THE HUMAN EMBRYO AS A PERSON

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We recognize that ordinary human beings have definite moral, social, and legal rights, and that we have similar duties towards each of them. The question arises as to when those rights and duties commence, and for what reason.

The generally agreed and obvious answer is that the rights commence as soon as there comes into existence a distinct individual, truly human being to whom they can belong. Such a being is what we ordinarily understand as a person. So the question as to the beginning of the rights of, and the duties towards, a human person effectively depends on two questions:

(a) What is a truly human being, or what is the nature of a human person?

(b) When did a distinct individual of that sort (i.e. having that nature) come into existence?

We are led to these same key questions if we take a different starting point, asking about the rights of an embryo and our duties towards it. The answer will depend largely on a question of fact: Is the embryo a human person? As far as the procedures of in vitro fertilization and embryo transfer are concerned this is important, as they often involve not only the handling and possible damage of an ambryo but also the production of excess embryos which are held in reserve in case the first transfer should fail, but which, if that transfer should succeed, would have to be discarded - with or without a delay due to preservation by freezing - or, at best, transferred to the womb of a woman other than the mother.

Approached in this way, the same questions would arise in this form:

(c) Has the embryo a truly human nature?

(d) Is the embryo a distinct individual, and if so, when did it first become one?

It is my contention that definite answers can and should be given to these questions on the basis of common and scientific knowledge, and that they can be supported by philosophical analysis. Alternative answers would be due to a neglect of scientific information, to confusion generated by erroneous, though highly plausible, scientific surmises, or to inadequate philosophical reflection.

The answers I propose are:

(a) A human person is a distinct individual with a human nature, that is with material constituents and powers similar to those of animals, and with a capacity for spiritual activities such as inquiring, understanding, affirming and deciding.

(b) A distinct individual of that sort commences to exist when a single cell of human origin and with human genotype gains the power to organize its own growth, multiplication and differentiation in a way that ordinarily leads to a human adult, without requiring any action from outside other than the availability of nourishment and the provision of a favourable environment.

The normal way in which such a cell is formed is that a sperm and an ovum that have been distinct beings unite to form a single cell with unique genetic material combining that contributed by each of them. Upon formation it initiates its own differentiation and growth, with little outside direction, though relying - after a few days - on the provision of outside resources.

Occasionally an individual cell is formed in a different way, by division from an embryo that has already been formed, so that a new independent centre of growth and development is formed. We then have identical twins. Experiments on animal embryos have shown that identical twins could be formed by outside intervention as well as spontaneously.

It is also conceivable that some human cell which normally would lack the capacity to develop and grow as a distinct human individual might, nevertheless, by special intervention, be divided off from its fellow cells

and activated so as to have the capacity to develop in the way a zygote does. If such an event were to occur, a new human being would have commenced to exist at the time of such division and activation.

In each case there is a new beginning - the beginning of a distinct identifiable individual which will be recognizably the same individual until its death - and there is a clear break from the situation before that cell was formed (or, in the third case, was isolated and was activated with the power to develop).

(c) "Although the embryo is not yet actively inquiring or understanding, it is already the sort of thing that has the capacity to do these things and to affirm and decide. And it will exercise these capacities unless some external agent, such as an infection, intervenes positively to destroy its life or its proper development. Once its genetic constitution has been established - and this occurs at the one-cell stage of the zygote - it has the organizational power within itself to develop the organs that are used in such activities. The only contribution from outside is nutrition and a suitable environment.

On the other hand, an animal, which never wonders or genuinely understands or affirms or decides, has a genetic constitution which does not produce all the organs required for such activities, and so never has the capacity to act in these ways and is not the sort of thing that possesses such capacities at any stage.

A philosopher who objects to my conclusion here might decide to revise his position under (a), removing the notion of "capacity" and defining a person as an individual who is actively engaged in spiritual activities. The trouble with this defence is that it excludes far too many beings whom we normally consider to be human persons - not only young children, but even adults who are asleep or under anaesthetic. A sleeping man has only a capacity for understanding or deciding, yet he is recognized as a human person. Putting a person under an anaesthetic does not of itself give us a justification for cutting off his head.

(d) To say that something is a distinct individual is a stronger claim than is often recognized, but a claim that can easily be verified in regard to a living embryo - again to an extent that goes far beyond the conception that most non-biologists would seem to have of the first stages of new life.

To be an individual something not only needs some discontinuity from the things around it so that it can be distinguished from them and be more than a mere part - with them - of some greater whole, but it must also define some sort of unity to which its own parts can belong instead of being some merely arbitrary assembly of parts that could just as well have been brought together in some smaller or larger collection.

An individual will have a history too, so that from the time it is constituted by the aggregation of its parts (or by dividing off from a larger whole) to the time that it loses its own identity by dissociation into parts (or by being absorbed into a greater whole - as happens when an apple is eaten) it remains distinct from its environment and can be identified at any moment as the subject of a variety of interactions with that envoronment.

Strong indications of individuality are the internal organization of the parts of a thing and the coordination of their functions. The more diverse these parts and functions the more notable is their unity. Every living thing shows such organization and coordination while alive, and loses them suddenly and drastically at its death. There is a remarkable overall intelligibility in that each part is adapted to the continued dynamic existence of this particular thing (or, by extension, to the production of independent offspring of the same species), and each part is functioning in a variety of ways that contribute to that continued lively existence.

The philosopher can point to the significance of such intelligible unity despite enormous diversity, change, and growth, as evidence of notable individuality, but the specialist in embryology can add a wealth of detail

that illustrates and confirms this point, pointing out, for instance, how the embryo in its earliest days is already producing a hormone which it sends out to the mother's ovary to ensure that the lining of the womb remains in its state of preparation to receive and foster that embryo instead of sloughing off to be discarded.

Right from the time of its formation the embryo has a remarkably strong individuality which is directed towards growth into a mature adult. And conversely, each human person whom we know today is an individual who began to be an individual with powers to grow into what he is today when a particular zygote was formed by the ramdom meeting of two distinct individuals, a sperm and an ovum, which had been quite distinct from each other and neither of which had possessed of itself the power to live for long or to develop into a differentiated adult. And we should recall that the death by disease of that embryo would have been the death of that particular human being, just as any intervention to kill that embryo would have been the killing of that individual person.

It seems to be neglect of this notion of individuality that led Kuhse and Singer (Test-Tube Babies, p.61) to their extraordinary assertion that "everything that can be said about the potential of the embryo can also be said about the potential of the egg and sperm". The egg and the sperm before becoming united in fertilization are in no way a single distinct individual, and so there is simply nothing that has any potential comparable to that possessed by the zygote. Before fertilization the egg is a distinct individual by itself with the potential of living for a few hours without any significant growth. It has no special connection with any of the thousands of sperms moving in its vicinity. The sperm, similarly, is a distinct individual with the prospect of a few hours of life and no growth. It is just as distinct from the ovum as it is from any of the sperms swimming beside it. By dropping the definite article before "sperm" and then, on the next page, slipping the verb into the singular ("the egg and sperm has the potential") they are suggesting a unification that is just not verified. The rationality they had

proclaimed (p.57, cf. p.28-9) has deteriorated into the mythology of the soldier who feels that a particular bullet "has my name written on it".

They support their assertion with the argument that "the egg and sperm, if united, also have the potential to develop into a normal human being" (p.61). Of course, but this is begging the question. If united, they are already an embryo. But before being united they are two distinct individuals, each quite different from an embryo. If they should happen to unite then a new beginning has occurred, a new discontinuous event quite different from "one more stage" in the development of a previously existing determinate individual.

Let us consider now two opinions that have been considered by some as throwing some doubt of answers of the sort that I have given.

The mediaeval view that the embryo did not become human until some weeks after conception was based on contemporary science that we now know to have been quite erroneous but was nevertheless extremely plausible.

Spontaneous generation of living things from corrupt matter was accepted as a well-known fact - for which blow-flies provided easily available evidence - and even in the nineteenth century Pasteur had trouble in convincing people that such an interpretation was faulty. The philosopher could not, then, assume that the beginning of an animal's life was itself something living.

Even more important was the common knowledge that menstrual blood was retained after conception - with the seemingly obvious implication that each baby grew from a mixture of seminal fluid and menstrual blood. And these were, reasonably, not considered as having any life in themselves - they were just waste materials, which, like leaf-mould, had to lie decaying for days or weeks before any growth could occur in them.

Elizabeth Gasking (Investigations into Generation, 1651-1828, 1967) has shown convincingly how that common-sense view was completely demolished by Thomas Harvey in the study of generation he made after having discovered the circulation of the blood. Harvey proved, by a series of dissections of pregnant deer, that there was nothing at all in the womb comparable to what

was supposed by the common view. So, although he failed to find the fertilized ovum, he helped us forget the views that had been common until then, and that had constrained the mediaeval philosophers.

The basis for the theory of delayed animation was the common but erroneous scientific view that human life had to start from an unformed mass of material, supported by the belief in spontaneous generation and by complete ignorance, not only of the ovum but even of the cellular theory.

In the light of this, Joseph Donceel's remark that St Thomas "knew very well that the early embryo was not yet a fully organized human body" (Theological Studies, 31 (1970) 83, cf.80) is a magnificent understatement. Thomas simply did not know that there was any organization at all. In the circumstances it was reasonable for him to accept the view that there was a series of corruptions and generations during pregnancy. Today there is no serious basis, whether scientific or philosophical, for that view.

A contemporary example of confusion in the interpretation of scientific data regards the number of embryos that are lost under natural conditions. The proponents of IVF and ET make much of the alleged fact that the majority of fertilised embryos die before implantation or at least before birth. While this question is not directly relevant, since the number of adults who die of, say, heart disease, has never been seriously taken as providing a justification for killing adults, still the figures have been used as a suasive argument that the killing of embryos should not be looked on with great concern. But the scientific results themselves need to be looked at very carefully.

The figure of about 30% given by Leeton, Trounson and Wood, with references to Leridon and Short (Test-Tube Babies, p.2), for "pregnancy with delivery of a live baby" after "successful fertilization" seems to be a misunderstanding. Short's figures (p.380, mainly 23% to 28%) are for "human fecundability", which he explicitly defines as "the probability of producing a full-term infant per menstrual cycle during which intercourse occurred"(p.379).

He makes no claim at all as to the number of cases in which that intercourse led to fertilization, and admits that "unfortunately, we still lack critical information on the ovulation rate and the fertilization rate in women, and it is difficult to see how such data will ever become available on a population basis" (p.390).

The only figures Short gives for fertilized ova are for domestic animals, and these figures indicate a loss of 20% to 40%, which contrasts strongly with the survival rate of 30% suggested by Leeton, Trounson and Wood. Since Short reports that Vessey's 1976 study "showed quite clearly that prior use of the oral contraceptive pill significantly delayed a return to normal fertility" (p.379), it is important that any investigations undertaken to supplement the meagre figures at present available do not interpret results got from women who have used the pill or the IUD as representing natural embryonic loss.