Pre-Implantation Diagnosis

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One of the moral objections to IVF (in vitro fertilisation) is the way in which embryos are subjected to 'quality control' while they are still outside the mother's body. Even couples who are not infertile but are at risk of having children with genetic disorders may have IVF so that embryos can be screened and discarded if found to be affected. An earlier version of this paper was presented to the Ethics Committee of the HFEA (Human Fertilisation and Embryology Authority), which supervises the storage, 'use' and disposal of gametes (sperm and ova) and embryos.

Pre-implantation diagnosis is often presented as something entirely positive: a welcome alternative to foetal diagnosis and abortion, with all the emotional distress which these procedures frequently involve. All too often, there is little or no attention paid to the ethical aspects of pre-implantation diagnosis: to the fundamental questions which need to be looked at if pre-implantation diagnosis is to be properly assessed. Before looking at pre-implantation diagnosis itself, and what it means for the parent-child relationship, I will be looking at two very basic questions of obvious relevance to the debate. These questions are: is the early embryo the same individual as the older human person, and does the embryo have the same moral status as the older human person? Though closely related, these questions are nonetheless separate, and I will be looking first at whether the embryo is the same individual as the older human person.

In this paper, I will be assuming that the dualist view of human persons is incorrect - that is, the view that a person is a purely spiritual entity. The human person is not, I will assume, a ghost who haunts a separate living body; rather, he or she is a bodily entity: a living human 'whole' or organism.1[1] In asking whether the embryo is the same individual as the older human being or person, I will therefore be asking: is the embryo the same individual human organism?

One reason very often given for denying that the embryo is the same individual as the adult is the fact that the early embryo has the potential to twin. If identical twinning involves a symmetric split, neither resulting individual will be more continuous with the original embryo than the other. How can we say that the embryo is the same individual as the adult into which it may develop when it may also twin, producing two individuals, with neither of whom it can be identified?

However, a brief reflection should show us that the potential to twin is quite compatible with the normal continuity of the embryo with the adult. I will begin by assuming that the embryo who twins splits in half in a completely symmetric way, and therefore that the embryo is destroyed in producing two new individuals. What makes a human organism a human organism is the active potential it possesses to organize itself in a human way in a favourable

[1] Catholics believe that the soul is the 'form' of the body; i.e., that the soul makes the body alive. The soul (though not the human person) can exist without the body; however, the living human body cannot exist without the soul.

environment. In the case of the embryo, this active potential for human self-organization includes developmental potential. A conceptus would not be a genuine human embryo if it lacked the active tendency to develop, in a favourable environment, into an older human being. However, if a conceptus does have developmental potential, but receives not a favourable environment but one which makes it split in half, that conceptus is still an embryo prior to splitting, and still an individual human being. Even if an embryo is genetically weak, so that it is predisposed to split in half, that embryo is still a human embryo if, in some conceivable environment, it could develop normally. If, on the other hand, the conceptus does not have developmental potential in any environment, then it is not a human embryo, and not a human being.

So much for a case of twinning where the embryo or conceptus is destroyed in the process. It is, however, difficult to say if identical twinning involves a completely symmetric split. At least some embryos may survive the process of reproducing asexually, just as adults survive the process of reproducing sexually. In any case, the fact that the embryo may be able, like many other animals, to reproduce asexually does not mean that he or she is not an individual human organism. And the fact that, in the rare case of identical twinning, either one twin or both comes into existence after fertilisation does not mean that the vast majority of human beings do not come into existence at fertilisation.

It is important to realize that the embryo's potential to develop is not a passive potential - like, for example, the potential of an apple to be picked and split in half. Rather, it is an active potential - a potential to act, while remaining the same individual. Both living wholes, such as human beings, and living parts, such as sperm and ova, have active, as well as passive potential. But while the sperm and ovum have the active potential to participate in fertilisation, whereby they cease to exist, the embryo has the active potential to develop as a human individual, given a favourable environment. That is, the embryo has the active potential to bring about developmental changes in itself, while remaining throughout the same individual human being - the same human organism.

It is sometimes said that fertilisation is a process, and therefore that it is wrong to speak of the 'moment' of fertilisation as the beginning of most, if not all, individual human lives. Fertilisation is indeed a process, which begins when the sperm makes contact with the ovum and ends at syngamy, when the male and female chromosomes pair off inside the fertilised ovum. However, the fact that fertilisation is a process does not mean that there is no precise moment during this process which marks the appearance of a new human individual. One very likely moment is the moment when the inside of the sperm has shed its membrane and passed within the interior of the ovum. The ovum has both an outer shell (the zona pellucida) and an inner cell membrane, so that the sperm first passes through the zona and then arrives at the inner membrane. When the two membranes open to each other, the contents of the sperm are released into the interior of the ovum. Within a single cell there is now all the genetic material needed, from both father and mother, for development to begin. By its subsequent activity, the one-cell embryo gives evidence of developmental powers which are quite different from the powers of the

gametes from which it is created. As a living whole, the human embryo does not come into existence by degrees; rather, it immediately replaces two living parts: the ovum and the sperm.

It is sometimes claimed that the early embryo cannot be a human being, since the embryo has the potential to develop not simply a body of conventional human shape, but such tissues as the placenta. However, the placenta should be regarded not as something external to the embryo, but as a part of the embryo - a temporary part, discarded, like the milk teeth, when it is no longer needed. It is sometimes claimed that the embryo cannot be a human being because it does not look like a human being. This is to beg the question of what human beings look like at the earliest stages of their lives. We may be confused or even alarmed by the appearance of early human embryos, but such emotional reactions on our part have nothing to do with whether or not they are human beings. Human beings are human organisms, and the term 'human organism' covers a variety of stages in the life of one and the same individual. For example, an adult is not a child, any more than a caterpillar is a butterfly. However, a caterpillar is the same individual organism as the butterfly into which it grows. In the same way, the embryo is the same human being as the foetus, the infant and the adult, even though his or her appearance goes through striking changes as he or she grows up.

I will now move on to the second question, concerning the status of the embryo. Assuming it is true that the embryo is the same individual as the older human being or person, does the embryo have the same moral status as the older human being or person? It is often claimed that human individuals do not have human moral status until they are currently able to think, feel, plan and so on. However, it is arbitrary to wait for the appearance of some particular level of exercisable ability to recognise the moral importance of the individual who will acquire this ability. There is no one level of ability after which an individual has human moral status, and before which he or she does not have human moral status. Nor is it the case that moral status gradually accrues in a human being, so that a 20-year-old adult has a higher moral status than a 10-year-old child. Moral status is not something attaching to a human being only at this or that level of mental ability, nor is it something some human beings have more of than other human beings. Moral status is rather something intrinsic, attaching to all human beings, by virtue of the kind of thing we are. As soon as the human being exists at all, he or she has morally significant interests in all the goods of human life which human beings can enjoy.

It is not necessary to be currently rational - or even currently conscious - to have interests and rights. Having an interest, on which a right is based, must be distinguished from taking an interest. As human beings we have objective interests in such 'human goods' as life and friendship before we are able to take an interest in these or other human goods. If it would be good for me to develop some potential I have, then it is in my interest to develop this potential, however far away I am from being able to do this. Anything which would do me good now or later is in my interest now - and was in my interest from the time I first existed.

It is often said that an embryo cannot have human moral status, in view of the fact that many embryos fail to

implant in the natural course of events. However, the likelihood of death by natural causes, here as in other situations, says nothing at all about the permissibility of the deliberate killing of those naturally at risk. After all, the rate of infant mortality has been very high for most of human history, and is very high today in certain Third World Countries. Notwithstanding this fact, Third World children have the same moral status as children in developed countries, who have a better chance of survival. A child who may die early still needs to be cared for, and should on no account be deliberately killed on the grounds that his or her life is already at risk. In any case, it is worth remembering that figures for the rate of early miscarriage vary widely and that one study (by Whittaker, Taylor and Lind) gives a figure of no more than eight percent.

If we take it that the embryo has the same moral status as the older human being, what are the implications for pre-implantation diagnosis? If it is wrong to kill an innocent human being, and the embryo is an innocent human being, then it is wrong to subject an embryo to antenatal quality control. Parents should be prepared, in advance of conception, to accept their children unconditionally; they should not conceive children for the purpose of 'selecting out' those they do not want. If IVF is carried out at all,[2] IVF embryos should only be created in such numbers as will allow them to be immediately implanted and given a chance of going to term.

[2] The Church teaches that IVF is in itself immoral, as a non-sexual, and therefore inappropriate way of generating new human lives. While IVF is always immoral, it is clearly more so in cases (the majority) where embryos are created in greater numbers than will be implanted and given a chance of survival.

It may be objected that pre-implantation diagnosis is in the interest of embryos who would otherwise have been born with a serious genetic disorder. However, to claim this is to claim that the life of an older person with the disorder in question is not merely without value but has a negative value. To claim that the existence of a disabled person is a bad or worthless thing is to make a quite extraordinary judgement on the life of a fellow human being. Quite apart from the subjective value of life to that person - which can persist despite severe disability - we should consider the objective value of that person's presence in the world. If the embryo is the same individual as the older person into which he or she develops, why should we think ourselves entitled to deprive the embryo of a valuable life?

Moreover, it is vital to consider the likely effect of pre-implantation diagnosis on parents. It is often rightly said that good parents are parents who accept their children unconditionally: 'for better or for worse'. But if it is true that good parents are parents who accept their children unconditionally, how will pre-implantation diagnosis promote this unconditional acceptance? How can we be sure that parents will 'unlearn' what they have learnt in using pre-implantation diagnosis - that it is up to them to decide if their children are acceptable or not? By making selection easier, pre-implantation diagnosis will make selection more attractive. Parents who would otherwise have avoided conception, to avoid the stress of foetal diagnosis and abortion, will now be conceiving and rejecting multiple offspring in the context of IVF. But of course, whatever the process of selection, there is no guarantee that those selected will be born healthy,

much less that they will not acquire a disability at some time after birth. The more parents are encouraged to reject those of their offspring who fall below a certain standard, the harder they will find it to reverse their attitudes after their children have been born.

It is not only parents and children who will be affected by the practice of pre-implantation selection. Older disabled people will be living in a society which sees their condition as a fate worse than death - or at least, as grounds for 'selecting out' before a certain stage of development. With more and more conditions being diagnosed pre-natally - conditions now including late-onset disorders such as certain types of cancer - more and more people will receive the message that life with such conditions is intolerable for the individual and/or for the family. Such a message is highly demoralizing both for the sick or disabled person and for those who want to care for him or her in a positive and sensitive way.

I would therefore like to urge the HFEA very strongly to step back from the requests of pro-screening scientists and parents, and to consider carefully the moral and social significance of pre-implantation diagnosis. There is reason to believe that the embryo is a human individual with human moral status; at any rate, the subhuman status of the embryo cannot be safely assumed. The attitude of parents to their children, and of society to people with disabilities, is likely to be badly distorted by the practice of pre-implantation diagnosis. Those who regard IVF with disfavour will have their misgivings confirmed by quality control more appropriate to the production line than to the generation of human offspring. To address these misgivings by taking strong action against the practice of pre-implantation selection would be a bold but justified step on the part of the HFEA. Such a step might not entirely reassure the public with regard to IVF, but would go a long way towards convincing the public that IVF was under some kind of control.

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