

# The Linacre Quarterly

---

Volume 57 | Number 4

Article 9

---

November 1990

## When Did I Begin?- A Reply to Nicholas Tonti-Filippini

Norman Ford

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

---

### Recommended Citation

Ford, Norman (1990) "When Did I Begin?- A Reply to Nicholas Tonti-Filippini," *The Linacre Quarterly*: Vol. 57: No. 4, Article 9.  
Available at: <http://epublications.marquette.edu/lnq/vol57/iss4/9>

## *When Did I Begin? —* **A Reply to Nicholas Tonti-Filippini**

Rev. Dr. Norman Ford, S.D.B., S.T.L., Ph.D.

---

I would like to reply to Nicholas Tonti-Filippini's recent Critical Note on my book *When Did I Begin? Conception of the Human Individual in History, Philosophy and Science* (Cambridge University Press, 1988).<sup>1</sup> He correctly states the thesis that represents the conclusion of my book and agrees with much of what I have written. He shows no signs, however, of having grasped the thrust of the central line of my reasoning and he fails to mention some of my crucial arguments. Rather than refer directly to particular sentences of his, I think it would be better to answer his critique of my thesis by presenting a brief outline of why I concluded that a human individual could not begin before the appearance of the primitive streak about 14 days after fertilization.

In an era of reproductive technology, it is no longer an idle academic question to ask when the life of a human individual begins. The answer given to this question is relevant to the morality of those methods of preventing pregnancy whose action may be abortifacient. It is more pressing still to know what is involved when human embryos are frozen in some programmes of *in vitro* fertilization. Debates on the moral status of the human embryo and the appropriate legislative action required to give due protection to human embryos make it imperative to study the question thoroughly for the emergence of the truth.

An inter-disciplinary approach involving philosophy, scientific embryology and history is required. Science is quite relevant even though it more properly pertains to philosophy to determine questions about the meaning and beginning of human personhood. Philosophical induction cannot afford to neglect any facts of scientific embryology, even though not all the scientific facts may be equally significant in the final analysis. Whoever wishes to master these issues must become acquainted with both disciplines. Laudable pro-life objectives in today's world cannot be effectively promoted by unproven statements on when a person begins. A responsible search for truth does not undermine Catholic moral teaching provided the respect due to early human embryos is upheld. The challenge to write convincing arguments to protect human life from conception must be taken up seriously for our contemporaries.

## The Catholic Church's Position

The Catholic Church has always adopted the commonly accepted well-informed view of the scientists and philosophers of the day concerning the beginning of the human person. At present the Church takes for granted the view held by most in the community that the zygote, formed from the union of sperm and egg, is already a human being but has expressly not committed her authority to this affirmation. At the same time the Church rightly realizes that wherever there are reasonable doubts about the personal status of the early embryo, moral principles, without prejudice to the search for truth, require that the human embryo be treated as a person from conception. I fully concur with all the teachings of the Instruction "Donum Vitae", especially the following passages:

... The conclusions of science regarding the human embryo provide valuable indications, from which by the use of reason, it is possible to discern that a person is already present from the first appearance of human life: how could a living human creature not also be a human person? The magisterium of the church has expressly not committed its authority concerning this affirmation which properly pertains to philosophy, but it constantly reaffirms its moral condemnation of any kind of procured abortion. This teaching has not been changed and is unchangeable.

Thus the fruit of human generation, from the first moment of its existence, that is to say from the moment the formation of the zygote begins, demands the unconditional respect that is morally due to the human being in his[her] bodily and spiritual totality.

A human creature is to be respected and treated as a person from conception; and therefore from that same time his[her] rights as a person must be recognised, among which in the first place is the inviolable right to life of each innocent human creature.<sup>2</sup>

## Philosophical Considerations

Soul and matter are one, constituting the characteristic psychosomatic unity of the human individual, a living human body and a unique ontological entity. It is not a question of finding out when a human individual begins to have personal experiences of his or her worth, or begins to be a moral agent after attaining the age of reason. It is not simply a matter of establishing when each one's genetic individuality begins. It is well known that this occurs at fertilization. It is more a matter of finding out how far one can trace back one's identity as the same continuing living body or living ontological individual. A living ontological individual is actually organized as a distinct heterogeneous being who is not an aggregate of smaller living cells nor merely a part of a greater integrated whole.

Although all the cells in our bodies are genetically identical, each one is not a distinct ontological individual. There is only one human individual the really exists in the primary sense of actual existence, though there are many cells which share in the existence of that single living human being. A human person is a distinct living ontological individual with a truly human

nature. A human person cannot exist before the formation of a distinct living individual with a truly human nature which retains the same ontological identity throughout its successive developmental stages. The adult is the same ontological individual as the infant and even the fetus prior to birth. It is a question of considering the relevant biological evidence to see if there is a stage in embryological development before which there could not be an ongoing individual living body with a truly human nature.

### **The Case for a Human Person Beginning at Fertilization**

It is commonly held that a human person begins at fertilization when the union of the sperm and egg give rise to a single-cell human embryo, a zygote, whose unique genetic individuality remains unchanged during normal development. Because cell divisions and differentiation required for the coordinated development and growth of the human individual are programmed from conception, it is argued the zygote already is a human individual. These facts, coupled with unidirectional development and growth, are thought to suffice to establish the human zygote as the one and same living being as the future human adult. According to this account the zygote is an actual human individual and not simply a potential human person in much the same way as an infant is an actual human person with potential to develop to maturity.

When identical twinning occurs at the two-cell stage either the first human individual ceases when it divides and two new human individuals begin, or the original human individual continues when a newly formed twin begins. There is no logical reason why one living individual cannot give origin to another without continuing to exist as the same ontological individual. I agree with Tonti-Filippini that it is metaphysically possible for an individual to give rise to another individual without ceasing to exist. A tree cutting may give rise to another tree of the same type while the original tree continues to exist.

### **The Case Against a Human Person Beginning at Fertilization**

In my book, I argue philosophically on the basis of evidence drawn from scientific embryology that this widely held traditional view may be coherent, but not necessarily true. Although the zygote is endowed with human genetic individuality and its cell progeny may give rise to a human adult, it does not follow that the zygote itself is a human individual. The fact that identical twinning may occasionally occur when the zygote divides, raises the question whether the zygote is, or is not, a human individual. In theory, abstracting from the concrete biological reality, it is possible to argue that the zygote retains its ontological identity when it divides to give origin to a second identical cell. In this hypothesis, if the zygote already is a human individual, a two-celled human individual would be present after the first cleavage, and a multicellular human individual throughout subsequent cleavages.

Tonti-Filippini does not see why the comparison of the tree with the human zygote fails on biological, not metaphysical, grounds. The biological structures of the tree and the human zygote reveal the essential differences which are relevant to determining whether the original individual zygote survives the twinning process when a second identical cell begins. It is obvious the central organization and structure of a tree remain after a cutting is taken from it. The same applies to a human individual when both legs and arms are amputated. Tonti-Filippini is right in saying the same person continues despite the loss of these non-vital parts. Likewise the ontological identity of a human person is not affected when one produces living sperm or eggs which exist for a short time as living individuals. A human individual would not cease to be the same entity even if it were possible to replicate him/her by producing a clone from one of his/her cells.

Contemporary scientific embryology has established that once the DNA content of the 23 pairs of original male and female single thread chromosomes is replicated, the fertilized ovum has 23 pairs of double threaded male and female chromosomes. After some hours, cell division and cleavage begin with the *random* sharing of the original and replicated chromatid threads from each pair, so that the parent cell is no longer present once the first two daughter cells are formed. It no longer exists once it shares its cytoplasm and chromosomal genetic material to give rise to its identical daughter cells of equal age. The analogy of the amoeba serves better than that of the tree cutting:

The case of an amoeba or a bacterial cell becoming two by fission would be the appropriate analogy to employ in the case of identical twinning in human zygotes. The original parent cell loses its ontological individuality and ceases to exist when two offspring result from the equal sharing of its genetic material. The parent individual actually ceases to exist when the two new ones begin to exist.<sup>3</sup>

Neither of the daughter cells is *the same one, the same ontological individual*, as the parent cell, though they are genetically identical to the parent cell. The zygote *becomes* two independent cells, two living individuals, each of which begins a new life-cycle within the *zona pellucida*, a protective cover composed of non-living glyco-proteins in non-cellular form. The zygote could not be a human person if it is not the same continuing individual entity as the first two cells after the first mitotic division. The evidence does not support the view that the zygote itself continues as one living individual with the same central organization after the first mitotic division. Two contiguous identical cells do not constitute one living individual. The required continuity of ontological identity from zygote to early embryo is not there, and much less from zygote to fetus, infant, and human adult.

### **A Human Person Present Before Definitive Individuation?**

Each human adult has a body with millions of cells, but is also a

multicellular human individual. If I am right, sometime after the two-cell stage a living human individual must be formed. This is often referred to as *individuation*. With the second mitotic division there are four distinct, contiguous, genetically identical cells within the *zona pellucida*. Each lives and behaves as an individual, drawing on nutrients from its cytoplasm and the surrounding fluids to provide its energy requirements.

At the four-cell stage, each cell is still totipotent, i.e., given a favorable environment, each has the capacity to generate the cell progeny required for the complete individual human offspring. Soon after this stage totipotency is restricted to groups of cells. Evidence for this may be had from the phenomenon of identical twinning which in the human may occur naturally anytime from the two cell stage up to the appearance of the primitive streak, about 14 days after fertilization. If a genetically unique human zygote is not the same ontological individual as one or both of its identical daughter cells, it could not be so for the resulting blastocyst, fetus and child, notwithstanding the continuity of the same biological identity at each stage of development. Genetic identity of human cells must not be confused with the ontological identity of human individuals. Human twins may be genetically identical but they are certainly distinct ontological individuals.

Intercellular communication and cell differentiation begin to appear in the human from about the eight-cell stage onwards, but especially after the cells compact to form a cluster of cells called a *morula*. This maximizes cell surface contact. Some argue that these goal-directed activities are a sign the early human embryonic cells already have the requisite ongoing unity required for the actual constitution of a human individual. Goal directed activities of cells, however, are perfectly compatible with a multiplicity of cells that are distinct individuals. Think of the continuous goal directed activities of the sperm from its binding to the surface of the *zona pellucida* to penetration and the complete fusion of both gametes to form a new individual cell at syngamy. Nobody suggests the sperm bound to the outside of the *zona pellucida* constitutes a new cell to form a zygote. Intercellular goal directed activities alone do not prove the cells constitute a living multicellular individual.

The occupation by some cells of an inner or outer position in the morula plays a great part in determining differentiation and consequently cells' developmental pathways and final destiny. These chance factors do have some bearing on differentiation and the formation of the definitive individual by activating certain genes and not others. The flexibility of movement and allocation of cells as distinct entities argues strongly against the morula being a single human individual.

Experiments with mice show how single cells taken from three separate early mouse embryos can be aggregated to form a single viable chimeric mouse with characteristics of all three parent embryos. The three genetically dissimilar cells and their progeny collaborated to form the chimeric mouse. In this case, the resultant chimeric mouse certainly did not begin at the zygote stage. This suggests that in the normal situation, genetically similar

cell progeny of a zygote subsequently form the definitive individual body, be it that of a mouse or a human individual.

Prior to the early blastocyst stage, the developing cells do not differentiate sufficiently to determine which cells will form the extraembryonic membranes (e.g., placenta) and those which will form the inner cell mass, from which will develop the embryo proper and fetus. Animal experiments show that by the late blastocyst stage when the inner cell mass is already formed, it is not yet determined which cells' progeny will give rise to the definitive embryo proper which will develop and grow into the fetus. A human individual could not be present before it is actually formed. The traditional insight over the centuries remains ever valid: a potential human individual cannot be an actual human individual. There can be no person before the formation of a distinct on-going individual human body.

### **A Human Person Begins with the Formation of the Primitive Streak?**

With the appearance of the primitive streak at the completion of implantation some 14 days after fertilization a symmetrical body plan along the craniocaudal axis for every human individual is established, including cases of identical twinning. The multicellular human individual formed at this stage remains the same ongoing human being without loss of identity until death. The primitive streak represents the formation of a definitive individual and the restriction of the developmental potency of the zygote's cell progeny to the building up of a single individual in all eutherian mammals, including humans. Consequently identical twinning can no longer occur after this stage. Conjoined identical twins are formed if two primitive streaks in part develop as one.

Prior to this stage, it seems unreal to speak of the presence of a distinct human individual. This suggests that before this stage, genetically human embryonic cells could not form an ongoing human individual with a true human nature. In short, I argue in my book that one or more human individuals could not actually exist before one or more human bodies are formed. I further argue that once the human individual is formed, a human being with a rational nature is constituted by the creative power of God.

Not all will agree with my thesis and much time may be required for the truth to emerge with certainty. The zygote has the genetic code and organization required for the eventual formation of one or more human individuals, but this does not suffice to constitute an actual human individual, despite the continuity of genetic identity. Life may be a continuous process, but distinct individuals do begin and end their lives. Though the debate is far from over, it appears fertilization is not the beginning of the *development of the human individual*, but rather, represents the beginning of the *process of the zygote's cell progeny becoming one or more human individuals*.

#### 4 Some Moral Implications of My Thesis

I agree with the teaching of "Humanae Vitae" that the Creator's plan for the responsible transmission of human life as the fruit of an act of conjugal love should not be intentionally frustrated. Hence even if it were certain that the early human embryo was not a person, I would morally disapprove of interrupting the generative process by aborting preimplanted human embryos and destructive experiments on human embryos.

In cases of rape, it is morally permissible to prevent conception.<sup>4</sup> Hence it is necessary to know how long after the attack it is morally permissible to attempt to prevent conception as distinct from destroying or aborting the early human embryo to prevent pregnancy. If my thesis were to be proven to be correct, it would be necessary to distinguish between homicidal and non-homicidal abortion. This does not imply any moral support for fornication or contraception against the teaching of "Humanae Vitae" or for any form of abortion, even if the malice of homicide is absent. At the same time it would be necessary to distinguish the kind of moral malice involved in each of these cases, especially in difficult pastoral counseling situations. In the meantime the benefit of any reasonable doubt about the personal status of the early human embryo must be resolved by treating the human embryo as a person from conception.

#### References

1. Tonti-Filippini, Nicholas, "A Critical Note", in *The Linacre Quarterly*, Vol. 56, N. 3 (1989), pp. 36-50.

2. This is my translation of the definitive Latin text of the Instruction found in *Acta Apostolicae Sedis*, 1988, pp. 78-9.

"... conclusiones tamen, ad quas pervenerunt scientificae conclusiones de humano embryone, pretiosa suppeditant elementa, ex quibus rationis ope dignosci potest personam iam adesse praesentem inde ab hac prima vitae humanae significatione: cur igitur vivens creatura humana non esset etiam persona humana? Magisterium Ecclesiae expresse auctoritatem suam non interposuit circa hanc affirmationem, quae proprie ad philosophiam pertinet, at constanter moralem reprobationem confirmat cuius abortus procurati. Quae doctrina neque mutata est neque mutari potest.

Quare fructus generationis humanae, inde a primo temporis momento quo existere incipit, hoc est a momento quo formatio zygoti inchoatur, absolutam illam exigit observantiam, quae ex lege morali homini debetur quoad totam suam rationem corporalem atque spiritualement. Creatura humana ut persona observanda atque tractanda est inde ab eius conceptione, ac propterea inde ab illo temporis momento ipsi agnoscenda sunt iura personae, quorum primum rescensetur ius inviolabile ad vitam, quo unusquisque creatura humana innocens gaudet."

3. See Ford, N.M., *When Did I Begin? Conception of the Human Individual in History, Philosophy and Science*, Cambridge: University Press, 1988, pp. 121. See also John Postgate "A Microbial Way of Death" in *New Scientist*, 20 May 1989, pp. 25-9 where it is shown that during fission most bacteria cease to exist when they divide to give rise to two progeny of equal age without a mother-daughter relationship between them.

4. An excellent Catholic account of how to prevent pregnancy in cases of rape may be found in "The Morning After Pill: Some Practical and Moral Questions about Post-Coital