THE MORAL SIGNIFICANCE OF BIRTH*

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It is commonly held that there can be no morally relevant difference between a foetus inside the womb and about to be born, and that same foetus just after it has been born. Birth, it is argued, cannot be a morally relevant fact in the process of development from zygote to child. In the following I will term this the Continuity Thesis. In the context of discussions of the moral significance of human life and the wrongness of taking it this position has been rather influential. In particular, it has been a crucial pillar of arguments claiming that certain ways of arguing in defence of abortion commit one to accepting the moral validity of infanticide. Since it tends to be put forward and adopted as obvious, the time is ripe for submitting it to a closer examination.

I begin this paper by rehearsing the specific arguments against giving any moral significance to the fact of birth, after outlining the general framework of discussion within which these arguments seem most important. I then argue for two claims. The first is that the lives of neonates (newly-born infants) can have certain features which make their lives morally significant in a way that many contemporary theorists would deny. In particular I will draw attention to recent and important work in developmental psychology. The second claim will be that these features are such that they can in principle only be possessed after birth. Possession of these features is a function, not just of the infants' physiological and neurophysiological development, but also of the fact that they are outside the womb. If both these claims are accepted, then we have to deny the Continuity Thesis that the end-of-term foetus and the neonate are, in most normal circumstances, morally equivalent.[1]

The Context of the Debate: Three Principles

The particular relevance of the Continuity Thesis arises within the context of a well-established debate about the moral significance of different forms of life.[2] In this paper I will confine myself to description of the salient features of the framework and the arguments within it, without making any attempt to justify that framework. I take it, however, that what I have to say will have some bearing on questions of justification, for the following reason. It is sometimes taken to be a *reductio ad absurdum* of the utilitarian framework for discussing questions about the moral significance of life and the wrongness of killing that it seems to entail that anybody who accepts the moral validity of abortion must by the same token accept, or at least be prepared to countenance, the moral validity of infanticide.[3] If, as I hope to establish however, this move from the justifiability of abortion to the justifiability of infanticide is far from straightforward, this line of criticism will become correspondingly weaker.[4]

Bearing this in mind, then, the relevant framework contains, I would claim, two central assumptions.

> (1). **The Moral Irrelevance of Species Membership Principle**.[5] A human life is not morally significant simply because it is human. If a human life is judged to be morally significant, then there must be reasons for the significance that is ascribed to it.
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> (2). **The Moral Irrelevance of Potentiality Principle.**[6] The moral significance of a life at a particular moment is determined not by what it

> might become, or by what it might have been, but rather by significance-bestowing properties or features of that life at that time.

If these two assumptions are accepted, then any straightforwardly deontological response to the ethical dimensions of abortion is ruled out. It becomes impossible to pursue, for example, the traditional argument that because human embryos are innocent members of the species homo sapiens, and, furthermore, because it is morally wrong to kill innocent members of the species, then both abortion and infanticide are morally wrong. Any such argument would be ruled out by the Moral Irrelevance of Species Membership Principle. What would be required for this line of argument to be salvaged would be some reason or reasons for why all human life should be valuable in the way the argument suggests. But, when the second principle is brought into play, it starts to seem impossible to generalize over members of the species homo sapiens when one is determining the wrongness of killing. If the moral significance of a human life is contingent upon certain features or properties of that life, then it is highly unlikely that there will be features which hold over all members of the species, given the extraordinary developmental diversity that holds amongst species members, from zygote, embryo and foetus to child, adult and geriatric. And since the Moral Irrelevance of Potentiality Principle forbids one either to argue 'backward' from fully-developed adult to infants and embryos as potential adults, or to argue 'forward' from fully-developed adults to senile or otherwise damaged geriatrics as 'adults that were', it follows that different human lives and forms of human life will have differing degrees of moral significance.

When these two assumptions are accepted, then, the ethical philosopher is confronted by a complex set of interlocking challenges. He must trace the path of human development with an eye for the acquisition of features or abilities which might bestow moral significance upon the human animal at that stage of development. In this capacity

the ethical philosopher is as much a developmental psychologist and doctor, as a conceptual analyst. On the other hand, however, he must also fulfil his more traditional role of providing arguments to justify the relevant features or abilities. Why should possession of a particular feature or ability confer moral significance upon a life? Does it in any sense bestow a right to life? Why, if at all, should one form of human life (say, a three-month old embryo) be deemed less important than another form of life (say, a pregnant mother)? These are questions that require the traditional philosophical forms of argument and conceptual analysis, as well as a sensitivity to the factual dimensions discussed earlier.

It is worth pointing out, however, that not all philosophers working within the framework demarcated by our two assumptions have attempted to tease out the nuances and differences of degree that the assumptions seem to imply are involved in thinking about these questions. We can take John Harris as an example. In *The Value of Life: an Introduction to Medical Ethics* Harris provides a conception of personhood which tries both to capture some of those aspects which we might intuitively take to be morally important in human life, and to justify the process of making them criteria of the value of life. He begins by posing the question of the value of life as the question: why is it wrong to kill another person? The wrongness here, he claims, is "the wrongness of permanently depriving her of whatever it is that makes it possible for her to value her own life".[7] On this view, the value of an individual life lies in that individual's capacity to value its own life. There are, furthermore, certain cognitive capacities which must hold for an individual to value its own life in this morally relevant way. It must be capable of envisaging its own future and, furthermore, of wanting to experience that future. To be capable of this it must be at least minimally self-conscious and aware of itself as existing over time. So, Harris concludes, a person is a being which is capable of valuing its own life in virtue of a minimal form of self-consciousness.

Now, Harris certainly succeeds in providing a persuasive argument for considering the lives of self-conscious beings to be morally significant. In this sense his position is very helpful. There are, nonetheless, important difficulties with his account as it stands. Principal among these is the fact that it divides the animal kingdom into just two morally significant classes - persons, on the one hand, and non-persons on the other. Killing persons is, as we have seen, morally questionable in cases when it involves depriving them of something which they value (as opposed to cases, for example, of voluntary euthanasia, when life has ceased to be valued), but killing non-persons is, according to Harris, only wrong to the extent that it causes them pain or distress. Whereas persons have the capacity to value their own lives, non-persons have only the capacity to feel pain or be distressed, and so can only be wronged to the extent that pain or distress are inflicted upon them. Intuitively, this is far from satisfactory. It is hard to accept, as seems to be implied, that every being failing to meet Harris's criteria for self-consciousness has a comparable degree of moral significance. Certainly, the intuition seems strong in the human case. Most people (however wholeheartedly they approve of abortion) would, I think, feel that the decision to abort at the end of the second trimester is more morally serious than the decision to abort at the end of the first trimester. By a 'more morally serious' decision here I mean one that seems to require more careful thought, more weighing up of the issues involved, a greater scrutiny of one's own motives. And I suspect that one would continue to feel this, even if it was guaranteed that equal amounts of pain and distress were being caused in the two cases. It is not just issues of pain and distress that engage people here. One powerful ground for this intuition would be the thought that there are facts about the relative stages of development reached in the two cases that makes them morally different. The six-month-old foetus has in some sense more to lose than the three-month old foetus, and that is why killing the older foetus has certain moral dimensions which are absent in the younger case.[8] We find this intuition

reinforced if we consider what seems to be a corollary of Harris' position. All beings which lack the necessary conditions of personhood, he seems to be claiming, can only be harmed if they are caused pain or distress. In all situations, then, in which they are not caused pain or distress no harm can be done to them. One conclusion which seems to follow from this is that a painless death without distress will not do such beings any harm at all. This does not compel one to accept that painless killing is morally acceptable, but it certainly suggests that any arguments against the moral acceptability of painless killing will not be able to emphasise the harm that such death will bring to the beings involved. Moreover, it also seems to suggest that, as long as the requirement of personhood remains unsatisfied, no such argument will be able to lay stress on the particular type of being involved. All beings that are not persons are morally equivalent, and so it can make no difference what type of being it is.

None of these aspects of Harris's theory are at all attractive. Any theory that is even going to begin to do justice to the complexity and subtlety of our reflections on the relative moral significance of different forms of life must view the animal kingdom in such a way that it comes out with more than two layers of moral significance. Harris's two criteria, basic sentience and personhood, might well be the lower and upper limits of the scale respectively, but it is hard to see why the scale should have no points between them.

There seem to be two broad ways in which this work of introducing more gradations into assessments of the value of life might be carried out. The first would be to find novel value-bestowing properties or features. In the case of human development, such features would emerge after the development of basic sentience and before the development of self-consciousness. There are several candidates already in play - viability (the foetus's capacity to survive outside the womb) might be plausible, as might the capacity for basic

concept formation. This approach falls outside the scope of this paper. It is the second broad strategy that I would like to discuss. This strategy relies on the following principle:

> (3). **The Principle of Derived Moral Significance**. If a particular feature or property is deemed to confer moral significance upon a life that has it, then any primitive form of that feature or property will also confer moral significance, although not necessarily to the same degree.[9]

The reasoning behind this principle is this. If we attribute moral significance to a life because it is, for example, self-conscious, then this itself gives us grounds for attributing a degree of moral significance to a life that displays a primitive form of self-consciousness. It is obvious that the Principle of Derived Moral Significance holds in cases where the primitive form is itself sufficiently developed to support the argument that justifies the ascription of moral significance - indeed, the principle becomes tautologous in such cases. So, to take Harris's argument that self-consciousness is morally relevant because it permits an individual to value their own life, if the primitive form of self-consciousness is actually developed enough to allow an individual to value their own life, then it is uncontroversial that it confers moral significance. What I would suggest, though, is that the Principle of Derived Moral Significance should be accepted even in cases where the primitive form does not support the relevant argument in this way. So, to continue with the example, even if the form of self-consciousness displayed is not developed enough to permit an individual to value their own life, I would suggest that its presence still confers moral significance upon the individual's life. Of course, its presence will not confer moral significance to the same degree as the presence of the fully developed feature. But it will nonetheless make that life more morally significant than a life lacking even that primitive form of self-consciousness.

It is important to recognise that the Principle of Derived Moral Significance is not in conflict with the Principle of the Moral Irrelevance of Potentiality. The latter principle is intended to rule out arguments of the following sort. In so far as a zygote will in due course develop into a person, it is, at every stage from fertilisation onwards, a potential person. As a potential person its life has the same value it will possess when it eventually does become a person. It is therefore as wrong to kill a zygote as it is to kill a person. There are familiar objections to employing the concept of potentiality in this way. And so many philosophers have argued that, irrespective of what a zygote or foetus may become, it is only what it is now, it is only the properties and abilities that it has at any given moment that are morally relevant.[10] The Principle of Derived Moral Significance is fully in accordance with this in so far as it stresses precisely the properties and abilities that an individual embryo, for example, has at a particular moment. The Principle of Derived Moral Significance does not claim that a particular life has a certain degree of moral significance because it will become self-conscious and self-consciousness makes life morally significant. That would be an argument from potentiality. Instead it claims that an individual life is morally significant because it possesses certain features (perhaps primitive forms of self-consciousness) which are themselves morally significant. In explaining why those features should be significant it might be necessary to appeal to the moral significance of the feature in its fully fledged form. It might be necessary to argue, for example, that a primitive form of self-consciousness has the moral significance that it does have because of the significance possessed by fully-fledged self-consciousness. But any such argument will still be grounded in actual features possessed by the individual.

We can sharpen the formulation of the Principle of Derived Moral Significance a little further. The Principle is not claiming that the primitive state necessarily has a non-derivative significance. As was suggested earlier, the primitive state would only have such a non-derivative significance in cases where it was sufficiently developed - in cases,

for example, where the primitive form of self-consciousness permits one to value one's own life in the way that Harris suggests is necessary for it to be significant. What makes the Principle of Derived Moral Significance a useful tool is the way in which it permits ascriptions of moral significance that cannot be directly supported by argument alone. In such cases the significance derives from the (independently argued for) value of the fully-fledged state. Of course, the force of the Principle depends upon what forms of derivation are deemed permissible, and upon how they are justified. There is one point that should be stressed in this context. This type of derivative significance can exist only in cases where there are good reasons for thinking that the primitive state actually is a form of the fully-fledged state - what are needed are, for example, primitive forms of self-consciousness, rather than precursors of self-consciousness or necessary conditions of self-consciousness. The derivative degree of moral significance holds because both the primitive and fully-fledged states are forms of the same thing, and it is that thing which is morally significant. The Principle of Derived Moral Significance does not allow us to argue, for example, that because fully-fledged self-consciousness is morally significant, then that alone allows us to ascribe value to a being which, although not at that moment self-conscious, is conscious and in the normal course of things will become self-conscious. It seems clear that consciousness is a necessary condition of self-consciousness, but this nonetheless does not bestow the sort of derivative significance under discussion, on pain of contravening the requirement that only existent features and properties can confer moral significance. The claim is that any argument which makes the existence of a particular feature morally significant *ipso facto* makes the existence of primitive forms of that feature morally significant.

It is also important to recognise that the fact that an individual life at a given moment has a degree of moral significance ultimately derived, via the Principle of Derived Moral Significance, from the moral significance of some fully fledged property of which it is a

primitive form does not entail that that individual life will ever possess that fully-fledged property. The Principle of Derived Moral Significance does not mean that an individual's future development, or lack of it, has any role to play in determining its moral significance at a particular moment. On the contrary, the derivative moral significance which the Principle of Derived Moral Significance confers could be possessed by an individual which was never going to acquire the fully-fledged feature from which the moral significance is ultimately derived. There are, broadly speaking, two reasons why an individual might never acquire the fully -fledged feature. It might be as a result of some unfortunate accident, whereby the natural process of development if cut short. Alternatively, it might be due to the limited capacities of the species to which the individual belongs. Individual members of that species might possess a primitive form of the value-bestowing feature, even though no member of it will ever acquire the fully-fledged form. In such a situation, the conjunction of the Moral Irrelevance of Potentiality Principle with the Principle of Derived Moral Significance dictates that members of that species are due the same consideration as comparably developed members of a species who will, in the normal course of things, progress from the primitive form of the significance-bestowing feature to the fully-fledged form. The significance of this point emerges when we reflect on the well-documented parallels between the cognitive abilities of nonhuman primates, and those of human infants and young children. If both the nonhuman primates and the human infants have comparable degrees of moral significance in virtue of having primitive forms of significance-bestowing features, then the species-bound limitations of the the nonhuman primates cannot stand in the way of their being accorded a moral consideration equal to that accorded to the human infants.

This is not the place for a full defence of the Principle of Derived Moral Significance. It is plausible, I think, because it avoids the more obvious difficulties associated with the notion of potentiality, while at the same time preserving the important kernel of truth that

the concept of potentiality contains. This kernel of truth is simply that an individual life can possess both intrinsic and derivative moral significance. The move made by proponents of potentiality is to locate the source of derivative moral significance in an individual's future development (or in their history). The Principle of Derived Moral Significance offers a way in which we can keep hold of the idea of derivative moral significance without resting the case for it upon properties that do not yet exist, and might not ever exist.

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The Continuity Thesis

Having set up the general context of debate in this way, we should move on now to consider the Continuity Thesis. In brief, the Continuity Thesis claims that birth cannot be a morally relevant fact in the transition from zygote to person. Obviously, being born does bring about important changes for the foetus. It is hard to imagine anything more drastic than being suddenly propelled from the warmth, security and comfort of the womb into a world full of strange sounds and visual sensations. Neonates, but not foetuses, are responsible for their own respiration, digestion and excretion. No longer do they inhabit another person's body. But, proponents of the Continuity Thesis claim, none of these changes are morally relevant. They do not affect the moral significance to be attributed to the life of the foetus/neonate in any way whatsoever. An individual can be no more and no less morally significant when it is a new-born baby than when it is a full-term foetus.

An emphatic defence of the Continuity Thesis is to be found in Sumner's *Abortion and Moral Theory*:

> Birth is a shallow and arbitrary criterion of moral standing, and there seems to be no way of connecting it to a deeper account. In most respects the infant shortly after birth has the same natural characteristics (is the same kind of creature) as a fetus shortly before birth; the same size, shape, internal constitution, species membership, capacities, level of consciousness, and so forth. Biologically a full-term fetus resembles a newborn infant much more than it resembles a zygote or an embryo.[11]

Other authors seem to have found the Continuity Thesis obvious enough to require even less discussion. Raanan Gillon, for example, refers to "the simple and widely accepted distinction between being unborn and born". He continues: "Few, however, who think critically about the problem can justify this simple distinction (essentially based on the position of the infant relative to the mother's vulva) as being of moral significance".[12] Singer is less dismissive, but equally unconvinced:

> . . . the fetus/baby is the same entity whether inside or outside the womb, with the same human features (whether we can see them or not) and the same degree of awareness and capacity for feeling pain. A prematurely born infant may well be *less* developed in these respects than a fetus nearing the end of its normal term. It seems peculiar to hold that we may not kill the premature infant, but may kill the more developed fetus. The location of a being - inside or outside the womb - should not make much difference to the wrongness of killing it.[13]

Singer is arguing against a slightly stronger thesis than the converse of the Continuity Thesis. His arguments are directed against the claim that birth is not only morally relevant, but indeed sufficiently morally relevant to confer something like a right to life. Nonetheless, his counter-argument is basically an affirmation of the Continuity Thesis.

Between them the three authors just quoted provide the principal points made in defence of the Continuity Thesis. It will be helpful, though, to separate them out more carefully. First, there is the claim (made by Singer and Gillon) that the difference between full-term foetus and neonate is merely a matter of spatial position, and, furthermore, that differences in spatial position can have no moral significance. Secondly, there is the argument (made by Singer and Sumner) that neonates resemble full-term fetuses in every morally relevant respect. Third, there is Singer's argument that full-term foetuses may well be more developed (presumably in what he takes to be morally relevant respects) than newly born premature infants, and therefore that taking the simple fact of birth to be morally relevant would require one in some sense to override those other morally relevant features.

In the following section I would like to move towards a rejection of the first two of these arguments within the general framework set up in the first part of this paper. My strategy will be as follows. First, I will employ the Principle of Derived Moral Significance to argue that the lives of neonates can in fact have features which are morally relevant and which bestow upon their lives considerably more significance than has often been assumed. Secondly, I will argue that these features are features which full-term foetuses cannot have. That is, that these morally relevant features are such that they do not exist in a being that has not yet been born. This will compel rejection of the first and second arguments in defence of the Continuity Thesis. I will then argue that the third argument is equally inefficacious.

Against the Continuity Thesis: Data from Developmental Psychology

On the traditional view, best captured by James' characterisation of infant experience as "a blooming, buzzing confusion", the newborn infant inhabits a universe radically unlike our own, composed solely of sensations, with no sense of differentiation between self and objects or between self and other, and in which the infant is capable only of reflex actions. The process by which this primitive form of existence becomes the familiar world of people and objects and by which reflexes are replaced by proper motor behaviour is, on the traditional view, a lengthy one. On the most famous theory within the traditional view, that of Jean Piaget, the infant is born with certain innate reflex-like sensori-motor schemes which allow it to perform very basic acts like sucking a nipple. At least eight months will pass before these sensori-motor schemes are integrated and developed sufficiently for the infant to be ascribed even a partial grasp of the notion of an object. Any notion of self comes much later.

Much recent work in developmental psychology has challenged this view. Instead, it is now thought by many developmental psychologists, infants have surprisingly sophisticated capacities for perceiving and understanding both physical objects and other people.[14] What I would like to do now is to draw attention to some important experiments supporting a drastic revision of the traditional view. What is interesting about these experiments is the way in which they seem to suggest that a primitive form of self-awareness is operative in neonates.

The Meltzoff and Moore Imitation Experiments. What Meltzoff and Moore were looking for was the earliest stage at which evidence of facial imitation could be found in infancy. On the Piagetian view, the capacity for facial imitation is a very high-level form of cognitive development, occurring only towards the end of the second year. What makes facial imitation so important is the fact that awareness of the behaviour to be imitated and the awareness of the imitating behaviour occur in different sensory

modalities. Facial imitation involves matching a seen gesture with an unseen gesture. If successful facial imitation is to take place, a visual awareness of somone else's face must be apprehended in such a way that it can be reproduced on one's own face, given the fact that one is in normal circumstances aware of one's own face only haptically or proprioceptively.

In experiments carried out in 1977 Meltzoff and Moore found that infants between 12 and 21 days old could successfully imitate three distinct facial acts - lip protrusion, mouth opening and tongue protrusion - and one manual act (sequential finger movement).[15] The infants were prevented by a dummy placed in their mouths from responding before the model gesture was complete. The dummy was then removed and the infants videoed close up. Independent judges then decided what gestures the infants were trying to make. The judges did this without knowing what model gestures the infants were responding to. The results of the experiment seemed clearly to show that imitation behaviour was going on here. Encouraged by this success, Meltzoff and Moore looked for evidence of imitation capabilities in infants just after birth.[16] Here too they were successful. The average age of the infants was 32 hours, with the youngest infant only 42 minutes old. Two gestures were employed - mouth opening and tongue protrusion - and once again the scorer was looking at videotapes of the infants without any information about the gesture the experimenter had made. Here too the evidence was clearly in support of imitation. It is worth pointing out that these results have been interestingly replicated and extended by Field and his co-workers who found that newborn infants, 2 days old, could consistently imitate the facial expressions of an adult model when that model either smiled, frowned or displayed an expression of surprise.[17]

Meltzoff and Moore are emphatic on the conclusions they think should be drawn from their experiments. In their view infants are born with an innate capacity to perceive

and act upon intermodal equivalences. They can take in information through one sensory modality and then translate it into another in such a way that they can then act upon it. They maintain this for the simple reason that it is impossible for newborn infants to have acquired empirically the knowledge of the relevant correspondences between their own facial expressions and the facial expressions that they perceive in others. They conclude further that this capacity to perceive and act upon intermodal equivalences implies the existence of a primitive form of body-image, of a single representational framework coded in an amodal manner allowing the integration of perceptions and motor commands.

Suppose we take seriously Meltzoff and Moore's own claim that neonatal imitation is evidence for the existence of a primitive form of body-scheme or body-image. Possession of a body-image does not in itself entail any developed form of self-consciousness. All it implies is some level of understanding of how one's body fits together, of its contours and how its parts are structurally related, and this understanding need not even be conscious. Nonetheless, there are several important senses in which possession of a body-image can be linked with self-consciousness. One might, for example, stress that possession of a body-image is intimately connected with one's awareness of one's own possibilities for action.[18] Or one might emphasise the way in which a body-image grounds one's sense of oneself as an object, the idea here being that an awareness of the structural connection of body-parts is an integral part of being aware of one's body 'from the outside', as it might seem to others. In all of these cases it is not the simple possession of a body image that is linked with self-consciousness, but rather the cognitive work to which the body image is put. The same seems to hold in the case of neonatal imitation. Here too the body image, which is not in itself a sign of self-consciousness, is employed in a cognitive context that does betoken a primitive form of self-consciousness.

In developing this thought there are two points which it is important to stress. The first is that the very ability to imitate requires a rudimentary grasp of the capacity to distinguish between self and other. This is so because the infant has in some sense to comprehend that what it observes is the sort of thing that it can imitate. Not only does the infant have to grasp the intermodal equivalence of, say, a perceived tongue protrusion and their own act of protruding their tongue, but they also have to grasp that the perceived tongue protrusion is *the sort of thing that they can imitate*, as opposed for example to the movement of a nipple to which they respond by sucking rather than by trying to imitate it. This understanding that what they see is the sort of act that they can perform seems to involve a grasp that the experimenter is a being like themselves, in at least the sense that they are constructed in more or less the same way. The experimenter is the same sort of thing that they are. But if they are to be credited with this sort of grasp of the situation, then they must be credited with at least a primitive understanding of the distinction between self and other and a correlative grip on what they themselves are.

Let us stand back briefly from the infant case and consider the general contours of an account of fully-fledged self-consciousness. There are certain aspects of fully-fledged self-consciousness which any plausible account will have to accomodate.[19] Something that is obviously central to fully-fledged self-consciousness is the capacity for reflexive self-reference by means of the first person pronoun. The capacity for reflexive self-reference makes available many of the high-level cognitive abilities that are characteristic of fully-fledged self-consciousness, such as the capacity to make and reflect upon plans for the future, to form second-order desires, and to fit together autobiographical memories into the narrative of a single life. There is much to be said about reflexive self-reference, but one thing that seems clear is that reflexive self-reference is a tool by which self-conscious subjects can distinguish themselves from other self-conscious subjects. Using the first person pronoun to pick oneself out is a way of delimiting oneself as the

object being spoken or thought about, as opposed to other individuals who could be being spoken or thought about but are not.

A further feature of fully-fledged self-consciousness that needs to be stressed is that self-consciousness is intimately tied up with various possibilities of self-knowledge. This includes knowledge of one's occurrent properties (both physical and psychological), as well as of things that have happened to one in the past and things that one expects to happen in the future. In addition to this it includes what one might term essential self-knowledge. By this should be understood knowledge of the sort of thing that one is – knowledge that one is an embodied human being, more or less rational, and part of a community of similar beings. This sort of knowledge underlies much of our dealings with other people. If, as many have claimed, our relations with others are governed by principles of equal respect and consideration, some form of essential self-knowledge is at the root of these principles.[20]

Returning to neonatal imitation, my suggestion is that primitive forms of both these features of fully-fledged self-consciousness are present in infant imitation behaviour. The understanding of the distinction between self and other that an infant employs in imitating an experimenter's behaviour is an early form of the distinction between self and other that is achieved in the fully-fledged case by means of reflexive self-reference. Similarly, the infant behaviour involves primitive forms of some of the various types of self-knowledge which have such an important role to play in fully-fledged self-consciousness. For example, in recognising that the imitator is a type of being like themselves, infants are both manifesting a degree of essential self-knowledge and putting it to work to govern their interactions with other people. The point can be put in terms of their recognition that the acts that they observe are the sorts of acts that they can imitate. This is a further deployment of essential self-knowledge. Of course, the essential self-

knowledge in fully-fledged self-consciousness is fully conceptual and propositional, whereas in the neonatal case it is closer to knowing-how than to knowing-that, but they are on the same developmental continuum.

It might immediately be objected to any such analyses of neonatal imitation that it presupposes an intentionalist interpretation of what can equally plausibly be construed as reflex behaviour. So, for example, there seems no need to attribute to the infants any rudimentary form of self-consciousness if we explain imitation in terms of the operation of *innate releasing mechanisms* (namely, pre-programmed responses to perceived events sharing a common structure).[21] On such an explanation, simply perceiving the experimenter's face will generate the relevant response without a need for any intentionally describable cognitive activity on the part of the infant, and certainly in the absence of any form of self-awareness. Such an interpretation of the imitation results has indeed been suggested.[22] Meltzoff and Moore themselves resist this interpretation of their results, however, and provide quite plausible reasons for thinking that the notion of an innate releasing mechanism is not as attractive in this context as might immediately appear.[23] As they emphasise, the explanatory power of innate releasing mechanisms depends upon their being highly specific - they must be narrowly circumscribed reactions to a limited set of stimuli. There is no sense in which there could be an innate releasing mechanism for imitation in general. Given, however, the range of imitation behaviour displayed by neonates, it would seem necessary on this anti-intentionalist interpretation of the imitation experiments to postulate a distinct releasing mechanism for each type of behaviour. In which case one can ask searching questions about why such a wide range of imitation mechanisms should exist and about the evolutionary functions performed by a set of innate releasing mechanisms for imitating tongue protrusion, facial expressions and mouth openings? Certainly, there do not seem any good reasons for thinking that these and similar questions are in principle unanswerable, but nonetheless the possibility of

putting them suggests that the anti-intentionalist interpretation is by no means as simple as it might appear. Whatever virtues it might have, providing a streamlined explanation is not one of them.[24]

Meltzoff and Moore also draw attention to two important features of neonatal imitation behaviour which seem strongly to cut against an anti-intentionalist interpretation. In the first place, the behaviour involves memory and representations. As mentioned earlier, the infants had a dummy placed in their mouths to prevent them from responding before the experimenter had completed the model gesture. By the time the infants are in a position to imitate the gesture the experimenter has reverted to his normal facial expression. Clearly, then, there must be some sort of stored representation of the model gesture and it is this stored representation that triggers the imitation response in a way that seems incompatible with many accounts of the functioning of innate releasing mechanisms. Secondly, furthermore, the infants correct their response over time until their own gesture has 'homed in' on the model gesture. Such a 'trial-and-error' approach is not, as Meltzoff and Moore point out, characteristic of reflex behaviour.

Certainly, none of these points are conclusive, and one ought not perhaps to expect conclusive answers in this vexed area. They do, however, at least give good reasons for leaning towards an intentionalist interpretation of the imitation experiments. In so far as the present line of argument is concerned, they go some way towards countering the anti-intentionalist response to analyses of neonatal imitation behaviour in terms of primitive forms of self-awareness. Perhaps, however, it is best to make the claim a hypothetical one of the following sort. In so far, that is, as an intentionalist interpretation of infant imitation behaviour is accepted, some primitive form of self-awareness will have to be ascribed to the neonates concerned. Provided that it is made clear how much work would

have to be done by someone rejecting such an intentionalist account, this hypothetical claim seems strong enough for present purposes.

Implications for the Continuity Thesis

Let us accept that self-consciousness is the sort of feature which makes it wrong to kill a being that possesses it, perhaps for reasons like those adduced by Harris, although we can leave open the question of quite how we would defend the claim.[25] Now, by the Principle of Derived Moral Significance, any primitive form of that feature is itself significance-bestowing, although not necessarily to the same degree as the fully developed feature. If, furthermore, we grant that Meltzoff and Moore's results show that a very primitive form of self-awareness is present in newborns, then we seem committed to claiming that that is sufficient to confer a degree of moral significance on the life of the neonate. The Continuity Thesis, then, will be refuted if it can be argued that the significance-bestowing feature identified by the Meltzoff and Moore experiments is not something that a full-term foetus could possess.

There is a sense in which this final step in the argument seems easy enough to establish. So, for example, one could argue that we can only ascribe self-awareness to neonates because they are capable of imitating facial expressions. Imitating facial expressions, however, is only possible if there is someone there making faces which the infant can imitate. Clearly, though, this is not a situation available to foetuses still in the womb. Therefore, full-term foetuses cannot be ascribed the primitive level of self-awareness implicated in this early type of imitation behaviour. Indeed, I think that such

an argument is sound, but before accepting it two important objections need to be taken into account.

The first of these objections is as follows.[26] Certainly, it could be maintained, imitation of facial expression is impossible in the womb, but other sorts of imitation are perfectly possible. So, for example, if it could be shown that when the foetus hears three taps through the wall of the womb it responds with three taps of its own, would this not be evidence of exactly the same capacities as are manifested by the neonate. The foetus would be imitating and, if imitation is supposed to be evidence of a primitive form of self-awareness, then there is no reason why such primitive self-awareness should not be available to the foetus, either full-term or conceivably before. Once this is granted, however, it is hard to see how our argument can be conclusive against the Continuity Thesis. No longer will we be able to claim the existence of a value-bestowing feature which could not in principle be shared by foetus and neonate.

The counter to this objection is to stress that not every form of imitation should be taken to imply a degree of self-awareness. The form of imitation that is manifested by the Meltzoff and Moore experiments is, we have suggested, interesting because it involves a complex of abilities, including a primitive form of self-other differentiation and a capacity to recognise that the person being imitated is the same sort of being as oneself. Neither of these would be involved in any imitation behaviour that could take place in the womb. The second point, for example, only seems theoretically compelling because the imitated body and the imitating body are similar in most important respects. It is precisely because what one is imitating is something like oneself that one's imitative behaviour reveals a form of awareness of oneself. If this is so, however, it seems to imply that interesting types of imitation are intersubjective. And this, surely, makes it in principle impossible for them to take place inside the womb. A similar point is effective

with regard to the first conclusion we drew from the Meltzoff and Moore experiments. What the infant has to have, we claimed, is the sort of grip on what they themselves are that is required to grasp the fact that the experimenter is the kind of thing that can be imitated. But this too seems to rest upon the imitation being intersubjective imitation. The sort of imitation that it has been suggested might conceivably be carried out in the womb would not seem to place anything like the same cognitive demands as intersubjective imitation, and so would not be plausible evidence of the existence of the same morally relevant properties.

There is, though, a second line of objection that needs to be dealt with. Even if it is granted that neonates are capable of behaving in ways which are in principle inaccessible to full-term foetuses in the way we have suggested, it could still be argued that this falls short of establishing the case against the Continuity Thesis, simply because the foetus has all the relevant capacities before birth. To take, for example, the case of the body-image, if we follow many psychologists in thinking of the body-image as involving an internal representation of the body, it seems plausible to assume that the internal representation is already in existence in the foetus by the end of pregnancy. The only difference between the full-term foetus and the neonate, a defender of the Continuity Thesis might claim, is that the neonate has an opportunity to employ it in imitating facial expressions while the full-term foetus does not, simply because there are no facial expressions in the womb for it to imitate.

This is a more powerful line of attack than the previous one. In particular, it should be noted that it does not fall foul of the Moral Irrelevance of Potentiality Principle. The objection is not claiming that the full-term foetus has the potential to develop into a being with the abilities and capacities that we have attributed to the neonate. Rather, it is claiming that the full-term foetus just is a being with the abilities and capacities

attributable to the neonate. All that it lacks is the possibility of exercising those abilities and capacities, and it only lacks that possibility because of a contingent fact about its spatial position. We can put this more precisely. Physiologically and neurophysiologically, the full-term foetus has every intrinsic property and feature possessed by the neonate. In virtue of this, then, the full-term foetus has all the capacities attributable to the neonate. In particular, it will have all the capacities for imitation behaviour that we have claimed bestow value upon the lives of neonates. The fact of birth does admittedly make possible the exercise of these capacities, but they were in existence before birth. If, then, the relevant significance-bestowing features exist in the neonate, it must also be granted that they exist in the full-term foetus, and as a consequence the Continuity Thesis still stands.

The force of this objection rests upon two assumptions. The first is the claim that that a capacity exists when all the relevant neurophysiological machinery is in place, and the second is that moral significance attaches to the existence of a capacity rather than its exercise. It is not obvious that either of these assumptions should be granted, but for the sake of argument let us concede the first. If a capacity exists when all the neurophysiological machinery is in place, and there are no significant neurophysiological differences between the same individual before and after birth, then it follows that the full-term foetus will have all the same capacities as the neonate immediately after birth. So, if the existence of capacities is what is morally relevant then the Continuity Thesis still stands. But it is this second claim that seems the more questionable of the two. The suggestion that moral significance attaches to the existence of a capacity rather than its exercise can be countered in two ways. The first would be to attack it as a general moral principle by arguing that the moral significance of capacities always attaches to their exercise rather than their existence. The second would be to concede that in some cases it

might be true, but to hold that it is not true for the capacities we are now considering. I shall consider both these strategies before returning to the Continuity Thesis.

The first strategy has been adopted by Michael Tooley. He offers two arguments in defence of the general claim that it is the exercise of a capacity rather than its existence that is morally significant.[27] The first rests upon claims about one's moral responses to a complicated thought-experiment involving the cell-by-cell construction of a human being who is frozen and reprogrammed with a new set of capacities, beliefs etc (those of Bertrand Russell, rather than Billy Graham) before being warmed up and brought to life. Tooley claims that most people would think that such a reprogramming of a frozen individual would not be morally wrong, even though one set of capacities was completely destroyed, and hence concludes that the mere existence of capacities cannot be morally significant.

Although I share Tooley's moral intuitions here I am not confident that they support his conclusions. There is a significant sense in which in this thought-experiment the morally significant capacities are not destroyed, because the capacities that have moral significance are not those that would make the individual when warmed up a Billy Graham-clone, rather than a Bertrand Russell-clone, but rather those that would make the individual a self-conscious, rational agent, and one presumes that these are common to both Billy Graham-clones and Bertrand Russell-clones. It might be argued that it is only legitimate to speak of reprogramming where these capacities are retained, in which case the thought-experiment as described would not involve the destruction of morally significant capacities and the response which Tooley appeals to would not tell us anything about the moral irrelevance of existent but not yet exercised capacities. This thought is reinforced when one considers how the thought-experiment could be reformulated so that the morally significant capacities are more obviously destroyed. This

would happen if, for example, the scientist decided to reprogramme his Billy Graham-clone as a rabbit. I suspect that moral responses to this would not be as unequivocal as they might be in the original case.

Tooley's second argument is rather more plausible. It rests on what he terms the *moral symmetry principle*. Suppose that there is a certain identifiable neurophysiological structure which is a capacity for self-consciousness and hence morally significant, but that it remains unexercised. According to the moral symmetry principle there is no morally relevant difference between, on the one hand, interfering with that neurophysiological structure in such a way that it ceases to be a capacity for self-consciousness, and, on the other, intentionally refraining from actions which would, *ceteris paribus*, result in the existence of such a structure. One obvious way in which one might refrain from an actions which would *ceteris paribus* result in the existence of such a neurophysiological structure would be by refraining from intercourse. But then, by the moral symmetry principle, the destruction of the unexercised capacity for self-consciousness cannot be more morally reprehensible than celibacy. Nobody, however, would maintain that a deliberate policy of celibacy is anywhere near as wrong as the deliberate destruction of a being that either is exercising its capacity for self-consciousness, or that has exercised it in the past even though it is not exercising it at present. So the conclusion Tooley draws is that real moral significance attaches to the exercise of the capacity rather than to its existence.

The argument seems valid, but the moral symmetry principle is a highly contentious premise and this is not the place to examine it.[28] I propose, then, leaving open the question of whether one can formulate a general argument to support the thesis that it is the exercise of a given capacity that is morally significant, but noting that Tooley offers a compelling argument provided that the moral symmetry principle is accepted. What I will

do instead is argue for the limited conclusion that in the case under consideration it is the exercise of the capacity that is crucial.

Suppose that the existence of the capacity for neonatal imitation behaviour was thought to be morally significant. This would entail that the same degree of moral significance attaches to the following three scenarios: first, one in which the capacity exists but is currently unexercised and has not been exercised in the past, although it would, *ceteris paribus*, be exercised in the future; second, one in which it was currently being exercised; and third, one in which it was unexercised at a particular moment, although it had been exercised in the past and, *ceteris paribus*, would be exercised again in the future. If all three of these scenarios have the same degree of moral significance then it is clear that the moral significance cannot attach to any feature that is missing from one or more of the scenarios. So, the moral significance cannot be a function of the past exercise of the capacity, for that does not exist in the first scenario. Nor can it be due to the current exercise of the capacity, for that is absent from the first and third scenarios. That leaves only the future exercise of the capacity, for this is all that is present in all three scenarios (except for the capacity itself, which we have agreed does not possess non-derivative significance). This, however, leads to the following conclusive objections.

We can use the same mode of argument as was employed to exclude other possible candidates for the source of derivative significance to show that the future exercise of the capacity cannot fit the bill either. Suppose that to the previous three scenarios we add the following slightly more complicated one. In this fourth scenario the capacity exists and is unexercised and has not been exercised in the past, but we can be certain that the capacity will not be exercised in the future. We might know, for example, that the being will die before it has a chance to exercise the capacity, or that it suffers from a congenital disorder that will not kill it but will prevent it ever exercising the capacity. In such a scenario we

would have the capacity existing in such a way that it will never be exercised. Now, if the mere existence of the capacity has moral significance in the first three scenarios, then it seems plausible that it will also have it in the fourth scenario. But if it also has it in the fourth scenario, then it obviously does not derive it from the future exercise of the capacity. And that means that the future exercise of the capacity cannot be the source of derivative moral significance in the other three scenarios either. But then there do not seem to be any candidates left, since just about everything else has already been ruled out.

The only way in which this conclusion could be avoided would be to deny that the mere existence of the capacity in the fourth scenario does have moral significance. But there seems no way of doing this without contravening the Moral Irrelevance of Potentiality Principle, because in so far as currently existing properties and features are concerned the first and fourth scenarios are identical. In both cases there is an existent capacity that has not yet been exercised, and if the one has moral significance then so too must the other. The only way of differentiating them would involve making a being's current moral significance dependent upon features that it does not have at present but will have in the future. And that just amounts to claiming that the existence of a capacity is morally relevant because the creature possessing that capacity has the potential for certain forms of behaviour in the future.

What this argument shows is that in this case the mere existence of the capacity cannot be morally relevant. And this is, of course, what we would expect, given that the derivative moral significance which, according to the Principle of Derived Moral Significance, attaches to neonates capable of imitation behaviour does so because imitation behaviour brings into existence certain primitive forms of fully-fledged self-consciousness. It is not the capacity for imitation itself that is significant, still less

whatever neurophysiological mechanism might underlie it. What is morally important is the primitive form of self-awareness which emerges when neonates engage in imitation behaviour. This is a psychological property which is derivatively significant in virtue of the moral significance of fully-fledged self-consciousness. And clearly, such a psychological property is not something that a creature will possess simply in virtue of the existence of an unexercised capacity for imitation behaviour. Rather, it is a property that is ascribable to a creature on the basis of its exercising the capacity for imitation behaviour.

This is not quite satisfactory as it stands, however. We do not want to say that moral significance attaches only when the capacity is actually being exercised, so that it would be cancelled out when the creature in question was asleep, or just doing something else. Indeed, this is one of the reasons that philosophers have been led to think that moral significance attaches to the existence of capacities, rather than their exercise.[29] But the present account is not committed to the idea that the capacity for imitation behaviour has no moral significance except when it is being exercised. Recall that what is morally significant is not the imitation behaviour itself, but the primitive form of self-awareness implicated in that behaviour. We can say that it is wrong to kill a neonate who is engaging in imitation behaviour because such a neonate is primitively self-aware. But primitive self-awareness is not a property that disappears at the very moment that the capacity supporting it ceases to be exercised. It seems reasonable to say that a neonate which has exercised its capacity for imitation remains primitively self-aware in virtue of having exercised that capacity, even at times when it is not exercising it. This provides a way of distinguishing between the first and third scenarios mentioned above, because we now have an account on which the neonate who possesses the capacity and has exercised it, but is not now doing so, will not come out as morally equivalent to the neonate who possesses the capacity but has not exercised it.[30]

The upshot of the discussion, then, is that the moral relevance of neonatal imitation behaviour attaches to the psychological property of primitive self-awareness which emerges only once the capacity for neonatal imitation behaviour has been exercised, although it does not exist only when the capacity is being exercised. It should be clear now how we can respond to the objection that full-term foetus and neonate are morally equivalent, because they share the relevant capacity for imitation behaviour. The answer is simply that they might share the relevant capacity, but this is irrelevant because moral significance attaches only to creatures who are exercising or have exercised that capacity. Such creatures can only be neonates. Full-term foetuses cannot qualify.

It follows from this that the Continuity Thesis must be rejected. According to the Continuity Thesis none of the changes brought about by the mere fact of birth can be morally relevant, because neonates resemble full-term foetuses in all their morally relevant properties. What we have seen, however, is that neonates can have the morally relevant property of being primitively self-aware in virtue of either exercising or having exercised their capacity for imitation behaviour. Since it is the exercise of the capacity that is morally significant, rather than its existence, and the exercise of the capacity can only take place outside the womb where there are people to imitate, this morally relevant property is one that cannot be possessed by a full-term foetus.[31] Of course, this does not mean that every neonate has this morally relevant property. All it means is that some neonates will have it (those which are exercising the capacity or have exercised it). But this is still enough to defeat the Continuity Thesis, because the Continuity Thesis denies that there could be a morally relevant property which neonates can have but full-term foetuses cannot have.

We are now in a position to see what is wrong with the arguments usually made in defence of the Continuity Thesis. According to the first argument the difference between

the neonate and the full-term foetus is merely one of spatial position, and that spatial position cannot be morally relevant. The flaw here is that, although spatial position is not itself morally significant, it can be morally relevant in virtue of making possible the exercise of a capacity that is morally significant. The second (related) argument is that full-term foetus and neonate are identical in all their morally relevant properties. Clearly this falls foul of the same considerations that were fatal to the first argument. This still, however, leaves the third argument that features in defences of the Continuity Thesis. According to this argument, denying the Continuity Thesis runs into difficulties in the case of premature babies. If, by rejecting the Thesis, we accept that a neonate can have a certain moral significance which it could not possibly have in the womb, it seems to follow that the lives of extremely premature neonates could be more morally significant than the lives of full-term foetuses, even though it is uncontroversial that full-term foetuses are far more physiologically and neurophysiologically developed than the youngest premature babies which it is now possible to keep alive. Indeed, we can extend the argument as follows. As medical science advances, it will become possible to keep alive younger and younger premature babies. In which case, then, it is by no means inconceivable that it will be possible to keep alive a baby which is so premature that it has nothing recognisable as a significance-bestowing feature - as a consequence, for example, of lacking a central nervous system. If, however, the mere fact of birth confers the sort of moral significance that our rejection of the Continuity Thesis seems to imply, then the life of such a baby will still be morally significant, and indeed more significant than that of a full-term foetus. But, one wants to ask, valuable in terms of what? What could possibly ground the putative moral significance of such a life, given that we have set the situation up in such a way that the ultra-premature baby is devoid of significance-bestowing features? Either we reply that there is no such ground, or we say that the fact

of birth provides it. In either case, however, we seem to be playing into the hands of the defender of the Continuity Thesis.

The defender of the Continuity Thesis is quite correct to see this suggestion as a *reductio ad absurdum* of any position which might entail it. What is not clear, however, is why it should be thought to be entailed by the sort of rejection of the Continuity Thesis that has been put forward. The position I have been arguing for is that the lives of neonates can be significant in virtue of certain features of those lives. However developed it might be, the life of a full-term foetus cannot in principle possess those features. This line of thought led to a rejection of the Continuity Thesis, construed as the claim that there can be no morally relevant difference between an individual as a full-term foetus and that same individual as a neonate. Rejecting this claim, however, does not commit one to maintaining that in every case such a neonate will be more morally significant than it was as a neonate. The crucial question in considering questions about premature babies is whether or not they possess the relevant value-bestowing features or properties. If those properties are indeed present, then they present no particular difficulties. If, on the other hand, those features are absent, or present to a lesser degree, then the life of such a baby will be calculated on the properties or features that it does possess. The fact of birth is morally relevant in cases where neonates are capable of imitative behaviour, but only in those cases.

Conclusion

The Continuity Thesis has a particularly important role to play in discussions of abortion and infanticide. It does this by promoting the idea that there are no distinct levels

of moral significance between sentient foetus and person. From the moral point of view it then becomes very persuasive to conclude that a being has the same moral standing, whatever stage on the continuum it happens to have reached. Assuming, then, that abortion in the case of sentient foetuses is accepted, one seems committed to holding that infanticide is also acceptable until the infant acquires the moral significance of a person. This line of thought has been employed both by what have come to be known as the 'ultra-liberal' and 'ultra-conservative' positions. On the one hand, ultra-liberals like Singer have argued not only that the moral validity of infanticide is entailed by the moral validity of abortion, but also that this is an advantage of the arguments supporting abortion. On the other, ultra-conservatives have argued that this same entailment is a *reductio ad absurdum* of arguments supporting abortion.

The position I have argued for in this paper provides a framework within which the move from the moral validity of aborting sentient foetuses to the moral validity of infanticide might be resisted. If, as I have suggested, neonates can, in virtue of being born, acquire morally significant properties that cannot be possessed by full-term foetuses, then, in cases where those properties are in fact acquired, this could well confer a degree of moral significance that would make it wrong to take the life of the neonate. Clearly, more work would need to be done to support such a conclusion, but this does seem a plausible direction of argument.

At the very least, however, an important result of arguing against the Continuity Thesis is engendering suspicion of the sort of moral levelling that so often occurs in discussion of this and related issues. Arguments suggesting that birth *can* be morally significant count more generally in support of the view that the acquisition of moral significance is a gradual and multi-layered phenomenon. After all, if birth which so many philosophers dismiss almost without argument, turns out to be potentially morally

relevant, how many other morally relevant stages in human development might there be? It is only through recognising the complex incremental gradations involved in the the development of moral significance that moral philosophers will make progress in this difficult area.

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[1] The qualification is called for because it has often been argued that the lesser development of a premature baby can make it less morally significant than a full-term foetus. This is discussed further below.

[2] A note on terminology. I am using the term 'moral significance' in place of the more usual 'moral value' because it seems that a creature's life can have moral significance without necessarily being morally valuable, where moral value is taken to imply that the world is a better place for having that creature in it. In the sense in which I am using the term, it is wrong to kill a creature to the extent that its life is morally significant. Of course, a life's possession of moral significance does not necessarily make it wrong to take that life. The moral significance of a particular life is to be weighed against other factors, and there are different degrees of moral significance, some of which can easily be outweighed by other factors, while others can only be outweighed with difficulty if at all. I also employ the term 'moral relevance' in such a way that if a particular feature of a life is morally relevant then it will be such as to confer a degree of moral significance.

[3] See, for example, L. W. Sumner, *Abortion and Moral Theory* (Princeton: Princeton University Press, 1981) Ch. 3.

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[4] I return to this at the end of the paper.

[5] See, for example, Michael Tooley, *Abortion and Infanticide* (Oxford: Clarendon Press, 1983) pp. 61-86.

[6] Tooley, pp. 165-205.

[7] John Harris,*The Value of Life: an Introduction to Medical Ethics* (London: Routledge and Kegan Paul, 1984) p.17.

[8] Of course, this is not the only possible ground for such an intuition. In some cases this intuition might be based on extraneous factors, like the physical appearance of the foetus. Not everything that is the ground of a moral intuition is morally significant. On the other hand, quite a lot of such grounds are morally significant, and they need to be taken into account, albeit with caution.

[9]A principle along these lines is countenanced by Tooley when he admits the category of what he calls quasi-persons. He considers ". . . the possibility of a person-making property that admits of degrees, and that, moreover, is morally significant even when present to a lesser extent than is required if something is to be a person" (Ibid. pp.407-8). Tooley is sympathetic to such a general principle, but he does not affirm it. Moreover, he argues that neonates would in any case not qualify as quasi-persons.

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[10] I am assuming in this and the following that the property of being a potential person should not be included in the list of morally relevant properties which an individual possesses at any given moment.

[11] Sumner, p.53.

[12] Raanan Gillon, *Philosophical Medical Ethics* (Chichester:John Wiley and Sons, 1985) p.49.

[13] Peter Singer, *Practical Ethics* (Cambridge: Cambridge University Press, 1979) p.108.

[14] See Daniel, N. Stern, *The Interpersonal World of the Infant* (New York: Basic Books, 1985) for an accessible and thought-provoking survey of recent thinking in both developmental psychology and psychoanalysis.

[15] A. N. Meltzoff and M. K. Moore, "Imitation of facial and manual gestures by human neomnates", *Science,* 198 (1977): pp.75-8.

[16] A. N. Meltzoff and M. K. Moore, "Newborn Infants Imitate Adult Facial Gestures", *Child Development* 54 (1983): pp.702-9.

[17] See T. M. Fielf, R. Woodson, R. Greenburg and D. Cohen, "Discimination and imitation of facial expression by neonates", *Science* 218 (1982): pp.179-181.

[18] See Brian O'Shaughnessy, *The Will* Vol. 1 (Cambridge: Cambridge University Press, 1980) Chs. 5-7 for a more detailed discussion of this and other aspects of the body-image. See also the papers in J. L. Bermúdez, A. J.

Marcel and N. Eilan (Eds) The Body and the Self (Cambridge MA: MIT Press, 1995).

[19] My book The Structure of Self-Consciousness (in preparation) discusses the relation between primitive and fully-fledged forms of self-consciousness.

[20] The thought that human relations should be governed by such principles is, of course, Kantian in inspiration. For a thoughtful recent development of this idea see S. I. Benn, A Theory of Freedom (Cambridge: Cambridge University Press, 1988). Of course, these ideas can be read in line with the Moral Irrelevance of Species Membership Principle, so that what is at stake is membership in a community of natural persons, rather than a community of human beings.

[21] Clearly, there is no scope for explanations in terms of stimulus-response conditioning. If the experimental results are accepted, then imitation must be deemed to occur without any learning or conditioning process. The concept of an innate releasing mechanism is discussed in N. Tinbergen, *The Study of Instinct* (Oxford, Oxford University Press, 1951).

[22] See, for example, S. W. Jacobsen, "Matching behaviour in the young infant", *Child Development* 50 (1979): pp.425-30.

[23] See the papers already cited, as well as A. N. Meltzoff, "Molyneux's Babies: Cross-modal Perception, Imitation and the mind of the Preverbal Infant", in *Spatial Representation*, N. Eilan, R. A. McCarthy and M. W. Brewer (eds.) (Oxford, Basil Blackwell, 1993).

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[24] In fact, even if there were evolutionary advantages in having innate releasing mechanisms for neonatal imitation behaviour, this would still fall well short of conclusive evidence. It might be the case, for example, that neonatal imitation behaviour is adaptively advantageous, because it encourages caring behaviour on the part of the adults imitated. But this could cut both ways, since it can equally be read as evidence for the adaptive advantages of newborn infants being capable of primitive forms of self-consciousness.

[25] There is a plausible argument for such a claim in Michael Tooley's early article, 'Abortion and Infanticide', reprinted in Peter Singer (Ed.), *Applied Ethics* (Oxford, Oxford University Press, 1986) pp.63-69. It should be noted that his book of the same title Tooley withdraws the claim (pp. 143-6).

[26] I am grateful to Bill Brewer for pointing out to me that there is a difficulty here.

[27] Tooley, *Abortion and Infanticide* pp.154-157.

[28] It has been attacked, for example, by Richard Trammell in his 'Tooley's Moral Symmetry Principle', *Philosophy and Public Affairs* 5 (1976): pp.305-313. Tooley defends the principle against this and other attacks in *Abortion and Infanticide*, pp.205-241.

[29] See, for example, Eiker-Henner W. Kluge, *The Practice of Death* (New Haven, 1975) p.91.

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[30] This, at least, is the bare bones of such an account. Further refinements are still required, because we do not want primitive self-awareness to persist throughout the life-span on the individual concerned simply because it has at some stage in the past exercised a capacity for imitation behaviour. We need to leave open the possibility of situations in which the capacity for primitive self-awareness might be lost (for example, extreme cases of senile dementia). One way of doing this would to restrict the persistence of primitive self-awareness to situations in which the capacity exists (ie in which the relevant neurophysiological structures remain in place). This would make moral significance dependent on the existence of the capacity, without equating them.

[31] The possibility must be left open that advances in reproductive technology could make it possible for a foetus to exercise the capacity for imitative behaviour within the womb. This is a very far-fetched possibility indeed, though, and a world in which a foetus could interact with the external world from within the womb would be one in which it is likely that few if any of our current moral principles and intuitions would be applicable. The existence of this bare possibility does, I suppose, rule out the possibility of claiming that no foetus could in principle ever possess this morally relevant property. The following restricted claim, however, does still hold: in no possible world in which foetuses and mothers are structurally similar to the way they are in this world will it be possible for a full-term foetus to exercise the capacity for imitation behaviour.