

May 2002

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Recommended Citation

Grabowski, John S. (2002) "The New Reproductive Technologies: An Overview and Theological Assessment," *The Linacre Quarterly*: Vol. 69 : No. 2 , Article 2.

Available at: <https://epublications.marquette.edu/lnq/vol69/iss2/2>

The New Reproductive Technologies: An Overview and Theological Assessment

by

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“Behold, children are a gift from the Lord; the fruit of the womb is a reward,” declared the psalmist (Ps. 127:3).¹ Surely among those in our society who would resonate most strongly with this affirmation are those women and men affected by infertility.² Fueled by new research and procedures, the treatment of infertility has become a billion dollar per year industry.³

The Church is in a rather paradoxical situation in regard to this reality. On the one hand, the Church in its teaching and pastoral care acknowledges the reality of the anguish experienced by infertile couples.⁴ Yet on the other hand, it opposes many of the new medical treatments aimed at helping such couples conceive and bear children, seeing them as morally dangerous. Thus Pope John Paul II in *Evangelium Vitae* warns that such treatments may in fact be covert manifestations of the culture of death: “The various techniques of artificial reproduction, which would seem to be at the service of life and which are frequently used with this intention, actually open the door to new threats against life.”⁵ To some, this opposition renders the Church’s professed compassion so much empty rhetoric.

Compounding the difficulty of the situation is the confusion of many people both inside and outside of the post-*Humanae Vitae* Church regarding its teaching on human sexuality. Much of the population is quite willing to believe that the Church simultaneously holds the mutually exclusive positions of being *against* sex and *for* procreation. Yet most of the very procedures which could apparently reconcile such a contradiction

by achieving procreation without the perils of sex — modern reproductive technologies — are themselves rejected by the Church. The resulting tangle of public perceptions is a Gordian knot which could daunt the most zealous public relations team or stymie the most accomplished spinmeister.

This paper will examine the reasons for the Church's teaching on reproductive technologies from the standpoint of moral theology. Against widespread popular perceptions, I will argue that this opposition is neither arbitrary nor inconsistent, but rather flows from a profound insight into the nature of life, the human person, and the gift of sexuality. In the first part of this paper I will examine some of the foundational theological perspectives which underlie the Church's teaching. In the second part I will describe some existing and potential reproductive technologies and apply these perspectives to them in the form of moral evaluation.

I. Foundational Perspectives

A. Life as God's Gift

The psalmist's affirmation of children as a gift from God noted above reflects a basic tenet of biblical thought. All life, particularly human life, is a gift and blessing from God. Biblical traditions reflect this conviction in a variety of ways.

From the horizon of biblical thought, all creation comes from God (Gn. 1:1),⁶ and reveals His glory (cf. Ps. 8) because created things bear luminous witness to their source and maker. Creation itself is a word from God. This conviction forms the biblical basis for the doctrine of natural law — that it is possible to know existence of God (cf. Wis. 13:1-9; Rom. 1:18ff) and certain basic moral truths from that which He has made (cf. Rom. 2:14-15).

Living things share in this witness more intensely than inanimate objects. In their diversity and complexity they reflect God's wisdom and majesty, in their life they reflect God's own character as living and the source of all life. Thus, we can understand the biblical perception of the sacredness of blood, both animal and human, because it contains the life of the creature and hence belongs directly to God (cf. Lev. 17:11). While animal blood could be spilled for sacrifice or food, it could never be consumed (cf. Gen. 9:4).

Human life represents the fullest expression of God's gift. The second creation account depicts God as fashioning human beings directly (from mud in the case of *'adam*, from the man's rib in the case of woman) and then breathing into them the "breath of life" (Gen 2), a term which indicates more than biological life since "breath" (*nsama*) recalls that God

Himself is "spirit" (*ruah*).⁷ While other creatures are alive, humanity is distinct because of receiving this life-breath directly from God. Hence there is something of God within the human person.⁸ Human life is unique because it is more than biological existence.

Therefore, to beget human life is a profound form of cooperation with God's own creative activity. "I have begotten a man with the help of the Lord," declares a triumphant Eve in Genesis 4:1c. Human procreation is thus a unique form of co-creation with God — a renewal of the original mystery of creation, as Pope John Paul II has noted.⁹ It is this theological conviction, together with the concrete socio-economic realities of ancient Israel (in which children and family were necessary for sustenance and security), which underlies the uniform biblical witness which regarded children as a blessing and sterility as a hardship and a curse.

The preciousness of human life receives added impetus from the message of redemption offered in the NT. If the spilled blood of Cain cries for vengeance from the ground to God, the blood of Christ shed on the Cross pleads "more eloquently" for mercy for the whole of sinful humanity (cf. Heb. 12:24). Human life is so precious that God sent His own Son to redeem it. As John Paul II notes in *Evangelium Vitae*:

The blood of Christ, while it reveals the grandeur of the Father's love, shows how precious man is to God's eyes and how priceless the value of his life . . . Precisely by contemplating the precious blood of Christ, the sign of his self-giving love (cf. Jn. 13:1), the believer learns to recognize and appreciate the almost divine dignity of every human being and can exclaim with ever renewed and grateful wonder: "How precious must man be in the eyes of the Creator, if he 'gained so great a Redeemer' " (Exsultet of the Easter Vigil).¹⁰

Yet the biblical tradition is equally aware that life is not an absolute value to be preserved or sought at any cost. The seven sons and the mother in 2 Maccabees 7, Daniel and other prophets who faced or endured death, and the young men cast into the fiery furnace (cf. Dan. 3) all bear witness to the hope of the resurrection of the just for which life might be freely surrendered in order to not compromise higher values. This willingness to resist sin "to the point of shedding blood" (Heb. 12:4) prefigures the faithfulness and love displayed by Jesus in offering Himself on our behalf. This witness is continually renewed in the martyrs who are conformed to Christ in choosing to freely lay down their lives rather than compromise their faith.¹¹

The NT also offers an important qualification to the value of begetting life by setting it in an eschatological perspective through its

teaching on celibacy. Differing NT traditions make it clear that this practice, modeled on the witness of John the Baptist and Jesus Himself, was highly regarded in early Christian communities (cf. Matt. 19:12; 1 Cor. 7: 7-9, 32-35). In a world dominated by concern to reproduce offspring for one's city or nation, the practice of sexual renunciation was itself a dramatic proclamation of the gospel message. To deliberately step outside the seemingly endless cycle of reproduction, birth, growth, sickness, decay and death was an announcement writ in bodies and behavior that, in Christ, time as it had been previously known had come to an end, and a new era of immortality had broken into human existence.¹²

The esteem given by the Church to martyrdom and celibacy is not a denigration of human life or sexual reproduction, but rather an appreciation of them in light of their relationship to the eternal destiny of the human person. In this perspective it is clear that life, while both fundamental to other human values and itself profoundly precious, is a penultimate rather than an ultimate value. This awareness underlies the Church's teaching that life need not be preserved at all costs and that one can rightly refuse extraordinary means of medical care. It also informs its teaching that the begetting of human life is neither an inalienable right nor an absolute value to be pursued at any cost.

B. Technology and Human Dominion¹³

The first creation account (Gen 1:1-2:4a), near the climax of its description of the days of creation, describes the creation of human persons, male and female, in the image of God (cf. Gen. 1:26-27). This idea of the *imago dei* has generated countless volumes of biblical commentary and theological analysis. Without pretending to exhaust the meaning or import of the text, it is possible to find in the text itself important clues to its meaning.

One important meaning of the term "image" (*selem*) is found in the very fact that humanity is created in the dual form of male and female. Thus, part of the image of God in us is relational — we are created to be in relation or communion with others. On the human level the most basic form of this relationality is that between male and female.¹⁴ The union of male and female in marriage is both the basis of human society and paradigmatic for other forms of human friendship and community. Yet this very fundamental relation is dependent on a far more encompassing one — the relationship between humanity and its Creator anchored in the Sabbath worship of the seventh day. It is only on the seventh day that creation is complete. Because it is on this day that it returns through the praise of its human priests to the One who made it.¹⁵ That which makes us most fully

human is not merely our ability to reason, but to worship. Human dignity is ultimately priestly.

Another equally basic meaning of the term "image" is indicated by the twice repeated command given to humanity to "have dominion" over the rest of creation (Gen. 1:26, 28). Within the ascending order of the first creation account, humanity is in a sense at its pinnacle, exercising dominion over the material, vegetation, fish, birds, and animals which comprise the rest of the natural world. The problem is that in the scientific and technological culture spawned by the Enlightenment *dominion* is often misunderstood as *domination* — untrammled power to conquer, shape, and exploit the natural world. This results in part from the primacy of instrumental reason within our intellectual culture.¹⁶ This distinctively modern misreading, however, is utterly foreign to the biblical text.

In the biblical view, human dominion has clear limits. It is modeled on and subject to God's dominion over creation. "Image" does not necessarily indicate resemblance, but representation. Humanity must therefore image God's dominion over the earth, which is not exercised as untrammled power, but life-giving care and sustenance. Human dominion is thus better understood as stewardship than as license. In the words of the second creation account, humanity's role is to "cultivate and care for" the earth (cf. Gen. 2:15).¹⁷ Furthermore, it is precisely the effort to acquire godlike knowledge and power that constitutes the original and perennial temptation which humanity faces — to attempt, in the words of the serpent, "to be like gods who know what is good and evil" (Gen. 3:5).¹⁸ When we succumb to the deceit of these whispered words, we succeed only in creating disaster, sundering our relationship to God (cf. Gen. 3:8-10, 23) and one another (cf. Gen. 3:7, 16), and disordering the world in which we were placed as stewards (cf. Gen. 3:17-19).

One important exercise of human dominion is connected to the mutual relation of male and female in marriage in their shared fertility (Gen. 1:28). God's blessing (*barak*) attends the sexual union of husband and wife so that they can exercise dominion by heeding God's directive to "be fertile and multiply; fill the earth and subdue it" (Gen. 1:28b-c). In spite of the disastrous results of human sin, this original blessing which attends human procreation is never removed.¹⁹

At first glance this "commandment" to procreate given in the context of human dominion over creation would seem to lend powerful support to the effort to employ any available medical technology in the effort achieve conception. But this conclusion too quickly forgets the limits of human dominion over nature and its technological expressions.

Technology is basically an expression and extension of human dominion. As such, it potentially reflects humanity's creation in the image

of God and yet it also has real limits. In itself, technology is morally ambiguous. On the one hand it can be morally good when used according to God's plan and purpose. Thus the story of the preservation of life on earth during the flood in the ark (Gen. 6-9) may be read as a kind of parable on the use of technology in the preservation of life. Yet on the other hand technology can be evil when used in the service of prideful human assertion as an attempt to achieve security apart from God, as in the story of the tower of Babel which caused further fragmentation of human communication and relationships (cf. Gen. 11:1-9).

One consequence of the moral ambiguity of technology, especially in a culture such as ours, is that its creation and implementation often races ahead of its moral evaluation. There is a profound gap between technical progress and moral progress.²⁰ And many are seduced by the "technological imperative" (the idea that because we *can* do something we *should* or *must* do it). Yet a moment's reflection indicates just how false and dangerous such thinking is. The fact that we can unleash havoc on the earth through widespread use of nuclear, chemical, or biological weapons does not mean that we should. The fact that we have refrained from using nuclear technology available for some decades to engage in all-out war belies the idea that we must. Technology, like any other human artifact, is subject to the control of human reason and freedom and therefore should be carefully scrutinized before being used.

Thus, medical technology, which aims at enhancing human fertility, must be evaluated according to the same criteria — does it reflect an understanding of human dominion which is subject to God's plan and purpose, or does it reflect a human attempt to "play God"? To fully answer this question requires a brief examination of the nature of human sexuality and the place of procreation within it.

C. Sex as a Language of the Body

While the creation accounts of Genesis depict a surprising equality between women and men, they do not possess the dignity of being able to relate directly to God in worship and exercise stewardship over creation. Both share a common humanity or nature.²¹ Yet the biblical text is also aware of the profound difference necessary for the covenantal union of a man and a woman in marriage (cf. Gen. 2:21-25) and the exercise of their joint fertility in the begetting of children.²²

Among the most keen analyses of this difference and the light that it sheds on human sexuality is that provided by Pope John Paul II in his catechesis on the body.²³ Following the example of Jesus who, when questioned by the Pharisees about divorce, appealed to God's original creative intention for sexuality disclosed in the Genesis creation accounts,

the pope returns to “the beginning” to frame an understanding of human sexuality.²⁴ He does so by pointing to three “original experiences” which the second creation account in particular narrates: original solitude, original unity, and original nakedness.

Solitude: As *adam* was alone with God, so every human person has an awareness of himself or herself as a self, a subject. It is this experience that we make reference to whenever we use the pronoun “I”. Yet our experience of being a subject is mediated through our bodies — it is through our bodies that we encounter, learn from, and act in the visible world. Unlike other creatures of the visible world — the animals with whom *adam* was alone, only the human body is capable of expressing this subjectivity. Only the human body reveals personhood. Within this perception of our own uniqueness among other creatures, we become aware again of the giftedness of human existence and of the gratitude we owe to the One who made us. We also become aware of our profound need to be in communion with other human persons — an insight captured in the words of the text: “It is not good for the man to be alone” (Gen. 2:18b).

Unity: God’s remedy for this unquenchable need is to create an “other,” a partner who is both like our selves yet wonderfully different. Awakening from his covenant sleep, *adam* cries out with joy upon seeing the woman made from a part of himself: “This one, at last, is bone of my bones and flesh of my flesh; This one shall be called ‘woman’ for out of ‘her man’ this one has been taken” (Gen. 2:23). Because the body expresses and reveals the person, the differing embodiment of men and women points to their irreducible difference (“originality”) as persons.²⁵ Sex is more than skin deep — it touches the whole of who we are as persons (encompassing both body and soul). To the “I” of our own subjectivity corresponds the “Thou” of another form of human embodiment.

Yet the duality of maleness and femaleness is intended to summon us to communion and community with others. It is a reminder written in our bodies that we image God by being in relation and that our vocation is communion. In the words of the Second Vatican Council: “Man, who is the only creature on earth which God willed for itself, cannot fully find himself except through a sincere gift of self.”²⁶ Every human person — of whatever state in life — is called to and fulfilled in the gift which creates communion in friendship and love. The most basic and intense expression of this reality is in the unity of the marriage covenant. When lived in authentic self-giving love, marriage provides an image of the Trinity as a communion of persons. Insofar as this summons to communion is written in our very embodiment as male and female, it may be said that the body has a “nuptial meaning.”²⁷

Nakedness: The culmination of the unity of man and woman in marriage is their offering themselves to one another in and through their naked bodies: "The man and his wife were both naked yet they felt no shame" (Gen. 2:25). The bodily gift of self which is intercourse is a ratification of a couple's covenant promise to one another in marriage. Sex is a bodily enactment and remembrance of a couple's wedding vows which continually communicates their love in new ways. This is why the biblical expression for the sexual union of husband and wife — "to know" (cf. Gen. 4:1) — is especially apt since it expresses the knowledge gained about oneself and one's spouse in sexual self-donation.²⁸ In this way conjugal love can be understood as a "language of the body" which expresses both unreserved self-giving and unconditional commitment.²⁹ Yet it is also a language of potential fatherhood/motherhood since in it one comes to know one's spouse not only as spouse, but also as potential parent. Genesis itself links the "knowledge" yielded by intercourse ("the man *knew* his wife Eve — Gen. 4:1a) with parenthood ("and she conceived and bore" — Gen. 4:1b). The communion of love between spouses leads to the broader community of children and family.

Here, then, is the ground for the "inseparable connection" between the unitive and procreative meanings of sexuality asserted by Paul VI in *Humanae Vitae*. The encyclical's teaching was criticized by many because it offered little argument for this connection. John Paul II's theology of the body addresses this lacuna by providing an analysis of marital sex as intrinsically unitive (i.e., open to parenthood). To deliberately negate either meaning is to falsify both.³⁰ And it does so not merely on the basis of an appeal to human reason (i.e., the natural law), but on the more authoritative basis of biblical revelation.³¹

In this way it becomes apparent that the Church's opposition to many reproductive technologies is the flip side of its constant opposition to artificial contraception. The totality of the gift of self includes the fertility which makes parenthood possible. And parenthood is, by God's design, a gift, received within the context of a bodily gift of self in spousal love. Far from the incoherence and inconsistency attributed to the Catholic view of sex and reproduction in some popular (mis)conceptions, there is a remarkable coherence to the Church's understanding of these matters.

II. Application to Reproductive Technologies

Having looked at some of the foundational perspectives which underlie the Church's opposition to many forms of assisted reproduction, they can now be brought to bear on existing and potential reproductive

technologies. Rather than describing and analyzing each procedure piecemeal, I will briefly summarize individual techniques and then offer a series of moral observations about them as a group, making distinctions among them where relevant.

A. Description

1. Artificial Insemination

Artificial Insemination (AI) is the procedure in which previously collected semen or a sperm preparation is introduced into a woman's vagina, cervix, or uterus.³² If the sperm is from the woman's husband, the procedure is known as homologous artificial insemination or artificial insemination by husband (AIH). If the sperm is from a male donor who is not married to the woman (either known or unknown), it is referred to as heterologous artificial insemination or artificial insemination by donor (AID).

2. In Vitro Fertilization

In vitro fertilization (IVF) is the oldest and best known form of a group of procedures in which conception occurs outside of a woman's body in a test tube or petri dish (i.e., *in vitro*). These procedures are often organized under kinder and gentler headings such as Assisted Reproduction Therapy (ART). I will describe both the original procedure and some of its more recent variants.

IVF is the retrieval of a preovulatory ovum from a woman's ovary, its placement in a laboratory culture dish where it is fertilized by collected sperm, and the development of the conceptus to the eight to sixteen cell stage.³³ Once it reaches this point of development, the embryo is then transferred to a woman's uterine cavity in the hope that implantation will occur. IVF then necessarily involves the related technology of Embryo Transfer (ET) and is often referred to as IVF-ET. Initially developed in the mid 1940s as a way to bypass blocked or diseased fallopian tubes, IVF-ET is now used to treat virtually any form of infertility (except azoospermia or total lack of sperm). Since the successful IVF-ET birth of Louise Brown in 1978, such programs have expanded exponentially (with some 100 IVF centers in U.S. reporting over 3,000 births by the early 1990s).³⁴ This procedure also has homologous and heterologous forms depending on whether the man from whom the sperm is obtained is the woman's husband or an unmarried (and perhaps anonymous) donor.

Some recent variations of IVF use the fallopian tubes as a more natural setting for fertilization or for the development of the conceptus. Gamete Intrafallopian Transfer (GIFT) takes already collected and washed

sperm and preovulatory oocytes and transfers them into the fallopian tubes in an attempt to mimic the physiologic processes that lead to human gestation.³⁵ Zygote Intrafallopian Transfer (ZIFT) is similar to IVF except that the fertilized eggs (zygotes) are transferred to the fallopian tubes one day after fertilization in the laboratory. Tubal Embryo Transfer (TET) follows the same procedure as ZIFT except that the embryos are transferred to the fallopian tubes two days after laboratory fertilizations.

There are also procedures aimed specifically at male infertility such as Intra-Cytoplasmic Sperm Injection (ICSI) in which a single sperm is injected directly into the center of an egg through a microneedle. This can result in the fertilization of an egg by a sperm with little or no motility. In cases where a man has no sperm in his ejaculate, sperm can be obtained directly from the testes. These efforts to produce conception through micromanipulation are generally performed in the laboratory and therefore are part of the IVF-ET "family" of procedures.

A common feature of IVF-ET and the cluster of related procedures which it spawned is that they usually produce multiple fertilizations. Scientists found early on that the odds of successful conception and implantation increased dramatically with multiple fertilizations and the transfer of more than one embryo. This raises the issue of the treatment of these embryos.

3. Embryo Treatment and Experimentation

Even though laboratory personnel transfer multiple fertilized eggs to a woman's uterus or fallopian tubes in IVF or related procedures, usually not all embryos will be selected because of number or apparent viability. The "spare" embryos are either discarded as excess lab material, used for research or experimentation (e.g., used in stem cell research or other prospective therapies), or frozen for later implantation or experimentation.

4. Surrogate Motherhood

A phenomenon which has grown up along with these fertility technologies is that of surrogate motherhood, in which a woman carries a child to term having agreed or pledged to surrender it to another party on its birth. In many cases women are paid a sum of money for this service. In some cases the child which she carries may be genetically unrelated to her, as when it is another couple's child conceived through IVF and then implanted in her womb through ET. In other cases the child may be genetically her own, resulting from the union of one of her own ova and the sperm of another man as in the infamous Baby M case where the surrogate (Mary Beth Whitehead) refused to surrender the child after her birth.³⁶

5. Reproductive Cloning

“Reproductive cloning” is a term employed to describe the effort to create a genetic double of a human being in the form of an embryo, and to carry that embryo to full term pregnancy. While the procedure has been successfully used on sheep and pigs, it has not, to the best of my knowledge, been attempted on human beings, and many have offered ethical arguments that it should not be. “Reproductive cloning” is distinguished from the effort to clone individual cells or tissues for therapeutic purposes. However, some who use this language see the effort to clone human embryos for research in which they will ultimately be destroyed as “therapeutic” as opposed to “reproductive” cloning.³⁷

B. Moral Evaluation

The Church opposes all of the preceding procedures which I have described — though not, as is sometimes popularly held, because they are artificial or technological. This is yet another misperception generated by the controversy surrounding *Humanae Vitae*. It was precisely this line of reasoning which sent journalists scurrying to the Vatican for comment after the public introduction of Viagra a year ago. Surely, many thought, this had all the elements to reignite the fires of controversy which burned so brightly in the Church in the late 60s and early 70s — sex, a pill, and the pope. Imagine the chagrin of those in the media with these assumptions when told by Vatican spokesmen that the Church applauded the development insofar as it gave couples an opportunity to restore an important part of their conjugal communion. What these journalists failed to grasp is that the issue is not technology, but the dignity of the human person and the meaning of human sexuality.

The same holds true with reproductive technologies described above. The Church opposes them not because of their technological nature, but rather because of the impact of this technology on the purposes of human sexuality, the dignity of the human person, and the value of human life.

The primary problem which runs through almost all of these procedures is that they tear apart the integral connection of the unitive and procreative meanings of sexuality.³⁸ As contraception aims at having sex without children, reproductive technologies aim at producing children without sex. Yet, as noted above, it is precisely within the total and unreserved gift of oneself to one's spouse in sexual union that the Church sees as the vehicle chosen by God to enable human parents to cooperate with Him in the transmission of new human life.

It might be objected that such procedures merely enable us to control and modify nature when it fails to work properly.³⁹ Surely, medical

treatment for defects in human fertility is no more objectionable than wearing contact lenses or glasses (or having laser vision correction) for impaired vision. Yet this objection fails because it assumes that fertility is simply another biological aspect of the person which can be manipulated by human reason in the form of technology. In fact, fertility, like sexuality of which it is an integral part, is a reality which touches the whole of the person. It is existential (i.e., rooted in the order of existence), not merely biological. As Karol Wojtyla observes, it is a mistake engendered by modern empiricism to reduce sexuality and fertility to merely biological realities.⁴⁰

Heterologous forms of AI or IVF are additionally objectionable because they strike at the exclusivity and fidelity of the marriage covenant which intercourse recalls and signifies.⁴¹ They also undermine the right of the child to know and be raised by his or her parents.⁴² Life is difficult enough without having to go through it as the child of a withdrawal from the local sperm bank.

This observation points to a second major line of objection to these procedures — they are an affront to the dignity of the child as a person. By God's design the mystery of human personhood emerges from the bodily enactment of the self-giving love of parents. A laboratory procedure is an unworthy beginning for a human person created in the image of God.

Such procedures are morally objectionable because they depersonalize the children conceived by them. It substitutes the personal relations constitutive of our identity as persons (mother and father to child) with the impersonal ones of producer or consumer and product.⁴³ This is true in existing reproductive technologies and most particularly in the specter of future attempts at reproductive cloning on human beings. And as Gilbert Meilaender notes: "What we beget is like ourselves. What we make is not; it is the product of our free decision and its destiny is ours to determine."⁴⁴ Such procedures are a denial of the dignity and equality of persons. Furthermore, cloning attacks the personhood of those it produces in yet another way — by mocking the uniqueness and irreducibility of the person through the attempt to make a kind of genetic photocopy of the individual.⁴⁵

Surrogate motherhood is another sign of the depersonalization effected by these technologies. The surrogate is reduced to the status of a womb for rent and the child she carries to a bargaining chip in a business transaction. Surrogacy also attacks the natural bond between mother and child which pregnancy creates, particularly if it is her own child which she carries and must surrender for a price.

The social effects of these present and prospective technologies are not difficult to discern. The prospect of being able to screen donors of

sperm and ova for sex selection, desirable characteristics (witness the \$50,000 reward offered in national newspapers for a single egg from a tall, athletic woman from an Ivy League school with high SAT scores), to genetically program them, or simply to clone them, creates the chilling prospect of "designer children" made to order. Children become chattel to be bought and sold, parents become consumers, and laboratory technicians become the priests of a new eugenic religion which worships genes and generation rather than the One who made them. James Burtchaeil, summarizing the Church's opposition to such procedures in the C.D.F. Instruction, *Donum Vitae*, puts the matter well:

The Vatican is too technical, or perhaps too dainty to state graphically enough that we have been turning procreation into science fiction, and that we become monsters as a result. A society which venerates Drs. Masters and Johnson and their lab-coat lore of orgasm, or that harkens to Dr. Ruth as a *sage femme* of how men and women give themselves to one another, or that orders up children the same way it uses the Land's End catalogue: this is a creature feature that ought not appear even on late Saturday television. Or so I take the Vatican to be telling us.⁴⁶

To use the language of *Evangelium Vitae*, this horror story is the face of the culture of death.

While the suffering of infertile couples is real, and the Church has particular pastoral responsibilities toward them, this does not justify engaging in evil for a good purpose. Children are a gift — not a right to be seized at any cost.⁴⁷ To cooperate with God in the transmitting of new human life is a privilege which should express the responsible stewardship of dominion — not the untrammled self-assertion of domination. Human life is precious, but not an end in itself to be sought to the exclusion of other moral goods.

While it opposes the use of these procedures to generate human life, *Donum Vitae* hastens to add that such life, once conceived, is owed respect and protection.⁴⁸ This is true whether one is speaking of the embryo in the lab dish, the child in the womb of the surrogate or, should it occur, the human embryo produced by reproductive cloning.

This observation points to a third set of objections to many of these procedures, particularly IVF and the attempt to clone human embryos — the moral evil of destroying innocent human life. Whether excess embryos are treated as laboratory waste to be flushed down the drain of an ART clinic or as "spare parts" which can be disassembled to do research on stem cell

therapies, or are created solely to be destroyed in other experimental use, the destruction of human embryos entails the same evil as direct abortion.

There are still other arguments which can be made against these procedures. For example, they tend to be very expensive, and like the burgeoning field of cosmetic surgery, cater to a predominantly wealthy clientele. This diversion of medical resources away from those with less means raises important questions of social justice.⁴⁹ Furthermore, there is some evidence that, in spite of their cost, for those with limited fertility these procedures are not all that more effective than continued effort to achieve pregnancy by ordinary means.⁵⁰

C. Alternatives

What recourse do couples with limited fertility have within the framework of the Church's teaching? On this point, *Donum Vitae* echoes Pope Pius XII: "medical intervention respects the dignity of persons when it seeks to assist the conjugal act either in order to facilitate its performance or in order to enable it to achieve its objective once it has been normally performed."⁵¹ While gametes can be repositioned to enhance the possibility of conception, in the case of the egg prior to or in the case of egg and sperm after intercourse, the criterion is respect for the integrity of the conjugal act. Unfortunately, some methods designed to achieve fertilization by providing medical assistance to normal intercourse, such as Low Tubal Ovum Transfer (LTOT uses ovarian hyperstimulation, oocyte retrieval, and transfer of oocyte to the proximal portion of the fallopian tubes) have had research on them discontinued due to the low rate of pregnancies which they produced.⁵² Other methods such as GIFT have created confusion among Catholic authors since they do in fact aim to produce contraception in vivo. However, it is difficult to reconcile the typical GIFT procedure with the framework of *Donum Vitae* insofar as it relies on masturbation — not intercourse — to obtain sperm.⁵³ There are also modified versions of GIFT which collect sperm through various means from an act of intercourse prior to washing and repositioning in the fallopian tubes. As one moralist prudently concludes regarding such procedures: "As long as the husband's sperm are collected by a morally acceptable method and the repositioning of the gametes are within the context of the conjugal union of husband and wife, the process is not morally objectionable."⁵⁴

III. Conclusion

Undoubtedly, the psalmist was right — children are indeed a gift from God. Yet a gift is something that cannot be demanded, only received. Human life is a precious gift, yet it is not one to be sought regardless of the cost. Just as Christians believe there are things worth dying for, so too there are things worth living without if in seizing them we disfigure our very selves.

Reproductive technologies purport to offer oases of life in the desert of sterility, yet at what price? At the price of wrenching procreation from the context of sexual self-giving which gives it meaning and transcendent dignity; at the price of objectifying children and the women who bear them; at the price of countless human lives cast away as leftovers or sacrificed at the altar of further scientific progress. And when our limited creaturely dominion is recast as power for domination, sexual self-giving becomes procreative self-assertion. Stretching out our hands to seize the fruit of the tree of life, we find that we have eaten again from a far more bitter tree — the one that held out to us the promise of our “being like gods who know what is good and evil” (cf. Gen. 3:5). The promise of reproductive technologies turns out to be an illusion — a mirage. Seeking our way back into the garden, we find ourselves deeper in the desert of our exile.

The Church’s teaching on reproductive technologies is neither arbitrary nor unfeeling — it offers a compassion based in the truth of the human person and the gift of sexuality. As such it can help dispel the mirage created by the culture of death. Yet ultimately changing this culture can only be accomplished by changing its gods. The gods of technological efficiency, progress, and personal fulfillment must be replaced by the God of life who created us in His image and calls us into His own eternal communion as a Trinity of Persons. Only the appropriation of this Mystery through worship can ground an authentic understanding of human life, dominion, and the gift of human sexuality. To build a culture of life requires much more than scientific or moral analysis — above all, it requires the sincere gift of self, lived out in evangelization and doxology.⁵⁵

References

1. The translation is adapted from the NAB. Subsequent references will be to this version unless otherwise noted.

2. Studies indicate some 8.4% of women between the ages of 15 and 44 have impaired ability to have children. See Howard Jones, M.D., "The Infertile Couple", *New England Journal of Medicine* 329, no. 23 (Dec. 2, 1993), 1710.
3. On infertility treatments as a billion dollar per year industry, see *Health Facts* 19, no. 176 (January, 1994).
4. See Congregation for the Doctrine of the Faith, Instruction on Bioethics, *Donum Vitae* (February 22, 1987), II, B. 8.
5. John Paul II, Encyclical Letter, *Evangelium Vitae*, no. 14. The citation is from *Origins* 24, no. 42 (April 6, 1995), 695.
6. The affirmation that "God created the heavens and the earth" (Gen. 1:1b) in Hebrew idiom is an indication that God created everything — one names the two extremes (i.e. heaven, earth) so as to encompass everything between them.
7. For other OT texts which refer to humanity being formed from the earth and yet possessing the breath/spirit of God, see Job 33:4, 6; 34: 14-15; and Wis. 15: 10-11.
8. See Francis Martin, "Old Testament Anthropology," unpublished paper, p. 4.
9. See John Paul II, General Audiences of March 26, 1980 and October 6, 1982 in *Theology of the Body : Human Love in the Divine Plan* (Boston: Pauline Books and Media, 1997), 83-86, 333-36.
10. *Evangelium Vitae*, 25, pp. 698-99.
11. On the idea of martyrdom as witness to the highest values of the moral order, see Pope John Paul II, Encyclical Letter, *Veritatis Splendor* (August 6, 1993), nos. 90-93.
12. On the early Christian practice of sexual renunciation as a form of proclamation see Peter Brown, *The Body and Society: Men, Women, and Sexual Renunciation in Early Christianity* (New York: Columbia University Press, 1988).
13. Parts of this section are adapted from my article "Made Not Begotten: A Theological Analysis of Human Cloning," *Homiletic and Pastoral Review* 98, no. 9 (June, 1998): 16-21; rpt. *Ethics and Medicine* (1998), 69-72.
14. See Claus Westerman, *Genesis 1-11: A Commentary*, trans. John J. Scullion, S.J. (Minneapolis: Augsburg, 1984), 142-61; cf. Karl Barth, *Church Dogmatics* Vol. III.4, trans. A.T. Mackay, T.H.L. Parker, Harold Knight, Henry A. Kennedy, and John Marks, ed. G.W. Bromiley and T.F. Torrance (Edinburgh: T.&T. Clark, 1961), 116-41.

15. On seven as the number of perfection and completion in biblical thought see John L. McKenzie, S.J., "Seven" *Dictionary of the Bible* ((New York: MacMillan, 1965), 794.
16. On the dominance of instrumental reason in western culture, see Charles Taylor, *The Ethics of Authenticity* (Cambridge, MA: Harvard University Press, 1991), 93-108.
17. The phrase is originally used in reference to *adam's* role in the garden.
18. My translation.
19. It is noteworthy that the canonical shape of the text which juxtaposes the two creation stories does not revoke this blessing (Gen. 1:28) in the curses pronounced on the primordial couple after sin (Gen. 3:14-19) — the serpent and the ground are cursed but the man and woman are not themselves cursed. In the quasi-historical narratives which follow the creation stories, this blessing is primarily understood as procreation. See Peter J. Elliot, *What God Has Joined: The Sacramentality of Marriage* (New York: Alba House, 1990), 11.
20. On the gap between technological progress and moral reflection in the modern world, see Pope John Paul II, Encyclical Letter, *Redemptor Hominis* (March 4, 1979), no. 15.
21. This unity of nature is especially clear in the language of the second creation account where woman is described as a "helper matching him" (*ezer kenegdo*). Lisa Sowle Cahill, following Phylis Tribble, observes that the term *ezer* has no connotation of inferiority in the Hebrew of the OT. See Cahill, *Between the Sexes: Foundations for a Christian Ethics of Sexuality* (Philadelphia: Fortress, 1985), 54; Phylis Tribble, *God and the Rhetoric of Sexuality*, *Overtures to Biblical Theology*, 2 (Philadelphia Fortress, 1978), 90. This observation is also borne out in the play on words between man (*is*) and woman (*issa*) in *adam's* poetic exclamation in Gen. 2:23.
22. On the description of the creation of woman in the second creation account as simultaneously a description of the marriage covenant, see John S. Grabowski, "Covenantal Sexuality," *Église et Théologie* 27 (1996): 229-52. For a broader overview of marriage as a covenant in OT thought, see Gordon Paul Hugenberger, *Marriage as a Covenant: A Study of Biblical Law and Ethics Developed from the Perspective of Malachi*, *Supplements to Vetus Testamentum*, 52 (Leiden: Brill, 1994).
23. This teaching is comprised by the pope's weekly general audiences given between September 1979 and November 1984 which have been collected, together with other papal teaching in the Volume: *Theology of the Body* (see note 9 above). What follows is a summary of some of the main lines of this catechesis.

24. Cf. The General Audience of September 5, 1979, in *Theology of the Body*, 25-27.
25. On the "originality" of men and women as persons, see the General Audience of November 7, 1979 in *Theology of the Body*, 42-45.
26. Pastoral Constitution on the Church in the Modern World, *Gaudium et Spes*, no. 24. The citation is from *The Documents of Vatican II*, Walter M. Abbott, S.J., ed. (Piscataway, NJ: New Century Publishers, 1966), 223.
27. On the nuptial meaning of the body, see the General Audience of January 9, 1980 in *Theology of the Body*, 60-63.
28. See the General Audience of March 5, 1980 in *Theology of the Body*, 77-83.
29. On the idea of sex as a language of the body, see the General Audiences of January 5, 12, 19 and 26, 1983, in *Theology of the Body*, 354-65.
30. On the relationship of Paul VI's inseparability principle to John Paul II's analysis of the language of the body, see William E. May, *Marriage: The Rock on Which the Family is Built* (San Francisco: Ignatius, 1995), 90-92.
31. For a consideration of this trajectory of the pope's thought, see John S. Grabowski, "Evangelium Vitae and Humanae Vitae: A Tale of Two Encyclicals," *Homiletic and Pastoral Review* 97, no. 2 (November 1996): 7-15.
32. See Gerald Coleman, S.S., *Human Sexuality: An All-Embracing Gift* (New York: Alba House, 1992), 365.
33. See Coleman, 357 (Coleman says the two to eight cell stage). The actual steps of IVF-ET involve: hyperstimulation of multiple ovarian follicles through medication; oocyte retrieval through a needle or laparoscopy; fertilization of the oocyte through the introduction of washed sperm in a controlled environment and subsequent incubation and monitoring of the embryos; and transfer of the developing embryo(s) to a woman's uterine cavity. See *ibid.*, 357-60.
34. *Ibid.*
35. See Coleman, 362. Because GIFT aims to produce conception in vivo it can be distinguished from other IVF-related procedures. The moral relevance of this distinction will be considered below.
36. For an extensive analysis of the Baby M case as itself an argument against surrogacy, see Donald De Marco, *Biotechnology and the Assault on Parenthood* (San Francisco: Ignatius, 1991), 148-55.

37. This is the current usage in the United Kingdom. See Michael D. West, "Testimony before the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies," Dec. 2, 1998, pp. 2-3.

38. Cf. *Donum Vitae*, II, B, 4-5.

39. The same argument was advanced by doctors and theologians to justify the use of the progesterone pill in the 1960s. See, for example, John Rock, *The Time Has Come* (New York: Knopf, 1963); and Louis Janssens, "Morale conjugale et progestogènes," *Ephemerides Theologicae Lovanienses* 39 (1963): 787-826, esp. 820-24.

40. See Karol Wojtyla, *Love and Responsibility*, trans. H.T. Willets (New York: Farrar, Strous, and Giroux, 1981), 57, 230.

41. See *Donum Vitae* II, A, 2. Some Catholic authors attempt to distinguish the more objectionable heterologous forms of these procedures and their homologous counterparts, arguing that the "simple" cases of AIH or IVF-ET which avoids the destruction of embryos could, in some cases, be morally licit. See, for example, John Mahoney, S.J., "Human Fertility Control," *Readings in Moral Theology*, 8; *Dialogue about Catholic Sexual Teaching*, Charles E. Curran and Richard A. McCormick, S.J., eds. (Mahwah: Paulist, 1993), 251-66; and Lisa Sowle Cahill, *Sex, Gender and Christian Ethics*, New Studies in Christian Ethics (Cambridge: New Studies in Christian Ethics, 1996), 217-54. However, this argument does not fully address the argument based on the inseparability principle above nor the others considered below.

42. It is true that this right is not an absolute one and might be waived in some circumstances in the interest of the child (i.e., adoption).

43. See May, 95-99.

44. Gilbert Meilaender, "Begetting and Cloning," Address to the National Bioethics Advisory Commission, March 13, 1997. Reprinted in *First Things* (June/July, 1997), 42.

45. See Grabowski, "Made Not Begotten," 19-20. It is true that due to environmental and personality factors, no clone would ever be exactly like the person from whom he or she was copied as is also the case with genetic or "identical" twins.

46. James Burtchaell, C.S.C., *The Giving and Taking of Life: Essays Ethical* (Notre Dame: University of Notre Dame Press, 1989), 134.

47. See *Donum Vitae*, II, B, 8.

48. See *ibid.*, I, 1.

49. On this point, see De Marco, 115-140.

50. In a study of 1,145 couples, John A. Collins, M.D., found that expensive fertility treatments offered only a 6% improvement in the rate of pregnancy over those couples who simply "kept trying." See *New England Journal of Medicine* 309, no. 20 (Nov. 17, 1983), 1201. In a later study (published in *Sterility Fertility Journal* [Fall, 1993]) of 2,000 couples, the same physician found the results of the two approaches "roughly the same." The 1997 S.A.R.T. Summary, however, found that the best IVF clinics have an approximately 20% rate of pregnancy per cycle of IVF.

51. *Donum Vitae*, II, B, 7. The citation is from *Respect for Human Life*, Vatican translation (Boston: Daughters of St. Paul, 1987), 32-33. The document is quoting Pius XII, "Discourse to those taking part in the 4th International Congress of Catholic Doctors, September 29, 1949.

52. See Coleman, 364.

53. See *ibid.*, 362.

54. This is the judgement of David Bohr, *Catholic Moral Tradition: In Christ a New Creation* (Huntington, IN: Our Sunday Visitor, 1990), 289; cf. Coleman, 363-64. Other Catholic authors are critical even of modified versions of GIFT. See, for example, De Marco, 219-35.

For other potentially acceptable procedures, see: E. Cofino et al., "Transcervical Balloon Tuboplasty: A Multicenter Study," *Journal of the American Medical Association* 264:16 (October 24-31, 1990): 2079-82; J.M. Kasia et al., "Laparoscopic Fimbrioplasty and Neosalpingostomy: Experience of the Yaounde General Hospital, Cameroon," *European Journal of Obstetrical Gynecological Reproductive Biology* 73:1 (May 1997): 71-77; and K. Sueoka et al., "Falloposcopic Tuboplasty for Bilateral Tubal Occlusion. A Novel Infertility Treatment as an Alternative to In Vitro Fertilization?," *Human Reproduction*, 18:1 (January 1998): 71-74. I am indebted to Dr. Hanna Klaus for these references.

55. I am indebted to Amy Vineyard for helpful comments on an earlier draft of this paper.