

February 1996

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Recommended Citation

Fernandes, Ashley K. (1996) "Longitudinal Form and the Human Conceptus," *The Linacre Quarterly*: Vol. 63: No. 1, Article 3.
Available at: <http://epublications.marquette.edu/lnq/vol63/iss1/3>

Longitudinal Form and the Human Conceptus

by

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Human rights are not a privilege conferred by the government. They are every human being's entitlement by virtue of his humanity. The right to life does not depend, and must not be declared to be contingent, on the pleasure of anyone else, not even a parent or sovereign. . . . I have no new teaching for America. I seek only to recall you to faithfulness to what you once taught the world. Your nation was founded on the proposition — very old as a moral precept, but startling and innovative as political insight — that human life is a gift of immeasurable worth, and that it deserves, always and everywhere, to be treated with the utmost dignity and respect.

— Mother Theresa of Calcutta (1994)¹

It was a sincere question, not a political statement. The man in the front row, having listened to the medical professor excitedly explain fetal development through the first trimester, looked up, awestruck, and blurted out, “If all of this information is true, what does this say about abortion?”

The class sat silent, awaiting my Embryology teacher's answer to THE question. I listened and found myself *hoping* — hoping to hear the truth. As I think on it now, I find it terribly saddening that anyone should have to *wish* to hear the truth! Yet I did, because there was nothing else I could do.

“This class is not really the place to discuss the issue,” she said, and went back to the lecture. And as the rest of my colleagues went back to madly scribbling down her words, I thought to myself, “If not here, then where? *Where?*”

The question of moral status and protection for the pre-embryo² does not, unfortunately, rest with the biological fact of her life and humanness. How wonderful it would be if people would stop and think about the implications of simply being, of coming into existence! But clearly, the idea that humanness and personhood are two separate things has been championed by many, not the least of which is Justice Blackmun himself in *Roe v. Wade*.³ The question is not, “When

does life begin?" but instead, "When does life begin to matter?" — or, more specifically, "Why should pre-natal life, even as human life, be guaranteed as much protection as any stage of post-natal life?"

I must confess that such a question itself perplexes me; I find quite convincing the idea that what is clearly human life is owed dignity and respect based on this fact alone. As James Humber put it, "... the question concerning one's humanity cannot be separated from the question concerning his rights. If a being is human he has, by definition, all human rights."⁴ We all have a strong intuition that life ought to be protected because it has moral significance, but living is far more complicated than what we intuit. The Black slave became a "person" because, slowly but surely, the people in power were able to see, and hear, and feel the humanity of him — a fact that should have been recognized from the start. But the case of the pre-embryo is biased against her from the beginning; we cannot see her, or hear her, or sense her presence — she is utterly voiceless. It is for this reason that the personhood of this first stage of humanity demands to be *recognized*, but need not be established — personhood is already there.

A manifold of theories have been proposed to determine personhood, and I intend to briefly critique six which I think have significance. This "significance" is due not to any shred of credibility, but rather to the numbers of people, educated and not, who believe in them, and in particular because they are used to broadly justify early term abortions and new reproductive technologies. In the latter half of this essay, I will propose a more enlightening and practical alternative to the popular theories of personhood, one which fully maintains respect for the sanctity of all human life.

"Quickening"

Distinctions between human life and human personhood are still made in terms of sensations felt by the parents. "Quickening" marks the beginning of the time period when the baby can be felt by the mother from within (usually the fourth month of pregnancy); this standard for protection was commonly used in English law as early as 1640, and was carried over to America where it remained prevalent in the courts well into the nineteenth century.⁵ Much of the basis for denying personhood up to this point today is due to psychological factors. It is very easy to dismiss life when one cannot feel its presence; thus, the appeal of the French abortion pill RU486 is clear.

It is my contention that this standard is utterly without merit. Simply because one cannot physically feel another does not mean that the other does not exist, or is somehow any less of a person. Furthermore, the very fact that the moment when the child is "quick" differs from case to case shows how unreliable such a standard is. Are we to suppose that one child becomes a person at thirteen weeks, another at sixteen weeks, another still later? As the basic biological evidence points out, the conceptus is "moving" inside the mother from fertilization, particularly when it makes its journey through the Fallopian tube. The fact that the mother cannot perceive this movement does not negate the fact that the action continues; if anything, such a fact only underscores the limitations of basing human personhood on human sensual perception.

Viability

Viability of the conceptus has been one of the most popular standards for conferring personhood; in fact, this was Justice Blackmun's criteria in *Roe v. Wade*. John T. Noonan described this position:

Before an age of so many months, the fetus is not viable, that is, cannot be removed from the mother's womb and live apart from her. To that extent, the life of the fetus is absolutely dependent on the life of the mother. This dependence is made the basis of denying recognition to its humanity.⁶

This theory rests essentially on technology. That is to say, whatever point modern medicine can safely sustain the unborn outside the womb of the mother is the line established for personhood; the womb in this case serves as a barrier to pre-embryonic rights. This is indeed troublesome, if one considers the fact that when the *Roe v. Wade* decision was issued, viability was considered to be a little greater than six months. Yet since that time the definition of viability has been found legally to vary⁷, in part due to improved perinatal and neonatal care. What this means is that a few "non-persons" aborted in 1973 would, by definition, have been persons now and entitled to full protection under the law — clearly an absurd position to defend. This point is underscored by the fact that as early as the 1960s animal pre-embryos have been removed from the womb and artificially sustained.⁸ This process could be theoretically perfected in humans.

For now, most pre-borns cannot survive before the end of the Canalicular Period of lung development (16-25 weeks) due to an underdeveloped respiratory system⁹, but this fact alone cannot negate the right to life of any first trimester child. Noonan elaborates on yet another objection:

Mere length of life is not an exact measure [of viability]. The viability of the fetus depends on the extent of its anatomical and functional development . . . Moreover, different racial groups have different ages at which their fetuses are viable. Some evidence, for example, suggests that Negro fetuses mature more quickly than white fetuses. If viability is the norm, the standard would vary with race and with many individual circumstances.¹⁰

The last objection to the viability theory is one which is perhaps the most compelling, viz., dependency is not an adequate criterion for a right to life. Absolute dependency is carried on from the unborn stage at least through early childhood; in extremely disabled individuals and the elderly we might even extend that time period. But none of us (I hope) would advocate the "choice" to kill infants, children, the disabled, or the elderly, even given their absolute dependence on the parents or caregiver; nor would we doubt their status as "persons".

Resemblance

This theory is tied to one of emotional sentiment. It has been recently and concisely put forward by James Q. Wilson, professor of public policy at the UCLA. Wilson writes:

The greater grief a mother experiences at the death of an infant than at the death of a ten-week-old fetus does not arise, I think, from the mother's feeling that her carrying the fetus to term was more costly, or constituted a greater waste of resources than carrying the fetus for only ten weeks. I obviously cannot speak for mothers, but I would imagine from

what they say that their feelings on the loss of an actual or potential child do not reflect lost investment but lost humanity: the newborn infant is distinctly human, . . . while the fetus is somewhat less than fully human. Moreover, the mother sees the infant, but not ordinarily the fetus . . . I want to assert that it is precisely the degree of resemblance between the fetus and an infant that is of moral significance.¹¹

This position rests on a faulty assumption — that the conceptus is not fully *biologically* human in the first place. This error aside, let us examine why the pre-embryo is not classified as a human person — because she does not “look” like one, and because the feelings which the mother has for her would be less than that of an infant. I will grant both of these assertions. In fact, I would go so far as to say that if you showed the majority of people photographs of the unborn child from conception through the third trimester, you would get increasing “pronouncements of humanity” as the chronology of embryonic development unfolded.

But is this an adequate basis for denying personhood to the pre-embryo, particularly when life or death are at stake? Certainly, each person’s “feelings” or attachment to the conceptus would vary. For example, if I were to tell a certain group of people, “Close your eyes and picture in your head what a human person looks like,” I could bet with excellent odds that no one would have the same image. And because we all have different ideas of what “persons look like,” does this necessarily exclude any image we didn’t form in our head? We have emotional sentiments about many people, but our lack of feeling for them does not strip their humanity.

To further the point, appearances alone are often an unreliable way of categorizing human beings. There are many instances of men resembling women, and women resembling men; we might imagine cases where someone of one race will have the characteristics of another racial group. Yet, these people, though apparently their resemblance does not fit their category, i.e., gender or race, are still objectively within those categories. Thus we are able to make the claim (in particular in light of the biological evidence) that although we may see pictures of a one-celled zygote who looks nothing at all like the newborn infant, this in no way can give us assurance that the entity is not in the “human person” category. John Noonan adds:

Yet experience shows that sight is even more untrustworthy than feeling in determining humanity. By sight, color became an appropriate index for saying who was a man, and the evil of racial discrimination was given foundation.¹²

Our occasional differential emotions toward humans of varying ages (whether pre-born, infant, or even elderly) do not stem from perceptions (let alone truths) about humanity. Rather, the feeling comes from what we have obviously “put into” the individual — or perhaps more accurately — what experiences they have had and we have shared with them. It should be emphasized, of course, that our emotional feeling has little to do with the separate and objective reality of pre-embryonic personhood.

Human Interaction and Self-consciousness

This theory asserts that a being is a person when one has the ability to make autonomous decisions about themselves, for themselves, and for the environment around them. This would also presuppose, of course, a certain degree of self-consciousness. This kind of thinking was first put forward by esteemed thinkers such as John Locke, who defined a person as “A thinking intelligent being that has reason and reflection and can consider itself, as itself, the same thinking thing, in different times and places.”¹³ The theory has been

re-introduced by Peter Singer, among others; Singer claims that to be a human one must go beyond simply being a *Homo sapien*. If we reduce humanity to this, we are (immorally, he says) claiming superiority of our particular species — we are engaging in “speciest” thought. Singer argues:

When I think of myself as the person I now am, I realize that I did not come into existence until some time after my birth. At birth I had no sense of the future, and no experience which I now remember as “mine.” It is the beginning of the life of the person, rather than of the physical organism, that is crucial as far as the right to life is concerned.¹⁴

To take this further would be to claim that a human person is one who can engage in normal human interaction, possesses the ability to form relationships, and can obtain self-fulfillment.

The problems that arise from this train of thought seem clear enough, if one simply looks at infants and children. These beings, if self-conscious at all, can hardly be said to possess a degree of sophistication that would enable them to engage in the kind of “self-reflection” that Locke was writing of — nor could they relate to other humans in the same, complicated way in which adults relate to each other. This does not make them, however, any less a person, and certainly not any less human. If we take again the example of mentally disabled individuals, who quite obviously possess a limited degree of “rationality” in the typical sense (and may even possess a different *kind* of rationality), we find this theory of personhood even more objectionable. Under this theory, they would fall into the same category as infants and children, and be subject to termination at any time — until they have achieved the ability of self-consciousness and human interaction that is befitting a “real person.”

Kevin Doran poses another interesting and devastating objection to this standard:

The failure of Locke and Hume, and more recently of the school of thought represented by Singer, Harris and Tooley is that, in basing personhood on the ability to desire, to have a continuous consciousness, or to achieve a certain distinctly human level of performance, they overlook the fact that *all this presupposes a being who desires, is conscious and performs at such a level* what Singer, Harris, and Tooley have done is to confuse the concept of personality, something which is variable and accidental, with the concept of person, which is invariable and essential.¹⁵[my emphasis]

Both of these points are vital. In order for any being to achieve self-consciousness, they must first actually *be*. And if we grant this fact, we must then ask, how could one being *suddenly* change from a non-person to a person? Even if the change were gradual, we would be left with the notion that some beings possessed a greater degree of personhood than others; and, when we take into account that on this basis alone their life may or may not be protected, we can clearly see how dangerous and immoral such a standard would be. Further, Doran is correct in identifying the basis of the human interaction standard as qualities to be found in personality; simply from the description above, one can see that human desires and interactions come about, in varying degrees, over time. As he puts it, “Being of a rational nature does not imply that a being is always or ever, actually, rational, but only that it belongs to a species, one aspect of whose nature is rationality.”¹⁶ Given

this kind of argumentation, we are left, at the very least, with the possibility that personhood may indeed be justified on simply being a member of the human race.

Potentiality

The theory of potentiality can be described as follows:

The standard potentiality argument argues that despite the fact that embryos do not have properties now, they have the potential to develop them. They claim that if an embryo has the potential to be a person with the "right to life," the right to life should apply before the "stage" of being a person is reached.¹⁷

Despite the fact that such a claim could be (and has been, presumably) used with good intention by pro-life advocates in the past, I disagree with the fundamental premise of it, viz., that human life could ever be a *potential* person. This I think unnecessarily leads to ambiguity, and of course, opens the right-to-life position to a plethora of attacks.

Primarily, the argument suffers since it grants that simply being human life has no consequence, no value in itself.¹⁸ That is precisely why making the transition from a "potential" to a "real" is so vital in this theory.

Further, it would be absurd to confer upon something-which-is-not (the "potential" conceptus), the rights of something-which-is ("full" human beings), particularly if the rights are in conflict. It is my contention that this line of argumentation is not persuasive, and I think (ironically) that many pro-abortion advocates would agree. We might be able to conclude that the conceptus is a potential embryo, a potential fetus, and a potential post-natal being — a future *someone*. However, integrated into each one of these stages is both an already-established human life and personhood, which remains unchangeable. Thus, what is actually necessary for moral status and hence, protection from death, need not be "searched for" as a potential, for it already is.

Birth

I need only spend a short time on this theory, because it is inherently so weak, that to present an elaborate critique of it would only serve to grant undeserved legitimacy. This theory holds that the unborn become persons "whenever they are born." Often it has been justified by the claim that one is not a citizen until birth, thus one should not possess the rights of citizenship prior to that time. (One of these is a right not to be killed, or more specifically, to be protected by the State from unjust harm.) This idea becomes instantly discredited if we consider pre-mature births; is the eight month old fetus, capable of being born at any time, any less a person than the nine month old, who is just born? According to the birth standard it may in fact be permissible to slay a child when the cervix is fully dilated, while she is still in the "process" of being born. This *reductio ad absurdum* only underscores the point that since births themselves are so variable, the conferring of human personhood at parturition is essentially meaningless.

Moreover, legal citizenship granted at birth is certainly not the basis for human

rights, particularly the right to life. Being born is clearly not tenable as a standard for personhood; perhaps we can now finally consider simply *being*.

Longitudinal Form: Respecting the Human Whole

The theory of longitudinal form was proposed eloquently by Nicola Poplawski and Grant Gillett in their article “Ethics and Embryos”(1991).¹⁹ It is this relatively obscure theory that I believe poses the best hope of reconciling metaphysics, ethics, and biological science, and I shall borrow extensively from it.²⁰

The Continuum of Human Life

Poplawski and Gillett make the claim that “the form of the human being extends beyond the present at a given slice of time to take in the breadth of an entire life. There is a phase of development, a phase of moral engagement with others and a phase of dying (which may be abrupt or drawn out Because each stage is an essential component of the whole, the form of humanity involves a life with a characteristic longitudinal ‘shape.’ ”²¹ This explanation is an attempt at an Aristotelian²² kind of metaphysics — a concentration on the form of matter and its continuity. Aristotle writes:

A thing is called one if it is a continuum, or if it is indivisible, and we also call things one if one and the same account is given of what the being of each would be: so, for instance, wine and the grape.²³

What we see here, applied to all human development, is a continuous process of change, where each step “meshes” with the next; the border of every stage of physiological growth, by nature, is blurred. In this light, the unity and oneness of the human form becomes apparent; although the zygote and the adult human appear, by all the senses, to be remarkably different, they together constitute one essential form. The most lucid analogy is the color spectrum, wherein one distinct color seems to emerge from another, but no precise point of a change in shade is discernible.

Poplawski and Gillett further reason that because we attach high moral significance to the phase of moral interaction (post-natal to the beginning of death) we ought to consider also the ultimate cause of this phase in like fashion. They elucidate:

Development is, therefore, a process whose overall nature may have distinct moral significance. The conceptus begins this process and the “form” which not only governs the process, but also makes it morally significant, is realised as time goes by If the initial stage in the human process does not occur, none of the later stages can be reached and therefore this first stage is an essential component of the complex whole in the same way that the laying of the foundations is the essential first stage of building a house. Who can say that any one stage of building a house is any more important than another when without all stages one has nothing? The conceptus may have moral significance because it is an essential component of the total longitudinal form of a morally significant being.²⁴

This powerful analysis also has ramifications outside the pre-embryo. For instance, we could very well use the longitudinal form to justify protection and respect for all stages, and all kinds of human life — including children, the

elderly, and the terminally ill — insofar as each one contributes essentially to the nature of everything which is human.

The Pre-Embryo in the Human Community

The alternate theories for personhood (discussed above) generally seek to define the person as one who, at a particular stage of development, is able to interact with the macro-family with which she is associated. Whether this be at quickening, viability, or when the being has gained rationality, the prerequisite for any rights in these theories is the acquisition of some kind of human interaction, whether fully reciprocal or not.²⁵

Now if we look at the person as a longitudinal form, we see plainly that human life, from the moment of conception, is firmly and irrevocably embedded in the human community. As fertilization occurs and a novel constitution is spelled out, the pre-embryo begins to make itself ever more a part of that community. The interaction begins for her as a physiological one (the sustaining of the newly formed zygote in the mother's reproductive tract), proceeds to a physical one (implantation and gestation), and eventually, as the family and other humans realize her presence, becomes deeply rooted in a manifold of human relationships. This process is continuous, and after birth and throughout life, the human person gradually develops the ability to communicate, form relationships, and rationalize.²⁶

An obvious objection may be brought to the front at this stage, viz., human physiological interaction is not enough to grant moral significance. Poplawski and Gillett answer this objection convincingly:

If physical interaction alone were morally significant, we would be faced with the dilemma of having to treat an attached parasite, such as a tapeworm, with the moral consideration given an embryo or fetus. But this [argument] neglects the longitudinal "form of a person." There is a fundamental difference in form between a tapeworm and a human organism; an internal parasite simply grows and reproduces further parasites but a human embryo becomes a person with an interactive role in a human community. This creates a moral difference.²⁷

Still another argument may be made at this juncture, even if one accepts the basic premises of the longitudinal form approach. If the pre-embryo is part of the developmental phase of the longitudinal form, and part of the human community, could we still not reasonably claim that the other phases in human development are more important — particularly when a conflict of rights is at stake?²⁸ To buttress this, the skeptic might add that clearly the nature of interaction in the developmental stage (particularly that of the pre-embryo) is merely physiological, while the moral interaction phase involves precisely that — moral interaction. They might conclude that, since moral, linguistic, intellectual, and emotional relationships are more complex and more integrated into the human community, these ought to take precedence over the first phase of the human form. Again, (and unknowingly, I think) Poplawski and Gillett adequately rebuff this argument when they explain that:

... an excessively cognitive reading of morally significant interactions leads to problems. If one's ability to think and interact/communicate were to be graded, the individual whose form included that ability to interact on some yet to be defined "higher plane" than others would be more important than other human beings. Perhaps a person whose total form included being a university professor would be more significant than an individual who was mildly intellectually handicapped. This immediately suggests an elitist attitude congenial to "ivory towered academics" but not to "normal" people. It does not seem to be a valid way to arrive at a conception of the person as the bearer of moral value. And, who is to say that nose-touching and noises is more or less valuable than a philosophical discussion with a twelve year old? We must beware of placing value judgements on the type of interaction occurring. They are different types of interaction yet both have intrinsic value and value because they are parts of valued wholes, wholes which at some stage participate in moral interactions.²⁹

This long and vital passage emphasizes the idea that once unique life comes to be at conception, each phase and moment of human existence is continuous and inseparable into precise, constituent parts. No one type of interaction can be argued to be more important than another.

Thus, we can see that the theory of longitudinal human form grants personhood to the conceptus on the basis not of what it shall be, but what it is essentially. This bestowing of moral significance is consistent with embryological science, promotes a sanctity and respect for all persons, and provides a basis for protection in any stage of life against undue "violence to the form."

The Conceptus: Visible Image of the Invisible God

A medical school professor can banish the topic of abortion from the classroom, but can never cast a shadow over the truth. The moral status of the pre-embryo and her quest for recognition as a human person have roots above and beyond the biological stages of her development. All human life, from conception to natural death, is inviolable because each moment of life — from zygote to adult — possesses a fundamentally identical and morally significant form. If we understand ourselves to be human persons — to be guaranteed, whatever else, the right not to be killed if we have done nothing wrong — then we must necessarily strive to extend this right to all persons. By permitting violence against the longitudinal human form,⁶ we are murdering *gens humana*.

My father, a physician, wrote to me on the eve of my departure for medical school, "In a world that has lost its respect for human life, it is wonderful that you are dedicating yours to enhance it. If you always preserve the belief in the transcendent dignity of each human person — the visible image of the invisible God — you will never lose your belief in or your efforts for human life." These are words for all of us to live by, as we embrace the beauty and sanctity of the human form.

References

1. Mother Theresa of Calcutta, in an *Amicus Curiae* filed before the Supreme Court of the United States, as reprinted in the *Human Life Review*, 20:2, (1994) 128.
2. At this point a note should be made on terminology. The use of the word "pre-embryo" describes the entity post-fertilization, from the zygote stage to the full implantation of the individual

into the uterine wall (see Keith L. Moore, *Essentials of Human Embryology* [Philadelphia: Decker, 1988] 16). This would include the blastocyst period. "Conceptus" will be used interchangeably, since the meaning implies a newly conceived organism. These terms are generally used to describe the entity in the germinal stage of pre-natal development; this period is followed by the embryonic stage (from the beginning of the third week to the eighth week). Embryo has also been used "loosely" to describe the conceptus, but I will avoid doing so here. The final moment is the fetal stage, which encompasses the last seven months of pregnancy. (See Rod Seely et. al., *Anatomy and Physiology* [2nd ed. St. Louis: Mosby Year-Book, 1992] 948). Although I choose to make the distinction for clarity's sake between pre-embryo, embryo, and fetus, it is a premise of this work that these stages hold an identical ethical relevance.

3. In *Roe v. Wade*, 410 U.S., (1973) 156-7 Justice Harry Blackmun argued that, "The appellee and certain amici argue that the fetus is a 'person' within the language and meaning of the Fourteenth Amendment . . . If the personhood of the fetus is established, the appellant's case, of course, collapses, for the fetus' right to life is then guaranteed specifically by the Amendment . . . The Constitution does not specifically define "person" in so many words. The use of the word is such that it has application only post-natally. None indicates, with any assurance, that it has any possible pre-natal application."

4. James Humber, "Abortion: The Avoidable Moral Dilemma," *Journal of Value Inquiry*, Vol 9, (1975) 297

5. John T. Noonan, *The Morality of Abortion* (Cambridge: Harvard University Press, 1970) 223-224. It is also interesting to note that the roots of this theory date to Aristotle, who suggested that quickening occurred in males at forty days, and females at eighty days. (See James Q. Wilson, *Human Life Review*, 20 Winter [1994]93). While sixty days is about the time when physical movement of the embryo begins, the pre-embryo is actually moving before this time.

6. *ibid.*, 52

7. *American Medical New*, May 22-29, (1995) 23

8. Keith Moore, *The Developing Human*, 5th ed. (Philadelphia: W.B. Saunders Co, 1993) 233.

9. Noonan, *The Morality of Abortion*, 52

10. *ibid.*, 52

11. James Q. Wilson, "On Abortion," *Human Life Review* 20;1 (1994) 85-86

12. Noonan, *The Morality of Abortion*, 53-54

13. John Locke, *An Essay Concerning Human Understanding* (Oxford: Clarendon Press, 1975) II:9:29

14. Kevin Doran, *What Is A Person?* (Lewiston: Edwin Mellen Press 1989) 34

15. *ibid.*, 43

16. *ibid.*, 43

17. Nicola Poplawski and Grant Gillett, "Ethics and embryos," *Journal of Medical Ethics* 17 (1991) 62

18. Note the difference between this position and that of the position popularized by abortion proponents, namely, that the being is "potential life." Here the conceptus is assumed to be human life, but her status after this point is what is taken to be in question.

19. Poplawski and Gillett, *Journal of Medical Ethics*, 62-69

20. I do not agree fully with the conclusions of Poplawski and Gillett, who, in a disappointing "Postscript," (69) contradicted the central thrust of their argument by implying that the rights of "identifiable human beings" are more specific than embryonic rights and thus take precedence over them. I do not see this conclusion as consistent with the rest of their work. Thus, my approach will borrow from theirs, but hopefully be at the same time, more universally applied and hence consistent.

21. Poplawski and Gillett, *Journal of Medical Ethics*, 62

22. This, I think, is an important fact to note for two reasons. First, the longitudinal theory is only a *kind* of Aristotelian philosophy, because it avoids Aristotle's scientific errors (e.g., that the fetus was the egg itself), and yet maintains the importance of form. Secondly, Aristotle's metaphysics have sometimes been combined with Kant's ethics to produce the potentiality theory described above. That is, the pre-embryo, embryo, or fetus are the potential form of the moral

agent, where the moral agent would be a rational, autonomous individual. Obviously, from the analysis above this line of reasoning ought to be rejected. By contrast, the theory I am proposing claims that the pre-embryo is the *same form* as the adult human, and ought to be respected and protected in that regard.

23. Aristotle, *Physics* I:2, ed. J.L. Ackrill, *A New Aristotle Reader* (Princeton: Princeton University Press, 1987)

24. Poplawski and Gillett, *Journal of Medical Ethics*, 63-64

25. *ibid.*, 64

26. *ibid.*, 65

27. *ibid.*, 65

28. This very argument is the postscript, at which, inexplicably (and unfortunately) Poplawski and Gillett seem to arrive in the end of their article.

29. Poplawski and Gillett, *Journal of Medical Ethics*, 66
