

A Catholic comment on Coughlan and the Vatican Instruction

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The bulk of "The Gift of Life", apart from its five sections of Introduction and two concluding sections, is distributed in thirteen sections, each formulated as a moral question.¹ It is clearly not an academic paper but an instruction to the Catholic faithful, in response to requests from bishops, theologians, doctors and scientists.

Michael Coughlan² is right to point out that the principles on which it is based require "a persuasive, revelation-independent defence" (§2, §39) if they are to affect others, though phrases such as "The law cannot tolerate . . ." look rather less intrusive in their context. For instance, "Politicians must commit themselves" (how? and to what?) "through their interventions upon public opinion, to securing in society the widest possible consensus on such essential points and to consolidating this consensus wherever it risks being weakened or is in danger of collapse". (III.i)

The basic issue referred to in the first part of the title, respect for human life in its origin, is certainly that of the first of the thirteen questions, "What respect is due to the human embryo taking into account his nature and identity?" (I.1)³ The three page answer to this is referred to as "a doctrinal

reminder", and contains a long quotation from an earlier Church Declaration, as part of its "constant and certain doctrine", and so is not itself the "detailed reflection on the nature and specific identity . . . of the human embryo itself" (I.1.b), which it there says is presupposed. Nor does it more than mention the confirmation of its position by "modern genetic science" and "recent findings of human biological science" (I.1.d). Presumably it expects us to consult the standard writings on these subjects,⁴ while warning that some interpretation or philosophical reflection will have to be added to the experimental data there assembled (I.1.e).

This use of science and philosophy is a task for church members, and it has been approached by many⁵ with arguments not dependent on doctrine.⁶

Coughlan refers to earlier Catholic writers, especially those who found the Church's doctrine hard to understand. His arguments are frequently useful exercises in discovery, moving towards that doctrine but not quite reaching it,⁷ though sometimes he gets no further than an exclamation or a rhetorical question.⁸

For instance, the recognition in §16 that the lack of explicit dependence on the "argument from doubt" may be due to "an interpretation of findings in biology and genetics", not only escapes the charge of fallacy pursued in the previous six paragraphs, but could have occurred at the start if the "Thus" which opens paragraph I.1.f had been taken as referring to the previous two paragraphs, and not just to the two preceding

sentences.⁹ And the recognition that

from the point of germination onwards it begins to make increasing sense to describe (an acorn) as an oak tree with potential (§37)

removes the relevance of Diamond's¹⁰ argument about dormancy and also of the previous argument about a clay pot, since this so clearly needs a potter.

Let us consider first of all the scientific evidence on which Coughlan relies, then the philosophy implicit in his article. I am not concerned here with the theological argument.¹¹

The Scientific Evidence

Coughlan refers to the standard array of scientific facts that are alleged as difficulties for the belief that an embryo is a human person (though the relevance of these facts to the conclusion is rarely spelt out): Identical twins, recombination and chimeras, totipotentiality and its gradual loss, hydatidiform moles, dormancy of seeds and badgers, and a lack of psychological activity. Evolution, too, is brought in, as if the reduction of millions of years to the few hours required for the origin of a new life today did not indicate a very special set of capacities in the human genome.

But he fails to explore other scientific evidence, and to note the scientific errors and ignorance that prevailed until this

century, and which are essential to any argument based on the history of moral views. Before 1953 we did not know how genetic material was replicated. Before 1875 we did not know of the equal genetic contribution of sperm and egg¹² but thought that a life came from the mating of many sperm with one ovum. Before 1827 we did not know that an ovum¹³ was involved at all, and before 1651 for two millenia we thought we knew very well¹⁴ that conception was the action of homogeneous semen on a cupful of waste blood, making it into a sort of junket.

Today biochemistry tells us that

living organisms possess extraordinary attributes not shown by collections of inanimate molecules,¹⁵

that

one of the most conspicuous attributes of living organisms is that they are complicated and highly organized,¹⁶

that

A living cell is a self-assembling, self-adjusting, self-perpetuating isothermal system of organic molecules which extracts free energy and raw materials from its environment. . . . It maintains itself in a dynamic steady state, far from equilibrium with its surroundings. It functions on the principle of maximum economy of parts and processes.¹⁷

Molecular biology tells us of "an astonishing elegance and economy in the living cell," revealed by "new techniques of analysis at the molecular level," which enable the cell "to maintain very fast metabolic rates" through "the organization of cell components".¹⁸

IVF pioneers tell us that, straight after fertilization,

the embryo is passing through a critical period of life of great exploration: it becomes magnificently organised, switching on its own biochemistry, increasing in size, and preparing itself quickly for implantation in the womb.¹⁹

Organization

Coughlan seems to have missed the very many such emphases on organization in the scientific literature when he asks

what does the adult person have in common with the embryo from which it developed, which entitles us to say that these are one and the same individual (§27)

nor does he seem to have pursued this question philosophically, since "spatiotemporal continuity and substantial genetic continuity" (§27, see also §23) is hardly an adequate account of the individuality even of an adult.

On the other hand the Catholic Bishops of Great Britain were clearly relying on such scientific sources when they claimed in

their Warnock submission that

Since the culmination of the process of fertilisation, each one of us has maintained not only the same genetic code or, more precisely, genetic constitution (practically unique to himself or herself) but also an organic integration which will remain until death. So it is not only the identity and singularity of genetic constitution at each stage (and indeed in each cell) which justifies our fundamental contention: the human person's bodily life begins at conception and lasts until the death of that individual.²⁰

In this passage they already foresaw and overcame Coughlan's problem (§21, §34 §35) about the lack of absolute genetic unicity in that one per cent or less of human beings who happen to have a twin. More importantly, they took account of this notion of organization or "organic integration", which is so central to biology, and which is effectively a rediscovery of the Aristotelian notion of soul.

Twins and related problems

A parent has his or her own single, individual organization. An ovum after ovulation has a different and newly distinct organization of its own. At fertilization another new organization with much greater powers emerges,²¹ and this lasts till the disorganization of death.

If this cell, under genetic or causal influence, divides into

separate parts, this organization persists but a second new being emerges which possesses its own organic integration. There are two things where before there was one. Scientifically there is no mystery, philosophically there is no call for an exclamation mark, theologically there is no evidence for any special discontinuity at some point other than that division. The difficulty of finding which embryo is a few days older than its twin at that stage is not much greater than the difficulty I still have in distinguishing my colleague Peter Beer from his twin brother John.

Recombination is philosophically equivalent to eating. One organized body is taken over by another and its earlier organization is no longer in control. As for death without a body (§32) (or, more accurately, a corpse), cannibals do not seem to have found that any problem, and the sharing of corpses at the resurrection sets up no great logistic problem once we realize that the material components of every cell are continuously being changed at an astonishing rate.

Totipotentiality does not count against prior individuation. It means simply that the cell is not yet differentiated. If carefully detached from the embryo it can grow into another embryo. If not it grows into a part. Before such hypothetical detachment the embryo is a single individual, just as every woman is a single individual even though ova that can grow into new individuals can subsequently become detached from her by ovulation.

As for the hydatidiform mole, the British bishops gave this as an example of a case "where grossly pathological conditions radically affect fertilisation", due here to "the absence, inactivity or exclusion of the female pronucleus". We may comment that any overall organization in the mole is clearly of a sort quite different from that of an ordinary embryo or fetus, so that it cannot be considered as a human being, except in the trivial sense in which that term applies to a discarded hair or a growing cancer cell.

Before leaving the scientific evidence I should mention some statements that seem to me to be erroneous. Coughlan says that

each cell up to the eight or sixteen-cell stage is an independent individual in the sense that once it has been formed it is quite independent of the other cells (§29, See also §34).

This is not true. They are held together by the zona pellucida, which is, at that stage, an organ of the embryo. Its removal is a serious manipulation, directed against the overall organization, which includes, too, the ordered process from origin in a single cell to the single organized body ready for implantation.

His claim that

Before implantation it (the human embryo) does not grow, as it has no source of nutrition (§37)

is misleading, for though it does not grow in mass, it does grow enormously in amount of DNA present, and in number of cells, with all their opportunities for later differentiation.

Similarly, Diamond's description of the womb as "a donor of vital capacity" (§37), looks like a suggestion that it gives life. What it does give is nourishment, warmth and protection, which it continues to do right up to birth, having provided the warmth and protection before implantation as well. The zygote was already alive before the womb received it.

Philosophical Arguments: 1. Genetically unique

The basis of the Instruction is said to be "little more than an argument from genetic determination" (§21), that is, "the attaching of special significance to genetic discontinuity" (§23, see also §34, §35).

I have shown that this is not proposed in the Instruction as a sufficient criterion of individuality (or newness), but the argument should also be seen in perspective. Ninety-nine per cent of us have genetic constitutions that differ markedly from everyone else, and this is a good indicator of discontinuity. The other one per cent²² have a twin each, with identical genetic constitution, so individuality is not established without some other indicator, such as separate organization. But a hundred per cent of us differ genetically from our parents, and this is where newness is most relevant - especially as regards the moral applications.

Killing an embryo is killing an individual human being which is clearly distinct from its parents (even though it has much in common with each of them). If such an individual subsequently generates a twin, this is no more relevant than if he or she were subsequently to marry and generate children in the ordinary way.

2. Life and living individuals

We can accept Coughlan's statement that "life is not new in an absolute sense" (§22), because the individuality (which is new, and is our concern when asking when each of us could have begun to exist) is distinct from nature, powers, capacities (which are relevant to the sort of thing we are, not to questions as to when it comes into life or dies). When Diamond said that

the livingness of that which is alive in them antedates the existence of the zygotes (§22)

he is reminding us that we are dealing with things that have a capacity to live and that got this from their parents. But he is admitting also that a zygote has an existence which can be traced back to a point in time which can be antedated. This is the time when the zygote's own life begins, the life which ends with the death of whatever that zygote grows into.

3. A human person

The concept of person is important, and is treated by Coughlan at

length (§§17-29, §§31-37).

I agree that there must be criteria for a human person (§19), that a person is an individual animated by a rational soul (§17), and that "it is having a rational nature which matters" (§19). If "mediaeval scholasticism and British empiricism" (§19) did not feature biological criteria, it may be because they were not deeply into molecular biology or mendelian genetics.

And to claim that "having a human nature (in the biological sense)" (§19) does not matter seems to be ignoring the richness of contemporary biology, and overlooking the impossibility, in all our experience, of developing, without the guidance of a human genome, a brain of the sort required for the degree of rationality we observe in human beings.

4. Taking a question seriously

The key question set by the instruction, "How could a human individual not be a human person?" (I.l.e) is not a mere rhetorical question but a challenge. This challenge is not met by the simple denial involved in saying that having a human nature does not involve personhood. It can be met by thinking up plausible alternatives, and then testing them against the present state of our scientific knowledge.

How, then?

(A) by being a separated somatic cell starting to grow in tissue

culture,

(B) By being haploid,

(C) by not having "a rational nature" (§19),

(D) by requiring, before development can occur, an addition or intervention from outside, or

(E) some other marked discontinuity (such as the corruption followed by spontaneous generation postulated - at three distinct moments during pregnancy - by Aquinas)²³

(F) But can we add "by being asleep or under anaesthetic"? No, or not until we have dispelled the almost universal view that killing a sleeping man or woman does have moral significance.

And the other suppositions are ruled out by modern biological knowledge. Our human nature and our belonging to a particular biological species (§19) are determined by our having the full human genome. Before fertilization there was no individual with that genome, afterwards there is one. Talk of creation of a soul in that transition can make sense, but not later as it did to Aquinas with his respect for the detailed, and apparently well-established, scientific theories of spontaneous generation and of semen and menstrual blood as mere residue from food, theories which we now know to be quite wide of the mark.

(G) By not having started to take pleasure in the exercise of

these capacities? But then we would have to show that, while it would be wrong to castrate a married man, there is no moral significance in castrating a boy.

The challenge has been accepted and alternatives have been suggested, but they fail, by not taking account of the full scientific evidence.

5. Dignity of procreation

The second part of the Instruction deals with eleven questions, all concerned with "the dignity of procreation". Coughlan has two objections to this, which he gives in his third paragraph. Both of these are directed more to the way the principle is formulated rather than to the spirit behind it. Can the "right of a child to have a fully human origin" (I.6.n.32) be "inalienable" (III.c), and can a child who is not yet existing have any rights?

Both of these questions lead back to general philosophical questions about the relationship between rights and correlative duties, and about the conflict of a person's rights in concrete circumstances.

It would seem that an architect has a duty to design a building that could resist a minor earthquake 40 years hence, whether or not any of the people occupying the building at that time have yet been born and can be said to have rights. Similarly, the Instruction, noting the objection reformulates its principle as a duty:

Life is a gift that must be bestowed in a manner worthy both of the subject receiving it and of the subjects transmitting it. (note 32)

This duty can be formulated as applying in the concrete context in which the assertion of the right was claimed in some such way as this:

Human subjects are demeaning themselves and providing an unsuitable environment for possible offspring if they attempt to bestow life by fertilization between human and animal gametes, through gestation in the uterus of animals, or by constructing artificial uteruses for the human embryo.

(See I.6.a)

6. Inalienable rights

As for calling rights "inalienable", this is a way of insisting that they must not be taken away by the state or even given up by the citizen. It must not be interpreted as indicating that other rights can be overridden when these cannot be fulfilled, but can reasonably be interpreted as follows. Adoption provides a substitute for a family to a child who has in fact been born without a family. Institutional care which would be quite burdensome for a private family may be required by a severely handicapped child, though the family should not contract out but provide what family care it can.

Wider Reflections

Much of the philosophical discussion about embryos has been marred by adhocery. The more general questions need to be faced as well. What is meant by continuity and discontinuity in adult life and in physical processes? What is meant by an individual, and how can this apply to an individual molecule, or to a plant, or a dog? How can a adult be an individual, and yet have offspring? How can any individual at all have a beginning or an end?

When questions like these are faced in all their generality many of the features of embryos that seemed extremely odd to those encountering them for the first time are seen to have parallels in much more familiar instances. And answers can be discovered. A church can have members who find them hard to understand, and others who can grasp their point or their need. An instruction to all the faithful is not the place for a lengthy philosophical discussion of all the issues. That discussion can be carried on elsewhere, and I am happy to have made my contribution to it, both before and after this statement was issued.

FOOTNOTES

1. I give my references to the Instruction in the text according to the Parts and Sections and Sub-sections rather than the pages. To make the references more precise I have counted the paragraphs in each such division, designating them by lower case letters or small roman numerals.
2. References in my text such as §21 are to Coughlan's article, counting his 39 paragraphs.
3. Coughlan quotes from this section in §§10, 14, 15, 16, 24, 25, 34, as well as giving more than a quarter of it in §21.
4. Specific references were not required here, as the standard textbooks on embryology have taught that a new individual human life begins at fertilization. See T.V. Daly, "When Does human Life Begin? The Search for a Marker Event", in Karen Dawson and Jill Hudson (ed.), Proceedings of the Conference IVF: The Current Debate, Melbourne: Monash Centre for Human Bioethics, 1987, p.75-89.
5. See the three statements by the British bishops referred to in Coughlan's footnote 20, the submission by the Australian bishops to the Senate Select Committee (in Senate Select Committee on the Human Embryo Experimentation Bill 1985, Official Hansard Report, Canberra, 25 Feb. 1986 to 23 June 1986, p.2266-2276), as well as submissions by St Vincent's Bioethics Centre (p.130-213), Rev. Francis Harman (p.523-7),

Guild of St Luke (p.2085-2103), and similar submissions by the Anglican Diocese of Adelaide (p.891-999), the Dietrich Bonhoffer Institute (p.787-841), the Lutheran Commission on Social Questions (p.869-878), Foundation Genesis (p.1044-1083), and the Right to Life Association (p.2186-2240). According to a Vatican press release some sixty theologians and twenty-two scientists were consulted directly by the commission preparing the instruction.

6. The speech by the Duke of Norfolk in the House of Lords debate on British Government's White Paper, 15-1-88, is a rare, if notable exception. Lords Craigmyle and Kennet and the Earls of Lauderdale and Halsbury spoke in a way closer to the Catholic lay tradition (See Hansard, Vol.491 no.59, cols.1471-1499).
7. §§10-16, 19, 20, 27, 32
8. §31-34.
9. This reliance on the present state of established scientific knowledge could well provide a solution simpler than the charge of scepticism to the problem mentioned at the end of §18. It need not be in principle impossible for us to show that the embryo is not a person for us to say, on the basis of what science we already know, that it can now be excluded.

10. On Diamond's arguments in general see T.V. Daly, "The Status of Embryonic Human Life - A Crucial issue in Genetic Counselling", in Nicholas Tonti-Filippini (ed.) Health Care Priorities in Australia, Melbourne: St Vincent's Bioethics Centre, 1985, p.45-57, most of which is reprinted in Senate Select Committee, Official Hansard Report, p.181-195.
11. For a comment on the Instruction directed to Catholics see T.V. Daly, "Life and Sex are Good", The Advocate, Melbourne, March 19, 1987, p.17.
12. "It was generally assumed up to the year 1875 that the spermatozoa penetrate in great numbers into[†] the substance of the egg", Oscar Hertwig, Textbook of the Embryology of Man and Mammals, trans. E.L. Mark, London: Swan Sonnenschein, 1892, p.45. See also L.B. Arey, Developmental Anatomy, Philadelphia: Saunders, 1925, p.3.
13. Baer, K.E. v., Ueber Entwicklungsgeschichte der Thiere, Koenigsberg, 1828.
14. William Harvey, Animal Generation, 1651, trans. Robert Willis, Chicago: Encyclopaedia Britannica Inc., (Great Books of the Western World), 1952, especially pp.331, 335-6, 396, 477-480. Note that Harvey used the word "ovum" for the conceptus, and not in its modern sense. See also Elizabeth Gasking, Investigations into Generation 1651-1828, London: Hutchinson, 1967, Ch.2.

(Anthony van Leeuwenhoek described & illustrated the spermatozoa in dogs & other animals in 1677, though in this discovery Stephen Hahn had anticipated him by a few months)
Encyc. Brit. Vol. 12: Leeuwenhoek

15. Albert L. Lehninger, Principles of Biochemistry, Worth, 1982, p.3
16. Ibid.
17. Ibid., p.12
18. Bruce Alberts, Dennis Bray, Julian Lewis, Martin Raff, Keith Roberts, and James D. Watson, Molecular Biology of the Cell, New York: Garland, 1983, p.v, 132.
19. Edwards, Robert and Steptoe, Patrick, A Matter of Life, London: 1981, p.101. On fertilization itself as the beginning of a new life, see "Identifying the Origin of A Human Life", St Vincent's Bioethics Centre Newsletter, Vol.5, No.1, (March 1987) p.4-6.
20. Catholic Bishops' Joint Committee on Bio-Ethical Issues, In Vitro Fertilisation: Morality and Public Policy, Abingdon: (1982), \$9.
21. For the ontological implications of this see B. Lonergan, Insight, London: Longmans, 1957, Ch.8, and P. McShane, Randomness Statistics and Emergence, Dublin: Gill and Macmillan, 1970, Ch.9-11.
22. "the monozygotic twinning rate in all populations varies very little (between 3 to 4 per thousand maternities)," P.P.S. Nylander, "Frequency of Multiple Births", in I.

MacGillivray, P.P.S. Nylander and G. Corney, Human Multiple
Reproduction, Philadelphia: Saunders, 1975, p.96. This
means that 6 to 8 babies per thousand are involved.

23. Aquinas, Summa Theologiae, I, q.118 a.2 ad 2.