

## HOW HUMAN IS THE EARLY EMBRYO?

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It is refreshing to have a call from the Governor of one's State to use reasonable means of persuasion in supporting "differing judgments on the status of the embryo". Especially as so much is available already and in the public domain, though not much of it has made a public impact.

Even the 64 pages of the Tate Report, with its 29 pages of Dissenting Report, which appeared last October (Human Embryo Experimentation in Australia) has received very little analysis or comment. And few people seem to know that it is supported by 2376 pages of the Official Hansard Report, which include the text of 36 of the 89 major written submissions, and the transcript of the well-informed and persistent cross-questioning of their authors by the seven senators.

These lead us to some surprising revelations, such as the fact that those who say that the embryo is a human being support this with medical and scientific evidence, while those who wish to bypass this issue prefer to quote theologians, and rely on scientific errors that were refuted centuries ago. And an agnostic professor of philosophy seems to rely on magic or the miraculous intervention of God to account for the origin of the human person.

## Existing arguments

I accept wholeheartedly the Governor's insistence that "each has the responsibility of making their grounds clear". Indeed, I have already laboured considerably to this end, though the results have not always received wide publicity.

I helped prepare for the Tate Senate Committee on embryo experimentation a submission which contained fourteen pages of argument on these factual issues, and, with my co-author, faced over two hours of cross-questioning by the seven Senators on that Committee.

We claimed that the question: "When does human life begin?" can be "answered as a matter of fact" and is not as Dr McCaughey suggests, just a matter of personal judgment or belief in any sense that would treat these as less than factual.

The Governor wisely states that "A pluralist social democracy should tolerate varied practices when none is manifestly harmful to that society". He has not, however, shown that a practice of killing innocent human beings is not harmful to society.

At least four other major submissions to that Committee, supported by similar appearances for questioning, took the same positive attitude to the embryo that we did. Yet none of the IVF teams, or others who gave evidence, made any

attempt to answer our arguments directly, to reject the scientists we quoted, or to show that the embryo is not yet a distinct, individual, human being.

Nor have I seen any reply made to our argumentation, either before the Committee, in the press, or in private communication to the authors.

Even the two dissenting Senators, who had seen all this material, had heard all sides of the discussion, and were ready to allow experimentation on embryos, were convinced on the question of fact. They said:

The Report . . . draws the conclusion that the fertilised ovum has 'life', that it is genetically human, that it is an entity - a centrally organised unit with purposeful independent function - and that it has developmental potential. We agree with this conclusion. An embryo is significantly different from other human tissue - or an egg or sperm. (D.11)

What, then, are the arguments that have been used on the other side, that is, by those who have a "deep conviction" that the embryo is not a new individual human being?

#### Singer versus embryo

Professor Singer is a leading opponent of the view that an embryo has rights. He is mainly concerned that nearly all of

us have accepted too easily the view that every human being has a right to life, a view which he says is "surprisingly vulnerable". The right to life is based only on the possession of certain mental qualities, and so applies "only to those beings who have the mental qualities which generally distinguish members of our species from members of other species". (Hansard p 481)

As "the embryo, especially the early embryo, is obviously not a being with the mental qualities which generally distinguish members of our species from members of other species", he concludes that it has no right to life and starts to acquire one only at about six weeks of pregnancy, when there is clear evidence of possession of a rudimentary nervous system. And its right at this stage is a good deal less than that possessed by adults until at least some months after birth.

My problem with this argumentation is in its excessive dependence on the miraculous. Singer gives no account of how the mental qualities that we prize arise in any individual human being. And he says that the rights cannot depend solely on membership of the human species.

For most of us the answers to these two problems are relatively simple. Our human intelligence comes neither from our Weeties as opposed to the cat's Whiskettes, nor from some insertion by God of a soul into a previously existing body. It comes from our having, among other things,

a brain structure very much more complex than that of the cat. And that brain structure is determined by the genetic constitution possessed by the embryo from the time that a sperm has entered the ovum. That embryo is already the sort of thing that has the power to inquire and understand and decide, and killing it deprives it of the exercise of those powers.

Singer misses the fact that the "membership of the human species" of which he speaks so much, and to which he understandably ascribes so little importance, is not, as he thinks, something quite arbitrary and extrinsic to the individual concerned, like membership of a golf club.

On the contrary, it is something inscribed from the start of individual life in a full genetic constitution and in the thousands of identifiably human types of enzyme, protein, and the like, that are produced by that first cell and the forty or so generations of cells that it predictably gives rise to unless some illness, accident, or attack intervenes.

If he neglects that genetic constitution in the embryo he must neglect it, and similar physical features, in the adult, and so his ascription of rights must be tied to the actual moments when the mental activities are actually being exercised; and he has no serious grounds for denying (as I admit he does) that murder is perfectly moral provided the victim is asleep. No serious grounds because when questioned by the senators he relied upon "the general

reaction of most people" but then admitted honestly that his conclusion was not dependent on the general view of most people "except for persuasive purposes" (Hansard, p 510-2).

### Scientists without science

The evidence submitted by the scientists themselves in opposition to the view that the embryo is already a human being is fascinating. They don't show any errors in the scientists I and others like me referred to. They don't give scientific evidence in support of their view. They rely on theologians, with a few scientific statements from these theologians, but no scientific statements or evidence of their own in support of those views!

The National Health and Medical Research Council quotes Fr Connolly. The Reproductive Biology Unit of the Royal Woman's Hospital submits a paper by a professor of theology, G.R. Dunstan, with this very strong endorsement by Mr Ian Johnston: "I believe it is the best possible description that fits my own personal views and many of those working in this field" (Hansard, p 632). The Australian Academy of Science also quotes Professor Dunstan, and caps him with a quotation from the great thirteenth century Catholic theologian St Thomas Aquinas.

Professor Dunstan's main line of argument (picked up by Dr McCaughey) was that it was "the moral tradition of the West" that embryonic life was not "animated by a rational human

soul" until "upwards of forty days gestational age". What he missed was that any such tradition was based on contemporary scientific opinion that was highly plausible, was supported by a mass of easily available evidence, and yet was completely wrong.

They had no concept at all in those days of an ovum or a sperm, nor even the slightest inkling of anything like the cell theory. Their view was that the early product of conception was simply a non-living mass of menstrual blood from a missed period mixed with semen, and that life arose in this by a process akin to spontaneous generation.

Aquinas, a central representative of that tradition, was quite explicit about this. "In man, as in the other animals, the final substantial form comes about through many comings-into-being and dissolutions. This is apparent in the case of animals brought into being by the process of putrefaction".

It is indeed ironical that an interest in experimenting on embryos has brought together the Royal Women's Hospital and the Australian Academy of Science in an endorsement of the otherwise outmoded scientific doctrine of spontaneous generation.

Are we to go back scientifically a hundred years, before Hertwig showed that the sperm and the ovum were the carriers of hereditary material? Or a hundred and sixty years, before Von Baer had found the ovum? Or three hundred and

twenty years, before William Harvey had disproved the account of generation upon which the "tradition" referred to was based?

### Science's own answer

Instead of that I got the bright idea, which apparently hasn't yet occurred to any of those who find the factual question so intractable, of consulting the standard current medical textbooks in human embryology.

These show no hesitations and no doubts. I found Leslie Arey telling me that "the actual union (of a male and female sex cell) into a combined cell, or zygote, . . . definitely marks the beginning of a new individual". I read in Bradley Patten that "It is the penetration of the ovum by a spermatozoon and the resultant mingling of the nuclear material each brings to the union that constitutes the culmination of the process of fertilization and marks the initiation of the life of a new individual".

I learnt from Hamilton and Mossman that "the beginning of the development of a new individual is the fusion of two germ cells of different nature; one, the spermatozoon from the male parent; the other, the ovum from the female parent. The result of this fusion is the formation of the first cell of the new individual, the zygote". I found Keith Moore's definition: "Zygote. This cell is the beginning of a human being".

Even the most recent Molecular Biology has a similar lesson, in the words of Bruce Alberts and his collaborators: "An egg is programmed to form a new individual organism when activated by a sperm".

### Attempts to deny

Dr R.G. Edwards, is one of the few scientists, even among those committed to embryo experimentation, who have faced up to the factual question, though not even he has challenged any of the above authorities directly. He has however suggested some apparent difficulties with their view.

Surely a hydatidiform mole, which grows in grape-like clusters with no fetus present, is not a human being! I agree. But then it never had the organisation of a normal fertilised ovum, as it is the result of events of quite a different type such as the entry of a sperm into an ovum whose female pronucleus is either absent or non-functional.

But, continues Edwards in The Listener, are not the embryos too small to be genuinely human? They "are minute: thousands could be included in a single drop. They are a minute bundle of cells; they do not have feet or heads". But I had to put this smallness into perspective, lest I fall into the unjustified prejudice of a arbitrary sizism.

I found that that tiny cell is a highly organized complex of thousands of types of molecule, each with its own specialized function; that it contained all the genetic information required to determine the characteristics it would have as an adult and to initiate and carry through the activities involved in its development into this adult.

I learnt that the genetic information contained in the DNA of this single "minute" cell, was written in an enormous string of "words", unique to this individual and written in a four-"letter" alphabet; and that to write out the letters specifying this single individual would require every page of The Australian, not just in one copy, but in every day's issue over three years. This made Dr Edwards' point look rather unimpressive, but left me with a lot of respect for the powers of the single-celled embryo.

Dr Edwards had mentioned twins as somehow incompatible with individuality at an earlier stage. But I remembered rose cuttings, and bulbs and hydras, and the sturdy individuality of the bushes from which these are taken, and I saw that he had never properly formulated or thought through his argument.

#### A theologian's logic

But there is one other appeal to scientific evidence that has to be considered. Dr McCaughey quotes a phrase, apparently from Professor Dunstan's paper, which was not

used or mentioned by the Tate Report or its Dissenting Report. We can see why as soon as we make some attempt ourselves to work out its meaning and its relevance. "Conception", says Dunstan, "is a process, not an event ... (and) fertilization is a stage in this process".

What does this mean? While it is not hard to envisage conception (i.e. becoming pregnant) as a process, it is not at all easy to see why becoming pregnant should not be called an event.

Has Professor Dunstan some way of overcoming the common scepticism about "being a little bit pregnant"? And why does he use the word "assume" in the conclusion he claims to derive from this phrase, namely, that "one cannot assume the existence of an individual at this stage"?

Were Arey and Patten and Moore and Alberts simply making an assumption? Until Dunstan or his supporters spell out clearly what he meant by "individual" and "process" and "event" and show some logic in his argument, we must follow these acknowledged experts, in recognizing the existence of a human individual after normal fertilization and conception.

## The real issue

I can understand someone wanting to kill embryos. I know that there are many people who want to kill certain human adults. We all know that there are many who go on and do so.

But I think we have a duty to object strongly in the name of science and of honest discussion when someone tries to make excuses for killing embryos by claiming that an embryo is not a distinct individual human being, or that whether it is one or not simply does not matter.