

# A PROLEGOMENON TO ANY FUTURE ETHICS OF ABORTION

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IS THERE ANYTHING NEW to be said about the morality of abortion, any angle we have not explored? Without settling every issue, reflection on the nature of a conceptual dilemma that abortion seems to present can shed fresh light on the question when it becomes wrong to kill a human *conceptus*. By “conceptual dilemma” I mean that the facts of human development are, presumably, known by all sides in the dispute; so, when “human life” begins or when a fetus becomes a “person” seems not to be a factual question but one of placing an evaluation on previously known facts. Having “human life” or being a “person” is often shorthand for something like “having features with the kind of moral value that makes killing the entity wrong in the same way that killing an innocent human adult, for instance, is wrong.” Somewhere between conception and adulthood, a human infant acquires features with enough value to make killing it wrong; when that occurs, some would say that human life has begun or that the infant is now a person. How can we reach agreement on this evaluation, if facts alone cannot settle the question?

In addition to facts of human development, however, we can examine facts about the nature of this question. An evaluation is a choice. To deliberate about a future choice is to consider whether and how to pursue some future end or ends, and the value of the choice comes from an end for the sake of which we make the choice. A deontologist implies that a choice made for the sake of conforming to duty has no end beyond itself.

But that amounts to saying that the choice contains its own end; it remains the case that whatever future choices we make will be made for the sake of obtaining some as yet unattained end. That fact about choices clarifies significantly the question of when killing a fetus becomes as wrong as killing an innocent adult, where an “adult” is an entity able to make rational choices. The answer must be: When, according to inductive evidence, an entity oriented to ends of the kind that give value

to our choices first exists. For if an entity is oriented to the future achievement of the same kind of ends that give our choices value, its interests are equal to the interests we pursue through choices; depriving it of ends can achieve ends of no greater value than those of which we deprive it.

Genetics shows that, in *some* sense, there is an orientation to the future production of the kind of ends that give choices their value from the zygote stage on.<sup>1</sup> Without the existence of a causal orientation to those ends from the zygote stage on, choices made in pursuit of those ends could not come into existence. But how can we decide that the zygote is the same entity that will later have those ends, or, if it is the same entity, what ethical significance, if any, the zygote's way of being oriented to them has?

Again, the nature of the question can guide us. The only nonarbitrary standard for the value of choices, ethical value included, is an orientation to ends possessed prior to choice. And choosing a stage of development that is "mature" relative to the zygote as the beginning of the value that makes killing wrong would deny ends equal to our own to an entity that induction shows to be an agent specifically oriented to the future production of those ends as its own ends. Induction justifies assigning causal relations to specific kinds of effects, like oak trees, to specific causal units, like acorns, and not to an acorn's nonspecifically oaken environment. And induction shows that some such causal units achieve their ends by some of their parts acting on others. It is in this way that the agent existing at each earlier stage in human development makes itself into each later stage. So, to justify abortion we must either give up the only nonarbitrary standard of value, the prior orientation to ends, or (what ultimately comes to the same thing) the only nonarbitrary standard for a unit causal entity: inductively established causal relations.

In effect, I am partially clarifying the problem of how we *should* evaluate facts of human development by analyzing facts about the possible meaning of "should." This approach cannot answer all our questions but can show that, given the hypothesis that not all ethical judgments are arbitrary, if it is just to kill the unborn, it is also just to kill, even against their will, innocent human adults. I am not trying to show

why or even whether adults have moral value, but only that if it is wrong to kill innocent human adults, it is wrong to kill zygotes, because features that distinguish later human stages from the zygote cannot be the source of moral value, unless moral value is completely arbitrary. In other words, this is a new way of defending the prolife atheist's position that, if abortion is just, the ethical floodgates are open. The argument does not derive ought from is; the pertinent facts concern only necessary, not sufficient, conditions for a nonarbitrary meaning of "should."

The argument will not need to show that the fetus is a person or has human life. The required concept is simpler, because it is metaphysically more basic: the concept of a causal system actively oriented to the future production of certain effects. The fundamental nature of this concept will allow us to see why consciousness is not necessary for value and why the possibility of twinning does not affect the value of the zygote.

I will deal solely with cases of normal human conception and growth, not with the severely disabled. Only a fully developed ethics could handle the issues that such abnormal cases raise, while I will focus on things that we need to be aware of before we develop an ethics, because any ethics presupposes them at the most basic level. To answer all the moral questions about abortion, we need an ethics proper, but the principles showing that justifications for killing a fetus would also justify killing an innocent adult are so fundamental that they reside, in effect, at the very threshold of ethics. Without them there can be no ethics of any kind, and we need nothing more to know that most abortions are unjust.

The point here is that it is wrong to treat adults and zygotes as if their attainment of ends was not of equal value. The precise reason why killing adults and zygotes is wrong is not that it deprives them of a future like our own.<sup>ii</sup> That is just evidence of one kind for equality of value. Nor must a complete ethics make equality the most important reason why killing is wrong. (I will not discuss cases where abortion would save the mother's life or any life whose moral worth is equal to the fetus's.)

I will begin by examining the possible grounds for ethical principles that would connect whatever moral value adults may have with the appearance in human development of some feature or features that are mature relative to the zygote's features. The analysis will relate the value

of mature features to ends shared by fetuses and adults and will explain why a consciousness of ends is not required for value. Next, I will apply the analysis of value to what genetics knows about human development from the zygote stage on. I will close by replying to some objections.

#### 1. THE VALUE OF MATURE FEATURES

Ethical principles that would make it wrong to kill human adults but not human zygotes must connect, explicitly or implicitly, an adult's possession of this moral value with some feature or features that develop after the zygote stage. Acquired features endow later stages of human development with the value that those stages have for ethics.<sup>iii</sup> But our acquired features do not get their value from themselves. Third-degree burns are features which a more developed human being can have, but they hardly endow it with value. The value of mature features comes from their relation to ends to which a thing is oriented; they are of value to a thing because they are ends to which it is oriented or are means to its ends. Third-degree burns deprive us of ends. The typical acquired features cited by defenders of abortion, a human brain, sentience, self-awareness, reason, and so on,<sup>iv</sup> all have value as ends or as enabling us to achieve ends.

Although the same feature might be called an end or a means, depending on the perspective, my argument will hold whether a feature has value as an end or as a means. First, I will argue on the assumption that some features have value only as means, then on the assumption that some features have value as ends.

Having a means to the attainment of end X does bestow a value on beings oriented to end X; the state that they are in with that feature is better than the state they are in without it, other things being equal. Ten-year-old human beings are "better" than five-year-olds, at least in the sense that ten-year-olds have more assets, like knowledge and strength, that aid in the attainment of human ends. But having such features is better for them only because they are oriented to certain ends. Such features do not bestow value in the sense that depriving an entity of an existing feature would do it more harm, by the standard of its orientation to ends, than would preventing it from acquiring the feature to begin

with. So, if a feature is needed for ends to which a being is oriented, it is just as wrong to prevent the being from acquiring the feature as it is to deprive the being of a feature that it already has. For example, whatever claim handicapped persons may have to our help, they have because of needs that they continue to have despite their lack of features enabling them to fulfill those needs.

But when we kill a thing in the zygote stage, we are preventing it from developing the proximate abilities to achieve ends to which it is oriented, and so we are preventing it from achieving those ends. As will be explained, the being that first exists as a zygote is, then, oriented to become a mature human being by its own activity, given environmental support; so a being that is now a zygote is oriented to the eventual achievement of human ends. And it is just as wrong to decide that the being that is now a zygote not acquire the means to achieve those ends as it is to decide that an adult not have those means any longer. Adults already possess the proximate abilities to achieve many ends, but their possessing an ability is not what makes it wrong to deprive them of the ability. What makes it wrong is the fact that they need the ability to achieve ends to which they are oriented. Possessing a means does not make one thing's achievement of an end of greater value than another thing's achievement of the same kind of end, since the value of a means is measured only by an orientation to ends. And a zygote's causal orientations aim at ends of the same kind as an adult's.

The injustice of depriving us of a means has more conditions than our needing it for achievements to which we are oriented. Animals and plants are oriented to achievements; it does not follow that depriving them of those achievements is unjust. But we do not have to supply a complete set of criteria for justice to discuss whether it is unjust to kill a fetus. For the sake of argument, I am assuming that all parties in the dispute agree that it is unjust to kill innocent human adults; and unlike animals and plants, human fetuses are oriented to the eventual achievement of human ends, the same kind of ends that give an adult's mature features whatever value they have. Nor do we have to specify what human ends are. A complete ethics may or may not do that, but any ethics, deontological ones included, will have to measure value by some

end or ends to which zygotes as well as adults are oriented. The only issue here is the validity of a specific reason offered for different moral evaluations of the lives of human fetuses and adults: features that develop somewhere between the zygote and the adult.

But acquired features like sentience, reason, the ability to make rational decisions, and so on, are not just means; they are in some sense ends to which a human fetus was merely oriented and that the human adult has achieved. Ethical principles could connect an adult's moral value with acquired features because of their status as achieved ends. If so, it would be legitimate, by the standard of the orientation to human ends, to judge killing human infants wrong after they have developed certain features and not before.

There are several ways to reply to the claim that mature features give value because they are ends.<sup>v</sup> Perhaps the most direct way to reply is to note that, when we are discussing abortion, the acquired feature we specifically have to consider is an adult's ability to make choices based on rational knowledge, regardless of what other features an adult may have. In abortion, the power of rational choice is the specific mature feature through which the adult opposes the fetus's attainment of ends. Also, ethical values are values pertaining to choices based on rational knowledge; so, questions about ethical values are questions about values pertinent to those choices. The ethical question of abortion is the question of the value of a fetus *vis-à-vis* the value of a being who has developed the ability to make choices based on rational knowledge. And if a zygote is a moral peer of such a being, it is *a fortiori* a peer of beings with features less mature than rational choice, whether those features are means or ends.

The value of a choice, however, also derives from an orientation to ends. If we were no longer oriented toward future ends, we would not make choices. Even the choice of suicide is aimed at an action in the future relative to the time of the choice, although it may be the "immediate" future, and the motive for suicide is the perceived inability to attain, in the future, ends to which we are oriented. The end that gives a future decision value need not be extrinsic to the decision. For example, a deontological ethics may hold that the ethical goodness of decisions is

constituted by their being based on the motive of duty; if so, being based on the motive of duty is an end whose attainment gives decisions ethical value. Regardless of what other ends adults may have achieved, then, they make choices because they are oriented to yet further human ends; so, whatever value choices have for them derives from their orientation to future human ends. And the value of deliberating about a choice also derives from the future ends that the choice can achieve.

If so, the source of whatever value choices have for an adult is present in the zygote as well as the adult; for a zygote is oriented to the kind of ends that give an adult's decisions whatever value they have. Therefore, the zygote's achievement of its ends is of equal value to the achievement of the ends for the sake of which adults make choices. In deciding to kill zygotes, we are subordinating to the ends at which our decision aims a being whose achievement of ends is of equal value to our achievement of ends. So we are treating that being as if the achievement of its ends were not of equal value to the achievement of ours, and we do so just as much as we do when we decide to kill an adult.

Notice also that rational decisions and the ability to make them are as necessary for the achievement of the ends to which the make-up of a zygote orients it as they are for the ends of an adult. By being what they are, adults are oriented to the achievement of ends that will require future rational decisions. Likewise, by being what they are, things that are now zygotes are oriented to the achievement of ends that will require future rational decisions. The orientation to become a maker of rational decisions is inscribed in the zygote's causal dispositions, just as much as is the orientation to develop eyes of a certain color. A zygote's causal dispositions are oriented to the future production of decisions, where "future" means the remote future; an adult's causal dispositions are oriented to the future production of decisions, where "future" means, or can mean, the immediate future. But if lengths of time affect values, that fact could be judged only by the standard of ends to which both zygotes and adults are oriented; the relative value of lengths of time would be that of means to ends that zygotes and adults share. (And an adult's ends can require choices even more distantly in the future than some of the choices required for the zygote's ends.)

Another response to the argument that mature features make it wrong to kill because they are ends is this. Every stage in the development of a human being can be considered an end relative to an orientation to achievement that existed at an earlier stage. Why select the achievement of one feature or set of features as the achievement that makes it wrong to kill a human being? As for any choice, the value of selecting end X as the bestower of this moral status will come from the selector's orientation to as yet unattained ends, not from ends she already possesses. But an orientation to the same kind of ends that give value to the selector's choice of end X exists in the fetus and makes the fetus's attainment of ends to be of equal value to the attainment of the ends for the sake of which the selector is preventing the fetus from attaining any end.

Selecting a point in an infant's development when killing the infant becomes wrong also faces the following crucial difficulty. We have to supply a reason for our selection; our selection must use criteria. We will use the criteria that we do either because those criteria are ends to which we are oriented or because those criteria are means to our ends. If the ends in question are values for us because of a previous choice, that choice was made because of a prior orientation to ends. At the bottom of all choices are ends that we are oriented to prior to any act of choice. But a zygote is oriented to the production of human ends, whatever they may be, from the moment of its existence; it shares the kind of values that supposedly justify depriving the zygote of all values. So, selecting any point other than the existence of an orientation to human ends as the beginning of the moral value that makes it wrong to kill fetuses is to deprive the ethical principles used to make that selection of any nonarbitrary ground, because the only possible nonarbitrary ground is the orientation to human ends. Therefore, the only nonarbitrary standard for moral value is satisfied by both the adult and the zygote.

Another reason why acquired features cannot bestow moral value, although they are ends from some points of view, is this. The fact that we are selecting a point after the existence of a being's orientation to the achievement of human ends as the start of its having the required moral value implies that we are judging the value of its acquired features by the satisfaction of *our* orientation to ends, not its. All the stages of its



development are achievements that its orientation to ends calls for. But before a certain stage is reached, we are willing to prevent the coming into existence of the subsequent stages; so our decision is based on whether those stages satisfy our orientation to ends, to the exclusion of its. Prior to this choice, we have already chosen to subordinate to our ends the orientation to human ends of another being; we have implicitly begged the question of the zygote's moral status relative to ours. And we have implicitly subordinated the interests of other adults to ours; for we have judged their features to have value by the same test: by the relation of their features to our ends, not theirs; not by their having ends of the same kind that give our choices value, but by their relation to ends that we choose.

Of course, since any question of the value of another being calls for a decision on our part, the decision will be made to achieve some end of our own. But we need not make such a decision by relating the other being to ends that we are pursuing in a way that subordinates its achievement of ends to our ends. Nor must we decide the value of another's features by relating those features to our ends to the exclusion of its. For example, the end that we are seeking may be knowledge of the value of the achievements of which various species are capable, where value is measured by the kinds of orientations to ends our species gives us. After that investigation achieves its end and as a result of that investigation, we may go on to conclude that it is just to subordinate the interests of another species to our own. But the end we were pursuing, the end of knowledge, did not require that subordination. We might discover another species whose achievements require to be valued equally to ours, if we are to apply our criteria consistently.

And if we decide to subordinate the interests of, say, animals to our own, on the grounds that animals are not capable of the kinds of achievements we value most (value most due to orientations to ends that we have prior to the decision), our decision is not what prevents animals from having achievements of those kinds. What animals are prevented that. But if we decide to subordinate a fetus's achievement of ends to our own, our decision is what prevents the being that is now a fetus from having achievements of those kinds.

Another way to put it: if our decision deprives a fetus or adult of any further attainment of ends of the same kind at which our decision aims, we are measuring the value of fetuses and adults by an end insofar as it is our individual end, not insofar as it fulfills a prior orientation to ends of a certain kind, human ends in general. We are not measuring value by a prior orientation to ends of that kind, since the being whom we are preventing from attaining its ends shares that orientation. So we are implying that what gives value to our decisions is not the shareable kind to which the end belongs. For if another thing achieves an end that is the same as ours in all respects but for being a different instance of a kind, there could be only one reason why that end was not of equal value to ours: our end gives value because it is this individual end; it does not give value because of the kind to which it belongs. In other words, the only basis I could have for ascribing moral value to the fetus at one stage of its development but not before would be private preference. This would be a form of psychological egoism implying the impossibility of our having altruistic ends, since the hypothesis is that ends give value by being our ends to the exclusion of others' ends. For such an egoism, ethical behavior would at best be a form of enlightened self-interest. And it could be in our interest to kill adults as well as fetuses. If events make it more often in our interest to kill fetuses than adults, still the moral value of each is fundamentally the same, the value of means to our ends.

Equality of value can only hold between instances of kinds, since equality only holds between instances of kinds. Are animals and plants oriented to ends of the "same kind" that we are, since there are descriptions of their ends that would also describe ours? Ends are relevant to ethics only insofar as we can have rational knowledge of what those ends are. Rational knowledge of "p" is the knowledge that belief in "p" is justified. Rational knowledge of ends is what is relevant for ethics because culpability presupposes it; where the knowledge that would make a decision immoral is not available, we are not culpable. This is another reason that we do not need to specify what human ends are. For this discussion, they are ends of beings oriented to making decisions based on rational awareness of ends.<sup>vi</sup>

## 2. CONSCIOUSNESS AND VALUE

The above arguments show that there is no rational basis for ethical principles that would connect acquired human features, as opposed to the orientation to the future achievement of human ends, with the moral value that makes killing an adult wrong. But one kind of feature that an opponent might cite is worth considering to reinforce the case against connecting that value with any acquired features. When we speak of valuing things as ends or means, the verb “value” refers to a conscious act or state. Why not select some form or degree of consciousness as the feature that gives adults the required value?

We would not have conscious states if we were not preconsciously oriented to having them, and conscious states themselves, including states of valuing this or that, are of value to us only as fulfilling orientations to ends that we have prior to being conscious. For example, some conscious states have negative value for us because they result from the frustration of ends to which we are preconsciously oriented. But any conscious states to which we are preconsciously oriented are states to which zygotes are preconsciously oriented. No one could have mature orientations to produce conscious states if the being existing in the zygote stage had not been oriented to causing itself to acquire those mature - traits.

Despite the fact that the value of conscious states must come from preconscious orientations, an opponent might think it incorrect to use words like “orientation to an end” for anything that is not a conscious relation of desiring or “value” for anything that is not the term of such a conscious relation. But adopting this linguistic recommendation would not affect my argument. If “orientation to bring about an effect” is more generic than “orientation to an end,” such a *logical* difference between descriptions is not what matters for the question whether a fetus is oriented to bring about future states of affairs of equal value to the conscious value that we will achieve by the choice to kill a fetus. For that question, what matters is the *reality* described, not the logical difference in the descriptions. The realities described are the same; a fetus is a causal system (CS) oriented to producing the same kinds of conscious relations to the same kinds of states of affairs that are what the opponent calls “ends” and “values.” So, what will exist when the entity that is now

a fetus brings about those states of affairs will at that time have a value for the entity that is equal to any value we will achieve by preventing that entity from achieving them.

Of course, logical differences between descriptions can derive from differences in reality, but the situations in reality from which derive the logical differences that we are considering argue against abortion. The being that is now a fetus is a CS unconsciously oriented to the production of the same future states that the opponent wants to call “conscious orientations,” and that CS is so oriented to those states that they will exist as its own features. For example, the state of conscious possession of an end will be a feature belonging to the entity that first existed as a zygote, rather than a feature which that entity might produce in something external to itself. If that entity becomes a sculptor, the shape it produces in clay will be external to it, but its satisfaction in its awareness of that shape will be internal to it. So, the existing situation that justifies using those logically distinct descriptions for the same reality is not just a causal relation between the zygote and the adult; it is a relation of self-causality. The causality is that of the CS that first exists as a zygote making itself into a conscious human being.

Why is it the realities to which we and zygotes are oriented, not the logical differences between descriptions of these realities, that matter to whether we and zygotes are oriented to things of equal value? Consider that restricting “orientation to end” to conscious relations and “value” to terms of conscious relations are themselves choices made to bring about some state of affairs, some reality, regardless of what logical properties different descriptions of that state of affairs may have; and whatever future effects we will bring about by the choice to use noises like “end” and “value” this way or that are effects of the same kind to which the zygote’s causality orients it. What is of “value” to us is the existence of states of affairs to which we have a certain kind of conscious relation. That which has this value for us is what those states of affairs are, not what we call them, and the conscious relation is what it is as a result of what we are prior to having that relation and of what the state of affairs is. A shark would consciously value some states of affairs that we would not. But we are what we are and have the conscious relations to the

kinds of states of affairs that we do only as an effect of a CS that existed as a zygote having initiated a causal sequence by which it made itself into a mature human being. So the zygote is an entity oriented to having the same kinds of relations to the same kinds of states of affairs that we call “ends” and “values.” (Hereafter, I will resume using these terms in connection with the fetus’s orientations.)

### 3. THE ETHICAL CRITERION FOR A CAUSAL SYSTEM ORIENTED TO HUMAN ENDS

I now turn to how genetics shows that the zygote has the orientation to ends that is the source of value for choices and other acquired features. From the moment a sperm enters an ovum, there exists a complete human CS actively oriented to the eventual production of human ends. It is a complete human CS, since it is the first stage in a sequence by which a CS makes itself into an adult human being. Neither an ovum nor a sperm makes itself into an adult human being. The ovum and the sperm are agents (in the ordinary, nonmoral, sense of “agent”) whose acts produce a new agent, the zygote. The zygote is the unit whose acts begin the self-modifications leading to that agent’s eventual possession of its own adult human features. Since neither gamete makes itself into a human adult, we cannot say of a gamete that the adult’s features will be its features. If a different sperm had united with the ovum, or vice versa, there would be a different human CS oriented to its own acquired features.

It would be interesting to define phrases like “complete CS oriented to ends of type X” universally so that we could unambiguously identify every instance, but we need not do that here. We need a criterion for a unit CS oriented to produce human ends that will satisfy the purposes of ethics, not any other purpose.

We can call the solar system, the galaxy, and the universe from the big bang on, as well as the complex consisting of the sperm, ovum, and the mother, CSs actively oriented to the future production of human ends. But these systems are oriented to human ends only by being oriented to the production of individual human beings. Once a human being has those ends, they also belong to the solar system, the galaxy, *etc.* (though, I will argue, not to the sperm, ovum, or to the mother, who has her own

ends distinct from those of her offspring). But those larger systems have human ends only because they produce human individuals with those ends. That is, they have those ends because they produce causal subsystems, each of whose features belong to the subsystem as opposed to belonging, not to the larger systems, but on the one hand, to other individual subsystems of the same kind, like the mother, and on the other hand, to subsystems of other kinds, like plants and animals—for the latter's ends also belong to the larger systems, but not to human subsystems.

For ethics, the only nonarbitrary standard for a “unit CS” is a specific orientation to ends that are its in the sense that, causally, those ends belong to smaller units which it contains only by virtue of their being part of it and belong to larger units containing it only by virtue of its being part of them. For choosing another standard would have value for us because we are causal units oriented to specifically human ends, not parts or collections of such units. Also, ethics must consider human adults to be moral units, where “units” are defined by specific causal relations to ends that give value to the choices which ethics judges; so an ethical unit must be a CS oriented to have human ends in the same way that individual human adults do. (I will explain what “specific” means in a moment.) But why consider Tom, say, such a causal unit and not the mereological sum of Tom and the chair he is on? Because no inductive evidence links the latter unit to specifically human ends. Tom-sitting-on-this-chair can achieve human ends, but so can Tom-standing. A mereological sum is a conceptual unit; ethics requires a conceptual unit that is also a causal unit in the sense that inductive (not to mention introspective) evidence links a certain kind of effect to a certain kind of collection of causal factors as opposed to other kinds of collections of causal factors.

When did a unit CS oriented to human ends in the ethical sense first exist? The universe, the galaxy, and so on were just as much oriented to producing my mother's features as mine; for these larger systems are oriented to human ends by being oriented to the production of causal subsystems that, on the achievement of their ends, will possess features in the same way human individuals do. The question for ethics is when does there first exist a unit causal subsystem oriented to possess human

features in that way. On the hypothesis that we want a nonarbitrary ethics consistent with the nature of value, we *should* answer that such a CS begins to exist when the zygote exists. First I will argue that it does not exist before the zygote; then I will argue that it does not begin to exist after the zygote.

Can we view the mereological sum of the separated sperm and ovum as a CS oriented to its own human ends?<sup>vii</sup> Separated gametes are not a causal unit with its own orientation to human ends for the same reason that separated hydrogen and oxygen atoms are not a molecule of water: the molecule has actual causal properties that exist only potentially when the atoms are separated; separated atoms are only a potential causal unit, where a “unit” is defined by the actual possession of certain causal properties. An orientation to “its” own ends belongs to the separated sperm and ovum merely as a conceptual unit; ethical value requires that the orientation belongs to a unit that is not just a conceptual but also an actually existing causal unit. For until a sperm enters an ovum, another sperm could enter instead. The result would be different CSs in the ethical sense, since the causal units would be oriented to at least some different future achievements because of their internal structure, and not just because of their environments. One unit might be oriented to the production of blue eyes, the other to brown eyes. Even identical twin CSs are oriented to different future achievements because of their internal structure. If each twin is oriented to the production of a human brain, it is oriented, by being an individual, to the production of one individual human brain and not another. So a CS oriented to human ends in the sense needed for ethical evaluation does not exist before the zygote.

#### 4. THE ZYGOTE’S ORIENTATION TO HUMAN ENDS

The question of whether such a CS exists at the zygote stage and does not begin to exist later involves two issues. First, is the zygote a “complete” human CS in the sense that the causal orientation to the future existence of human ends belongs to the unit that the zygote is, as opposed to belonging to the zygote plus the zygote’s environment, in whole or in part? Second, does the same CS oriented to the future production of human ends exist in the zygote and in each of its succeeding stages? This is

the question of a CS's identity through time. Here, I address the first question and assume that we can speak of those stages as belonging to the same CS. In the next section, I address the question of identity through time.

The zygote does not possess mature abilities for human achievements, but those abilities will be effects of the zygote as a CS. The zygote is not just genetic material for an agent oriented to produce human ends. In this context, "material" connotes a passive potency, like the potency of the substance out of which a sculptor molds a statue. But the zygote is analogous to the sculptor; the zygote's role in human development is that of an active cause, not that of a passive receptor. And the being whose first stage is the zygote does not just produce a fully formed human being; it causes itself, by its own action from fertilization on, to acquire mature abilities for human achievements. In this respect, a zygote is like an art student who makes herself into a great sculptor by working at it. Once, it was possible to believe that something the mother did to the fetus later in its development created the orientation to the production of human ends, where none existed before. Now we know that the fetus is a CS with such an orientation from the zygote stage on; we will soon be able to read a zygote's genome and know that this CS is oriented to the production, for example, of a specifically human brain.

But the agent whose first stage is the zygote is not the only cause necessary for the production of human ends. No cause acts alone; any action is a response to other causes in an agent's environment.<sup>viii</sup> Precisely because every agent requires the cooperation of other causes, however, the fact that a human agent's causality depends on the cooperation of its environment from the zygote stage on cannot constitute an argument against the zygote's being a cause oriented to the production of human ends in the sense relevant to moral value. For, by that standard, adults would not be causes oriented to human ends, since an adult requires the cooperation of the environment to achieve its ends just as any agent does.

But merely noting that all causes require the cooperation of their environments does not show that the zygote is a complete CS oriented to the production of human ends. The agent that is now a zygote is oriented to the future production of the specifically human parts of the brain, but it



will produce that tissue because certain genes, and not others, will be turned on in cells that are in certain places, and not others. If the environment supplied by the mother has a role in determining which genes get turned on where, does the mother, not the zygote, cause the mature entity's orientation to human ends? For the brain to develop, the ectoderm must first develop. So, for the sake of argument, let us assume that, in the human as in some other species, whether a cell produces protein for the ectoderm depends on a chemical, chemical X, received from the mother.

Whatever else X might do, however, it would not cause the fact that the design of a cell orients the cell to the production of protein in that environment. If we placed some red blood cell in the same environment with the same chemical, no protein would result. Nothing that we have yet to learn will change the fact that human cells, not the environment, are the agents from whose design derive the structures of all the proteins that make us up. No supposed chemical would give the cell genes for producing this or that kind of protein, nor the control-genes determining which kind is produced. The nucleus-containing cell is the unit in the universe that enables one effect of the other causes in the environment to be protein rather than something else, and this kind of protein rather than some other kind.

To see what "enables" means here—and also what a "specific" causal orientation is—note that every cell in an oak tree comes from a fertilized acorn as from that which actively produces the tree. An acorn's causality needs the cooperation of water, heat, light, and so on. But those other causes, taken separately or together, do not have a *specific* relation to their effect's being an oak, rather than its being any of a multitude of other things that also require their causality. The acorn's specific relation to an oak is necessary for those other causes to produce an oak, and given those other nonspecific causes, an acorn's design makes it sufficient to produce an entity having the specific features of an oak. To the conceptual unit that is an acorn, then, we must assign the causal relation to the entity that will have the mature features that are specific to an oak. The fertilized acorn is the first causal subsystem in the universe that is specifically oriented to the production of a CS to which will belong the

features of an oak, not as opposed to their belonging to larger systems like the universe, but as opposed to their belonging to other oaks.

Let X, then, be a chemical that is species-specific to human beings. The cell's membrane allows X, but not all chemicals, to enter the cell and become part of the CS. So, the cell's design gives it the passive potency to absorb X, and when the cell has absorbed X, the cell has a new active disposition, since X will turn on genes that are not yet turned on. But that does not show that the cell was not oriented actively to produce specifically human ends before receiving X. It shows the opposite; for X did not give the cell the genes for producing specifically human effects like human brain-tissue. Though specifically human, X can lead to the production of human effects only by modifying specifically human dispositions of an already existing CS, and so only by modifying active dispositions of a specifically human agent that already exists.

Before receiving X, the genome gives the cell a disposition for the production of human brain-tissue. Before X, that disposition is only potentially turned on. But it is a disposition for actively producing that effect, not just for passively receiving X, because the function of genes is to enable the cell to be an agent producing this kind of protein or that. If that were not the role of genes, there would be nothing for X to switch on. So, before receiving X, the fetus is a "complete" CS oriented to human ends in the sense that it is oriented actively to make itself into a mature human being with (as opposed to passively being made into a mature human being by) the aid of the environment. Compare the cell's receiving X to modifying a chimpanzee-zygote by giving it genes that would orient it to human ends like a specifically human brain. In the chimp, we would be actualizing a cell's passive potencies by giving it new active potencies that a human zygote already has. As passive, the chimp's potencies would be comparable to the potency to receive X that the membrane gives a cell. But the human genome does not merely give a cell the passive potency to receive something; it gives a cell an active disposition by which the cell will produce human tissue.

To produce this kind of protein or that, the CS that is now a zygote would have to cause itself so to develop that, on receiving X, it would produce that protein. So, the zygote is now oriented to producing a

future CS oriented to produce brain-tissue on its reception of X. The zygote makes itself into that kind of CS by causing specifically human genes which it now possesses to be reproduced; for those genes are what will enable the future CS resulting from the action of the zygote, and of its succeeding stages, to produce that kind of protein. But those genes are dormant until X switches them on. If the CS whose production the zygote initiated has everything it needs, except for X, to be a producer of human tissue, does it lack an orientation to the future production of human ends?

A gene orients a cell to produce this kind of protein and not that. Even if X does not turn a gene for human brain-tissue on, that gene is a gene for some specifically human effect. We still have much to learn about how genes get turned on. Nothing we have yet to learn will change one fact which we already know: the structure of the proteins which cells produce is determined by the structure which genes have before being turned on. So the genome gives the fetus an orientation to the production of specifically human brain-tissue from the zygote stage on.

What can obscure this causal orientation on the part of the zygote and the stages subsequent to it is the fact that, while a gene is determined to produce one kind of protein and no other, before its genes are turned on, a cell has the ability to produce any of a number of kinds but will actually produce only one kind. So, one might try to argue that a cell, as opposed to its genes, is not oriented to produce protein specific to human tissue until X makes it so oriented by turning on the appropriate gene. But this would, almost literally, be missing the forest for the trees. The question is not whether any given cell is specifically oriented to human ends; the question is whether the whole CS constituted by the fetus is so oriented. Only at the zygote stage is the whole CS a one-celled CS. We do not measure developmental success or failure in terms of single genes. If we have a gene for cystic fibrosis, the achievement of that effect is hardly a standard of positive value. We measure the value of individual achievements in terms of an orientation to produce a whole CS of a certain kind.

If X did not turn on the right genes in the right places, we would not get a good chimpanzee but a brain-defective human being. The

defectiveness is measured by effects to which the design for a whole collection of cells—a design for the whole CS embodied in the individual design of each cell—orients each cell’s protein-production. For it is a cell’s design, not anything received later, that orients a cell’s activity toward making the cell part of a whole CS oriented to specifically human ends. The design for the whole embodied in each cell’s design orients the fetus to the production of an adult human brain. Achieving that end requires *both* that some cells make brain-tissue *and* that other cells make bone-tissue. Without bones like the spine and the skull, the brain would not develop as called for by the design of the whole. Hence, the fact that before its genes are turned on, a cell is oriented to make, say, either nerve- *or* bone-tissue, but not both, does not imply that the whole fetus, from the zygote stage on, is not oriented to produce a specifically human brain. The zygote is the first unit in the universe necessary and sufficient for genes that will be turned on by the environment to lead specifically to the production of a mature human being; only as a result of actions of a zygote in which a design for such a whole first exists does each succeeding stage consist of a group of cells whose individual designs embody the same design for the whole. Like the fertilized acorn, the human zygote is the first CS in the universe specifically oriented to the production of a CS possessing human ends in the way that human individuals do.

The zygote is a complete human CS, a CS that makes itself into an adult oriented to achieving human ends, since the zygote has a specific relation to the active production of a human adult before anything the environment does to it. What matters ethically is what the zygote, or each succeeding stage, depends on environmental support for: namely, the exercise of its own active causal dispositions for producing a being with specifically human ends. Whatever the usefulness of a phrase like “complete CS oriented to specifically human ends” elsewhere, the public facts summarized here by that phrase are what are crucial to ethical evaluation. And as for any concept, the existence of unclear instances of “complete CS oriented to ends of type X” could not disprove the existence of clear instances. Only an arbitrary standard could fail to make a zygote’s relation to human ends, as known to science, an ethical instance of that concept, since everything specifically human about our

responses to our environments is produced by cellular actions that are oriented to human ends only because the first cell was a CS oriented to produce a collection of cells oriented to respond to its environment in specifically human ways. (Zygotes may not cause adults to be, say, theists or nontheists; but they cause effects that will necessarily be one or the other, since the kind of effect they cause, human adults, must respond to their environments in one or the other of these specifically human ways.) Nor are our cells responsible only for specifically human effects; every protein in our body is produced within a cell by causes that, though derived from the environment, became part of the production only by becoming part of the cell.

An opponent would have to say that, although the presence of genes for producing human tissue orients a fetus toward producing human ends in some way, that way of being so oriented is not ethically significant. The ethically significant way of being a CS oriented to human ends does not appear until, say, cells receive X, so that now they can actually produce the protein which they could only potentially produce before. But this reply merely associates ethical value with a “mature” feature, either the presence of X or the presence of some kind of protein. And which mature feature *should* it be?

By making this move, the opponent would eliminate the possibility of defining “should” nonarbitrarily. For any end which we achieve by defining a fetus’s way of being oriented to human ends as not an ethically significant way is of no greater value than ends to which the fetus is causally oriented, although not in the way for which we have a personal preference. We can describe our preferred way of being oriented to human ends so that the fetus does not satisfy the description. The choice of one description over another is made to cause some reality; the choice has value for us because of a prior causal orientation to some state of affairs, no matter what differing logical properties different descriptions of that state of affairs have. But whatever state of affairs is the term of that causal relation is an effect of the same kind as effects to which the zygote’s causality orients it. What has this value for us is what that state of affairs is, not what we call it; and we have that orientation to it because of what we are. But we are what we are and have the causal relations to

the kinds of states of affairs that we do only as an effect of a CS that existed as a zygote having initiated a causal sequence by which it made itself into an adult human being. So, the zygote is a CS oriented to actively acquiring the same kinds of relations to the same kinds of states of affairs that would give value to a choice of describing the zygote's relation to them as ethically insignificant.

##### 5. A CAUSAL SYSTEM'S IDENTITY THROUGH TIME

As measured by the ethical standard of a causal orientation to human ends, the same causal unit develops from the zygote stage on. For adults achieve ends by self-modifications, including choices; and at each developmental stage, a then-existing human causal unit exercises its orientation to ends by self-modification. Self-modification is also a criterion of an ethical unit since ends internal to the agent have a central place among the ends that give our choices value.

The zygote's causality initiates a series of changes. At each moment during those changes, some agent exists that is oriented to the future existence of human ends. A zygote is disposed to cause changes resulting in cellular division; the adult is disposed to cause changes resulting in sensing, understanding, willing, *etc.* But the nature of the acts by which an adult achieves human ends requires that those acts, and the proximate dispositions for them, result from a series of changes initiated by the agent that existed at the zygote stage, and at each moment the series consists of self-modifications by the agent that then exists. An adult agent able to cause itself to have human ends exists because, in a causal series initiated by a zygote, specifically human agents cause the existence of succeeding specifically human agents, not by producing an effect external to themselves, but by some of their parts acting on other parts. For example, the action of the DNA helicase causes the unwinding of the DNA double helix. But only by some of its parts modifying other parts can an agent cause both its own continued existence and its acquisition of new dispositions for future acts. So, if human development is not a case of the same agent's developing through time, there could be no causal sequence that was an agent's self-development; for there is nothing more an agent can do to cause its own development.

Notice the difference between the zygote's division into two cells and, say, an amoeba's. In the zygote, a membrane, the *zona pellucida*, surrounding the original CS does not divide; the result of the division exists within a membrane of the original CS. So, in the zygote there is a CS that is not reproduced in the same way that an amoeba is, as a whole; subsets of that CS, for example, the DNA, are reproduced. An initial CS is so structured as to produce changes in parts of itself that what once was a one-celled CS within a membrane becomes a two-celled CS within the same membrane. The two-celled CS is, like the zygote, just a stage in an agent's development. The zygote is the first stage in a particular instance of a complete human agency, since a human agency is a temporally extended CS so structured as to be able to cause changes in parts of itself by which it acquires new dispositions for self-perpetuation and self-modification until it causes itself to have adult dispositions for the self-modifications that achieve human ends.

This description of causal continuity presupposes that we can assign specific causal relations to conceptual units on the basis of inductive evidence, as the last section showed that we can. For clarity, I there assumed that the human causal sequence was a series of self-modifications, but nothing argued in this section relies on that assumption. Arriving at the temporally continuous "self" assumed there requires starting, here, with a concept of a "self" that consists of a time-slice of the causal sequence, a unit CS existing at one time. Once inductive evidence establishes that an orientation to the future production of human ends belongs to each such unit, and that each unit contributes to the causal sequence by some of its parts modifying others, we can call that sequence the continued existence of one CS oriented to human ends, since each later stage is the result of self-modification by the previous stage. But we could also choose to say, at any stage of human development, that the previous CS, as defined by what distinguishes the previous stage from its effect, exists no longer. Which *should* we say? Such is the conceptual dilemma that abortion seems to present.

Since either definition of "same CS" would use public evidence, the answer depends on the definition of "should," not that of "the same CS." And our definition of "should" will depend on the kind of ethics we

want; for since the public evidence concerns the source of the value of choices, the orientation to ends, how we use that evidence will determine the kind of ethics we get. Thus, if we want an ethics that treats self-modifying CSs oriented to ends of equal value as if they were self-modifying CSs oriented to ends of equal value, we should consider the zygote and the adult the same ethical causal unit. Since self-modification is the only way that a causal sequence can be the active development of the same agent, to declare a zygote and an adult different ethical agents, we would have to choose a particular kind of self-modification as the standard of ethical value. But the only nonarbitrary standard for comparing the value of a zygote's and an adult's modes of self-modification (or the value of any other feature) would come from ends to be achieved by the comparison; and inductive evidence shows that a zygote is a self-modifying CS oriented to achieving the kind of ends that give value to making the comparison. So in choosing not to consider a zygote the same ethical CS, we would deprive an inductively established self-modifying CS of ends whose value is equal to the value of any end that our choice will gain us.

What if, for example, we choose some form of consciousness as the feature that makes a self-modifying CS an ethical unit?<sup>ix</sup> As we saw above, the value of conscious states derives from the preconscious causal orientation to them. States of value to a cat, like the consciousness resulting from eating cat food, need not be of value to us. At some point a CS may develop a new preconscious feature or set of features, F, such that before F the CS did not, but with F it does, have everything internal to itself that it needs to produce a conscious state, given stimulation from its environment. If conscious states do not bestow value, can we say that preconscious state F is what bestows value? But the value of F is that of a means to conscious states. Like an end, a means gets its value from preconscious orientations to the end. Since, by hypothesis, it is F that differentiates the CS that exists before F and with F, that CS is the same in other respects. And the CS existing before F had a preconscious orientation to the same ends that give value to F. So, if we choose not to call something the same CS unless it is conscious, our choice has value for us only by our preconscious orientation to ends of the same kind to



which CSs that we will deprive of ends are preconsciously oriented. Also, if we say that F, or consciousness, is what gives value to a CS, we are measuring the value of F by its relation to our ends, ends whose value derives from our preconsciously orientations, in a way that excludes the CS's orientations from the evaluation of F. So, the value we choose to consider an adult to have derives from the relation of its features to our ends, not the adult's. F gives value to other adults by making them means to our ends.

We could also view any causal transaction as a self-modification of the mereological sum of the agent and patient, and so view every action as a self-modification of a then-existing state of affairs. But mere conceptual unity is not sufficient for causal unity. The minimal requirement for a causal transaction is that the agent and patient be *somehow* distinct in more than just a conceptual sense; so, for a mereological sum of agent and patient to be considered a causal unit, there must be inductive evidence that they are regularly connected in a system whose unity is defined by a causal relation other than an agent/patient relation. For example, a flame can set paper on fire, but flames regularly exist without paper and paper without flames. On the other hand, although the heart and liver are distinct causal units, inductive evidence shows that there will always be a larger unit, as defined by causal relations, to which they both belong. So, in a causal sequence like "For want of a nail, ...a shoe, ...a horse, ...a rider, ...a battle, the kingdom was lost," we *should* not view each step as a self-modification of a then-existing state of affairs, nor the whole sequence as the self-development of a CS that existed at the beginning, if "should," again, is defined by a specific orientation to certain ends. Induction reveals no specific connection between units existing at each stage and the final result (or even between succeeding units at some of the stages). Losing nails, shoes, horses, riders, or even battles, has no specific connection to losing kingdoms.

But inductive evidence does show that an adult, and not an adult plus the chair she is sitting on, is a causal unit specifically oriented to human ends. And it shows that a zygote and its succeeding stages, and not either of these plus their environments, are units specifically oriented to causing ends that will belong to a human individual. So, to refuse to consider the

zygote and the adult the same ethical agent, we must either give up the only nonarbitrary standard of value, the orientation to human ends that gives value to our choice of an answer, or give up the only rational standard for a unit temporally extended agent, namely, inductively established causal relations. That is the crux of the matter.

The phenomena of monozygote twinning and of the combining of divided cells or groups of cells do not affect the moral value of the zygote and its succeeding stages. Why cannot an agent oriented to its own ends be divided, so that there would be two such agents oriented to their own ends? Cutting a worm into two worms does not show that the first worm was not a complete individual worm, and a plant's asexual reproduction does not mean that the plant was not an individual plant. And why cannot two agents oriented to their own human ends combine, so that there would be one such agent? Whether we should count some kinds of combinations as a continuation of one of the original agents is a question we need not answer. Neither, therefore, does the embryo's developing to the stage where twinning or combining are no longer possible have anything to do with the embryo's moral status. Rather, the pre-existing orientation to ends endows that stage, like other "mature" stages, with value.

Norman M. Ford may have done the most to defend the view that the possibility of twinning deprives zygotes and embryos of moral equality with adults.<sup>x</sup> For him, the earliest groups of cells succeeding the zygote are loose assemblies of distinct biological individuals; these groups are not "ontological" individuals, because each cell is able to develop into a complete human being. But if so, no adult is an ontological individual, since our cells can develop into complete human beings through cloning.

And when twinning does not occur, as in most cases, the zygote and the succeeding groups of cells constitute stages of a CS actively oriented to its own human achievements. For example, consider again the *zona pellucida* enclosing the earliest groups of cells. The *zona* is a necessary part of the CS succeeding the zygote, just as it is of the zygote. When twinning does not occur, no subset of the zygote's daughter-cells within the *zona* is a CS actively oriented to its own human ends. So, when twinning does not occur, the CS bounded by the *zona* is an agent making

itself into a mature human being. In normal human development, there is one and only one CS actively oriented to its own human achievements from the zygote on. Although a daughter-cell's causal dispositions make it potentially such a system, it rarely becomes an agent whose actions are directed toward human achievements that belong to it rather than to the aggregate. But as soon as a sperm enters an ovum, actions are occurring that are directed toward that CS's making itself into an adult human being. Ford's later "ontological" individual is oriented to its own human ends only as a result of the zygote's causing itself, by some of its parts acting on others, to become such an individual. If the zygote were not oriented to making itself into an "ontological" individual, that individual could not come into existence.

Significantly, Ford recognizes the fetus's orientation to human ends from the zygote stage on; so he is forced to invent a distinction between "intrinsic" directedness towards ends, which can only belong to his ontological individuals, and nonintrinsic.<sup>xi</sup> But when there is a system whose causal dispositions specifically orient it to produce a mature human being by some of its parts acting on others, any end which Ford achieves by denying that the agent's individuality is "ontological" or its orientation to ends "intrinsic" is of no greater value than the ends that system is oriented to produce as features of its own temporal extension. Also, the kind of evidence which Ford cites to show a lack of ontological unity in the zygote and in the early embryo cannot logically show that they are not oriented to their own human ends; for, on the assumption that the zygote is an agent oriented to its own human ends, those ends are served by the features of development that Ford cites. He mentions, for example, that organs like the trophoblast may not contribute progeny to the mature agent; but if the zygote is oriented to making itself into an adult, it serves that end for the zygote first to make itself into a CS with a trophoblast. And the fact that achieving human ends requires discarding components like the *zona pellucida* or products like the placenta along the way is no more paradoxical than the need to lose our first teeth. If achieving its ends in such ways shows that a zygote is not oriented to its own human ends, similar facts show that a caterpillar is not oriented to becoming a butterfly.

When twinning does occur, even assuming that a zygote's actions orient it toward twinning, we cannot conclude that there is no agency actively oriented to its own human achievements in the zygote. The zygote could be a CS that includes two instances of human agency, each having the orientation to ends that provides the standard of ethical value. Assume that, because of actions by the zygote, its first two daughter-cells will be on paths leading to different twins. Since the zygote is a CS so structured that some of its parts are already destined to be in one twin or the other, the zygote is a CS containing parts that constitute causal subsystems, each of which is the first stage in a causal sequence oriented to its own human ends, just as the twin cells existing within one *zona pellucida* will be a CS whose parts include complete causal subsystems each oriented to its own human ends. The subsystems in the zygote would be complete, even if the two instances of human agency use some of the same parts of the zygote; Siamese twins are distinct human agents, although they share organs. For some purposes, we could call such a zygote one agent, but from the viewpoint of ethical value, the zygote would contain two agencies oriented to human ends, just as the chorion can later.

What if a zygote has active dispositions for twinning that are exercised so late in development that we could not say that some parts of the zygote were destined for one twin and some for the other, and hence that the zygote already contains two complete human CSs? A necessary, but not sufficient, condition for a complete ethics to permit abortion in this case would be our knowing that neither twin was a continuation of the CS existing in the zygote: that is, that neither twin was the "parent" and the other its offspring. The mere possibility that neither is a continuation of the original agent's orientation to its own ends would not be sufficient to justify abortion. If we did not know with certainty that this possibility was realized, the risk would be too great. For at stake in the issue of killing a fetus is the very existence of moral value.

#### 6. REPLIES TO SOME OBJECTIONS

In closing, I will consider some objections. Judith Jarvis Thomson, among others, holds that even if the zygote is (or were) a person, it is not unjust for the mother to kill a normally developing fetus, even when the

mother's life is not in danger.<sup>xii</sup> Someone who holds this view would probably also argue that it is not enough to show that fetuses and adults are both oriented to the kinds of ends that give an adult's choices whatever value they have. If we assume that the fetus has that orientation, the ends of other human CSs are still at stake in abortion. When the continued life of the fetus threatens the well-being of the mother, the family, or others, the mother may justly abort the fetus, and third parties may justly help her. Denying the mother that choice would be denying her control over her own body.

This defense of abortion, however, would not be consistent with the opponent's granting that the lives of the fetus and the mother are equal with respect to the ends that give the mother's choice of abortion its value. Any burdens which the pregnancy imposes on the mother or others cannot be commensurate in moral value to what the fetus loses, since the fetus is losing its very existence.

Thomson has a well known counterexample. If, to save his life, a great violinist were attached to a woman's body without her consent, that would be a burden so unjust that she could morally disconnect him, even though doing so would cause his death. Why can we not justify abortion in a similar way, even if the fetus's life is equivalent in moral value to an adult's? To see why, assume that the woman was responsible for the violinist's being in the condition in which he will die if he is not attached to someone. If he was innocent and the woman deliberately did something to put him in that condition, she acted immorally and could not morally refuse to let him be attached to her. So, if the moral value of a fetus's and the violinist's lives are equal, she could not morally abort a fetus; for she would be fully responsible for an innocent's death in each case. Thomson's argument that we are not obliged to be Good Samaritans to our moral peers<sup>xiii</sup> is irrelevant for the same reason. Refusing aid to a human CS in a life-threatening condition that we are not responsible for is one thing; putting it in a condition from which death will result, if it does not receive aid, is another.

Some would say that the dependence of the fetus on the mother constitutes a morally significant asymmetry between them.<sup>xiv</sup> They are not moral equals despite the fetus's orientation to human ends. The fetus

is already in a life-threatening condition called “life,” for which the mother may not be responsible. As a natural condition, this condition is like the violinist’s before the woman made him need to be attached to someone. But the fetus’s life-threatening condition differs from the violinist’s natural condition in that the fetus is dependent on another person in a way that the violinist and most of the rest of us are not.

For the dependence of the fetus on the mother to constitute an asymmetry in moral value, however, the asymmetry would have to be judged by reference to some end or ends shared equally by the mother and the fetus. The significance of the dependence would be that of a means to or obstacle to those ends. By that standard, the value lost to the fetus if the dependence is terminated is incommensurably greater than the value lost to the mother if the dependence continues; for the connection of that dependence with the fetus’s achievement of its ends is much more important than its connection with the mother’s achievement of hers. Abortion will deprive the fetus of all its ends; carrying the fetus to term will deprive the mother of some ends while permitting her to attain many more. So, the fetus’s dependence on the mother does have great moral significance, but one that confirms the immorality of abortion.

I made the assumption that the violinist was innocent. Can we say that a fetus resulting from rape is technically guilty,<sup>xv</sup> because it is being unjust to the woman unknowingly? Consider a child of rape found abandoned. When it cries for food, it is doing nothing unjust nor asking for anything unjustly. And a child’s being in the womb can only reinforce its moral claim to aid, as we have just seen.<sup>xvi</sup> It is the rapist, not the fetus, who is guilty of injustice. Since death is not a just punishment for the rapist, we could not consistently say that the life of the fetus is of equal value to an innocent adult’s and that we can justly kill the fetus but not the rapist. As others have noted, we would be killing one of the rapist’s victims. A rapist fails to treat a woman as a moral peer; to kill the fetus would be to correct one wrong by committing another, since killing a fetus is failing to treat it as a moral peer. Compare the rapist to a prospector who trespasses on your property to build a gold mine on it and does serious damage to you and your property in the process. Not only could you justly drive the prospector off the property and prosecute her

or him, but you could also justly profit from the gold mine, though it was the prospector's work. In fact, you would probably take full advantage of the gold mine, even if it took nine months of painful labor to complete it.

From a moral point of view, the value of the fetus is incomparably more than that of the gold mine, since the orientation to human ends is the only nonarbitrary standard of moral value.

And incomparably more is at stake, morally, in the issue of killing an innocent being with that orientation than in the issue of preventing another such being, the mother, from choosing particular ways of pursuing those ends. For the existence of moral value in any human choice is at stake. That the continued life of a being oriented to human ends is more important than the ability to choose is also evident from the fact that we could not make any choice if we did not exist as beings oriented toward achieving human ends.

Utilitarianism might seem to have a way of defending abortion in spite of the fetus's orientation to human ends. The end of being moral is one end among the rest of human ends. What determines moral value for the utilitarian is not an individual's orientation to ends but the sum total of human individuals' orientations to ends. The collective fulfillment of human orientations to ends is what measures the kind of value that is specifically moral. So, it is possible to justify killing a fetus, not in view of its achievement of ends, but in view of the greatest achievement of ends for the greatest number.

This argument, however, could justify killing an innocent adult as well as a fetus. To justify abortion while preserving the moral equality of fetuses and adults, one would have to argue that it never contributes to the greater good to kill an innocent adult, while it sometimes contributes to the greater good to kill a fetus. Utilitarians would have to defend this claim by the cost, measured by ends lost to others, of a fetus's attainment of ends. But unless the fetus's continued life would result in the death of others, a case I am not discussing, the loss to others could not be sufficient to justify killing the fetus, because it would not be commensurate with the fetus's loss.

On the rule utilitarian position, one would have to show that keeping a rule against killing innocent adults contributes more to the overall good

than not keeping it, while keeping such a rule for fetuses does not contribute more. On utilitarianism's own grounds, however, the opposite is the case. The total amount of human good achieved in the expected lifetime of the fetus must be greater than that achieved in the shorter remaining lifetime of an adult, including the mother, other things being equal. Other things would not be equal only in exceptional cases, since I am discussing normal fetuses that, therefore, have average life expectancies. So, a rule against killing fetuses would contribute more to the overall good than would permitting their killing.

The exceptional cases would have to result from external factors, such as economic conditions, that make a normal fetus cost more, in terms of unfulfilled human ends, than it would contribute. In a given place, for example, economic conditions could make the average life-expectancy of a fetus less than the average remaining life-expectancy of an adult. But again, unless the fetus's continued life would result in the death of others, the loss to others could not be sufficient to justify killing the fetus. Also, such conditions would be of the kind that justify killing adults as well as fetuses, since the continued existence of an adult could deprive someone else of sufficient resources to live. And the remaining life-expectancy of a given adult can be less than the average remaining life-expectancy of other adults or of fetuses.

Finally, does my argument justify killing a fetus that becomes incapable of the future achievement of rationally known ends? No. For one thing, a complete ethics need not make equality of value as so measured the only reason why killing is wrong. But the pro-choice position requires that acquired features bestow ethical value, and analysis of the value of acquired features shows that they cannot be what bestows ethical value. Rather, that analysis shows equality of value between CSs that have and CSs that have not yet produced those features. The value of acquired features derives from the interests of the entity whose features they will be, and our interests cannot justify killing an entity whose interests are of the same kind that give our choices value. We need nothing more than that to know that the large majority of abortions are wrong.

The concept of a CS oriented to ends of type X determines a unit ethical "entity." Because that concept is so fundamental, however, it can only



take us so far. Alone, it cannot determine whether the inability to achieve human ends justifies killing. Not everyone agrees on all the standards for making ethical decisions. Will a utilitarian ethics, on the one hand, and a deontological, natural law, or rational appetite ethics, on the other, reach the same conclusion about the value of a severely handicapped human being's life, even if they agree that fetuses and adults are of equal value?

Perhaps, but not on the basis of the concept of a CS oriented to ends of type X alone. Classical utilitarianism, for example, starts from the (pre-utilitarian) ethical judgment that the interests of each entity which it considers to be human should count equally in calculating the sum total of human pleasure and pain. But *prima facie* that kind of equality need not protect any human life, because taking a life might result in a more desirable overall pleasure/pain ratio. For utilitarianism, individuals are equal merely as equal parts of the denominator of a quantitative whole that, pending utilitarian arguments to the contrary, may increase if we eliminate some parts of the denominator. (If reason gives us free choice, however, human beings are CSs oriented to ends that they will choose for themselves; so, we are ends-in-ourselves in the sense that our nature orients us to measure the value of everything else by reference to goals that we give ourselves. But among the goals that we could choose for ourselves would be the goal of treating other human entities as if they are what reason would know them to be: entities oriented by nature to pursue goals that they choose for themselves, as opposed to goals that we choose for them, and so entities oriented to measure the value of everything else by goals that belong to them as much as the goals that we choose belong to us. Hence, having an appetite derived from rational awareness would both make us ends-in-ourselves and orient us to the goal of freely treating other human beings as ends-in-themselves, a goal whose deselection would be defective by the standard of a prior goal to which we were naturally oriented, the goal of treating things as if they are what reason knows them to be. Utilitarianism lacks a standard of value on which to base its pre-utilitarian judgment about equality. An ethics based on the way in which rational awareness orients us to ends can view human beings not only as of equal value but as equal in that each has an ethically absolute value, the value of an end-in-itself.)

But because the concept of a CS oriented to ends of type X is so fundamental, it allows us to know, as we stand at the very threshold of ethics, that any nonarbitrary ethics that would justify killing the unborn would also justify killing the born, since the moral value of both must be equal. On the hypothesis that abortion is morally permissible, any future ethics that did not make killing innocent adults morally permissible would be an arbitrary ethics.<sup>xvii</sup>

## NOTES

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i. I need to refer to the *conceptus* for the entire time that it is within the mother's body. Lacking a better term, I will use "fetus" for that purpose. Where a specific stage of development is important to the argument, I will use standard terminology. In particular, I call the *conceptus* at the moment of fertilization a "zygote."

ii. For the "future like ours" view as applied to abortion, see Don Marquis, "Why Abortion Is Immoral" in *The Journal of Philosophy* 86 (1989) 183-202.

iii. For an explicit statement of this view, see, for example, L. W. Sumner, *Abortion and Moral Theory* (Princeton: Princeton Univ. Press, 1981) 227.

iv. For a list of many of the features associated, in the literature on abortion, with the moral value that makes killing wrong, see Michael Tooley, *Abortion and Infanticide* (Oxford: Clarendon Press, 1983) 90.

v. These replies will also show, *a fortiori*, that, even if it were not true that preventing a being from acquiring a means to its ends is just as wrong as depriving the being of a means already acquired, still preventing a being that is now a zygote from attaining its ends is wrong.

vi. So the argument does not assume that the ends that measure value constitute a predefined set or that we have a predetermined ultimate end or ends. (Strictly, I should speak of the orientation to ends of anything capable of rational knowledge, not just of human ends; I am calling them human ends for simplicity.) If chimpanzees were capable of rational knowledge, they would be oriented to the same kind of ends that we are, in the relevant sense of "kind." While chimpanzees have beliefs, however, they are not capable of knowing truths like "Belief in 'p' is justified," especially if "p" is a statement about values, the

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knowledge of which moral culpability would presuppose. If chimpanzees were oriented to the achievement of that kind of knowledge, their lives would be equal in moral value to that of human adults. But I do not need to discuss whether it is unjust to kill nonrational beings. If it is unjust to kill beings not capable of human achievements, it is unjust to kill beings capable of human achievements *a fortiori*, and zygotes are such beings.

Also, our make-ups may orient us to ends that we do not share with other human beings. Still, these would be ends of the relevant shareable kind; for if pursuing them is not done on the basis of rational knowledge, the pursuit is not human action in the moral sense.

vii. See Alistair Norcross, "Killing, Abortion, and Contraception" in *The Journal of Philosophy* 87 (1990) 271.

viii. A form of this thesis is even demonstrable. See John C. Cahalan, *Causal Realism* (Lanham: Univ. Press of America, 1985) 318-19.

ix. For some purposes, memory may be necessary for calling something the "same" agent, but not for the purpose of calling it the same ethical CS. Memory is an awareness telling us that the being preconsciously oriented to the current conscious state is the same being that was preconsciously oriented to past conscious states. If that is not what memory tells us, memory has nothing to do with the sameness of the CS, since the conscious states which memory makes us aware of are not themselves the same as our present conscious state. The only thing that could be the same is the preconscious subject of these conscious states. Awareness of temporally distinct conscious states can make us aware of our continuous existence only by making us aware of past states as emanations from the same preconscious cause which we are aware of our present state as emanating from. For the purposes of ethics, then, the question is whether the agent now preconsciously oriented to the production of those states and the zygote that was preconsciously oriented to the production of those states are the same agent. Also, making memory definitive of the agent would be to define the deliverances of consciousness, that which we are aware of, in terms of the means by which they are delivered, that by means of which we are aware of them. Such a definition would reflect a bias that is a professional hazard for philosophers, the bias of viewing things epistemologically when the context calls for viewing them ontologically.

x. See Norman M. Ford, *When Did I Begin: Conception of the Human Individual in History, Philosophy, and Science* (Cambridge: Cambridge Univ. Press, 1988).

xi. Ford 148-58.

xii. See Judith Jarvis Thomson, "A Defense of Abortion" in *Philosophy & Public Affairs* 1 (1971) 47-66.

xiii. Thomson 62-64.

xiv. See, for example, Nancy Davis, "Abortion and Self-Defense" in *Philosophy & Public Affairs* 13 (1984) 175-207.

xv. I call those "technically" guilty of their acts who, to whatever degree, lack responsibility for them, however an ethical theory may determine that.

xvi. Calling the fetus a "parasite" or "invader" (see, for example, Davis 179-80; Sumner 112, 121) would not change the equivalence in moral value between its life and an adult's. If a fetus is a parasite, all adults are former parasites who owe their existence to having been parasites on other former parasites. Ethically, the important thing is that a present parasite is oriented to ends of the same kind that give value to a former parasite's choice to kill the present parasite. In fact, of course, a fetus is not a parasite, since the design of the mother's body was selected precisely because it provides a nurturing environment for the fetus, and the mother's body is what it is only as a result of being produced by a fetus whose design was selected precisely because it produces the kind of body which the mother has. A closer analogy to the relation between the mother and the fetus would be that of Siamese twins who share organs necessary for both to live.

xvii. An earlier version of this paper was read at a meeting of the Society of Christian Philosophers. This paper benefitted from the help of Robert Augros, Peter Cataldo, Donald DeMarco, Curtis Hancock, James Hanink, Diane Irving, Charles Kay, C. Ward Kischer, Joseph Koterski, Patrick Lee, Kevin McDonnell, Donald Mulcare, James O'Rourke, Michael Pakaluk, Ronald Tacelli, and Fritz Wenisch.