperative to remove the frozen embryos from an intrinsically evil state immediately*. Every moment of their being frozen is a new moment of grave moral evil. The embryos should be immediately thawed. This process involves rehydrating them and returning them to a warm²⁸ and temporarily stable environment, where they can resume their dynamic human activity. The object of the moral act in this case is restoration from an intrinsically evil state of suspended existence into a restored state of dynamic human existence. Unfortunately, there are no morally licit ways of returning the rehydrated embryo to the womb of a woman. Within a few days the re-cultivated embryo will die from a lack of a stable environment. How, one might ask, can this action be morally licit, if one knows ahead of time that the embryos will die?

Option 2—Thawing Them and Allowing Them to Die Naturally

The decision to thaw the embryos although one foresees ahead of time that they will not long survive is actually very similar to the situation of an ectopic pregnancy. Frozen embryos are actually “ec-topic” or “out of place.” Ethicists should begin to use the language of “ectopic embryos,” since it is technically precise, and because it is easier to see the ethical similarity with ectopic pregnancies. In the case of the frozen ectopic embryo, the embryo is in a place where he cannot thrive, much like an embryo which implants in the fallopian tube of a woman. Just as one is morally obligated to take action to save the mother's life, even though one knows ahead of time that the young embryo will not survive, and the procedure is justified under the principle of double effect,²⁹ so also does the same logic apply to ectopic

²⁸ In normal conjugal conception, the female body anticipates receiving a new embryo during the menstrual cycle by increasing her temperature shortly after ovulation. Her body releases progesterone (pro-gestation) to receive and nurture this new being. From the first moment of their conception, babies are meant to be received in a *warm* and nurturing environment. The female body anticipates and prepares for this reception.

²⁹ That is to say, certain procedures are justified. I have defended why salpingectomy is the only licit procedure and why salpingostomy and the use of methotrexate are “direct” abortions and unjustifiable, rather than indirect (“The Error of Intention-

frozen embryos. The difference, as I have argued above, is that with frozen embryos there is an *intrinsic* moral evil of suspended animation and hence it is morally obligatory to take immediate action. The similarity is that in both cases there is a grave moral reason to take action. In both cases, one foresees and knows ahead of time that the embryo will not survive, and finally, in both cases the *actions* involved do not involve any direct damage to the embryo. In removing the frozen embryo from a situation of profound moral injustice and restoring him to active animation, the technician has performed not only a morally licit but profoundly laudable act, even if he knows in advance that after a short time the rehydrated embryo will not survive. Not only the intention, but the specific act of releasing the embryo from his state of imprisoned animation is morally laudable, even if as a secondary effect the embryo will not long survive. In the end, it is a tragedy, much like the loss of life in an ectopic pregnancy, but the moral act of thawing and restoring the embryo is licit and justifiable. The real moral tragedy, however, is that unlike a surprise ectopic pregnancy, technicians knew ahead of time what the process of IVF will cause. It is not merely a medical abnormality. The technicians and couples deliberately chose to separate procreation from the conjugal act, with all of its accompanying lethal effects. There is moral injustice, not in the act of thawing and restoring a human child from suspended animation to living dynamic activity albeit for a brief time, but in deliberately choosing the procedures in the first place which left him to this tragic fate.

I would like to consider an important objection to my argument. In *Donum Vitae* the CDF states that “it is not in conformity with the moral law deliberately to expose to death human embryos obtained in vitro.”³⁰ Have I not argued in favor of the very thing *Donum Vitae* calls unlawful? No, not at all. The context of this passage is addressing the specific question: “How is one to evaluate morally the use for research purposes of embryos obtained by fertilization in vitro?” The CDF here condemns the voluntary destruction of embryos used in experimental research. In fact, it condemns not only experimentation but also any “method of observation” which either “damage[s] or impose[s] grave and disproportionate risks upon embryos obtained in vitro.”³¹ The sentence I quoted above is the response to a scientist who might ask, “given that we already have these IVF embryos, shouldn’t we at least use them for scientific research since they will likely die anyway? What difference does it make if they

alism,” *National Catholic Bioethics Quarterly* 17, no. 3 [2017]: 399–408).

³⁰ CDF, *DV*, I.5.

³¹ CDF, *DV*, I.5.

die through our experiments? At least they may give us useful knowledge for treating other ailments.” The CDF response is that it is morally evil to deliberately cause their immediate death even if the scientist has a noble intention of contributing to new medical discoveries. Note how different that issue is from the embryos already frozen, as well as my response. I have argued that properly respecting their dignity as persons requires their immediate removal from suspended animation to a restored and dynamic state of human existence. Furthermore, while the natural secondary result of this act will be that the embryos will not long survive, the technician does not immediately cause the death of the embryo as the scientist would in the case above. The moral difference is as clear as the difference between an indirect abortion and a direct abortion. The latter immediately causes the death of the embryo, whereas the former does not.³²

Therefore, in sum, the act of thawing and rehydrating a frozen embryo is morally justifiable on two grounds: First, it actively removes the embryo from a situation of profound moral injustice of an intrinsic kind and so it is morally obligatory. Second, this act does not in any way constitute a direct abortion and so remains justifiable under the ethical and religious directives 45 and 47 in the U.S. Bishops’ *Ethical and Religious Directives for Catholic Health Care Services*.³³ The technician is not lacerating or chemically burning the young life, or directly expelling the child from an otherwise hospitable womb; the embryo is under an ontological imprisonment caused by technology. Thawing and rehydrating the embryo is the very act that actually restores its dynamic human activity. It is not the act of restoration which is the direct cause of death; indeed, the embryo may survive even a few days, but the fact is that the embryo is in a place where it cannot long survive, just as in the cases of tubal pregnancies or hysterectomy with pregnancy when there is aggressive uterine cancer. Just as in these cases there is no direct abortion, neither is the act of thawing and rehydration a direct abortion. The embryo does not die from the act of restoration, nor from any direct damage inflicted upon him; rather he dies subsequently from a lack of a stable environment. This act of restoration is licit because it neither involves the will to destroy this life nor physically

³² There has been significant confusion over what ought to be a clear teaching on direct and indirect abortion. See my “Redefining Direct and Indirect Abortions,” where I explain the heart of the controversy and how to clearly define direct and indirect abortion.

³³ United States Conference of Catholic Bishops (USCCB), *Ethical and Religious Directives for Catholic Health Care Services*, 6th ed. (Washington, DC: USCCB, 2018).

lacerates, chemically poisons, deplants the placenta, or burns the embryo as other means of direct abortion do.

On the contrary it removes a tiny human being from one place where morally he ought not to be *and ought not to remain*, to another authentically restorative place where he also will not long survive, just as in ectopic pregnancy. In an ectopic pregnancy, the embryo is in a place where he physically ought not to be, and the morally good act of saving the mother involves moving the embryo to another place where he will not long survive. Both are good acts and both are justifiable under the principle of double effect. The act itself (thawing and rehydration) is good; the good effect is intended and the undesirable one unintended; and finally, it is proportionate because the current moral evil to which the embryo is subjected is an intrinsic moral evil. Under no circumstances can an embryo—a living human person—be left in a cryogenic anhydrous inhuman state of being, much less should others be encouraged to pay for their continued cryopreservation. The embryo must immediately be restored to his natural state of dynamic human activity.

To those who remain unconvinced by my argument because in the end no life is saved, unlike a typical ectopic pregnancy which at least saves the mother, I would call attention to the true purpose of the moral life and its foundation, as wonderfully put by John Haas of the National Catholic Bioethics Center in its journal's inaugural issue:

Catholic bioethics, and any bioethics that would be compatible with it, must recognize that the human person has a destiny which transcends physical existence. Death is the lot of every human being. But every human being has a destiny, an ultimate fulfillment, beyond death. . . . The only thing which would ultimately and in the final analysis do violence to the human person would be actions that placed one's ultimate destiny in jeopardy.³⁴

Haas aptly reminds ethicists that moral evil is worse—indeed profoundly worse—than physical evil, which includes even death itself. That is why I am arguing that the embryos should be thawed immediately. Many moral theologians have made errors in judgment by subscribing to the idea that one must save a life at all costs. The Catholic tradition has never held this position, nor could it, if we know philosophically that the good of life is not on par with other human goods, but is a necessary prerequisite for

³⁴ John Haas, "Bioethics in the New Millennium," *National Catholic Bioethics Quarterly* 1, no. 1 (2001):18–19.

flourishing in human excellence. The good of the body is ordained to the good of the soul. Pope John Paul II found it necessary to reiterate this point by quoting the Latin poet Juvenal in his encyclical *Veritatis Splendor*: “Consider it the greatest of crimes to prefer survival to honor and, out of love of physical life, to lose the very reason for living.”³⁵ It is more human and therefore more important to refrain from grave moral evil even if it means accepting that not every human life can be saved. Haas rightly claims that the root reason for this conclusion is that the moral life finds its foundation in the eternal law of God and the hierarchy of the created ends of the human person.

There are theologians today who teach that sinful actions are only those which “harm” the person. However, the Catholic Tradition has understood sin as a departure from the Eternal Law, which is the Mind of God ordering all things toward their created ends, as the ultimate harm to the human person. But one needs a long view to see this and a confidence that the created order reflects an intelligible and loving design.³⁶

While at the time Haas wrote these words, he likely had in mind dissenting theologians who described themselves as proportionalists, his point remains perpetually valid. Whether or not one intends to “harm” is not the sole criteria for moral judgment in the Catholic tradition, nor is looking merely at outcomes. Rather, to act in a way contrary to man’s natural inclinations, as a part of the “ordering [of] all things toward their created ends,” is the “ultimate harm” to human dignity. The eternal law is the key foundation for the moral life; that is why Pope John Paul II returned to this theme in great depth in *Veritatis Splendor* when he found so many errors in moral reasoning from academic theologians.

Given that the technology of artificial wombs does not yet exist and what does exist is a moral imperative to free the ectopic frozen embryos from their absurd state of suspended animation immediately, *the only moral choice is to thaw and rehydrate them*, and to anticipate and mourn their death. This option is the *only* one that Catholic bioethicists should recommend as an ethical solution, since it is in fact the only licit moral option. And as I will argue in the next section on artificial womb technology (AWT), thawing the frozen embryos and allowing them to die is

³⁵ Pope John Paul II, *Veritatis Splendor* (1993), §94.

³⁶ John Haas, “Bioethics,” 19.

the only licit moral option that will *ever* exist for them, since there is an inherent moral problem with complete ectogenesis.

On a pastoral note, Catholics in this position should seek to baptize their ectopic frozen children, with a view to their eternal destiny as beloved sons and daughters in Christ. While parents of these children will necessarily mourn the loss of the human good of a life with their children, they can still exercise their own parenthood by offering them the supreme gift of sacramental grace. By baptizing their children, they can fulfill the hopes and aspirations of every parent of faith: to ensure that their children reach heaven, where they may again be reunited with them, for parents of frozen embryos, to look eyes with their children for the first time. For those embryos that have been completely abandoned by their parents, I advise that after the act of rehydration, either a health care worker or a volunteer should tenderly hold these tiny babies and love them in their final moments on this earth, just as parents would with their own dying child. I further recommend that a specific ministry like Rachel's Vineyard (or perhaps a subset of this ministry), be created for IVF parents to repent and grieve this profound human loss, and to reclaim their parenthood of these children as a means to their own spiritual healing. The "special word" of Pope John Paul II in *Evangelium Vitae* to "women who have had an abortion" will ring true for them as well.

You will come to understand that nothing is definitively lost and you will also be able to ask forgiveness from your child, who is now living in the Lord. With the friendly and expert help and advice of other people, and as a result of your own painful experience, you can be among the most eloquent defenders of everyone's right to life.³⁷

Upon receiving true forgiveness, they may also wish to consider sharing their IVF experience with others and so fight for the dignity of life, marriage and family.

Option 3—Transferring Them to an Artificial Womb for Gestation

I would like to return again to Fr. Pacholzyk's article to express my profound agreement with him about the very heart of the issue: "I sometimes remind my audiences that [the question about frozen embryos] is not in fact the most pressing question we face. A much more urgent issue is how to stop the relentless manufacturing and freezing of new embryos which is occurring each day, with clockwork-like regularity, in every major

³⁷ Pope John Paul II, *Evangelium Vitae* (1995), §99.

city in the United States.”³⁸ The deeper issue is a spiritual one, a modern return of the Tower of Babel. We have a city of men striving to usurp the power belonging to “heaven,” the power over life and death itself, through their own technical power and skill. Leon Kass once observed about technicians involved in artificial reproductive technology, “he who can hold nascent human life in his hands coolly and without awe has deadened something in his soul.”³⁹ How can the human heart be made aware of its folly? The Lord says, in Genesis, about the men of Babel: “Behold, this is only the beginning of what they will do. Now nothing they propose to do will be impossible for them” (Gen 11: 6).

Artificial wombs mark the final step in the technological domination of human sexuality. Not only have artificial reproductive technologies (ARTs) substituted the conjugal act in procreation, but the creation of artificial wombs would sever entirely the gestation of the human person from his mother. I am speaking here specifically of *complete* ectogenesis, an artificial womb that could potentially gestate a human being from its embryonic state until approximately forty weeks gestation. Although there are no artificial wombs available for human beings at this point in human history, nevertheless, with the scientific research aimed deliberately and creating such technology, the question naturally arises: *if* they were available, could they be a licit way to save the ectopic frozen embryos? I will first consider complete ectogenesis, since this technology would be the final technical option for the situation of frozen embryos who would require total gestational support. After explaining the inherent moral problem with complete ectogenesis, I will provide a moral evaluation of *partial* ectogenesis, which involves the transfer of a fetus from a pregnant mother to an artificial womb for serious medical reasons pertaining to either the mother or child. I will defend the extremely limited role of partial ectogenesis in medicine and also demonstrate that the act of transferring a healthy fetus to an artificial womb to save him or her from abortion is a gravely evil moral act that all people of good will and especially Christians should seriously oppose.

In *Donum Vitae* the CDF condemned the project of creating artificial wombs:

Techniques of fertilization *in vitro* can open the way to other forms of biological and genetic manipulation of human embryos, such

³⁸ Fr. Pacholczyk, “What Should We Do with the Frozen Embryos?”

³⁹ Leon Kass, *Life Liberty and Defense of Human Dignity: A Challenge for Bioethics* (San Francisco: Encounter, 2002), 10–11.

as attempts or plans for fertilization between human and animal gametes and *the gestation of human embryos in the uterus of animals, or the hypothesis or project of constructing artificial uteruses for the human embryo*. These procedures are contrary to the human dignity proper to the embryo, and at the same time they are contrary to the right of every person to be conceived and to be born within marriage and from marriage.⁴⁰

The CDF condemns even the “the hypothesis” as well as the “project” of constructing an artificial womb to gestate the human embryo. The statement here is rather short and could use some better distinction and explanation. For example, the only rationale the CDF provides for its quite strong conclusion is that these technologies are contrary to human dignity, particularly the right of each human being to be “conceived” and birthed in marriage.

Scholars in the Catholic tradition have already distinguished various forms of AWT. Kaczor, for example, has distinguished complete ectogenesis, which he condemns as immoral, from partial ectogenesis, which he defends.⁴¹ In one sense, advanced incubation for premature infants in neonatal intensive-care units (NICUs) is one type of treatment that replaces normal maternal gestation. Yet even this technology is not exactly an artificial womb, because AWT is primarily directed towards gestation by mimicking the uterine environment itself. Incubation aims to help premature babies cope and thrive outside of the womb. Others have noted that one should distinguish between true artificial womb technology and the “research efforts that are focused on the regeneration of an entire uterus for transplantation into a woman who has lost her uterus to disease or injury.”⁴² Organ regeneration is not necessarily condemned here and should be distinguished from AWT. Nevertheless, most Catholic scholars agree that the CDF clearly condemns complete ectogenesis in this passage. Yet, some argue that it condemns it only in relation to “techniques of fertilization” as fostering a continuation of the original IVF rupture.⁴³

⁴⁰ CDF, *DV*, I.6 (emphasis mine).

⁴¹ Christopher Kaczor, “Artificial Wombs and Embryo Adoption,” in *The Ethics of Embryo Adoption and the Catholic Tradition: Moral Arguments, Economic Reality and Social Analysis*, ed. Sarah-Vaughan Blackman and Darlene F. Weaver (New York: Springer, 2007), 307–22. See also, Kaczor, “Could Artificial Wombs End the Abortion Debate?”

⁴² David T. Reiber, “The Morality of Artificial Womb Technology,” *National Catholic Bioethics Quarterly* 10, no. 3 (2010): 515–27.

⁴³ John Finnis, “Symposium on *Dignitatis personae*: Understanding *Dignitatis*

Some argue that it condemns both complete and partial.⁴⁴ David Reiber argues that, at the time the passage was written, the magisterium was less aware that complete ectogenesis “may be the one possible technology that could resolve the tragedy of abandoned human embryos (while avoiding violation of the goods of marriage) [and hence] a more definitive statement of condemnation would be necessary before its future use could be completely ruled out.”⁴⁵ I appreciate Reiber’s remark. Creating a technology to save a certain vulnerable population is a moral question distinct from the project of creating an artificial uterus to facilitate an ongoing commodification of human procreation. It is a unique moral question, similar to the embryo adoption debate in that a new and distinct moral question arises once grave moral damage has already taken place through IVF. It is to this question that I turn.

While it is easy to see the horrific abuses that could result from fallen man having the power to gestate life wholly severed from the body of the woman, I find that no one has sufficiently articulated *precisely why* complete ectogenesis considered in itself is morally evil. What is the magisterium’s logic here in its root? Is it possible that such a technology could be created only for these frozen embryos so that their lives can be saved? Could it perhaps have a rightful use? For example, the ultrasound machine has many good uses. Prenatal diagnosis, while in itself good, has also been a great catalyst for abortion. Is complete ectogenesis like this kind of technology, good in itself, yet with potential for cataclysmic moral evil? Or is it, as the magisterium suggests “contrary to the dignity of the embryo” and his “right” to be conceived and born within marriage?

In the interest of honestly pursuing every possible option for the orphaned embryos, I want to take seriously this option as well. In fact, I will play devil’s advocate on my own arguments at every turn. However, I do believe that the magisterium, guided by the Holy Spirit, is correct in its condemnation not only of artificial uteruses (i.e., complete ectogenesis by technical means) but also of gestating the embryo in the womb of another animal, even if this process could save an embryo’s life. There is a true moral evil committed in this act, not merely a physiological transfer with some desired benefit achieved. Christine Rosen has argued that “there is something about being born of a human being—rather than a cow or an

personae on Embryo Adoption. *National Catholic Bioethics Quarterly* 9, no. 3 (2009): 474–77.

⁴⁴ Michel Accad, “Heterologous Embryo Transfer: Magisterial Answers and Metaphysical Questions,” *Linacre Quarterly* 81, no. 1 (2014): 38–46.

⁴⁵ Reiber, “Morality of Artificial Womb Technology,” 518.

incubator—that fundamentally makes us human.”⁴⁶ The magisterium intuitively feels that even the use of living and organic animal wombs for human gestation contradicts the design of human nature, and the personal meaning of human sexuality. The argument that I flesh out below attempts to provide a precise explanation as to why these acts are inherently evil.

Complete ectogenesis, by either machine or animal gestation, wholly substitutes the female maternal role in gestation of the human embryo. This definitive change or total substitution of the woman is what the magisterium intuitively feels as morally problematic. The reason flows from what the magisterium has already declared about the conjugal act. Just as the rightful use of reproductive technology may not substitute or replace the conjugal act (but rather can aim to heal the pathology causing infertility), so also may one not wholly substitute the woman’s role in receiving the newly conceived life. In *Donum Vitae* the CDF writes that “the child has the right to be conceived, *carried in the womb*, brought into the world and brought up within marriage.”⁴⁷ Yet for the issue of complete ectogenesis, this passage raises more questions than it solves. While one can see the general logic that it is in the best interest of the child not to rupture conception from gestation and upbringing, does not the Church also praise adoption if, after birth, the mother is unable to care for her child? This act causes a rupture between the mother who births him and the mother who raises him. It is certainly not the ideal, but there is nothing morally problematic with this plan B, given the circumstances. At the same time, the Church has never insisted that single mothers *must* give their children away to a married couple simply because the child has a “right” to be brought up in marriage. When a single mother keeps her child, there is no rupture between the birth mother and the mother who rears him, since they are the same; but then the child is not “brought up in marriage.” If it is true that once prior moral damage has taken place, there is not an absolute “right” to being brought up within marriage, then perhaps there is not an absolute “right” to be carried in the womb.⁴⁸ Given the prior moral damage of IVF, could there not be an alternative technological replacement that entirely substitutes the mother’s gestational role? Do we not wholeheartedly applaud making artificial limbs for a child who, due to unfortunate circumstances, is missing one?

⁴⁶ Christine Rosen, “Why Not Artificial Wombs?,” *New Atlantis* 3 (Fall 2003): 67–76.

⁴⁷ CDF, *DV*, II.A.1 (emphasis mine).

⁴⁸ In my opinion, the language of “rights” in bioethics is much more prone to causing moral confusion than to bringing about moral clarity.

In order to see that it is morally evil to wholly substitute the mother in gestation, it is important to briefly retrace the steps of the magisterium's logic back to its original condemnation of IVF. The spouses themselves must be the agents of conception through the conjugal act. Through that agency, they become co-creators with God. To pass that agency to someone else, creates a new relationship of technician over artifact, rather than a filial relation, because the technician really creates the child, not the parents. In a real sense, the child belongs to the technician, since the technician *really was* his co-creator—that is why it is such a grave evil to depart from the personal and spousal agency of sexual intercourse. The transfer of agency matters; it affects the real relationships. If we follow this logic to its natural conclusion we find that the agency of sex culminates not only in conception, but also simultaneously in the impregnation of a woman. These two realities occur together absolutely simultaneously; they flow from the very same agency. Yet, the picture is still incomplete.

Not only do conception and impregnation occur together, but a third reality appears as well. At the very moment that there is conception and impregnation, there is simultaneously a new reality of *maternal reception*. These three, while distinct in notion, are wholly *one* in the order of being; *they are one integrative reality*. A new conception *is* a new impregnation, which also *is* simultaneously a maternal reception of a new human being. *One and the same agency is ordered by nature to this single natural end*. To destroy this unity (or tri-unity), even if only partially, or even if for a noble reason, is nevertheless contrary to God's design and hence morally repugnant. From the very moment that a child comes into being, the child is given *to a person*. The child, is conceived *from* persons (the man and woman and God) and entrusted in a unique way *to* another person, his mother. The movement of agency to finality arrives in one beautiful integrative *telos*: from the agency of sexual and erotic love arises the tri-unity of conception, impregnation, and maternal reception as one real integrative whole.

To see the truth of this tri-unity in a convincing way, it is important to reflect on the personal meaning of it. Conjugal union in its ordination to conception, impregnation, and maternal reception is one grand chorus of voices singing the song of creation, the song of personal gift and personal reception of the gift. Before a couple engages in intercourse, it is the beauty of the woman which first arouses his masculine response. He gives himself to her and she receives him. Her reception is also her gift to him. She envelops him in a garden of beauty and he gives her his seed, the promise that their love may be eternal and immortal, forever united in one flesh. Her body receives a new life, a new pregnancy *as the reception of her*

spouse's conjugal gift. She says to him though her body, "in receiving this pregnancy, I receive your gift. It is *you* who bestow a new and real relation of motherhood upon me." That is why is it inherently contrary to the unity of marriage for anyone else to impregnate a woman, even outside of the conjugal act (perhaps, especially outside of it!). His body also speaks a language to her: "In giving you this gift, I wish our love to be immortally en-fleshed. Receive me, and by your active reception, it is *you* who bestow a new and real relation of fatherhood upon me." Yet, while each bestows the gift of either fatherhood or motherhood on each other, the woman alone receives something that he does not. In one crucial respect, the gift is not reciprocal. While both man and woman really cause each other to be either "father" or "mother" to the child through conjugal relations, nevertheless, it is the mother alone who has a new and unique role in receiving the new life within her according to God's design. There is a *new* reality that belongs to her uniquely that he does not receive. The father is not, nor could he ever be "pregnant." She alone possesses the unique gift of *maternal reception* of the child. In fact, her body uniquely prepares for this gift every month during the menstrual cycle. His body does not. The very moment of maternal reception of the newly conceived embryo is a real and essential moral reality. She cannot be replaced or set aside without inherently destroying the single integrative whole—conception, impregnation, and maternal reception—that God designed as the single end of the very same agency of sexual intercourse. This tri-unity is the distinctive *telos* of sex in the natural law. All three realities are caused at once *in the very same moment*. From the first moment of his or her existence, God entrusts the newly conceived person fundamentally *to a person*. Indeed, that is why the embryo must *always* be "carried in the womb" and why his mother can never be wholly substituted; her maternal reception is an essential part of the one whole that is the "procreative significance."

Severing this integrative tri-unity is precisely why complete ectogenesis is "contrary to the dignity of the embryo." With careful reflection, the reason is clear. When a man impregnates a woman, he does something more than a merely physiological act. In other words, impregnation is not simply the fusion of sperm and egg; it is an act by which *a person impregnates a person*, thereby bestowing new personal relations that did not otherwise exist before. Each new pregnancy bestows motherhood or fatherhood anew. The very act of impregnation is at the same time the act which by its very nature causes not only the existence of a new embryo, but also a woman's personal and maternal reception of the embryo within her. From the very moment that the embryo exists, a new language is also spoken from mother to child: "Little one, I receive you." *A person is there*

to receive a person. In fact, given that the embryo is a real human person, he or she is, in fact *owed* a personal reception. The deepest meaning of the child's personal dignity is unveiled in this entire exchange: the child comes into being from the communion of man and woman and from the very first moment of his existence, he is in communion with her. In fact, he will bear a mark on his torso for the rest of his life as a sign of that fundamental communion with his mother at the very origin of his being.

In sum, the fundamental reason why conception, impregnation, and maternal reception should be seen and treated as one moral reality is that together these three comprise the *telos* of sex. In the natural order the very same agency causes all three together, in the same exact moment as one integrative whole. Insofar as the Church has affirmed the moral necessity of the agency of the couple in conception as morally necessary, by the very same logic, she must also affirm that both impregnation of the woman and her simultaneous maternal reception are all one and the same *telos*. Just as embryo adoption is always morally wrong by virtue of the fact that it is an act that usurps the agency of the couple in bringing about impregnation, so also is complete ectogenesis always morally wrong by virtue of the fact that it is an act that usurps the natural maternal reception that is one and the same natural end of sexual intercourse. It separates the "inseparable connection" between the "unitive and procreative significance" that Pope Paul VI affirmed in *Humanae Vitae*.

I anticipate that some ethicists will object to my argument by claiming that the "procreative significance" only concerns conception. While most scholars in Catholic bioethics agree that *at least* conception is a part of the "procreative significance," there is greater disagreement about whether pregnancy is a part of the procreative significance. In fact, some are adamant that it is not. Michael Accad provides a brief summary of the scholarly opinions on this particular question.

Proponents of HET have found the arguments advancing a procreative meaning for gestation to be conjectural and unconvincing. For them, conception marks the generation of a new human being, as determined by natural reason and attested by the Magisterium. Consequently procreation is ended and the rules prohibiting sundering the unitive from the procreative meanings of marriage no longer apply. Thus Williams rejects Pacholczyk's position [procreation ends at birth] as implying the existence of "partially procreated children," which represents an "absurd situation," and further asserts that no Church document supports the notion of birth as a significant boundary in the work of procreation. Likewise Furton

expressed that Pacholczyk's proposal implies a somewhat inferior or defective status for the embryo. . . . Along with other proponents of HET such as Grisez, these ethicists view the stage of gestation as a period when the just conceived but fully human person is nurtured and nourished until such time as he or she can survive outside the womb. Furthermore, Williams has argued against the view of procreation as a process, stating that "since being and non being are mutually exclusive, procreation is necessarily and essentially punctual."⁴⁹

The main difficulty in all of these positions (those on both sides) is a common failure to see that it is not only conception that is "necessarily and essentially punctual," but also the very *act* of impregnation and the *act* of maternal reception. Whereas both those for and against HET in the passage above view conception as the "punctual" act, and may differ about the moral meaning of the entire gestation period, my position is substantially different. An honest attention to the order of being reveals that there is really *one* necessary and "essentially punctual" natural end that occurs by the very same agency: it is not the single reality of conception; it is also impregnation and maternal reception. All three are "punctuated" *at exactly the same moment*. The proponents of HET in this passage see too little of the one robust reality woven into the teleology in nature. The opponents of it actually do see more and rightfully so, yet they extend it chronologically and fail to see the one act of "conception" to be also the very act of impregnation, and simultaneously maternal reception. I believe that my position provides significantly more clarity because it is rooted in a more truthful account of the order of being. The "inseparable connection" between the unitive and procreative significances of the conjugal act is rooted in the inclinations of the natural law; this particular "inclination" is nothing other than the agency of sex towards the one integrative natural end of conception, impregnation, and maternal reception. All three are necessary and "punctuated" absolutely simultaneously by the very same agency.

There is another important parallel between my argument and prior Church teaching in sexual ethics. In the sexual act, the man must give his seed to the woman in such a way that it is ordered to a procreative finality; climax must occur within her, within the entrance to her womb. If one follows the teleological logic of the natural inclination, the embryo must also be given *to her from within her*. This reality can only happen licitly

⁴⁹ Accad, "Heterologous Embryo Transfer," 43.

through the agency of sexual intercourse. If this agency is morally significant—and *Donum Vitae* absolutely demonstrates that it is—then *any* rupture of this one integrative whole is always inherently evil.

We may then come to a definitive conclusion by way of a syllogism: The choice to deliberately separate the single integrative natural end of conception/impregnation/maternal reception is an act that is fundamentally contrary to the order of nature. Complete ectogenesis is an act that always separates the single integrative unity, even if only partially and even if chosen for a “praiseworthy” reason. Therefore, it is always inherently evil. An embryo must be entrusted to and only to a woman; yet once outside the womb having never been in it, there is no morally licit way to re-enter the womb of a woman without that very act being an act of impregnation, a grave violation of the unity of marriage. Nor can the embryo be given to an animal or machine, because that would violate the moral requirement of maternal reception as a key part of the finality of the procreative significance. Here we may rightfully mourn the great tragedy of dissecting human sexuality and procreation into various parts, as if one were merely dissecting a cadaver. Yet the parts are living parts, all wisely and marvelously ordered together. Once theologians see the wisdom of this order, the inherent moral problems are very clear.

At the same time, it is also by first recognizing this “tri-unity” of conception, impregnation, and maternal reception that *natality* itself becomes an essential part of what it means to be human.⁵⁰ Not only is the newly conceived embryo given *to* his mother in this bodily way, but once given to her, he is also then essentially *from* her, born from her flesh and through her flesh. Complete ectogenesis facilitates the utterly strange and inhuman reality of children with no birthdays, for they will never actually be “born.” They will merely be “disconnected” from a gestative apparatus. It is this “from-ness”—being within her womb and from her womb—that is itself the very tie that connects one generation to another. That is why infertility is so serious and so heartbreaking a matter. It is not like an ordinary illness or injury; infertility severs family lineages. Generations come to an end. The man and woman who continue to yearn for their love to be made immortal and everlasting in the flesh of a new child find themselves frustrated and often devastated. The IVF industry sought to provide a solution to their infertility (and to deliberately turn procreation into a lucrative business), but has turned the procreation of human beings into

⁵⁰ By this statement I am by no means arguing that orphaned embryos are not really human. I have been quite clear about this point throughout this essay. In fact, the whole motive for writing this essay arises from my acute awareness of this fact.

something utterly inhuman.

As a final note, I would be remiss if I did not reflect theologically on the meaning of a woman's spousal and maternal reception so as to illustrate further its procreative significance. The womb is not like any bodily organ; it is in a very real sense a holy of holies. When a virgin bride gives herself to her spouse on her wedding night, the veil (hymen) which covers the entrance to the holy of holies is torn. The blood signifies that she has entered into an irrevocable covenant with her spouse. Yet, wholly unlike anything in his body, her womb is the very place where the transcendent God "overshadows" her by bestowing within her a new immortal soul. The act of creation is anew only within her. God descends upon her, as a temple, in a way that he does not descend upon the man. In fact, one might note the three levels of the "womb" (the entrance, the womb itself, and inner chamber of the fallopian tubes and ovaries) parallel the three levels of the biblical temple. There in the innermost holy of holies, where there is complete darkness and no windows, hidden away from all human eyes, God creates immortal souls. Her body is the temple of God's unique creative action. God loves this design so deeply that it was his supreme pleasure to manifest his divine mysteries precisely through miraculous pregnancies, beginning with Sarah, wife of Abraham (who conceived well beyond childbearing years giving birth at ninety), to Rebekah the wife of Isaac and Rachel the wife of Jacob, who both struggled with infertility. It was through a supernatural pregnancy that God chose to reveal himself definitively by giving us his son Jesus Christ, "born of a woman." Christ did not disdain "to be born." In fact, Jesus Christ was delighted to reveal explicitly the connection that he, as the eternal Word, fashioned between the mystery of the womb and his own Paschal Mystery, between the woman's "hour" of childbirth and his own "hour" on the Cross. On the eve of his Passion he said to his disciples: "When a woman is in travail she has sorrow, because her hour has come, but when she is delivered of the child, she no longer remembers the anguish, for joy that a child has come into the world. So you have sorrow now, but I will see you again and you will rejoice and no one will take your joy from you" (John 16:21). At first glance the analogy seems simple: she bears new life as the result of her "anguish" and so also does he give new life as the fruit of his own "anguish." But the details of the body in childbirth reveal more: a woman's womb really is a sacred temple.

Out of all of the moments in John's Gospel that the sacred author finds most striking, it is when he is at the foot of the Cross with Jesus, seeing him pierced with a lance and the blood and water pouring out of his side, that he stops and tells his readers that "he who saw it has borne

witness and his testimony is true. And he testifies to the truth" (John 19:35). What has he seen that has prompted this strange response? For a first-century Jew, the stream of blood and water flowing from the side of the Jerusalem temple as they slaughter the Passover lamb and cleanse the altar with water would have been a familiar sight. John the beloved's eye-witness testimony also echoes the vision of the temple in Ezekiel in which a stream of water flows from the side of the temple. John is amazed at this physical sign, which reveals to him a theological reality, that Jesus is the Incarnation of God, the true temple. We may follow Christ's own description of the parallel between a woman's "hour" and his own "hour" (John 19:27). When a woman gives birth—a profound moment of laying down her own life so that new life will be born—she sheds her own blood and water, a physical sign of theological significance. She is a real temple: her womb is the vessel of God's unique dwelling in the act of creation, as well as the place of profound sacrifice. Sacrifice and divine indwelling are the two purposes of the Judaic temple, and they are the two purposes of Christ's own body as the true and definitive temple. Yet these two realities are also found in the womb. Thus Pope John Paul II affirms that "there is a certain link between the woman's motherhood and the Paschal Mystery."

⁵¹ God fashioned the body of the woman in such a way that he deigned to hide the Paschal Mystery within her, within the meaning of her womb. I recall the central thesis of John Paul's *Theology of the Body*: "The body, in fact only the body is capable of making visible what is invisible, the spiritual and the divine. It has been created to transfer into the visible reality of the world the mystery hidden from eternity in God, and thus to be a sign of it."⁵² Are we surprised, then, that there is always a constant battle over the womb? Is not the scourge of abortion not only a grave moral evil, but an idolatrous desecration of life within the very walls of the "temple"—the "holy ground" where God's unique action dwelt within her? The womb itself is the battleground for the "enmity" between the serpent and the woman. Remember that the CDF's initial reaction to complete ectogenesis was total revulsion. It rejected not only the project but even the "hypothesis" of building a technological replica that wholly replaces the temple of the female body, the very sacred space in which an immortal soul comes into being and grows in communion with his mother.

To conclude my remarks about the future of frozen embryos, *the only ethical option is to thaw the embryos and allow them to die naturally*. The

⁵¹ Pope John Paul II, *Mulieris Dignitatem* (1988), §19.

⁵² Pope John Paul II, *Man and Woman He Created Them: A Theology of the Body*, trans. Michael Waldstein (Boston: Pauline Books and Media, 2006), 203.

reason for this conclusion follows from the facts that I have now made very clear: continuing to keep them in cryopreservation is intrinsically evil, and complete ectogenesis is also intrinsically evil. The only option that is not morally evil *at all*, but is in fact a laudable act, is to rehydrate and return the embryos to their dynamic human activity, though one knows in advance that they will not long survive. If any good at all could come forth from this incomprehensible and profound tragedy—a loss of millions of human beings—it would be the stark reminder that violating God’s law to begin with through IVF never leads to joy and authentic human flourishing.

The Limited Liceity and Prudence of Partial Ectogenesis

The definitive moral difference between complete and partial ectogenesis is that the former wholly replaces the body of the woman, which is contrary to the natural law, whereas the latter does not. The total substitution of the woman for a machine disrupts the natural teleology of sex as ordered to the procreative finality, whereas in partial ectogenesis, that teleology remains intact. That is the definitive moral difference. The first principle for evaluating AWT must always be that the transfer to the artificial womb must take place *after* a natural pregnancy in a woman is already established. This first principle does not imply, however, that it is the only principle. To establish its liceity, not only must the act itself be good (i.e., aimed at a morally licit therapeutic intervention), and the intention of the agent noble, but there must be also be legitimate and proportionate reasons for why such a surgical transfer should take place. These reasons, I argue, are extremely limited in scope.

Assuming that partial ectogenesis could be safely achieved, the only times that such a transfer could be morally licit are when the mother or the baby have a very serious medical pathology which puts one or both of their lives in significant jeopardy. The reason is that, biologically, it is always better for the unborn baby to gestate within his mother’s womb for the entirety of the gestation period. Even beyond biological development, scientists have barely scratched the surface of the human-psychological development that occurs in this unique communion between mother and child. The decision to deprive a child of that natural development could only be a secondary effect of treating a primary pathology, and therefore justifiable only when all of the criteria of the principle of double effect are achieved. Only the presence of a very serious medical pathology in either the mother or the child could necessitate the decision to remove the child from the womb and maintain his or her life in an artificial womb, as physicians already do now with incubators in NICUs after emergency

C-sections. Partial ectogenesis may even have some medical advantages over more traditional incubation which subjects the premature newborn to invasive and painful procedures to maintain his or her vital functions.

Here is an example of a licit transfer. The famous Phoenix case in which a pregnant mother experienced severe pulmonary hypertension approaching 100 percent risk of mortality would be a good example of a licit use of partial ectogenesis, if that technology had been available. The “removal” of the baby from her womb would not be abortive at all, and it could be justified by the principle of double effect. The act itself would be good, since the treatment itself is aimed at treating a real pathology. The intended effect to save the mother’s life as well as the child’s is good, and depriving the child of the natural maternal womb is the secondary effect of the primary treatment. Indeed, in this case, the womb begins to become hypoxic, and no longer stable for the unborn child. The final principle is that such an act must be proportionate to the good achieved, and in this case it is—namely, the life of the mother saved as well as the child’s.

Another licit example of the use of partial ectogenesis is when some pathology present in the baby or in the womb leads the woman to begin miscarrying, even when the mother is otherwise healthy. If it is possible to save the baby by surgically transferring him or her to an artificial womb before the child dies, this act of transfer would also satisfy all of the conditions of the principle of double effect. The act of transfer is good because the current medical situation poses a threat to the child’s life. It is properly therapeutic. The good effect, to save the baby, is intended, and the bad effect of losing the ideal conditions for gestation is unintended. Finally—and this is critical—to choose this very serious surgical transfer must be proportionate to the good achieved, namely, it saves the child’s life. In this way, partial ectogenesis may be able to save the lives of very young babies who would otherwise be miscarried or stillborn. The act of transfer in this case can be licit.

There still remains the judgment of whether or not this type of life-saving care is ordinary or extraordinary. As the medical technology develops, partial ectogenesis might move from being an extraordinary form of care that is not obligatory, to a more ordinary one in these types of high-risk medical cases. This very fact may introduce other moral dilemmas such as whether or not one is obligated to save a very young baby, such as at six or seven weeks. Must one save a life through this transfer, with all of the accompanying long-term special needs for the child, or can one choose to allow the miscarriage to take place? Choosing the transfer can be licit, but is refusing it negligent? A virtue-centered approach to this type of dilemma will necessarily depend upon more information about the actual

state of medicine at the time the case takes place (its risks, burdens, and prognosis) in order to determine whether certain interventions are ordinary or extraordinary.

There are *no* other types of cases in which the surgically planned transfer of an unborn baby to an artificial womb can be morally licit. The reason for the transfer must be due to a very serious pathology either on the part of the woman (e.g., aggressive uterine cancer, severe pulmonary hypertension, or ectopic pregnancy) or on the part of the child (e.g., a genetic abnormality), or due to a serious pathology in the womb that renders it no longer hospitable and therefore no longer able to achieve its function. *It must be truly therapeutic*. Only when nature is “out of order” can medicine step in to attempt to restore the order as best as it is able. Only these types of cases can satisfy the moral requirements of the principal of double effect. In *any* other type of case, the moral object changes, and that type of transfer to an artificial womb no longer remains licit.

For example, could a mother licitly choose to have her baby removed and gestated artificially if she were merely tired of the trials and discomfort of pregnancy? No. The reason is that the physical act of transfer is morally different because it is not a therapeutic treatment of a serious pathology. This situation is analogous to the moral distinction between direct and indirect sterilization, as Pope Paul VI explains it in *Humanae Vitae*: “The Church does not consider at all illicit the use of those therapeutic means necessary to cure bodily diseases, even if a foreseeable impediment to procreation should result there from—provided such impediment is not directly intended for any motive whatsoever” (§15). The medical intervention is “not . . . at all illicit” when the causality of the treatment is primarily directed to a real pathology and only causes another undesirable effect secondarily. For an uncomfortable but otherwise healthy pregnant mother, there is no need of therapy because there is no serious pathology. The decision to remove her child would be an act that is gravely disordered in itself because it is not primarily aimed at treating a pathology; it is primarily aimed at removing the child for reasons of convenience.

Partial Ectogenesis in Lieu of Abortion

For the same reason, then, it is always morally illicit for a woman undergoing a normal healthy pregnancy to choose to remove the child from her womb and have the child gestated artificially. I repeat, *it is a grave moral injustice* for a healthy pregnant woman to choose a surgical removal of her child when it is not medically warranted, because a pregnant mother has a moral obligation to the good of her child. This argument remains valid even if, as an alternative, a woman might be tempted to choose abortion.

Moral theologians cannot merely look at the consequences of actions—one procedure keeps the child alive, and the other does not—but must give careful attention to the *type of moral act* that is deliberately chosen by the acting persons.

For this reason I strongly disagree with Kaczor's insistence that partial ectogenesis in lieu of abortion can be morally licit. He argues that, if it is licit to surgically transfer an unborn child to an artificial womb for an *involuntary* reason (i.e., a medical pathology), then why not also for *voluntary* reasons (the decision to abort)? He argues:

Does the voluntary or involuntary nature of the danger mark a morally decisive difference between the two cases? Whether the danger is voluntary or nonvoluntary caused makes no difference from the perspective of the preborn who are threatened with death. Death is just as final from a voluntary cause as from a nonvoluntary cause.⁵³

It is true that death can be just as final from a voluntary cause as from a nonvoluntary cause. But is looking only at the consequences the right way to make a moral analysis? Pope John Paul II argues that it is not.⁵⁴ According to Kaczor's logic here, what difference would it make if an elderly patient dies from emphysema or from euthanasia? "Death is just as final from a voluntary cause as from a nonvoluntary cause." The Catholic tradition has always condemned this form of moral reasoning as erroneous. In fact, I highly doubt that Kaczor would agree that consequentialism is a valid mode of moral argumentation, although when the stakes are high, he resorts to a consequentialist argument here.

If Catholics or other persons of good will support the planned surgical transfer of partial ectogenesis in lieu of abortion, they would in fact be supporting a gravely evil act—one that can in no way be justified by the foundational principles of Catholic moral theology. But even if this were not enough (and it is), there are two further reasons why this act should be considered grossly irresponsible. (1) It exposes the child to medically compromised conditions for gestation without moral justification, which is a truly selfish act. And as a result, (2) it continues to perpetuate spiritual harm in his or her parents. Rather than giving due reverence for the design of God for human sexuality and procreation by accepting with courage and responsibility the need to gestate the child within her body, a woman

⁵³ Kaczor, "Could Artificial Wombs End the Abortion Debate?," 293.

⁵⁴ Pope John Paul II, *Veritatis Splendor*, §§74–80.

in such a position is encouraged *to continue to disrespect* the design of God.

Moral theologians cannot support this practice, but must lead the way in providing moral clarity and encouraging the practice of the virtues. The way to heal our culture from the scourge of abortion is not to find another way “out” of accepting responsibility for irresponsible sexual activity. Real love implies responsibility. Even the mere suggestion that her child could be surgically removed from her is spiritually harmful for the mother, because the underlying vice is a lack of sexual responsibility (except in cases of sexual assault). And the same is true for the father of the child. Promoting the use of artificial wombs for the purpose of abdicating responsibility continues to facilitate irresponsibility. It fosters the very same vice that began the whole destructive cycle to begin with. Repentance and spiritual healing will only come from showing true *reverence* to the design of God for human sexuality and procreation. 