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## **On the Ontogeny of Persons**

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I would like to reply here to a number of criticisms concerning the stance taken by Pope John Paul II on the rights of the unborn child in his book *Crossing the Threshold of Hope*, made by Dr John Godfrey of the University of Edinburgh in a recent article entitled “The Pope and the Ontogeny of Persons” (*Nature*, 12 January, 1995).

The accusation levelled against John Paul II is contained in the subheading of John Godfrey’s article: “In the recent book... Pope John Paul II airs his views on human reproduction. The pity is that he ignores most of modern genetics and embryology”. Dr Godfrey quotes the following passages written by the Pope in *Crossing the Threshold of Hope*: “The concept of a ‘person’ is not only a marvellous theory; it is at the centre of the human ethos... in this field more than in any other, collaboration among pastors, biologists and physicians is indispensable”.

Dr Godfrey quotes a further passage from the book, in which Pope John Paul II praises the teachings of St Thomas Aquinas, before stating that:

“The fundamental biological and ethical issue he (John Paul II) raises is the origin of an individual person during life before birth. There is no moment when human life starts. It is clear that both the egg and the sperm are alive, and that their life is human, and that life is continuous from one generation to the next. Yet life, at this stage, is not yet that of a person. The Pope accepts the misconception that there is an instant when fertilisation happens. The process of fertilisation is complex, taking about two days... During this period genetic identity is yet to be established. There is a rapid and irreversible change at the activation of the egg. Activation, though rapid, is not instantaneous... A... severe difficulty is that activation, essential though it is to further development, precedes the chromosomal events that establish the genetic identity of the zygote. So a new individual cannot have

her or his origin at activation. For about the first four days, all the genetically determined properties of the fertilised egg are maternal. Only after this do paternal genes begin to act, with gene expression characterising the new individual. Even then, stable individuality is still some way off... Until a couple of weeks after fertilisation a single embryo may still divide to produce identical twins... The picture of the nascent human that emerges from modern embryology is one of seamless change. There is no biological discontinuity... Thus we should envisage human persons coming into being by continuous progression during ontogeny”.

But a period of biological discontinuity does exist: this is represented by the moment when the membrane of the egg is penetrated by a spermatozoon. At this moment, the fertilised egg ceases to be only a gamete and becomes the *sine qua non* of a new individual. And it is from this moment that the continuous process which, via the various stages of intra- and extra-uterine ontogeny, will lead to a person, or in rare cases (1 in 240) to two or more people, begins.

That the process of creation of a person starts with the penetration of the egg by the spermatozoon is confirmed by the production of the structures and substances which prevent fertilisation by further spermatozoa, and also by the beginning of the processes which stop the renewal of the endometrium in the pregnant woman, and hence her menstrual cycle. Fertilisation, therefore, is the crucial moment, because it marks the beginning of a woman’s pregnancy, which is to say the generation of a human being.

The penetration of the egg by the spermatozoon triggers the process by which the fusion of the gametes’ pronuclei leads to the formation of the zygote, and therefore of a genetic blueprint for a new individual. From the spermatozoon’s penetration of the egg onwards, the phenomenon of life assumes a continuous and ceaseless value.

In his discussion of embryology, Dr Godfrey argues that the first few days after the egg’s fertilisation form a “neutral” period, during which the fertilised egg can be suppressed by the physical and chemical devices which many women unfortunately use. In John Paul II’s thought, such a point of view is misguided and wrong. That Dr Godfrey’s point of view is misguided is also supported by modern embryological knowledge, and his popularised account of the teachings of St Thomas Aquinas do not seem pertinent scientific arguments today.

In the above, I have been compelled to show that, while Pope John Paul II cannot enter into biological detail, his views are nonetheless scientifically accurate. More importantly still, I find it necessary to stress that life begins from the moment in which the spermatozoon penetrates the egg, and it is therefore from that moment that God’s Commandment “Thou Shalt Not Kill” must be obeyed.