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Cloning vs. Parenting

by

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Alexander J. Lozano, M.D., closing an article on human cloning (*Linacre Quarterly*, August, 1999), cites the “intellectual validity to reflecting on how the cloning of humans will challenge our views on reproduction.” He offered two cases for study: 1) a married couple unable to conceive because the husband lacks functional sperm or lacks it altogether and, 2) a married couple in which one of the partners carries a dominant genetic trait that makes the likelihood very high of conceiving a child with a serious genetic defect. He states:

Such an action would find no support within official Catholic teaching and little if any support from most Catholic theologians. A traditional homologous technique would not be available — either the husband lacks healthy sperm or they are afraid to reproduce sexually for fear of conceiving a child with a serious illness. In such a situation one of the parents would donate a somatic cell to allow transfer cloning to be performed. The child born of such a process would be genetically identical to the “donor” parent and the technique would “homologous” in that no third party material was utilized. The child would be the genetic product of only one parent, but would be the product of the married couple’s “creative hope for a child” and “cooperation in the activity of the artificial reproductive process” (see reference). Such an act of reproduction, unlike heterologous techniques, occurs fully within the marriage (p. 89).

The Church’s position, as manifested in Magisterial statements, would be a resounding “No”, he continues, but might such a method be acceptable from within the community? Let’s take it up from there. There can be little

doubt that the prospect of cloning humans will continue to challenge doctors.

I. Preliminaries

1. *God creates each person by a new creative act.*

The term "reproduction" is properly used for animals and plants, but for humans the term "procreation" is preferable. Plants and animals reproduce with genetic materials, but humans do more: with the help of God's almighty power, they *procreate*. The word makes us aware of cooperative action with the Creator. Partnership, being a joint venture, rightly requires the consent of both parties. We must ask whether God approves human cloning in any case at all.

That God creates the soul is taught in *The Catechism of the Catholic Church*:

366 The Church teaches that every spiritual soul is created immediately by God — it is not "produced" by the parents — and also that it is immortal: it does not perish when it separates from the body at death, and it will be reunited with the body at the final Resurrection.

Might God simply refuse to create a person if viable cloning materials are presented, although at His displeasure? We see that He creates humans when there is fornication, adultery, rape, and in vitro fertilization. I think we can assume that He will create humans if technicians present viable clone materials.

2. *Doctrine against cloning is solid.*

The ban against human cloning is embedded irremovably in Church teaching, like "a wooden beam firmly bonded into a building [which] will not be torn loose by an earthquake" (cf. Sir 22:16). Dr. Lozano cites *Donum Vitae*, issued by the Congregation of Catholic Doctrine and approved by the Pope, February 28, 1987. It teaches that fertilization is sought licitly when it is the result of a conjugal act. What applies to fertilization of a human ovum there, applies with equal force to human cloning by nuclear transfer. *Donum Vitae* quotes Canon 1061 in this passage to make its meaning clear:

Thus, *fertilization is licitly sought when it is the result of a "conjugal act which is per se suitable for the generation of children, to which marriage is ordered by its nature and by which the spouses become one flesh"* (Cn 1061. Italics in the original).

The encyclical *Humanae Vitae* contains the same teaching, and reminds us that the Magisterium of the Church has often explained the same:

12. The doctrine that the Magisterium of the Church has often explained is this: there is an unbreakable connection between the unitive meaning and the procreative meaning [of the conjugal act], and both are inherent in the conjugal act. This connection was established by God, and Man is not permitted to break it through his own volition (translation of Janet E. Smith).

The teaching of the Church that love and procreation are not to be divorced is perennial, is part of her structure. Her teaching is clear, specific, repeated, *data opera*, held against fierce opposition, given by the highest authority, is a beam in her roof which shelters believers and protects the human race. A theologian who might opt to dissent is a Samson shorn of his seven locks of hair (cf. Judges 6).

3. Possible complications during a second run of the DNA sequences.

Cloning may induce genetic defects in the child even worse than those feared by genetically defective couples. Dolly Two, born on February 25, 1997, was the one successful birth among 29 also-tried embryos; and the 29 were survivors from 277 enucleated ova. In the meantime, bull calves have been successfully cloned with a technique similar to that used by the Wilmot team for Dolly the sheep. The concept of human cloning electrifies the media with excitement. Antonio Pardo, M.D.¹ points out, however, that human embryos are "much more delicate than bull embryos." One should expect greater difficulties with human cloning than with animals.

At the Rosling Institute, which produced Dolly Two, the technicians had previously pioneered a way to render embryonic cells dormant, which was the crucial step toward later success. They took *embryo* cells, not yet adult somatic cells, and manipulated them into a dormant state. To do this they placed them into a culture medium, and diminished the concentration of nutritive proteins in the medium in successive stages from 10% all the way down to only 0.5%. The cells then halted their division. In other words, they became dormant.

Dr. Pardo describes what followed:

In this way, it was possible to halt the division of cells in cultivation. In another action, ova were taken and their nucleus was extracted by aspiration through a micropipette. As a final step, the cultivated cells [which were now dormant] and the enucleated ova were placed in contact and subjected to a brief electric pulsation for two purposes: on the one hand, to create micropores in the membrane of

the two cells placed in contact and so to produce a fusion; on the other, to open the calcium channels in the membrane, provoking a reaction similar to the one caused by the spermatozoon on fertilizing the ovule and starting up the whole cell metabolism and the development of the new being (p. 29).

The success of this fusion when using embryonic cells was next applied to cells taken from the mammalian glands of an adult sheep, Dolly. There must be a reason for taking it from the udder of Dolly, not from other parts of her anatomy. I suspect the reason is that tissue of the udder, which initiates new growth when the ewe is pregnant for the first time, has cells which possess some of the dynamism of embryonic stem cells.

At any rate, they took a cell from an adult ewe's udder and fused it with an ovule from which the nucleus had been extracted. The process differed in the number of steps which had to be taken in cultivation to bring the cell into the dormant state.

Nature magazine (1997, 385:769-71) commented that the "importance of the experiment lies in the empirical demonstration that the mere stoppage of cell reproduction seems to reprogram the genetic system and enable it to begin embryonic development again until it reaches adulthood" (Pardo, 29).

Allow me to digress from our topic for a moment to call attention to Dr. Pardo's comments which relate to the current burning question of generating designated organs and tissues by manipulating embryonic stem cells. It can't be done, he writes, unless the entire embryo is cultivated. "The only way to induce the appearance of mature cells, starting from immature ones, is through complex interaction with other tissues, as embryologists well know. *Differentiated tissues may be obtained only in a complete embryo.* The proposal to discover the keys to genetic programming and its application to obtain specific tissues is impossible, since it starts from an error concerning the basic concepts of embryology" (p. 30, emphasis added). On the other hand, to produce certain types of differentiated tissues in the laboratory, simple physical or chemical changes suffice, without need of the usual genetic inductor. [Briefly: technicians can't grow spare pancreas or hearts except by growing spare humans.]

Back to our subject: The nucleus of a somatic cell selected for transfer has already run through a myriad of genetic sequences. When now fused to an ovum whose nucleus has been removed, it is poised to run through the sequences a second time. "Been there, done it before." Will it be an unhindered new run, or will it carry a handicap, a residual "karma" of its previous run? One report hinted that Dolly Two has cells as old as those of the mother clone, Dolly One. This I cannot verify, but if true, then human clones might be born with gray hair. Premature aging is not a

desirable genetic endowment for children. Children should be children, not tiny old people:

Indeed, we can tell whether a cell came from an old or young individual, although the observations we would have to make are more sophisticated than you might expect. Recognizing old cells from old people is often easy. Many old cells accumulate deposits of a certain "aging" pigment called lipofuscin. Lipofuscin is the debris of cellular components destroyed within cells' chemical disposal units, specifically the units called lysosomes. The older the cell, the more lipofuscin it contains.

Old cells also have more damage to their DNA. Recall that DNA, our genetic material, is composed of four different chemical letters, the four nucleotides, arranged in a specific sequence more than three billion letters long. This DNA is located inside the cell nucleus and is arranged in 46 separate pieces called chromosomes. Any alteration in the inherited sequence is termed a mutation.

Since free radicals damage DNA throughout our lives, and as most but not all of this damage is repaired, mutations gradually accumulate. So if we compared each of these billion letters to the ones we were born with, we would see more and more differences in older and older cells.

Young cells from old people are hard to distinguish from young cells from young people. It requires close examination of the chromosomes. Each chromosome is a bit shorter in young cells from old people because their telomeres have shrunk. Telomeres form "caps" of DNA on the ends of chromosomes. They keep the chromosome ends from sticking to one another — which would interfere with cell division — and are composed of a long sequence of units of the same six nucleotides repeated several thousand times. Whenever DNA replicates, as it must when cells divide, it cannot copy itself quite to the very end. Therefore, each time a cell divides, it loses about 15 of these repeated units. Over a lifetime of cell division, telomere shortening can be measured, but it requires sophisticated molecular techniques; even a long telomere composes less than one ten-thousandth the length of an average chromosome.²

Are the telomeres of the chromosomes in the adult nucleus used for cloning already depleted? Or can cloners circumvent the problem by selecting a newly replicated cell from breast tissue? I am a layman. But keep tuned.

Does the DNA of the selected nucleus contain residual modifications made during its previous run through the sequences? During the first run

the sequences were responding flexibly to environmental influences, especially to various substances entering its system via the placenta. We think of nicotine, excessive caffeine and alcohol, drugs, residues of synthetic steroids, dioxins, well-balanced or ill-balanced diet of the mother, and others. The DNA in its second run, when attempting to respond advantageously to current environmental events, may be hindered from doing so as efficiently as during the first run. If entrenched genetic corrections and detours of the former run remain in place, and are now confronted with a different environment, old corrections may be tacked on to new attempts, remnants of old detours may complicate apt responses to new challenges. Finally a genetic maze leads to an impasse. Why did only Dolly Two make it to birth, one among the 29 implanted embryos?

God Joined Parentage to the Generation of Human Life

We turn now from preliminaries and speculations to assess natural law reasons against human cloning. Pope Pius XII, whom we admire as a distinguished theologian in the field of medical ethics, observed that the deliberate performance of the marital act produces an awareness of a relationship of parenthood toward a child.

The relationship which unites the father and the mother to their child finds its root in the organic fact and still more in the deliberate conduct of the spouses who give themselves to each other and whose will to give themselves blossoms forth and finds its true attainment in the being which they bring into the world.³

It is the marital act with its consequences, and that act alone, which can so thoroughly modify human biology and psychology that people become parents. The word *parent* is derived from the Latin *parere*, meaning to bring forth, to bear, to give birth. To be parents, couples must do what the word states, namely, bring forth a child by the joint and voluntary action of marital intercourse and by acceptance of its consequences. The difference between parenting and manipulating a nuclear transfer must be obvious to all.

Through a fruitful marital act, a man becomes a father; a designated father to his own child. The father's life is thereby modified, newly capacitated, and significantly dignified. He can now grow into new dimensions of humanity by giving fatherly attention to his child. His relation to his spouse is also transformed, because he performs the act jointly with her. By so doing he implicitly promises faithfulness, and feels the need to love accordingly henceforth. The act constitutes and affirms their marital union, and bonds them also to their child, biologically and

psychologically. The marital act consummates the contracted marriage and solidifies it with an unbreakable moral force for the welfare of each other and for the benefit of the offspring.

Just as a father perceives obligations toward the child arising from his marital act, so also does the mother. By consenting to the act and performing it, she accepts ongoing responsibilities, together with her husband, toward their offspring. Nature bonds her to the child, and nature fulfills her precisely as a mother, a wondrous reward which only mothers can know. Mrs. Erica John, mother of nine, articulated what it means to be a mother bonded to a child:

The greatest joy and fulfillment of a woman is precisely in having this child — this little one, this miracle of life. Holding her newborn baby is such a stirring experience for a woman that words can hardly express it. Here is this little one, so perfect, so close, so loving — and he is totally dependent on you. There is just nothing in the world that is more rewarding to a woman — nothing! Not fame, not ability, not money, not acclaim. This is it! She is happy. She is fulfilled.⁴

The same Erica John describes how a mother's love evokes in a child the will to take a firm hold on life and to possess itself:

Parents are the primary source of affirmation for their children — not so much by what they do — but by their being there. For the small child, the mother is always there; she gives without taking, without demanding anything; she develops in the child not what is her own, but what is now within the child — his individual goodness. The mother can do this when she is already happy with herself and thus open to the goodness of the child. If the child comes to perceive himself to be good, worthwhile, desirable, lovable, the child too will possess himself strongly and firmly... The earlier in life he receives this gift of affirmation, the sooner his growing firmness and strength enables him to cope with the world, to contribute to the world his own strength, and share his happiness with others (Unpublished address at Family Life Association, Tokyo, 1981).

A very young child, continues this veteran mother, is able literally to feel the difference between being loved unselfishly for his own goodness, and being loved possessively for the sake of gratifying his mother's needs. Erica continues, articulating quality "mother talk":

We affirm our children when we recognize that they are good, worthwhile and lovable precisely the way they are — period — without the usual addition of "in spite of their shortcomings." The latter implies that our recognition and feelings about their goodness

is conditional and that they must do something. The feeling that one is expected to do something stifles the opportunity for growing at one's own pace and in one's own way. The unconscious realization that is generated by the process of authentic affirmation is: "If I am considered lovable in my presently imperfect way, how much more lovable will I be when I outgrow my imperfection?"

The father, tall as a church tower for the child, invites it to face the wide world outside and to cope with it. For the child he is a window into the outside world. The youngster, perched on the father's knees, views the world with equanimity from this position of security. The father is Atlas, strong and mighty. He is capable of finding his way in every situation. His prickly cheeks and gnarled hands make boys proud to pioneer their own pathway in the world. He makes girls feel that they are lovable, that they will be loved, that they can love another trusted man.

Parents, in turn, grow to maturity with their children. As Pope Pius XII said in the previously cited address on Marriage and Parenthood: "This consecration of self begun in generosity and brought to realization in hardship, by the conscious acceptance of responsibilities which it involves, can guarantee that the task of educating the children will be pursued with the care and courage and patience which it demands" (Ibid., p. 194). Parents grow to new dimensions of maturity while their children take off from the starting line.

In Vitro Fertilization and Cloning vs. Natural Parenthood

Cloning, like in vitro fertilization, deprives a child of its right to have a father and a mother, and is therefore a transgression of God's commandments. Pius XII, in his address of May 19, 1956, stated that: "With regard to artificial fecundation, not only is there reason to be extremely reserved, but it must be absolutely rejected... Artificial human fecundation 'in vitro' ... must be rejected as immoral and absolutely illicit" (Ibid., see also his address of September 29, 1949).

God is Father and Mother and Provider. Even more: for each child God provides a companion, a Guardian Angel, to watch over it day and night. Christ said: "See that you do not despise one of these little ones; for I tell you that in heaven their angels always behold the face of my Father who is in heaven" (Mt. 18:10).

If cloned children never know a loving mother, a proud father, and doting grandparents, will there be love on this earth at all? The system of cloning is not designed to increase love on earth. St. Thomas Aquinas (1225-1274) declared that God must necessarily forbid us from doing things which endanger the welfare of the human race. When the danger of

harming the race is serious, the obligation to avoid threatening behavior becomes grave (cf. *Summa Theologica*, II, II, 153, 3). Illegal cloning, if it is kept under control, may not harm the race beyond repair. But if cloning were to be made a legal practice, expect the worst. Janet Smith speaks with keen insight when she warns:

These realities (of love in the family) touch every realm of life. They affect people's ability to relate to friends and family; they affect people's ability to do well at their studies and their jobs; and they affect the whole of society, which needs stable and secure individuals. Those who do not experience love from family and friends tend to seek any semblance of love they can find — and thus become involved in illicit sexual relationships — and the cycle starts again (Janet E. Smith, "The Christian View of Sex," *The New Oxford Review*, January 1988, p. 30).

God has made a beautiful plan for the race, namely, marriage and family life. We do not doubt that couples who have a child produced by cloning can also love that child. Adopting parents often succeed admirably. But these exceptions prove the rule that nature and God already imprinted on natural parents. Change that rule, and you start a sustained nuclear reaction that will utterly ruin natural family life. It would tend to alter fundamentally the natural husband-wife relationship, and parent to child relationship as well. Men become hired hands, women become incubators, children are products made to order. Parents become trainers, children become troops, technicians drive out love as bad money drives out legal currency. If technical problems are overcome, if mass cloning develops into a viable business, cloning might smother natural childbearing. The cloning of humans is not God's plan for our race. Every child has a right to have a father and a mother, and that is basically why cloning falls afoul of nature's way and God's way.

Governments must make the cloning of humans to be a criminal offense in order to safeguard family life. From the viewpoint of the child, the cloner is a rapist: he lusts for self-satisfaction and spurns parental care for the child. Like other criminals, cloners deserve to be put safely behind bars to protect the rest of society.

Pope John Paul II, on November 20, 1993, asked governments to protect the human race from danger by laws protecting human embryos: "The Embryo has to be recognized as a being subject to the laws of nations, otherwise we are endangering humanity" (AFP-Jiji).

References

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2. *Exploring the Human Body*, Book Division, National Geographic Society, Washington, DC (1998), p. 253.
3. "Marriage and Parenthood," May 19, 1956, Translation, *The Pope Speaks*, 1956, p. 193.
4. Mrs. Erica John, Address given at Morning Star School, March 26, 1980, published in *Natural Family Planning — Nature's Way — God's Way*, De Rance Foundation, Milwaukee (1981).