

Soul searching

Europe's bishops have called for more debate following this week's EU decision to fund embryonic stem-cell research. But if that debate is to be meaningful, it must include new consideration of the 'ensoulment' of human life

The decision of the European Union on Monday to fund human embryonic stem-cell research brings to an end an acrimonious debate that has been raging for five and more years among EU Ministers. Not surprisingly, the outcome has been widely portrayed as a defeat for a constituency of ethically and scientifically reactionary countries by more enlightened ones.

Britain's Science Minister, David Sainsbury, had argued in Brussels that "it is morally unacceptable to withhold these advances from patients, because it offers potentially tremendous advantages to European citizens". The *International Herald Tribune* commented on Tuesday, moreover, that the decision bypassed "fierce opposition from a group of predominantly Roman Catholic countries". But in citing the nay-sayers as principally Catholic "Malta, Lithuania, Poland and Slovakia", the paper overlooked the fact that Germany, hardly a Catholic country, was also a vociferous objector, while traditionally Catholic Spain was an ardent proponent.

Meanwhile President George W. Bush was last week widely criticised by scientists in the United States for vetoing a bill that would have allowed federal funding of experiments on human embryos. He also signed a bill that would prevent in future the practice of "farming" foetuses in human and animal wombs to harvest their tissue for research. Much as the US President is pilloried around the world, his actions call to mind the old saying: "Just because Lord Beaverbrook says it, doesn't mean that it is wrong."

But the idea that secular enlightenment has at last triumphed in Europe over Catholic objections to human embryonic research is likely, if it gains credence, to have far-reaching and unfortunate consequences, not least a perception that the debate is over; that there is nothing to be done except to retreat to entrenched positions.

In many respects the debate has hardly begun, even among scientists, and on Tuesday the European bishops' commission called on Catholics in particular to "do all in their power to foster such a debate".

In fact the EU vote in favour of human embryonic experiment appears more a result of desperation on the part of researchers than

confidence. Scientists in the field have admitted to me that they energetically lobbied EU Ministers following the collapse of private investment in embryonic stem-cell research over the past three years. The reluctance of investors is largely put down to the conviction of professional analysts that therapeutic dividends are a far distant prospect.

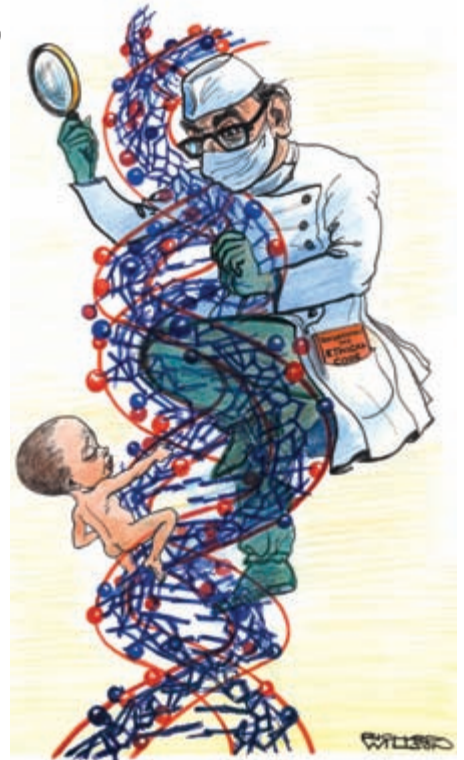
Keith Peters, Professor of Physic at Cambridge University, told me last year that it would be 20 or 30 years before medical scientists expected to see clinical results. In contrast, there has been an increase in investment, as well as government funding (half a billion dollars in the US), in adult stem-cell work, not simply because it is perceived to be more ethical but because it is likely to bring earlier therapeutic results.

An example of a potentially rapid success with adult stem cells can be seen in a research project at London's Neurological Institute in Queen's Square where Professor Geoffrey Raisman is seeking to mend spinal cord lesions with stem cells taken from the patient's own nose. The procedure has worked well with rats over the past three years, and operations on humans are due to start later this year.

In common with many of his colleagues across the world, Professor Raisman argues that embryonic stem-cell work, as far as therapies are concerned, remains hazardous and extremely long-term. He points to the fact that researchers do not yet know how to make embryonic cells differentiate reliably, or to proliferate in sufficient numbers to be clinically useful, or to switch off proliferation so as to avoid causing tumours.

More persuasive on the score of embryonic experiments are those researchers, such as Professor Roger Pedersen of Cambridge University, who argue that reliable stem-cell therapies must be preceded by fundamental scientific understanding of the process of development from conception to birth. That we as Catholics should continue to listen to the scientists, especially when they speak about human development in the womb (although not necessarily by exploiting human embryos), is important, for many of our ethicists continue to fashion their arguments from notions of development harking back to a bygone age.

Those conversant with Thomas Aquinas on the subject are aware that he believed that "in-



fusion" of the soul by God occurred in the male foetus at 40 days (and at 90 days for females). An area in which Catholic reproductive ethics might expand and prosper relates precisely to this matter of "ensoulment", which is often viewed simplistically as a process whereby an immaterial soul is introduced to a physical machine like a body in an instantaneous act of divine creation.

Through the latter half of the twentieth century Catholic theology, and papal teaching, set out to repudiate body-soul dualism, a return rather than a U-turn to an earlier view, shared by Judaism, that the soul is entirely embodied, that human identity is unitary and not dualistic. The notion of the soul, whether dualistic or unitary, has always been largely associated, moreover, with what makes us individual, what makes each one of us a unique member of the human race. Attention to what contemporary developmental biology has to say on diversity, uniqueness, individuation, is thus crucial.

The story of the formation of a human being from the tiny dot of primitive "mother" cells, or stem cells, known as an embryo or blastocyst, to a fully developed newborn baby with a brain composed of a hundred billion specialised cells, known as neurons, is little known. The process whereby the three-dimensional organism, destined to be a baby, is shaped from the two-dimensional instructions of its DNA, replicates in some respects the history of evolution itself. Populations of cells, only partially driven and determined by genetic instructions, migrate prodigious distances, for their size, competing in their billions for a claim to

become the newly formed organs of the individual, not least the brain, the instrument of consciousness, intelligence, and imagination.

As the cells travel and compete they are also going through a rapid process of cell differentiation starting from their most primitive, totipotent status as stem cells – cells that have the potential to alter into a myriad of different cell types. It is the epigenetic part of the process, in other words the aspect not wholly determined by genes, but also chance and stochastic, or statistical factor of cell life and death, that guarantees uniqueness.

The tendency to think of the individuation, or the ensoulment, of an embryo as an instantaneous act of God, may have served to obscure the reality of the complex biological process involved in the physical formation of physical individuality. To understand the soul, as embodied, and to grant that in many important respects individuality is the end of the process rather than an act of instantaneous creation does not mean, of course, that one would readily accept the destruction of human embryos for research. It might well result in a deepening of one's convictions against such projects.

The important consideration is that Catholic ethics should keep abreast of what science tells us about the early development of human life. Focusing the idea of the human "soul" as a creation of an instant, rather than a process, a biological history, is comparable to the rigidity of the diehard creationists, who insist that the world and its living creatures were brought into being in a series of six-day instantaneous acts, a conviction that excludes them from sensible discussions with the majority who accept Evolution.

Many constituencies of lay people and scientists object to human embryo research and they cross a multitude of religious, scientific, political and philosophical divides, including the Catholic Church. And yet the Church is being accused of representing an isolated extreme. That perception of course was no doubt given a boost by Cardinal Lopez Trujillo's declaration last month that any human embryonic stem-cell researcher, or politician voting for such programmes, or man and woman providing the genetic means to conduct such research, would be excommunicated.

It is crucial that the discussion continues, and that Catholics remain a part of it. We should be perceived as informed participants in the debate, rather than dogmatic losers basing our arguments on biological categories that have long passed into mists of history. If Catholic ethics are right on this issue, our viewpoint can only prevail by our remaining in contention. Otherwise the perceived winners are destined through the rest of the century to set the prevailing viewpoint on not only human embryonic stem cells but on a raft of other life issues.

■ John Cornwell is director of the Science and Human Dimension Project, Jesus College, Cambridge.

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