

August 2004

Human Cloning, Theology of the Body And the Humanity of the Embryo

E. Christian Brugger

Follow this and additional works at: <http://epublications.marquette.edu/lnq>

Recommended Citation

Brugger, E. Christian (2004) "Human Cloning, Theology of the Body And the Humanity of the Embryo," *The Linacre Quarterly*: Vol. 71: No. 3, Article 6.

Available at: <http://epublications.marquette.edu/lnq/vol71/iss3/6>

Human Cloning, Theology of the Body And the Humanity of the Embryo

by

E. Christian Brugger, Ph.D.

The author is Assistant Professor of Ethics at Loyola University, New Orleans. He is the author of the book, Capital Punishment and Roman Catholic Moral Tradition, published by the University of Notre Dame press.

Several years ago I attended a debate at the Oxford debating union. The debated proposition read: "This house thinks that the cloning of human beings is unethical." Arguing in favor of the proposition was Ian Wilmut, head of the Scottish research team that successfully cloned Dolly the sheep. Arguing against was the well-known Oxford Darwinian and militant atheist, Richard Dawkins.

Wilmut's argument against human cloning was balanced and moderate: his research team had a less than 1% success rate in transferring cloned sheep embryos into female sheep uteruses; given the much greater complexity of human development, there promises to be an even lower success rate with human cloning; nor have we any confidence that having successfully cloned and transferred a human embryo, there will not result monstrous developmental deformities. Since the only way to perfect the procedure is to work out the kinks through repeated experimentation, and since this means a massive wastage of human embryos and grave threat to the welfare of clones who survive, the experimentation should not be started in the first place.

Dawkins scoffed at Wilmut's warnings. Sure, he said, the kinks need to be worked out, and until that time research ought to proceed with great caution; but rest assured, they *will* be worked out. He then turned to the audience and said: "Twenty years ago we experienced a non-rationally grounded emotional repugnance at the prospect of 'test-tube babies'; today IVF is a common and widely accepted form of assisted reproduction. Our present emotional misgivings about human cloning are no less irrational. *Mark my words*, twenty years from now human cloning will be as

widespread and warmly embraced as IVF is today." The audience sat in silence as if saying by their blank expressions, "I may not like it, but what he says sounds true." The proposition narrowly passed.

There is pressure at the local, national and international level to give a green light to human cloning, at least for purposes of biomedical research. Liberal politicians (Democrats and Republicans) are joining forces with biotech companies, Hollywood figures like Michael J. Fox, Christopher Reeve and Carol Burnett, and the ever-biased American media to characterize opponents as narrow-minded religious conservatives, as anti-scientific, and as ideologues motivated by petty "pro-life" politics indifferent to profound human suffering. Nevertheless, the question needs to be asked: "Ought we now or ever do this kind of research?" In this essay, I argue "No."

I. Cloning: Somatic Cell Nuclear Transfer

Presently the most common type of human cloning is called *somatic cell nuclear transfer*. It begins with a female gamete (i.e., an oocyte or egg) harvested from a donor. In the nucleus of that oocyte is half the genetic material (DNA) necessary for human development.

In sexual reproduction the other half is contributed at fertilization by the male gamete or sperm cell which contains in its nucleus half the genetic complement necessary for human development.

But cloning is asexual reproduction; no sperm is necessary. The nucleus of the female oocyte is removed, leaving the oocyte "enucleated." The nucleus of a somatic cell is then extracted (somatic cells are any cells other than human gametes — oocytes or sperm cells), and its nuclear contents transferred into the enucleated oocyte. Since the nucleus of every somatic cell contains a virtually complete genetic complement of the donor, the oocyte, having received the somatic cell's nuclear contents (i.e., its DNA), now contains all the genetic material necessary for human development. It is important to understand that the (nuclear) genetic material contained in this oocyte is unrelated to the female who donated the oocyte. Rather its genetic identity is identical to that of the donor of the somatic cell (who may be male or female or even, theoretically, non-human).

If the somatic cell nuclear transfer is successful, the resulting entity is no longer an oocyte, but a human zygote, a human being in its earliest stage of development. With the stimulus of an electrical impulse or with special chemicals the human zygote will begin actively dividing and be launched into the dynamic process of human maturation and development.

The purpose for the cloning would be subject to the intentions of the cloners. *Reproductive cloning* as it is popularly called, would entail

implanting the living human embryo in a female uterus and bringing the child to term. So-called *therapeutic cloning* would entail cultivating the embryo in vitro (in the laboratory), then exploiting it for whatever so-called therapeutic purposes the cloner wills. Presently, the main “therapeutic” interest is to harvest mature embryonic stem cells, a process that kills the embryo. Cloning in this way is attractive because the cloned embryo would have the identical nuclear genotype (genetic code) to the donor of the somatic cell, who may also be the clinical patient. The stem cells and tissues derived therefrom would have a high degree of biological compatibility and hence be far less prone to problems of tissue rejection.

II. Ethical Evaluation

Terminology:

The common terminological distinction between “reproductive” and “therapeutic” cloning is artificial and misleading. Every instance of human cloning is reproductive insofar as the intention of the cloner is to produce a new human being at the origins of his or her development. Admittedly, the intentions of the cloner for using the clone are different — the difference between having a baby and performing valuable, but destructive experimentation — but the subject of both is a new human being. Secondly, the term “therapeutic” implies that the procedure is helpful to the subject of that procedure. But in therapeutic cloning, no benefit is intended to the subject; in fact, the procedure is lethal to its subject.¹ It is important therefore to adopt language that does not contain within itself biases in favor of an unscrutinized ethical conclusion. For clarity’s sake I will adopt the terminology used by the President’s Council on Bioethics in its 2002 report on human cloning, which distinguishes between *cloning to produce children* and *cloning for biomedical research*.

Cloning to Produce Children:

A matter of control: Many motives can underlie the desire for cloning to produce children — duplicating individuals exceptional for some talent or trait; reproducing an image of a dead (or living) loved one; producing individuals immune from genetic diseases; selecting someone for cosmetic reasons like sex or physical appearance; making people for use as a source of spare body parts. More sinister motives — which we have no reason to impute to present-day defenders of cloning, but which, given the sad history of human wickedness, ought not be excluded as real possibilities for our future. These include producing people for purposes of sexual or economic exploitation, advancing military objectives, or in the interests of various other forms of human slavery.

What do all these motives share? They share the will of one generation to exercise control over another. But doesn't any family planning involve control? Yes, more or less, but not nearly to this degree. In ordinary family planning a couple undertakes the important decision of determining how many children to have, when, where and under what conditions to have them. No doubt the family planning decisions of couples can be immoral, especially if they will to bring children into the world without the will or manifest ability to nurture them. But their decision does not touch the real identity of their child.

In cloning, the clone's very own biological identity is controlled. It is imposed upon her by another, not received as a gift from God as the incommensurably unique melding of the genetic qualities of the two parents. And it is imposed for reasons unrelated to the good of the clone. *Her* interests cannot logically be the subject matter of the choice for her identity since there is no *her* prior to the imposition of identity, only a range of other identities from which to choose. The identity is therefore chosen, not for her good, but at the discretion of the choosers, we might say for *their* good, a startling exercise of willful domination of one person over another.

To be clear: in cloning, human biological identity is imposed by the cloners. To be sure, the control is only over genetic identity, not over one's full humanity, which is a unity of a material body and immaterial soul. The clone's soul is created by God and infused in the tiny individual, presumably at the moment her development begins.² But biological identity is essential to human identity. My biology is *me*, even though I am more than my biology. Among all that I can consider mine — my bank account, my house, even my family — little is more essential, more personal, more self-defining than *my bodily identity*. The natural process of human procreation assures that each human person has a unique and unrepeatable biological identity.

In the case of identical twins (that is, monozygotic twins), that genetic identity is received by two who share characteristics of biological subjectivity, but who still *receive* that identity as a gift. Because of the relative contemporaneity of their beginnings,³ the twins are still free to create their own histories, albeit more closely identified with one another than non-twinning siblings.

Cloners, on the contrary, impose the identity of one who already is (or was), one who already has a history. This is a violation of what it seems to me is a natural right of the human person, namely, the right to subjective identity. Cloning is a form of radically unjust violence against the clone's personal subjectivity. It is also a violation of the fundamental principle of human equality since the clone *in her origins* stands in relation to the cloner

not as proceeding under (more or less) equal conditions but in the relation of maker to product. Christians understand this willful and unjust control over another's subjective identity to have even more profound implications. The biological identity we receive through the seemingly chance process we call fertilization, is an identity whose trajectory stretches beyond temporal horizons. The Christian doctrine of the resurrection of the body illumines for us the reality that the body I possess now will be directly related to the bodily identity I will possess for all eternity.

The abolition of sexual reproduction: Cloning renders human generation asexual. A male and female are no longer required for bringing forth of new life. Females are required as egg donors, and males not at all. The notion of maternity is muddled: is the egg donor mother, or the somatic cell donor, or the woman who carries the child to term? And the notion of biological paternity is virtually abolished altogether. Cloning perverts the basic relational structure of the human person. A clone does not have a biological mother and father, but rather a single progenitor. She might be the twin sister of her mother, the daughter of her grandfather, or the twin of an aborted baby. The old folk song, "I'm My Own Grandpa" takes on a whole new meaning. In vitro has already confused the bonds of kinship, but cloning renders them almost meaningless.

Moreover, cloning displaces the specifically conjugal (coming together) dimension of human procreation within the logic of human love and self-giving into an impersonal project of laboratory research within the logic of industrial production (Let's not fool ourselves, cloning will become an industry with enormous economic implications.). Is there any natural human reality more intimate, sublime and consequential, indeed more human, than the flowering of conjugal love into the fresh blossom of new life? In cloning, the link between conjugal love and procreation is severed.⁴ This is not to say that the cloners would not be personally interested in, or committed to, or emotionally invested in the product of the procedure. But the intensity of sentiment surrounding the process should not obscure the reality of what it is: the process is *not* begetting, it is making.

The advent of asexual human reproduction strikes at the heart of Christian anthropology by rendering the complementarity of the sexes irrelevant. Christian revelation teaches that God made humanity "male and female"; neither male alone nor female alone. Man and woman represent in their integral individuality two different types, two unique complementary embodiments (embodied manifestations) of the spiritual being we call the human person, each having his respective significance for himself and for the other according to the divine plan. In other words, it was part of God's will that there be two sexes; God *wants* two sexes. The Genesis 1 creation narrative gives one foundation for this differentiation:

God's command to "be fruitful and multiply, fill the earth and subdue it" tells us that sexual differentiation and complementarity are related to *procreation*. At the very heart of the Christian conception of the origins of the human person is the belief that God created man and woman to be joined together in an embrace that is intrinsically meaningful for the bringing forth of new life. Hence, Christian faith supports what the natural law prescribes, namely, that marital cleaving (marital sexual intercourse) is the only fitting context for the bringing forth of new life.⁵

Cloning for Biomedical Research:

The nature and identity (the "status" of the human embryo: Many, if not most, who defend human cloning defend it not for purposes of producing children but for biomedical research. Cloning research can be justified, they maintain, because of its utility in curing disease and relieving human suffering. It is unfortunate (they say) that human embryos will be destroyed in the process but this unfortunate consequence is justified by the promised results.

The determining ethical question to be asked is what is the nature and identity of the cloned embryo? Is the embryo a human life and therefore a full human being? Or is it merely pre- or potential human life, something that will become but is not yet a *member* of the human family (something defenders of destructive embryo experimentation routinely assert)? If it is merely pre-human, then lethal experimentation upon it, for compelling reasons, might be justified since the subject would not be a human being. But if the human embryo is human life, then cloning for research purposes would simply be the deliberate creation and subsequent disposal of human life for the sole benefit of others. How do we resolve this question? We begin by looking at the empirical facts.

Before the transfer of the somatic cell's nucleus into the enucleated egg the human tissues collected for manipulation are clearly not internally organized whole human individuals. The oocyte and somatic cell are donated body cells of other whole self-organizing human individuals, extensions we might say of those individuals. After the transfer and successful stimulation of embryonic development, we are no longer dealing with a mere part of another's body, but with a *newly organized whole, albeit immature, living member of the species homo sapiens*.⁶

Let us examine this assertion. The individual is whole and self-organizing, insofar as it contains within itself the epigenetic primordia (i.e., the complete genetic code and living dynamism) for internally coordinated development into a fully mature member of the species. Yes, it needs nurture from outside itself, but so do newborns, the infirm and the elderly. Actually everyone, arguably, at every stage of development needs nurture

from outside himself for healthy human development. It is *living* (as opposed to dead, or not yet living), insofar as it has come into existence as an entity with an enduring reality — with a history — that will include organized self-moving natural development towards full maturity. And it is indubitably *human*, not canine, bovine or feline, and will in a brief time — within eight or so weeks — actively develop a morphology that will identify it as such even to the untrained eye.

What sense can be made of calling it merely pre-human life and hence of denying it full human rights? Some reply, because it is not till day fourteen — the onset of development of the primitive streak — that monozygotic twinning can no longer occur. Since before this point the human embryo can twin, that is, split in two (sometimes more) embryos, it follows (they say) that it is not yet a unitary human life; the living being that is identical with the later being with a developed personality has not yet emerged. But this logic is fallacious. Granted, it does prove that before day fourteen the developing human organism has the potential for a split that will give rise to two (or more) developing human organisms. It also proves that before twinning we are not dealing with *two* whole organized human individuals. But it does not follow that before day fourteen we are not dealing with *any* whole human individual.

And we have good reasons for concluding that we are dealing with a fully human life. Human development begins in the zygote stage and unfolds seamlessly from that stage through a series of natural internally self-directed development phases. There is no discreet identifiable moment nor even series of events after the new organism comes into existence that can be construed as the beginning of a new organism. If we say it emerges into humanity sometime after it comes into existence, what is it before that point? It is not part of another's body, as is an oocyte or somatic cell. It is not awaiting an origin as a living member of a species, since that takes place at the zygote stage. It is not awaiting some essential contribution to its development from outside itself, since from its genesis it contains within itself the epigenetic primordia for self-directed growth into adulthood. Both before and after day fourteen the manner and direction of its maturation is determined by the genetic material contained within it, not by extrinsic causes. What, therefore, would be the cause of its emergence into humanity?

Moreover, embryological evidence shows that the embryonic cells prior to day fourteen do not function as an aggregate of unrelated noncommunicating cells, but rather as a single organism. They interact, communicate and are restrained from autonomous development. It is true that sometimes a totipotent cell splits, giving rise to a newly developing organism, and, yes, this event normally happens before day fourteen. But the fact that twinning might occur before day fourteen is insufficient reason

for concluding that before day fourteen the embryo is an unorganized aggregate of cells awaiting some organizing event or principle to bring them together into a functioning human whole. In other words, the fact that you can produce two from something does not prove that something is not presently one, or that it is indeterminate. A flatworm or a plant or an amoeba is divided and the result is two flatworms, plants (as in cuttings) or amoebas, but this does nothing to show that prior to such division the flatworm, plant or amoeba was not a unitary organism.

Since everyone begins his or her existence as an embryo, it is reasonable to conclude that when we are dealing with a human embryo, even at its earliest stages of existence, even with the potential for twinning, we are dealing with a tiny but fully human being, and that the terms zygote and embryo, like the terms fetus, baby, child and adult, are not terms designating substantial identity, but rather phases in the development (maturation) of a being whose substantial identity has already begun.

Some still might be unconvinced. The empirical evidence, they might argue, does not settle the question of the ethical illegitimacy of lethal experimentation on the early human embryo. A thought experiment will help us consider the ethical question from another vantage point. If you were a military pilot during peacetime, ordered to test incendiary bombs on a designated target, and your radar gave evidence that there were unidentified living beings, lots and lots of living beings, stirring at ground zero; if you were uncertain, but had good reason to believe that they *might* be innocent civilians, would you be ethically justified in dropping your incendiary bombs on ground zero *based on the reasoning that the status of the objects on your radar screen was uncertain?*

The empirical evidence, if not proving conclusively that the early human embryo is human life worthy of full moral respect, provides good reasons for concluding as much. At the very least, the evidence leaves in our minds a serious doubt. The honest scientist or clinician therefore must inevitably confront the objection: "It *might* be a human being I'm planning to create and experiment on, therefore, I *might* be planning to do something terribly wrong."

In the absence of conclusive evidence to the contrary, is not the scientist, clinician, public official or anyone, for that matter, morally required to treat the human embryo as a whole human being with human rights and refrain from actions that would be gravely wrong presuming this were the case? It is on the basis of this reasoning that the CDF teaches that "the human being must be respected — as a person — from the very first instant of his existence." (*Donum Vitae*, I,1).⁷ And in its *Charter of the Rights of the Family*, the Holy See teaches: "Human life must be absolutely respected and protected from the moment of conception."⁸

Given the weighty human goods at stake, the burden of proof lies on the side of the cloners and experimenters to prove beyond any doubt that the subjects of their experimentation are *not* human beings. This is something they clearly have not done, nor does it seem they are interested in doing, which makes one doubt the sincerity of their commitment to this important moral question.

The question of utility: But what about the great goods that could result from cloning for biomedical research? Doesn't the goal of significantly advancing scientific and clinical knowledge and the prospect of relieving terrible human pain and suffering justify experimentation that destroys human beings? In other words, don't good ends justify bad means? It is tempting to answer yes. And the temptation increases when the refraining from doing evil promises the continuation or increase of the prospect of suffering evil.

The question is not new. It is the ancient question of the legitimacy of utilitarian morality, a question Socrates famously confronted when he asked the timeless question, is it better to do evil or suffer evil? Socrates, Plato and Aristotle, and the entire Christian tradition from St. Paul (Rom. 3:8), to St. Augustine, to Thomas Aquinas to John Paul II, answer with one unbroken voice: to do evil is to become evil.⁹

Moreover, virtually every great world religion and influential moral philosophy formulates a common demand of morality, a universal moral norm relevant to the problem of cloning, more ancient than the utilitarian premise. We find it in Christianity, Judaism, Islam, Buddhism, Hinduism, Taoism, Confucianism, Sikhism, Jainism, Zoroastrianism, Unitarianism and Native Spirituality. Christianity calls it the Golden Rule: *we should act toward others as we would wish them to act toward us*. It requires us to place ourselves, in our imagination, in the position of those with whom we do not ordinarily or naturally identify, like that of a tiny human embryo, and then ask ourselves, if I were in this position, how would I wish to be treated? Which of us would wish to be produced in a laboratory, experimented upon and then killed?

If my reasoning is correct, and the human embryo is a whole living human being, then asexually producing it, experimenting upon it for reasons unrelated to its own welfare¹⁰ and subsequently destroying it involves the following grave injustices: 1) A violation of its right to subjective identity, 2) A violation of its right to be brought into the world in the context of a loving marital embrace,¹¹ 3) A violation of its right not to be harmfully exploited for another's gain and without its consent,¹² and 4) A violation of its right not to be killed.

Conclusion

When Louise Brown, the world's first test-tube baby, was born, the Patriarch of Venice, Albino Luciani, was one of the first to promise his prayers for the newborn. Just months later, Luciani was elected pope as John Paul I, a pontificate that lasted 33 days. There was some consternation at the archbishop's statement for fear it might appear to legitimize the process by which the baby had been brought into being. Whether or not this was the case, I do not know. But it was perfectly right that Luciani should offer his prayers for the baby's well-being. Irrespective of the process, the baby was, and is, a human being worthy of esteem, protection and prayers.¹³

The same can be said for a human clone, whether it is marked for embryonic destruction or destined by its cloners for full-term delivery. A human clone will be a full human being, ontologically equal in its humanity to every other human being, made in God's image and likeness, redeemed by the blood of Jesus, and destined for eternal and blissful communion with the Trinity in heaven, even though he or she will have been brought into being under morally reprehensible conditions. If cloning to produce children proceeds successfully, then those who defend human life should oppose every effort to abort cloned children in utero, exploit them after birth, or in any other way arbitrarily limit their human rights. Similarly, if cloning for biomedical research is sanctioned, and another generation of embryonic human life, like the generation begun with IVF begins,¹⁴ then pro-lifers will expand the scope of their activist concern to include their welfare and protection. But the Rubicon has not yet been crossed; there is still a way back. The question as to whether cloners and their advocates will achieve their legislative or judicial designs has not yet been answered.

Human cloning is an example of value-free science driven by utilitarian morality. The 1997 Vatican document, *Reflections on Cloning*, says it well: "Cloning risks being the tragic parody of God's omnipotence."¹⁵ Its defense and promotion proclaims, with Nietzsche, the "death of God." Its acceptance by the Western world will result in the death of mankind as we know it.

We must answer a question at the heart of morality: is human freedom (including scientific freedom) *for* something or is it indifferent? Is it limited, ethically speaking, solely by the contingency of possibility, or is it morally circumscribed by the requirements of human good, human dignity and human well-being? Aren't there some things that we should not do, even though we can do them?

References

1. The CDF document *Donum Vitae* teaches: "experimentation on embryos which is not directly therapeutic is illicit." (I.4)

A senate committee report of the Australian government, entitled *Human Embryo Experimentation in Australia*, R86/257 (1986), defines "non-therapeutic experimentation" on embryos as experimentation that "does not directly benefit the embryo undergoing treatment", even if benefit may accrue to future embryos or be in the interests of the advancement of science. (P. 16).

2. The Church has never made a judgment about the precise moment of ensoulment. The question, it has said:

is a philosophical problem from which our moral affirmation (about the right to life of the human being from conception) remains independent for two reasons:

(i) even supposing a belated animation, there is still nothing less than a *human* life (as biological science makes evident), preparing for and calling for a soul for the completion for the nature received from the parents;

(ii) on the other hand, it suffices that the presence of this soul be *probable* (and the contrary will never be established) in order that the taking of life involves accepting the risk of killing a human being who is not only waiting for but already in possession of his soul.

– (1974) 66 *Acta Apostolicae Sedis*, p. 738.

The CDF teaches in *Donum Vitae*:

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: how could a human individual not be a human person? The Magisterium has not expressly committed itself to an affirmation of a philosophical nature, but it constantly reaffirms the moral condemnation of any kind of procured abortion. This teaching has not been changed and is unchangeable.

(I.1.par.3)

3. Embryologists disagree about the precise process of twinning. Some think there might be two embryos from the beginning hidden within what appears to be one. More think that there is first one embryo, and then some extrinsic cause splits off a portion of the embryo; at this stage, since the new cells are not yet specialized (i.e., are still totipotent), the splitting gives rise to a new organism which is, in a sense, the

asexual offspring of the first. If this is correct, then monozygotic twins do not begin at precisely the same time.

4. "... attempts or hypothesis for obtaining a human being without any connection with sexuality through "twin fission", cloning or parthenogenesis are to be considered contrary to the moral law, since they are in opposition to the dignity both of human procreation and of the conjugal union," *Donum Vitae*, I.6.

5. "The tradition of the Church and anthropological reflection recognize in marriage and in its indissoluble unity the only setting worthy of truly responsible procreation," *Donum Vitae*, II.A.1.

6. The CDF, *Declaration on Procured Abortion*, teaches:

From the time the ovum is fertilized, a new life is begun which is neither that of the father nor of the mother; it is rather the life of a new human being with his own growth. It would never be made human if it were not human already. To this perpetual evidence... modern genetic science brings valuable confirmation. It has demonstrated that, from the first instant, the program is fixed as to what this living being will be: a man, this individual-man with his characteristics aspects already well determined. Right from fertilization is begun the adventure of a human life, and each of its great capacities requires time... to find its place and to be in a position to act.

– 12-13: AAS 66 (1974) 738

7. Further on (I.1, par. 4), *Donum Vitae* teaches again, "The human being is to be respected and treated as a person from the moment of conception; and therefore from that same moment his rights as a person must be recognized, among which in the first place is the inviolable right of every innocent human being to life. This doctrinal reminder provides the fundamental criterion for the solution of the various problems posed by the development of the biomedical sciences in this field: since the embryo must be treated as a person, it must also be defended in its integrity, tended and cared for, to the extent possible, in the same way as any other human being as far as medical assistance is concerned."

8. *L'Osservatore Romano*, (November 25, 1983).

9. *Donum Vitae* (I.4) teaches: "No objective, even though noble in itself, such as a foreseeable advantage to science, to other human beings or to society, can in any way justify experimentation on living human embryos or fetuses, whether viable or not, either inside or outside the mother's womb."

10. The World Health Organization and the Council for International Organizations of Medical Sciences of Helsinki's Declaration (as revised in 1975) states: "... Concern

for the interests of the subject of biomedical research must always prevail over the interest of science and society.” (I.5) and “In research on man, the interest of science and society should never take precedence over considerations related to the wellbeing of the subject.” (III.4).

11. *Donum Vitae* speaks of “the right of every person to be conceived and to be born within marriage and from marriage” (I.6). Further on it states: “from the moral point of view a truly responsible procreation vis-a-vis the unborn child must be the fruit of marriage... The child has the right to be conceived, carried in the womb, brought into the world and brought up within marriage.” (II.A.1). Footnote 32 of the document reads: “No one, before coming into existence, can claim a subjective right to begin to exist; nevertheless, it is legitimate to affirm the right of the child to have a fully human origin through conception in conformity with the personal nature of the human being. Life is a gift that must be bestowed in a manner worthy both of the subject receiving it and of the subjects transmitting it.”

12. It goes without saying that interventions aimed at its own welfare can be morally licit. *Donum Vitae* teaches: “As with all medical interventions on patients, one must uphold as licit procedures carried out on the human embryo which respect the life and integrity of the embryo and do not involve disproportionate risks for it but are directed towards its healing, the improvement of its condition of health, or its individual survival” (I.3). See also Pope John Paul II, *Discourse to the Participants in the 35th General Assembly of the World Medical Association* (October 29, 1983) AAS 76 (1984) 392.

13. JAN. 16, 2003 (Zenit.org).

14. *Donum Vitae* (I.5), “Human embryos obtained *in vitro* are human beings and subjects with rights.”

15. Pontifical Academy for Life, *Reflections on Cloning*, 1997.