The Embryo Rescue Debate

Impregnating Women, Ectogenesis, and Restoration from Suspended Animation

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1. The Predicament of Frozen Anhydrated Embryos

The question of so-called “prenatal adoption” or “embryo rescue” divides people of good faith committed to protecting human life. It seems that moral intuitions on this question differ and some careful reflection is required.

Part of the confusion is the effect of separating the procreative from the unitive dimensions of marriage. The whole context of frozen embryos is so divorced from the ordinary, from the understandable, that ordinary moral intuitions are no real guide. Clearly the problem should not be created in the first place. The technology of separating the procreative from the unitive imperils nascent human life and is contrary to the dignity of the embryo, of man and of woman, and their union, through its dominance over the generative process and the new life. The context of reproductive technology lacks the sacredness that is a feature of marital love—of two becoming one flesh (Genesis 2:24) open to the Creator’s will.

But people will do wrong, and embryos are being created in laboratories and in large numbers, many with no prospect of ever being removed from storage and
returned to a state and an environment in which dynamism is restored and they can develop. May they be rescued? How may they be rescued?

Standing in one of the Melbourne clinics before the freezer unit where frozen embryos were stored, these questions struck me with some force. There was a sense in which they cried out:

The Lord said to Cain: “What have you done? The voice of your brother’s blood is crying to me from the ground” (Gn 4:10). The voice of the blood shed by men continues to cry out, from generation to generation, in ever new and different ways.  

Cryopreservation of embryos raises some profound questions. Are these embryos living? Are they in a state of suspended animation? Is this different in kind from a person who is rendered unconscious by a general anesthetic or by hypothermia? Is the desire to transfer and implant these deserted, imperiled human beings legitimate, and if so by transfer to:

• a single woman,
• a married woman with other children,
• a married woman whose marriage is infertile,
• a consecrated celibate woman,
• a post-menopausal woman,
• a man,
• a machine or artificial womb,
• an animal’s womb (transspecies gestation)?

Prima facie the most plausible case would seem to be that of an infertile married couple who have tried to have their own children but cannot. Prenatally

1More than three in every thousand Australians are being held in a frozen and anhydrous state in a reproductive technology clinic and the proportion is rising. In the recent debate on embryonic stem cells, the IVF teams admitted to seventy-five thousand embryos in storage with about twenty thousand not wanted for transfer. No doubt a similar situation exists throughout the developed world, though the Australian situation may have been exacerbated by the broad application of experimental dosages of ovarian stimulants resulting in the harvesting and subsequent fertilization of many more ova than required. The latter would have been more difficult to do in countries that are more litigious than Australia.


3Note that embryo freezing is in fact a process of freezing and dehydrating or desiccating. “Water in the embryos is replaced with a chemical solution (cryoprotectant) that functions like an antifreeze. If a cryoprotectant is not used, as the temperature decreases, water in the embryos freezes and forms ice crystals. These crystals destroy embryos. When embryos are thawed, the cryoprotectant is removed and replaced with water.” London Health Sciences Centre, “Embryo Freezing.” [www.lhsc.on.ca/programs/infertility/embfrz.htm] (December 23, 2002).

4Some think that a simpler case can be made for prenatal adoption by single women. I address this matter in Section 4.
adopting would not in any sense displace having children of their own. As married people they can offer both father and mother to the child and the security of their union. Prenatal adoption would address in part the tragedy of infertility.5

The Teaching of Donum vitae

Although in Donum vitae the Congregation for the Doctrine of the Faith (CDF) rejects heterologous artificial fertilization,6 the rescue proposal is not to bring about fertilization, but, the evil having been done, to seek to remedy the plight of the embryo created in circumstances in which he or she is frozen and dried and placed in storage indefinitely without prospect of ever being transferred to his or her mother’s uterus where development could continue. The rejection of heterologous in vitro fertilization would seem not to apply directly to this question. In this case fertilization has taken place, there are embryos left over in storage, and these have been abandoned. What is proposed is heterologous embryo transfer (HET) only, and not heterologous fertilization.

In its rejection of heterologous in vitro fertilization, the Congregation states some principles that have a bearing on this matter. The Congregation asserts the rights of the child, but those rights have already been violated in the case of abandonment. What is being sought is the best solution available to that desperate plight, not the creation of that plight.

Consideration of the rights of the child “to be conceived, carried in the womb, brought into the world, and brought up by his own parents”7 cannot be achieved for an abandoned embryo. The nearest approximation that can be achieved would seem to be for him or her to be “prenatally adopted.” In this case a couple replace his or her genetic parents by becoming the gestational parents and then, as parents, assume all the other parental rights and responsibilities. For some, this “rescue” is arguably the right solution in accordance with respect for the human dignity of the embryo, a solution to be preferred over indefinite cryopreservation in a laboratory freezer, or being left to die after being removed from storage.8

5“In part” because the tragedy of infertility is more than the tragedy of childlessness.
7Ibid, n. IIA 3.
However, the rights of the child are not the only intrinsic issue. The question of the unity of marriage, the dignity of the spouses, and their fidelity to each other are also at issue. The CDF states:

*Coniugum autem fidelitas, in unitate matrimonii, secundum mutuam observantiam erga ius utriuslibet, ad hoc ut alter pater aut mater fiat solummodo per alterum.* (The fidelity of the spouses in the unity of marriage involves reciprocal respect of their right to become a father and a mother only through each other.)

In regard to a married woman, this question of fidelity seems the most troubling concerning her becoming a mother through an intervention in which an embryo (of other parents) is transferred to her uterus (and her husband, presumably, becoming a father).

As it stands, this statement by the CDF was meant to apply to heterologous fertilization. The phrases “becoming a mother” and “becoming a father” are ambiguous in the case of heterologous embryo transfer: though they have two elements of parenthood, gestational and nurturing (or social), they lack the third element of being the genetic parents. Hence it is not clear what application the Congregation’s principle would have to heterologous embryo transfer. This matter does warrant further investigation of its context; the marriage of the couple who desire to rescue the embryo through heterologous embryo transfer.

A further element in the teaching contained in *Donum vitae* is the statement that “in consequence of the fact that they have been produced in vitro, those embryos which are not transferred into the body of the mother and are called ‘spare’ are exposed to an absurd fate, with no possibility of their being offered safe means of survival which can be licitly pursued.” This would seem to imply that attempts at ectogenesis and heterologous embryo transfer of “spare” embryos cannot licitly be pursued.

William B. Smith argues on the basis of this statement by the Congregation for the Doctrine of the Faith that embryo rescue or heterologous embryo transfer, as I shall call it, cannot licitly be pursued. Germain Grisez disagrees, arguing that the section that Smith relies upon ends a section concerned with using embryos pro-

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9 Some pro-life advocates take the view that saving life is the greatest possible priority, taking what can only be considered to be an entirely consequentialist view. This argument will not mean much to them, based as it is on the intrinsic nature of the act involved and accepting that there are some things that we may not do, even to save life. Some acts are in their nature incapable of being ordered towards God, blaspheming for instance. For this point I am grateful to comments on the draft from Anthony Fisher, O.P.

10 *Donum vitae*, n. IIA 1.

11 *Eo quod in vitro producti sunt, hi embryones, qui in matris corpus non translati “supranumerarii” vocantur, sorti abysardeae obnixi permanent, quippe quibus secures viae non pateant as superstitem vitam, quas ingredi liceat. CDF, *Donum vitae*, n. I 5.

duced in vitro for research and is immediately preceded by a condemnation of deliber­ately exposing such embryos to death. This judgment, he argues, is on the actions of the researcher, not on a rescuer entering into the situation after the evil has been done. Geoffrey Surtees similarly argues that Smith takes the passage out of context.

To my knowledge Grisez, May, Smith, Surtees, Faggioni, Watt, and Mary Geach have not addressed the questions for HET raised by the assertion by the Congregation for the Doctrine of the Faith referred to above, “The fidelity of the spouses in the unity of marriage involves reciprocal respect for the right to become a father and a mother only through each other.” Geach and May discuss the question of whether there is a parallel between a procedure that makes a woman pregnant and marital intercourse. In this I tend to agree with Grisez and May that HET cannot be compared with surrogate motherhood in that HET does not involve fertilization but is a rescue after the event. However, it is not my argument that HET is surrogacy, which is the proposition argued by Geach.

The question of a woman becoming a mother, other than through her spouse, does raise a range of questions about motherhood and fatherhood and the significance of a medical procedure that makes a woman pregnant and in that sense makes her a mother. More than that, this becoming pregnant through HET is from outside of the context of her marriage, and is an event from which her husband is, in effect, excluded. In this essay, I explore these questions further in the light of the Catholic moral tradition and in relation to the theology of the body, language of the body, the nuptial significance of the body, the communion of persons formed by the marriage union and the nature of that covenant. I focus particularly on the contemporary elucidation of these concepts in the writing of Pope John Paul II.

Questions to Be Answered

Notwithstanding, and in no way disregarding, the desperate plight of the embryos, whether heterologous embryo transfer (HET) to the uterus of a married woman is consistent with respect for her dignity, the dignity of the couple’s marriage, and fidelity to their marriage must be addressed. The question is relevant to

13Mary Geach “Are There Any Circumstances in Which It Would Be Morally Admi­rable for a Woman to Seek to Have an Orphan Embryo Implanted in Her Womb?” in Issues for a Catholic Bioethic: Proceedings of the International Conference to Celebrate the Twentieth Anniversary of the Foundation of the Linacre Centre, ed. L. Gormally (London: Linacre Centre, 1999), 341–346.

14Donum vitae, n. II A 1.

15I would like to acknowledge the support of Rev. Anthony Fisher, O.P., and the Catholic Archdiocese of Melbourne in my original work to develop this argument in 1996, and the greater sharpness of the argumentation that developed through debating Rev. Maurizio Faggioni, O.F.M., before an audience of officials from the Congregation for the Doctrine of the Faith at Rome in October 1996; and also the extended debate that took place on the internet in 2002 through the medium of the Pro-Life List maintained by Jeremy Stuparich.

whether heterologous embryo transfer by which a woman is impregnated with an abandoned embryo is an act that conflicts with the exclusive gift a woman makes of herself in marriage and hence ought not be condoned as a means of a married woman becoming a gestational and nurturing parent even for the purpose of rescuing frozen embryos abandoned by their genetic parents. In this there is a further question that would apply to single as well as to married women, and that is whether the capacity to receive a child into her womb is part of a woman’s generative faculty. In the Catholic moral tradition the voluntary activation or use of the latter is reserved exclusively for marriage.

A further matter to be addressed is whether it would be permissible to maintain embryos in a state of frozen and anhydrous storage in order that they might subsequently be transferred to the uterus of a woman. Is there an obligation to immediately withdraw them from a state of suspended animation and restore them to a warm, hydrated state in which dynamism and development can continue? This has relevance to the matter of HET because completing arrangements and waiting until a woman is in a stage of her cycle in which her uterus would sustain implantation of an embryo, and monitoring her to that end, would involve maintaining the embryo in the frozen, anhydrous state. My argument goes to the nature of chemically anhydrating embryos, replacing the water with a cryoprotectant such as glycol, and super freezing at temperatures at which no life has been known to survive. This is a state in which the parts of the embryo are no longer in an integrated relationship: all biological activity is interrupted and the parts are separated by the chemical solution.

I do not hold, with Surtees, that embryos not rescued may be left in frozen and anhydrous storage indefinitely or be left to die. Frozen and anhydrous storage is a state of suspended animation, of life, as it were, arrested. It is my view, as I argue in Section 5, that holding them in a state of suspended animation is a great evil, a continuing offense against life, and one that ought not be maintained. The immediate obligation is to restore dynamism and development by returning the embryo to a warm, rehydrated state. That is normally done prior to embryo transfer and is a complicated procedure in which the chemicals used to maintain anhydration are removed and replaced with water, and the embryo is, within the process, restored from extreme sub-zero temperatures to normal temperature within a culture medium. The process of embryo restoration is not just thawing. The issue of an immediate obligation to restore the embryo from its desiccated, super-frozen state also seems to me to have been ignored by the authors mentioned. (This also is discussed in Section 5.)

Finally, there is an issue of cooperation, or at least association, with the evils of reproductive technology programs that create excess embryos and freeze and de-

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17 Note that the embryos are stored in liquid nitrogen at temperatures so extreme that would they normally cause instant death to a living organism. They do not die because of the removal of the water from the embryo, desiccation by a chemical process before super-freezing.
hydrate them through a chemical anhydration process, and test, select, and destroy them on eugenic or quality control grounds. It would be naive to imagine that the embryo transfer process could happen, in practice, without the heroism of the women extending to their being admitted into the program and expected to conform to the program’s protocols for embryo transfer, including quality control standards, and at least becoming associated with the manifest evils of such a program.\textsuperscript{18}

The process needed is a very careful process of thawing and rehydration in culture. The original process of producing an anhydrous embryo is a chemical process and is reversed in a process that must displace the chemical and rehydrate the embryo in a culture medium as well as restore the embryo to normal temperature. It must be kept in mind that this process and the IVF process itself are highly unsuccessful in terms of each embryo’s survival rate. The actual overall survival rate of embryos produced in IVF is less than two percent. The survival rate of those that are eventually transferred to a woman’s uterus is less than four percent.\textsuperscript{19}

In relation to each embryo we are debating whether a woman should become involved with such a program in order to achieve a very small chance of saving the life of the embryo.

It is also a reality that the directors of such programs refuse, on eugenic grounds (and possibly in relation to maintaining their “success rates” and to keep abnormality rates low), to transfer embryos that they consider to be developing subnormally or who are known to have chromosomal irregularities. They hold, with support from geneticists, that it would be “unethical” to transfer embryos that carry or may be likely to carry a disability.

Further, a woman receiving embryos from such a program would need to make arrangements with the program to time the transfer to coincide with her cycle being at a stage when the implantation could be sustained. Thus she would be closely involved with the program. Additionally, the finding of this solution to abandoned embryos may provide something of a public justification for the profligate way in which the lives of human embryos are treated in being overproduced on IVF programs, and the offenses against human dignity inherent to their being produced outside of the sacred context of the marital act and outside the woman’s body.

Note that the above is a practical objection. It may be that an arrangement could be entered into that somehow avoided the association and the need to conform to the protocols, in which case this objection would no longer apply.\textsuperscript{20}

\textsuperscript{18}I attribute this consideration to my conversations with Anthony Fisher, O.P., John Paul II Institute for Marriage and Family, Melbourne, October 2002.

\textsuperscript{19}These figures are extrapolated from the \textit{Annual Report 2002} (Melbourne, Australia: Infertility Treatment Authority, 2002), which receives reports of embryo, pregnancy, and birth numbers from the IVF teams in the State.

\textsuperscript{20}Some have suggested that a husband could perform the procedure. He might if he were highly trained. The aseptic transfer of the embryo through the vagina, through the very small opening of the cervix, through the cervix and into the uterus, and delicately placing it in the uterus without disturbing the lining of the uterus, so that it may implant, proved to be beyond many of the gynecologists who attempted it in the early days of IVF. This is not a
2. “Prenatal Adoption,” Motherhood, and Dualism

Some have argued that the statement by the CDF that the fidelity of the spouses in the unity of marriage involves reciprocal respect for the right to become a father and a mother only through each other (referred to above), is shown to be false by the acceptability of adoption.

That is a little hasty. Much depends on what the terms mean and the nature of the relationship characterized. In what sense do adopting parents become mother and father, and is it to be compared to the sense in which a woman who becomes pregnant, carries the pregnancy, and gives birth is the child’s mother, and the sense in which a genetic mother (or father) is a parent?

As a legal term, adoption is something of a legal fiction. That is to say, it is like the application of the word “person” in law to include not only actual persons but corporations. Legal adoption declares that for the purposes of the law, the adopting parents are held to be the parents. This is done when it is considered necessary in the interests of the child to have someone take on the role and responsibilities of being the child’s parents.

An adoptive parent is not a parent in the same sense that a child’s natural parents are parents. An adoptive mother is not the actual mother, but the woman who acts in place of the natural mother, albeit on a permanent basis, with legal recognition, and so often so very well. When a child’s natural parents are living, it is necessary for the courts to establish that the parents have relinquished their relationship before adoption can be permitted. They are the presumed parents of the child until that happens. But though they can relinquish the role that would normally be expected, given their natural relationship, they cannot actually relinquish the truth that they are the natural parents, that the mother did in fact become pregnant and in that way formed a unique and intimate union of gestational motherhood with the child.

What is the nature of that union and its significance? Perhaps the Congregation’s statement means that husband and wife may rightly become genetic parents only through each other, i.e., only through each other can they freely choose to form a new human life. Perhaps it does not apply to gestational motherhood as distinct from genetic motherhood. However, as I shall argue, gestational motherhood results from impregnation, either sexually or by embryo transfer. It is my argument that impregnation has a particular significance and that the Congregation’s statement would rightfully apply to achieving motherhood by impregnation outside of the conjugal relationship.

procedure such as artificial insemination. Embryos have no capacity like sperm to move themselves. One would wonder how undertaking what is essentially a difficult medical procedure on one’s own wife would fit within the relationship. But no doubt it could be achieved. The fact that the husband does it still leaves open the moral questions. Such an act of impregnation with a child from outside the marriage would still raise the same questions about the impregnation being extramarital.
The use of the phrase “prenatal adoption” is a mistake precisely because it blurs the distinction between natural and adoptive motherhood. Adoption is a familiar concept and the use of the term tends to obscure the reality of what would occur. It gives a sense of ordinariness to what is most extraordinary. It is one thing for a couple (and their existing family, if any) to welcome into their home an abandoned, orphaned, or neglected child; it is quite another matter for a woman to be made pregnant, by a medical procedure, with a child not of her marriage. To equate the latter with adoption ignores her psychosomatic unity and the unity “in one flesh” of her marriage and hence her personal integrity and the integrity of the couple’s marriage.

The phrase “prenatal adoption” ought to be rejected because it is implicitly dualistic in its oversimplification.21 It is dualistic because it implies an equivalence between the impregnation of a woman’s body and her admitting a child into her home to be cared for as her child; and between the physically and spiritually intimate role of carrying a pregnancy and giving birth and caring for a child as a member of the household. There is a vast difference between pregnancy and childbirth, on the one hand, and assuming a parental relationship to a child in place of his or her natural parents, on the other. Hopefully, the validity of this claim will become clearer in Section 3.

Some ask, how does impregnation differ from a woman wet-nursing a child not her own, even a child she has adopted as an infant? Are they not both similar uses of the woman’s body? The answer lies in the nature of pregnancy itself. Pregnancy is, in itself, a union between mother and child. The child is essentially of her, not only located within her, but bound essentially, vitally to her. She is literally home to the child, but not home in the sense of merely housing, but home in the sense of a dynamic dependency and interrelationship in which they share an intimate biological and spiritual connectedness. (For instance, the embryo actually assumes some control of her endocrine system, which, with the neural system, is at least partly responsible for physiologically integrating the parts of her body.) Wet-nursing is intimate but not so connected. The woman who carried me in her womb and gave birth to me is my mother, not just because she is genetically related, but because of the unique intimacy and connectedness of her self-sacrificing gift of herself physically, emotionally, cognitively, and spiritually. A wet-nurse is not so related. She does not, by wet-nursing alone, have any status as a mother or any claim to motherhood.

Establishing that heterologous embryo transfer is not equivalent to adoption does not make it wrong, but it does indicate that there are significant differences, and those differences need to be explored.

21Pope John Paul II, in the encyclical Veritatis splendor (Boston: St. Paul Books & Media, 1993), n. 50, writes that “the true meaning of the natural law can be understood: it refers to man’s proper and primordial nature, the ‘nature of the human person’ which is the person himself in the unity of soul and body; in the unity of his spiritual and biological inclinations and of all the other specific characteristics necessary for the pursuit of his end.”
3. Is Pregnancy Outside of Marriage an Infidelity?

Reproductive technology not only separates the unitive from the procreative, it also, as the need for heterologous embryo transfer exemplifies, brings about the dislocation of the generative continuum from fertilization and embryo formation to implantation to embryonic and then fetal development. Is it true to say that, within the Catholic moral tradition, when we speak of the transmission of life, of our generative faculties, that this can be treated in a reductionist way to refer only to the marital act and fertilization? Pope Paul VI writes:

In fact, just as man does not have unlimited dominion over his body in general, so also, with particular reason, he has no dominion over his generative faculties as such, because of their intrinsic ordination towards raising up life, of which God is the principle.22

The intimate relationship between mother and child during pregnancy has no parallel. She and the child instantiate a unique union. Within marriage, that union is not separate from but rather an extension and embodiment of the union between the woman and her husband. The child arises through the creating hand of God as a gift called forth by their union and has the significance of not displacing, but rather enriching their union. The child is a living symbol of their union in the actuality of them both contributing through their loving act to the transmission of the new life and to the child’s genetic constitution. The child is equally of both parents and expressive of their union:

In its most profound reality, love is essentially a gift: and conjugal love, while leading the spouses to the reciprocal “knowledge” which makes them “one flesh”[see Gn 2:24], does not end with the couple, because it makes them capable of the greatest possible gift, the gift by which they become cooperators with God for giving life to a new human person. Thus the couple, while giving themselves to one another, give not just themselves but also the reality of children, who are a living reflection of their love, a permanent sign of conjugal unity and a living and inseparable synthesis of their being a father and a mother.23

Though it is the woman who carries the pregnancy and thus is intimately related to the child in a way in which her husband cannot be except through her, nevertheless the child is the fruit and thus the sign and symbol of the union between this man and this woman. Far from being excluded, the husband stands bound ever more strongly to his wife through the coming into being of their child, the living consequence of their love.

By contrast, in heterologous embryo transfer the husband is isolated from this process by which his wife becomes with child. Her body—which she gave to him in love in the sacrament of marriage, a gift which they renew in the conjugal act—for a time, becomes the home of a child that bears no relationship to him, that is from outside their union. It is in this sense that heterologous embryo transfer may be an infidelity to the marriage. The pregnancy is in fact achieved outside the

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22Humanae vitae, n. 13.

marital relationship. A crucial question is whether it is achieved using a capacity whose voluntary exercise has been given exclusively by God to the marital relationship. Is the capacity to become impregnated and to carry pregnancy and give birth a capacity that belongs only to marriage?

The Rape and Wet-Nursing Examples

Some argue that it does not. Several have used an argument along the following lines:

Consider the case of a married woman who becomes pregnant due to rape by some stranger. The child she is bearing is from her own ovum, and so more intimately united with her than a transferred embryo would be. The husband was excluded from her pregnancy by the rape which violated his marital rights. Yet the woman can and should intend to do everything she reasonably can to promote her generative capacity’s functioning to bring this baby safely to birth, even if her husband refuses to cooperate and wants her to get an abortion. If your argument were right, she would have the obligation to have the embryo that resulted from the rape transferred out of her uterus—and allowed to die.

The example misses the nature of the act being considered. The issue here is not whether a woman who is pregnant should continue with the pregnancy, but rather whether it is appropriate within marriage for a woman who is not pregnant to be impregnated from outside of the marriage. A woman who is already pregnant as a result of rape, is already the mother of the child. She has already formed a union with the child. She is wronged. Her husband is wronged. The child is wronged. But the new union has been formed, and her motherhood cannot be undone. Abortion would not prevent the union, would not prevent her from being a mother to the child. She is the child’s mother and as the child’s mother now has the obligations that belong to her being the child’s mother, albeit unwillingly and as the result of violence. Abortion would be killing. We are not discussing killing, but not intervening to save life. There is an obligation to save life, but not an obligation to save life by means that are themselves immoral. It is interesting to note in this respect that no one suggests that embryo rescue is an obligation for women. This is evidently seen by those who support impregnating as a form of rescue, as something at least beyond the call of duty. Being pregnant is not merely providing life support but something much more.

The difference between embryo rescue and what some refer to, very minimally, as cooperating in sustaining a pregnancy resulting from rape, is that in the latter case motherhood already is established. The raped woman already is the

24Anthony Fisher, O.P., raises the issue of whether, for medical reasons, an unborn child may be removed from the womb during the treatment and then restored. Would not this restoration be an impregnation and thus equally immoral? My response to that possibility is that the woman would already have been impregnated with this child and would already be the child’s mother in the ontological sense that I am elucidating. What occurs is an interruption and restoration of pregnancy, not an impregnation. The motherhood relationship, already begun, is for a time without the particular intimacy of pregnancy and then the intimacy is resumed.
child's mother. It is dire, unjust, and wrongful in so many ways, but that is the fact. It is because that unique union is formed that we do not say that the "interloper" may be removed. The dependency on the physiological connection has been established, and she is the child's mother. She is in a new state of being—she is with child. I would hold that to be the case also if the pregnancy results from a rape that took the form of forceful embryo transfer against her wishes. She would then have an obligation to not interfere by removing the pregnancy just as would a woman who was pregnant as a result of rape, in the normal sense of the word, where the fertilization takes place within her.

In embryo rescue, the woman who enters the scene as potential "rescuer" is not yet the child's mother. Impregnating her makes her the child's mother, it is the bringing about of a change to her being, by establishing the physiological union of her with the child in that unique way. Embryo rescue is not a matter of sustaining an established relationship, but bringing about an ontological change in which a new relationship is created, the relationship of motherhood.

This status of motherhood through impregnation, I would claim, is essential to the view that pregnancy as a result of rape may not be aborted. One may not remove the "interloper" even though the child has come to be there through violence and against the woman's will. That is because the woman is not just a life support, not just a means of sustenance. She has undergone an ontological change in which she is now mother to the child. Their lives are intertwined in the formation of this new union. Abortion is not just removing the life support and failing to find another means of life support. If it were, the latter might be claimed to be justified if pregnancy were particularly burdensome. It is the severance of a relationship that is not replaceable. It is a casting aside of the unique and intimate union that has formed between mother and child at a time when that union is one of essential dependency. The obligation to continue a pregnancy is founded upon the fact that a mother who is with child is in a different state of being which is inclusive of the child. The child is related to her and she to the child in a way that makes her non-substitutable during the nonviable phase of a child's existence. 25 Because of that relationship, she then remains uniquely the child's natural mother throughout his life.

To conceive literally means to be "with child" or to "become pregnant." In IVF conception, the woman is not with child until transfer takes place. It is the laboratory that is with child. It is in that sense that the meaning of what was thought to be one event, and is, in normal conception, now becomes two events—the conception by the laboratory of the child and the conception by the woman of the child at some later time. It is simply not true to say that a woman has conceived a child

25Note that this is an important consideration in relation to responding to the Judith Jarvis Thompson argument that a fetus is an imposition on a woman's body, and she is not obliged to continue to be his or her life support. "A Defense of Abortion," Philosophy and Public Affairs, 1.1 (Fall 1971), republished in Peter Singer, Applied Ethics (Oxford: Oxford University Press, 1987), 37–56.
when she is not pregnant. It is also true to say that she has conceived, that is become with child, when the embryo is transferred to her body.26

I am not arguing that implantation in the lining of the uterus is the beginning of life. I am saying that life begins with the formation of the first cell, and I hold that when the Catholic moral tradition, informed as it is by modern embryological knowledge, speaks of conception it meant this and it meant that the woman is with child, because these events, fertilization and the child being in the woman’s body, are normally simultaneous. Her motherhood began when the child was formed by fertilization within her body and she was thus with child.

The fact of fertilization occurring elsewhere and by someone else means that that motherhood relationship has not been established at the time of fertilization. The relationship is genetic, but as we see in heterologous IVF, the sperm and ova may already have been relinquished by the donors or vendors before fertilization. It would seem strange to say that a man or a woman whose gametes are being used to achieve fertilization become father and mother when they are not part of what occurs.

However, it does seem that when a woman is impregnated with an embryo (that is, the embryo is transferred to her body, even though it would not have implanted immediately), she is the mother of the embryo. That relationship is such that physiologically the embryo has already begun to exercise some control over her endocrine system which, with the neural system, is a major part of that which integrates the parts of her body. The choice to have that relationship is a choice to unite her body, to unite herself, with the child in that uniquely intimate and integrated way. The coming to be of that union, I think, best fits what we should call the beginning of motherhood. That is to say, I hold that motherhood is begun by impregnation, and normally that occurs at the instant of fertilization, but not so in IVF.

Further the formation of that union is an ontological change. Physiologically, and, I would argue, because physiologically, therefore in all other ways, given her psychosomatic unity, she and the child are so interrelated that this is a change to her being. In her being, she is a woman with child, and this is very different from the

26Some claim that this view would be welcomed as support by those who deny conception prior to implantation. This is something of a red herring. The antilife proponents make much of implantation, but for them implantation means not implantation in the woman’s body, but the actual embedding of the embryo at the blastocyst stage in the lining of the uterus. Normally the embryo by that stage has been in existence and in the woman’s body for six or seven days or more. My view of pregnancy would, of course, have her as pregnant and a mother for all that time, and I hold that the embryo in the laboratory has already been conceived when fertilization takes place. Unfortunately, the antilife proponents have successfully argued in the English courts that chemical treatment aimed at removing the embryo from the body of the woman before the embryo is embedded in the uterus is not abortion. This allows them to declare that what is an abortifacient may be considered in law to be a contraceptive. They have got away with declaring that abortion in the first week or so is contraception.
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circumstance in which a woman merely holds a child in her arms or breastfeeds a child. A woman is not interrelated to a child, merely by breastfeeding, in the way in which a woman who is pregnant is with child is interrelated to the child. Breastfeeding is a motherly thing to do, but it is not constitutive of a motherhood relationship.

The Communion of Persons in Marriage

The matter of impregnating so that a woman becomes a mother and enters into that new union with a child, from outside her marriage, thus raises questions about the nature of the communion of persons that is marriage. We are given three divine models for this communion of persons: the relationship between the persons of the triune God (Jn 14:26, 15:26, 17:21), the relationship of Christ to the Church as bridegroom to bride (Eph 5:25 ff), and the covenant with the Creator (Gn 3:10).

It is my conclusion that having given herself, her psychosomatic unity, faithfully, exclusively, totally, and in a fully human way in marriage, a woman is not free to give herself to being impregnated with a child from outside of marriage in this way, however altruistic the purpose and however desperate the plight of those to whom she wishes to give herself. This is so because her generative capacity, which, I will argue, includes or is at least so linked to her capacity to become pregnant and to bear a child in her womb, and is not merely her capacity to produce ova and to express her love in the conjugal act, belongs to the marital union, and hence may not be given outside marriage. In these ways, but not with all its viciousness, heterologous embryo transfer may be akin to adultery. Heterologous embryo transfer may be at best a mistaken, misguided charity though an extraordinarily generous charity, but the mistake may be a very grave mistake, striking as it would seem to at the very dignity of the woman and of her marriage.

It is particularly significant to reflect here upon the role of the doctor or technician in embryo transfer, because it is by his or her act that the woman becomes pregnant. That this is so highlights the reality that the achievement of a pregnancy in this way is outside marriage and hence may be an infidelity to the marriage.

Surtees refers to HET as the woman making a “home” available and that making this “home” available is the object of the act. I agree with Grisez that this is incorrect. Grisez holds that the precise object of the act of a woman who at-

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29Ibid., October 6, 1982.
30Pope Paul VI described the nature of conjugal love in this way in Humanae vitae, n. 9.
31Note that this is not “romanticizing the womb,” as some have expressed it but recognizing that becoming pregnant and carrying a pregnancy are not just physical events but involve the woman as a psychosomatic unity in which she forms a relationship to the child in her womb and, in a sense, a new and unique psychosomatic union with the child.
33Ibid., 241–242.
tempts to rescue an abandoned frozen embryo is to have the embryo moved from the freezer into [her] womb and to nurture him or her there, as any pregnant woman nurtures her child. (Note that the procedure, as discussed above, is a little more complicated than mere transfer from freezer to womb and includes thawing and rehydration.)

Grisez’s description does not fully capture what is involved. The actuality of being impregnated is the formation of a new and unique union with the child and, as such, an ontological change to the woman in which she becomes this child’s mother. Throughout the lives of both of them thereafter, she is the child’s natural mother and the child is her natural son or daughter.

Note that if, at the time of rescue, it is not the woman’s object to initiate that union of mother to child and to continue to be the child’s mother, then her object is to be a surrogate and that would answer the criticisms of Donum vitae in relation to surrogacy and the dignity of the child. She would be intentionally fragmenting parenthood, denying the child the right to be carried in the womb and brought up by his or her parents.\(^{34}\) It would also answer to criticisms of an offense against her own dignity in that she would be seeing the use of her own capacity to carry a pregnancy as merely instrumental, a means to an end, and not as what it is, the formation of a relationship involving her whole person in which she enters into a new and unique union with a child as his or her mother and at all levels of her being, physically, emotionally, spiritually, cognitively.\(^{35}\)

The Role of the Clinician

In addition to the point of view of the woman\(^{36}\) and the momentous nature of becoming a mother to a child, the matter must be addressed as a moral issue for the clinician. How is his or her action best described? He or she is making a woman pregnant by transferring an embryo formed by another couple to her uterus. The novelty of this is such that seemingly the Catholic moral tradition has not considered this type of act in isolation from an act resulting in fertilization. My advice to a clinician would be that this is an improper act because making a woman pregnant belongs properly to the marriage itself and to the marriage act in particular. As a matter of interest, I have asked pro-life, orthodox Catholic physicians, both male and female, whether they would consider it ethically appropriate for them to impregnate a woman with an abandoned embryo. So far each has responded emphatically negatively.

For a woman to request such an assistance would be to will the clinician to perform an act of making her pregnant. That would seem to be an infidelity to her

\(^{34}\)CDF, *Donum vitae*, n. IIA 3.

\(^{35}\)Note that some have argued that a single woman should do just that, rescue the embryo so that after birth others can care for the child, so that she becomes merely a gestator agent rather than the child’s mother. This does involve perceiving her in a physicalist or dualist way and not as an integral union of mind and body.

\(^{36}\)I have seen in draft form an extensive analysis of the moral object of the acting woman in such a transfer by Catherine Althaus and look forward to seeing it published.
marriage—though I am a little uncomfortable with the language in that respect. “Infidelity” has so many other connotations. By “infidelity” I mean only that she is inviting the clinician to bring about pregnancy in her when she has already willed that power exclusively to her relationship with her husband and within their marriage.

Becoming pregnant, I argue, is a right belonging only to marriage, to the communion between husband and wife.37 It is within that union that the dignity of man and woman as procreators is maintained. In marriage they seek mutual personal perfection and the link between the unitive and procreative elements is determinative of the dignity of their communion, because their goal is mutual personal perfection in the image and likeness of God.

By means of the reciprocal personal gift of self, proper and exclusive to them, husband and wife tend toward the communion of their beings in view of mutual personal perfection, to collaborate with God in the generation and education of new lives.38

This is a very complex sentence. Paul VI was here breaking new ground by asserting that human perfection is the goal of marriage, that human perfection being attained not individually but in mutuality. Paul VI constructs a picture of conjugal love as “a free act of the will ... [to] become one only heart and one only soul, and together attain their human perfection.”39 As I shall elaborate, this matter is particularly relevant to the issue of heterologous embryo transfer because this deeper understanding of the nature of the union first taught by Paul VI and amplified by Pope John Paul

37Recently a case was put to me of a couple who had had a conversion since having had two IVF children and now believe that IVF and ET are wrong, but they still had eighteen embryos in frozen, anhydrous storage. The woman was of advanced maternal age but possibly not incapable of pregnancy, perimenopausal rather than menopausal. Some hormonal supplementation might have been required to achieve and sustain a pregnancy. In my view there would be a problem with asserting that she must receive those embryos. Such a course would have the clinician impregnating her and, though it would be with the couple’s own embryos, it would still be from outside the marriage in the sense that pregnancy would not result from the conjugal act, but from a medical procedure. The clinician is impregnator and the new union would come from that act which is external to the conjugal union. What is the meaning of the act of impregnation by the clinician? What is his or her relationship to the woman? Is his act an act that he may do? I hold that it is not an appropriate act for a clinician and I find support among orthodox Catholic clinicians whom I have asked whether they would be prepared to impregnate a woman with an embryo developed from her and her husband. They intuitively reject the suggestion that they be the person who makes a woman pregnant. Some think that the woman has an obligation to receive the embryos, but that addresses the wrong question. The question is whether anyone, other than her husband, through the expression of their loving union in the conjugal act, may impregnate a woman. We must address the significance of impregnation and pregnancy. It is not just a form of life support and sustenance. It is a union between woman and child by which she becomes his or her mother. She, as a psychosomatic unity, forms a new union at impregnation that involves her whole person.

38Paul VI, Humanae vitae, n. 8.

39Ibid., n. 9, emphasis added.
II is precisely that which is broken by heterologous embryo transfer. The assessment of the latter must be undertaken in the fullness of the new description of marriage.

**Recent Papal Teachings on Marriage**

Marriage is the meaningful expression of the communion of love between God and his people. Married couples through the living and concrete expression of their love proclaim the central word of Revelation that God loves his people. Advancing this theme, John Paul II displays the similarity between the Divine and the marriage covenant: idolatry is prostitution, infidelity to God’s covenant is adultery, disobedience to God’s law is abandonment of the spousal love of the Lord. Christ gave himself on the Cross for the sake of the Church, for us. Spouses similarly give completely of themselves and “are called to the same charity of Christ who gave Himself on the Cross.”

In this way Pope John Paul II presents marriage as a total giving—all the elements of the person enter this giving—body and instinct, power of feeling and affectivity, aspiration of the spirit and of will.

The Pope develops this understanding of a complete and mutual gift in the image and likeness of God. Thus it is not just that spouses are made in the image and likeness of God and happen to be married, but that in being married they are seeking the perfection of their nature made in the image and likeness of God—a typically Christian Community of two persons because it represents the mystery of Christ’s incarnation and the mystery of his covenant.

As John Paul II expresses it, marriage and celibacy are two ways of expressing and living the one mystery of the covenant of God with his people.

When marriage is not esteemed, neither can consecrated virginity or celibacy exist; when human sexuality is not regarded as a great value given by the Creator, the renunciation of it for the sake of the Kingdom of Heaven loses its meaning.

Later he describes marriage as the first communion, a communion of total self-giving which has its basis in the natural complementarity of man and woman. That communion is elevated by the sacrament of marriage and led to perfection, making it “a new communion of love that is the living and real image ... of the Church, the indivisible Mystical Body of the Lord Jesus.”

Three main points to take from this are:

i) Conjugal love is a communion formed in the image and likeness of Christ;

ii) Like Christ’s love for us, conjugal love is a complete and unreserved gift of love to one’s spouse at all levels, “of the body, of the character, of the heart, of the intelligence and will, [and] of the soul”;

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41 Ibid., n. 16.
42 Ibid., n. 19.
43 Ibid.
iii) Through their conjugal love spouses thus participate in the life of Christ. Pope John Paul II then explains this ideal of marriage in its role as the foundation of the family. The family finds in the communion of the spouses the source and the constant impetus for welcoming, respecting, and promoting each one of its members in his or her lofty dignity as a person, that is, as a living image of God.

The conjugal relationship is thus both the source of family love and at the same time its altar. The conjugal act is a celebration, a celebration that is a symbol of Christ’s love for us. It is a celebration of the sacrament. Its strength therefore is in the completeness of the gifts of self of the spouses, in the zeal with which they pursue their love, seek to make it holy, and perfect it in the image and likeness of God.

Through this vocation the spouses develop toward a perfection that neither has alone but that each seeks to attain through their mutuality, through their union. By their commitment to each other, spouses bind themselves exclusively. In a Christian marriage the ultimate purpose of their communion is to seek to grow in love of God. There is a sense in which spouses can be said to develop their love and understanding of God through the understanding that comes to them through the unfolding mystery of each other, each complementing the other and thus different, but at the same time each made in the image and likeness of God. In this, spouses have a direct and tangible evidence of the love of God for all, mirrored in the love they share for each other and the perfection they seek for their union.

The profound notion of marital communion, of the two in one flesh and the having of children through this “two in one flesh,” is broken by the intimate use of the woman’s body who is impregnated (and bears a pregnancy) in a way which isolates her husband, which excludes him from this part of her life, because he makes no direct contribution to the pregnancy and because it is established in her as a result of an embryo transfer procedure performed outside of the context of their expression of conjugal love. She becomes pregnant and he is not the father. He has no part in the pregnancy. The child is not an expression of their union. Her body, which they share in their complete love, is then temporally given to another union, the union between her and the child she carries, and that union does not include him as it would if the child were the fruit of their own union. In this there is at least disorder in relation to the marriage covenant and there is a lack of respect for the dignity of both man and woman because of a lack of respect for the dignity of their marriage.

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44Ibid., n. 13.
46Note that the father may form a loving emotional relationship to the child his wife carries, just as adopting parents so often do with their adopted children, but this is different from what is an ontological relationship that normally forms when a couple’s union is blessed with a child as a result of that union and, at the moment that the child comes to be, the new parents in fact become blood relations for the first time, related to each other through the child. I am grateful to Anthony Fisher for explaining this point. Conversation with author, John Paul II Institute for Marriage and Family, Melbourne, October 2002.
Heterologous embryo transfer seems to be incapable of being ordered to God in the sense that Pope John Paul II means when he writes:

Reason attests that there are objects of the human act which are by their nature “incapable of being ordered” to God, because they radically contradict the good of the person made in his image. These are the acts which, in the Church’s moral tradition, have been termed “intrinsically evil” (intrinsece malum): they are such always and per se, in other words, on account of their very object, and quite apart from the ulterior intentions of the one acting and the circumstances.47

The end of an act of heterologous embryo transfer, the rescue, is good, but the means, impregnating the woman from outside her marriage, is not.

Normally, the union of mother and unborn child is consistent with the exclusive gift of herself in marriage because the child comes to be as a gift to the spousal union arising from their conjugal intimacy. As the fruit of the intimate expression of love between the parents, a child comes to be as an embodiment of that love, giving lasting expression to that love. He or she is a sign and symbol of that love giving the love itself meaning through the parents sharing through their union in the divine work of creation. Motherhood in that context is a motherhood conceived through the union.

Note that a child is conceived through fertilization, and because the process normally takes place in the woman’s body, we refer to her as conceiving a child. Conceiving is not, in that sense, done by her husband, though there is an important sense in which they both conceive when the fertilization is caused by the conjugal act. They, as a unity, conceive. We do not say that he conceives, but we do say that they conceive. But an embryo that is developed by IVF and not transferred is, in a sense, conceived by technicians and a laboratory, and not yet by a woman. As I discussed earlier, the Catholic moral tradition makes no distinction between conception meaning fertilization and conception meaning become pregnant. The fact of IVF divides the notion of conception into these two events, the conception of the embryo and the later conception of the embryo by a woman (if at all).

Normally a woman’s husband participates in her conception of a child and hence his fatherhood is part of her motherhood because the child is his child coming to be through their union. The child comes to be through their willing that they become one, one in intersubjectivity, one in the flesh. That communion of persons becomes inclusive of the child not in a way that is separate from that communion, but within that communion and originating from that communion.

The intimacy of the bodies of man and woman are given to that communion exclusively. In doing so they give to each other exclusive rights to attempt parenthood through each other. Becoming pregnant, the union of mother and unborn child, belongs exclusively to that communion of the spouses. It would be an infidelity to marriage for them to permit the woman to be made pregnant by an embryo transfer

47 Veritatis splendor, n. 80, original emphasis.
procedure, for such a making pregnant would be a formation of a new union outside of, and not within, their communion of persons. The child would relate to her exclusively, not to her husband. The impregnation procedure, in bringing about conception by a woman, makes that intimate union of mother and child a separate union, not one that is an extension of the union to her husband to which she is exclusively committed. The child and his or her mother in a sense become two in one flesh in a way that is not ordained by God and dignified by being the embodiment of the love of his or her parents. Rather than being a sign and symbol of the love of the spouses, their conjugality is unrelated to the child, and his or her presence then becomes a possession of the woman’s body, a possession not dignified by being of the marriage. She conceives a child without her husband. The right to conceive a child is a right that they gave exclusively to each other in marriage to be achieved exclusively through becoming two in one flesh.48

The clinician who impregnates her brings about an ontological change in her, making her the mother of the child. The capacity to bring about that change rightfully belongs only to husband and wife forming a communion of persons modeled on the covenant of God with his people, on the Divine triune community of persons and sharing with them the “we” of a unity in which the spouses become one, man and woman in their unity made in the image and likeness of God, and modeled on the relationship of Christ to the Church.

4. HET and Single Women

To say that impregnating a married woman would be to form an inappropriate union outside of her marriage and, at the same time, to hold that it would be appropriate for a single woman, would seem odd.

The oddness is partly in the fact that marriage confers a right to procreate which normally includes being impregnated. Justification for impregnation of a single woman would seem to require argument to show that being impregnated is morally and not just medically separable from procreation.

We can have a “Mexican stand-off” saying that impregnation is or is not generative. One side will say the embryo exists at fertilization so therefore generation has ceased; others like myself may assert that, to the contrary, there is a significance to impregnation that is either part of generation or so intimate to it and so significant in terms of the formation of a new union that it cannot rightly be considered to have an entirely separate meaning.

Impregnation in mammals is integral to generation, integral in the sense that in God’s design for generation it takes place in a way that a suitable environment and relationship for generation is part of the way it happens. Along those lines one might argue for instance, that human beings are not developed as embryos like chickens, 48Note that in my earlier discussion of pregnancy from rape, that I argued that this relationship once formed however wrongfully, is then a relationship of mother to child which may not be willfully broken by abortion. She is already the child’s mother however unwillingly or unjustly that occurred.
requiring only a warm place for the egg to mature and the chicken to hatch. In the Divine order of things, much more is required, and the human embryo clearly needs mothering in a way that all mammals require, which is an intimate physical connection involving many interchanges at a biological level.

Impregnation in mammals involves an intimate physiological connectedness but it involves more than that in humans because the woman as a psycho-somatic unity is a rational, self-conscious subject made in the image and likeness of God. The involvement of her body has meaning and significance: it is truly relational subjectively and objectively at all levels of her being—physiologically, emotionally, and cognitively. Impregnation forms an intimate and unique relationship that makes a woman a mother with child, and thus forms a new and unique union of human motherhood, and that is an ontological change. She becomes not only a mother, but this child’s mother through that impregnation. Throughout the lives of both of them thereafter, she is the child’s natural mother and the child is her natural son or daughter.

The argument would thus be that this is such a momentous event for her and for the child that impregnation belongs with the conjugal act in significance and ought not be taken out of the God-designed context of the spousal union. Originating within the gift of motherhood, and resulting in the “assumption” of her as mother by the child, the child comes to be as a God-given gift to the spouses as an embodiment of their love and an extension of their union.

In God’s plan, impregnation is so linked to generation and objectively has a significance that is so aligned with generation, so much part of the goods of marriage, that to perpetrate it separately from marriage, for someone to be an impregnator non-conjugally, is not a role that can be properly ordered to God, not a role that is part of the Divine plan for the way in which motherhood is to be achieved.

Within marriage, man and woman give themselves to each other and through each other to any children who result from that union. There is an ecology (so to speak) in the relationships thus formed, an orientation for the good of the communion and the communion itself oriented toward growing in the image and likeness and hence the love of God through the relationships. Human dignity is preserved in that balance for the marital communion identifies with Christ on the Cross, with the triune communion of persons, and with the covenant between God and his people, as we have seen.

That use of fecundity belongs as a right to those who are married. To impregnate a woman outside of marriage does not seem a proper use of the generative faculties or at least faculties that are intimately linked in the Divine order to generation. Just as for a married woman, for a single woman one cannot rightly reduce the generative process to producing ova and the conjugal act. The generative process is ordained to be inclusive of pregnancy and the formation of the union between mother and child through impregnation. That union has its necessarily exclusive and intimate character broken at childbirth, but the unique status of natural mother to this child created by that impregnation is retained. That union, as I have argued, on the basis of the Catholic moral tradition and Pope John Paul II’s theology of the body, retains its dignity in marriage because it is the consequence and extension of the
The communion of marriage and the mutual gift of self in accordance with the Divine plan for man and woman.

Outside of marriage, the formation of that union seems to be an opportunistic use of the woman’s body, a use rather than part of a God-ordained communion. The marital act, as the source of a new life and of childbearing, has an essential meaning not present in a single person, and gives childbearing its context so that the woman becomes pregnant through her free expression of love for her husband. The making of a single woman pregnant through embryo transfer is an act which seems to be inconsistent with respect for her dignity and her right to become a mother only in marriage.49

Nonconjugal impregnation would appear to be a violation of her bodily integrity, a use of her as an object, because it lacks the meaning and character of marriage that dignifies being impregnated, because the latter happens in marriage as part of the meaning of the expression of the conjugal act, which itself is the expression of the communion of persons. When heterologous embryo transfer is deliberately chosen by a single woman it forms a union to which she is not entitled. The technician who effects the embryo transfer impregnates her, and that is an event that properly belongs to the marital union.

The suggestion has also been made that consecrated women could undertake this task. That idea is simply preposterous given the meaning and nature of celibacy.

5. May Cryopreservation Once Begun Be Continued?

As we have seen in addressing the question of cryopreservation of embryos, the Congregation for the Doctrine of the Faith stated that 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.

Accordingly, embryo banks should not be created in the first place; however, given that the wrong of freeze-drying and storing the embryos has occurred, the question is whether continuing to keep them in a frozen-anhydrous state, so that arrangements can be made for HET, does further wrong.

The Congregation links the offense against dignity of cryopreservation to grave risks of death or harm to their physical integrity and to depriving them, at least temporarily, of maternal shelter and gestation.

In regard to the grave risks of death or harm to their physical integrity, merely taking them out of storage would also result in immediate death. The anhydrous frozen embryo left on the laboratory bench literally “explodes” on thawing.50 In the

49CDF, Donum vitae, n. IIA 1.

50Alan Trounson (an embryologist), Director, Centre for Early Human Development, Monash University, conversation with author, July 2002, Faculty of Medicine, University of Melbourne.
current state of technology, thawing, removing the chemicals and rehydrating a frozen-anhydrous embryo and thus returning the embryo to his or her natural dynamic state of development, will result in restoring the embryo for a time. Eventually death will result within a few days or some weeks if he or she is not transferred to the uterus of a woman where implantation and post-implantation development can occur normally.

It could be argued that there is an obligation to simply maintain them in storage. This seems to be the position of George Surtees, referred to above. In 1986, this question was addressed by the Australian Catholic Bishops Conference in evidence before the Senate Select Committee on the Human Embryo Experimentation Bill 1985. The Bishops stated that criminal sanctions should not be applied to those who allowed life support systems to be withdrawn from an embryo for which implantation becomes impossible in practical terms. Questioned on the matter, Archbishop Eric D’Arcy of Hobart (then Bishop of Sale) said that if the means were extraordinary they could be withdrawn in much the same way that extraordinary means might be withdrawn from a person at the other end of life. However he did not explain, when asked by the Senate Committee, what would constitute extraordinary means, and more particularly whether freezing would constitute extraordinary means.51

In 1980, the Congregation for the Doctrine of the Faith, in its Declaration on Euthanasia, moved from the language of ordinary and extraordinary means and used the distinction between proportionate and disproportionate means, interpreted in terms of the burdens, risks, and costs of treatment.52

Whether cryo-preservation is properly described as disproportionately burdensome would depend on the circumstance:

- Embryos do not suffer pain from cryopreservation because they lack the maturity to feel pain.
- The immediate cost is not high, but over an indefinite period of time and with the vast numbers accumulating, it would in the end be a question of cost and space. The IVF clinics in Melbourne, Australia, charge couples an annual storage fee.
- There are also questions over whether the embryos would deteriorate in time such that their capacity for development became less likely. Wherever guidelines or regulations have been issued for cryopreservation of embryos, they have usually stated a time limit of five or ten years for that reason.
- The process is highly unsuccessful. IVF embryos that are transferred to a woman’s uterus almost certainly (ninety-six percent) die. A further proportion die or are considered unsatisfactory and are not transferred. That is why so many are created—they are needed for the IVF programs to have the success rates that they do have.

52This distinction was further elaborated in John Paul II, Evangelium vitae, n. 65.
The judgment that ongoing anhydrous freezing is extraordinary treatment or overly burdensome in such circumstances may be reasonable and the question as to whether there is an obligation to continue is at least questionable on those grounds alone.

However, there are some other factors that need to be taken into account. First there is what the Congregation refers to as their being deprived of maternal shelter and gestation. The natural state for an embryo is to be sheltered within the woman’s body where the embryo implants and continues its development. Anhydrous frozen embryos are denied both the opportunity to develop or gestate, and they are denied the sacred context of the woman’s body within the communion of her relationship to her husband and the family they have become. The freezer container is a profane environment, lacking the sacredness of the woman’s body that would maintain that sense of dignity which should always surround a human being.

More than that, cryopreservation in an anhydrous state is not just storage, it is a state of arrested development, of suspended animation. The frozen embryo is alive in the sense that it could be thawed so that life development could continue, but for the time it is stored, it gains no maturity, it is not dynamic. It may plausibly be argued that maintaining that state of suspended animation is itself a moral wrong and that there is an obligation to seek to have the frozen anhydrous embryo thawed, cleared of cryopreservative, hydrated, and returned to its natural state in which it regains its dynamism, albeit for a short time before death intervenes through lack of sustenance and a favorable environment.

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. The 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

53 CDF, Donum vitae, n. 16.
essential to being a living organism. The embryo is in a state that is otherwise beyond human experience. It can be re-integrated through removal of the cryopreservative, rehydration, and thawing. Dynamism can be restored by that process. He or she is therefore not dead; there is a possible future. Death, by contrast, is a permanent state. These embryos can be restored to an integrated state and to activity and development.

The issue is complex. We are embodied and it is as bodies that we experience creation, that we love, that we know ourselves. The traditional teaching of the Church is of an interrelatedness of the soul and the body. The Church considers the unity of soul and body to be so profound as to consider the soul to be the "form" of the body in which the union of soul and body forms a single nature. This point is clearly expressed by St. Thomas when he says,

> We must assert that the intellect which is the principle of intellectual operation is the form of the human body. For that whereby primarily anything acts is a form of the thing to which the act is to be attributed: for instance, that whereby a body is primarily healed is health, and that whereby the soul knows primarily is knowledge; hence health is a form of the body, and knowledge is a form of the soul. The reason is because nothing acts except so far as it is in act; wherefore a thing acts by that whereby it is in act. Now it is clear that the first thing by which the body lives is the soul. And as life appears through various operations in different degrees of living things, that whereby we primarily perform each of all these vital actions is the soul. For the soul is the primary principle of our nourishment, sensation, and local movement; and likewise of our understanding. Therefore this principle by which we primarily understand, whether it be called the intellect or the intellectual soul, is the form of the body.

In a frozen-anhydrous embryo, those features of living existence attributed to the existence of the life principle or soul are not evident. That is not to say that they are nonexistent. They are just not evident. In a sense life stops, or at least makes no progress, and insofar as one can reason empirically on such matters, the function of the soul would seem to cease to have effect. Is this suspended animation? The nearest parallel in our experience may be the state in which dried seeds are kept by gardeners for several seasons prior to planting. The embryos can be held indefinitely in a similar state of apparent total suspension of activity, but able to resume growth and development as soon as they are placed in a suitable moist and warm environment, the anhydrating chemicals are removed, and thawing and rehydration can occur.

Whatever may be said of that, we must give the benefit of the doubt to a frozen-anhydrous embryo and assume that it is, or at least must be treated as, a

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56+ Certainly no experimental datum can be in itself sufficient to bring us to the recognition of a spiritual soul; nevertheless, the conclusions of science regarding the human embryo provide a valuable indication for discerning by the use of reason a personal presence at the moment of this first appearance of a human life." CDF, *Donum vitae*, n. 11.
human person. But is it acceptable that we keep the embryo in that state of total suppression of dynamism and arrested development? Do we not have an obligation to return the embryo back to as a normal a living state as we can, as soon as we can? The obligation in that case would be, not to continue frozen storage, but to withdraw the embryo from storage and place it in a more natural environment in which it can rehydrate and thaw and thus resume its normal path of growth and development, even though, in the case of an abandoned embryo, the path he or she will follow will soon be a progression towards death as the need for implantation in the womb of a woman is frustrated and he or she is denied that nurturing, nourishing environment.

Accordingly, the solution I would advocate for the plight of embryos kept frozen and anhydrous in embryo banks is simply that they be thawed in moist conditions (in which hydration and the removal of the anhydrating chemicals can occur), in order that they may be restored to their natural dynamic state, a state more fitting their sacredness as human beings than the state of frozen and anhydrous suspended animation. Those few days in which they would return to their natural state of growth and dynamism would constitute a rescue, albeit short-lived, because of the absence of any licit means ultimately of preventing death. Death would result because they would develop to a state of maturity in which their vital needs could not licitly be met. This is one of the great evils of IVF in which life is produced in an environment that ultimately cannot sustain that life.57

6. Ectogenesis

A question sometimes raised in this context is whether attempts to achieve ectogenesis, that is, gestation outside of the womb, would be appropriate as a form of rescue. The reality is that, though advances have been made so that a child born prematurely, even as early as sixteen and a half weeks after fertilization (normally expressed as eighteen and a half weeks by dates from the beginning of the last menstruation), may survive, and, after fertilization in vitro, transfer and implantation can still be achieved up to approximately six or seven days, there remains a time when there is no substitute for the woman’s body. Significantly, it is during that time, when the child must be within the woman’s body if it is to survive, that organ formation commences and is completed.

Some ask: Is there a moral difference between the functions of a neonatal intensive care unit caring for a very premature baby and what might be done in successfully achieving ectogenesis?

This is all highly speculative. We do not and might never have the capacity to develop the scientific means for ectogenesis. However, it is worth considering this possibility if only to consider whether well-intentioned people should seek to develop the means to achieve ectogenesis as a form of embryo rescue.

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57Other evils of the IVF process are the domination of the embryo in its origins, depriving the embryo of an origin in a celebration of love, the displacement of conjugality, and the domination of the intimate, sacred relationship between the spouses.
There might conceivably be attempts to achieve human gestation outside of a woman’s body by either transplant of a woman’s uterus (perhaps cadaveric) to an animal, or the alteration of an animal’s immune system to facilitate trans-species gestation. The latter was reported by Professor Carl Wood to have been attempted in Melbourne (Australia).\textsuperscript{58} He claims that early in the work on in vitro fertilization when they were able to form human embryos but could not succeed to implant them in women, they transferred human embryos to sheep. Wood made the comment that he was glad that the implantation in a sheep did not succeed, as it would have been difficult to explain to the community that a human child had been born of a sheep.

There might also be attempts to achieve a laboratory artificial uterus capable of receiving an embryo and supporting implantation and sustaining placental and embryonic development.

There is no question here of marriage and the use of a woman’s body. There would seem to be a range of issues however about whether an animal or a machine are appropriate places for a child to be and whether having an animal or a machine as a birth mother is consistent with human dignity. The Congregation for the Doctrine of the Faith asserts that the gestation of human embryos in the uterus of animals or the project of constructing artificial uteruses for the human embryos are both contrary to the human dignity proper to the embryo.\textsuperscript{59}

More directly, there would be questions about safety and the placing of an embryo in a precarious experimental environment and the harm that might come to the embryo from such experiments, although it might be argued that, as an option to certain death soon after thawing, removal of cryopreservative, and rehydration, any such dangers might be preferable.

Part of the intuitive rejection of the idea of ectogenesis or transpecies gestation is the thought that the developing unborn child would be denied a normal relationship to a woman, his or her mother, and that that relationship is not just biological. There is something very disturbing about a child having an animal or a machine for a birth mother.


\textsuperscript{59}Donum vitae, n. 16.