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The metaphysical, ethical and theological musings on embryonic stem cells: a response to Peter van Inwagen

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Abstract

A rather counterintuitive view states that embryonic cells are virtual objects merely adhering to each other, undeserving moral protection until much later. The opposing view states that embryonic cells have/ought to be given complete moral status of human beings' courtesy of their potentiality. Taken to their logical conclusions, these two positions leave us in unchartered territories that don't sit well with our basic moral beliefs. Intuitively, most of us believe that while it may be the case the human organism is neither human being nor potential one, however, we also find it counterintuitive when this is taken to suggest that there is nothing going on there that is of moral significance. Still, we have to be careful how much stock we can put on the potentiality argument as it has been the undoing of some. The human organism may have the potential to be a human being. But that does not mean it is a human being, or that it will *become* one. Potentiality only means the human organism can become a human being or has potential to be one *if* the right conditions obtain. It is a potentiality that gives us some leverage on the moral protection of embryonic cells but comes with corresponding moral restrictions.

1. Introduction

When does life begin to exist? The long and controversial abortion debate revolves around the different positions people usually take when responding to this question. In the text where his metaphysical views as discussed here are explicated, Peter van Inwagen (1990) thinks there is no sharp answer to this question and the answer to this question, Van Inwagen claims, does not fall anywhere between conception and the embryonic stage. He believes it is only after the differentiation stage that we can talk about the formation of an organism, i.e., a life with the genetic identity of a human being. According to Van Inwagen, to think there is life as soon as conception occurs, or anywhere during the embryonic stage has at least two problems. One, such a view presupposes that we were once zygotes, an idea he thinks is obviously false because the zygote ceases to exist before life is formed. Two, it leads to the conclusion that the developing embryo is an organism – a human being or having the potentiality to become one, an idea he considers implausible because of the possibility that monozygotic twinning could still occur. And the possibility of the latter, in his view, is proof enough that the embryo is not an organism, thus neither a human being nor a potential person.

This paper is about the metaphysical claims of embryonic cells by Peter van Inwagen, and the corresponding ethical and theological implications that can be drawn from those metaphysical claims. In this paper, I will adopt Van Inwagen's metaphysical theory of embryonic development; this is because Van Inwagen and I essentially agree on what the basic structure of embryonic development should look like. For instance, Van Inwagen is correct to say that the developing embryo does not have the genetic identity of a *particular* or a potential human being. Consequently, one would be right to say that abortion at this period leads neither to the killing of a human being nor preventing a particular person (whose identity has been determined at fertilization) from existing. Hence under his theory, abortion might be thought to be morally permissible during this period. Put differently, if life does not

begin until after the central nervous system is developed, then it means that prior to this development, abortion is of little or no moral consequence. While Van Inwagen himself does not make ethical let alone theological observations from the metaphysical claims attributed to him in this paper, however, the second part of the paper is about the ethical and theological implications that can be drawn from the metaphysical claims he makes here about embryonic development. Precisely, I will show that after conception, abortion at whatever stage becomes problematic, with significant moral, even theological implications. My arguments rest on two premises.

First, I will argue that fertilization of the embryonic cells makes a huge difference in determining identity of persons. Let us call this the *potential person by fertilization* argument. Second, I will appeal to the very process of embryonic development, and show that on strict biological grounds, there is continuity of the *human organism* throughout the process of embryonic development. This is what others like Warren Quinn (1984) refer to as smooth gradualism of embryonic development. At the end of this process, there is the possibility of the birth of something with the same genetic form as the embryonic cell. Let us call this the *potential person by gradualism* argument. Here, I will use the potentiality argument but in a different way. So, while I believe as Van Inwagen does, that the standard potential person argument as advanced by antiabortionists does not work because the embryo or zygote does not itself become a human being, however, contrary to Van Inwagen, I suggest the potentiality argument still works in a different way, what I call the *potential to produce* a human being claim (Persson 2003).

The paper will move in five steps. In the first section, I will present Van Inwagen's metaphysical theory of embryonic development. In the second section, I will consider the practical implications of the theory, being part of the conversations of the abortion debate. Third section will be about the potential persons' arguments, where I will offer a deeper insight of the organism under debate. The fourth section will

discuss the ethical implications that can arise from these metaphysical conversations (in lieu of Van Inwagen's views and mine). For example, whether they can line up with our basic moral intuitions. The last section is a conversation around theological perspectives and African narratives with regards to the unborn/fetus, and the implications that can arise from these conversations relevant to Van Inwagen's views and mine on the status of embryonic cells.

2. Van Inwagen's metaphysical theory of embryonic development

I consider his theory to be a three-step account of embryonic development. First, there is the conception stage which starts as soon as the sperms and the eggs meet and forms the zygote. Here, we will have to say more about exactly how this initial process takes place to give us insight into the metaphysical and scientific nature of the theory in general. Once the egg and the sperms meet, a new chapter is opened in the interaction of cellular organisms, an interaction between the sperm chromosomes, the mass of cytoplasm (the daughter cells from the previous egg cell division), and other minor cellular organisms created from the ongoing meiotic divisions. A further interaction of the male and female cellular organisms results into the formation of what is known as the zygote. He says,

> chromosomes of the sperm and the haploid egg nucleus and various sub cellular organisms cooperate to arrange themselves and the available cytoplasm into an arena, the activity of the inhabitants of which will constitute the new life. The new life begins … A new object, a zygote, now exists" (p. 152).

And with the formation of the zygote, the 'simples' that composed both the sperms and the eggs cease to exist. This marks the beginning of what I take to be the first stage of van Inwagen's theory of embryonic development (1990).

We are now at the monozygotic stage. What is a zygote? It is important to be clear about the cellular organism represented at this stage as well

as its biological status. This is crucial because there are those who (the extreme antiabortionists, for example) hold the view that the zygote is a human being or a potential one, that when it is fully grown, the result is a human being, or an organism that will become a human being. Van Inwagen thinks such views are mistaken. He says,

> the zygote is a single cell. About thirty hours (in the case of human beings) after fertilization, it will divide mitotically, and the immediate result will be two duplicates of it that adhere to one another" (p. 152).

This marks the end of the first stage, and the beginning of what I take to be the second stage of his theory. Before considering what the second stage entails, a clarification should be made as to what exactly happens as soon as the monozygotic cell division occurs.

What happens to the zygote once it divides? Philosophers have different views about what happens after the monozygotic cell division occurs. For Van Inwagen, there are at least three possibilities. First, let us suppose that A is the zygote; and B and C are the two-cell embryo after the mitotic division. Under possibility (1) the zygote ceases to exist, giving way to a two-cell embryo. Under possibility (2), the zygote continues to exist by replicating itself, and adheres to its replica, hence either B or C is A; and in (3) the zygote changes from a one-celled to a two-celled organism, where A becomes the mereological sum of B and C. Van Inwagen favours possibility 1 (1990). It would be interesting to pursue the discussion further and find out whether Van Inwagen is right in rejecting possibilities 2 and 3. But since I am not challenging the basic structure of Van Inwagen's theory, I will not go into the debate. I am in favour of possibility 1 for the same reasons as Van Inwagen. Hence, like van Inwagen, I believe that when the cell division occurs, the zygote ceases to exist, and it is replaced by two-cell embryo. Further, like Van Inwagen, we could also say that there is no interaction between the two cells, they are merely stuck to each other and do not compose anything.

Thus, in a Van Inwagenian sense, while B and C are individual organisms, they do not form a larger living thing. In other words, the

activities of the two cells do not together constitute a single life; *life* comes to an end when cell division occurs, i.e., when the zygote ceases to exist (1990).

But what exactly is *life*? John Locke's work on the persistence of organisms as expressed in his discussion of the "oak" can speak to this question. While Van Inwagen does not agree with all that Locke says about the persistence of organisms, however, Locke's views are still relevant to this discussion. Says Locke,

> we must therefore consider wherein an oak differs from a mass of matter; and that seems to me to be in this, that the one is only the cohesion of particles of matter anyhow united, the other such a disposition of them as constitutes the parts of an oak, and such an organization of those parts as is fit to receive and distribute nourishment, so as to continue and frame the wood, bark, and leaves, ... of an oak, in which consists the vegetable life (Fraser, Book 2 1894:443).

While Locke is talking about the persistence of organisms of a different species from animals, however, there is similarity in the general concept of what it means for the activities of an object to constitute life, i.e., it is an organized structure such that there is coordination of all the different parts of the oak to form a single whole; all its parts are actively involved in the formation as well as the sustenance of the oak as a whole. This is what it means for all the parts to participate in one common life. A non-material object on the other hand lacks such an interaction; its various parts, the mass (es) of matter that 'compose' it are not united, thus, they do not partake in one common "life". Van Inwagen has made it clear that the two-cell embryo does not constitute "life", the cells are merely adhering together, there is no organization or interaction of the different cellular organisms within it. As for the oak, as long as the different particles partake of the same life, there is bound to be continuity or persistence of the organism even if the original composing particles of matter are replaced by new ones.

Another way to explain "life" is to use Van Inwagen's analogy of the self-maintaining club of automata. Life is made of events and processes, constituted by atoms that maintain themselves by drawing components and getting rid of unwanted ones. Hence, there is an internal infrastructure responsible for maintaining the club so as to ensure its continuity even when old members are replaced by new ones. This is what he refers to as the organism, which ensures the club's continuity (1990). The activities of the two-cell embryo do not constitute events, meaning there is no internal infrastructure responsible for sustaining the object(s) so as to both maintain and regenerate new members from the standard object.

Once again, we can re-state the opening question of this paper: when does life begin to exist? According to Van Inwagen, "cells that are arranged embryonically begin to compose something when their activity begins to constitute a life" (1990:154). We have seen what it means for the activities of an organism to constitute a life. From the foregoing, the activities of embryonic cells do not constitute life – the cells are merely adhering together without forming or constituting a single material object representative of an organism, i.e., a single living thing. So, when does the embryonic material begin to compose something? Here is Van Inwagen (1990:154):

> … certainly not earlier than the inception of cell differentiation. Certainly not later than the development of a functioning central nervous system, which in the case of human beings, takes place about twelve days after conception.

We will call this the third stage of the theory. And so, life does not begin until the end of the second stage of embryonic development. More precisely, there is no "life" until when the third stage is in progress, or when its conditions are met. From what he has said, the development of minimal brain life seems to be a good indicator of 'life', this comes twelve days after conception. Strictly speaking, there is no single life in both the first and second stages of the development of the thing – the

multiple embryonic cells do not compose a single life according to Van Inwagen.

3. The practical implications of Van Inwagen's theory

So far, I have been trying to lay out the structure of Van Inwagen's theory of embryonic development. In this section I will discuss the practical implications of the theory in the context of the abortion debate. Specifically, I am going to discuss how the theory speaks to what I think are the main areas of concern in the abortion debate: one, can abortion be morally equivalent to the killing of a human being and/or an infant, when it is procured any time between the first and second stages of embryonic development? Two, how would Van Inwagen's theory respond to the claim that acts of abortion during the first two stages of the theory could lead to preventing a potential person from existing?

One way to proceed is by considering how Van Inwagen would respond to his critics' rebuttal that embryonic cells actually constitute a single being. That is, what would he say to the charge that the activities of embryonic cells, whether at the first or second stage of the theory, constitute a single life? I take it that by responding to this question, we will, simultaneously, be using the theory to speak to the first claim of the abortion debate: that acts of abortion in the first two stages of the theory are morally equivalent to the killing of a human being or an infant.

Basically, Van Inwagen has two responses. The first response is the one about the fate of the zygote after monozygotic cell division occurs. Does it continue to exist after the cell division? If it does, then Van Inwagen's critics have a case, and abortion during the two stages could more or less raise moral concerns similar to those that arise when an infant or an adult human being is killed. This is mainly because a zygote (says the critics) is considered a living organism. The second response is the one about the status of the two-cell embryo at the second stage. If we can show that the two-cell embryo's activities constitute life, then

we have a reason to believe that abortion at this stage presents powerful moral problems; embryonic cells would then have claims of right to life that begin to restrict our actions on them.

Let us start with the second response. Do the embryonic cells constitute a single life? According to Van Inwagen, it is implausible to think the two-cell embryonic cells constitute single life. This is because, among other reasons, there is still the possibility of monozygotic twinning. And as long as the possibility of monozygotic twinning exists, Van Inwagen thinks we have reasons to think the cells' activities don't constitute life. And why is this the case? Here is his response:

> Suppose, then, that this (monozygotic twinning) had happened. What would have become of me? Only one answer is even superficially coherent: I should have ceased to exist, and two new organisms would have been generated out of the cells that had composed me. I should prefer to think that if an embryo is still capable of twinning, then it is a mere virtual object (1990:154).

We can restate the gist of his argument by reminding ourselves how his theory speaks to the question of the fate of the zygote (the first response) after cell division: let us suppose A is the zygote, and B and C are the two new organisms generated out of the cell division. We saw that according to van Inwagen, once monozygotic cell division occurs, A ceases to exist, and neither B nor C is A. In the same vein, once the mass of adhering cells splits into two, it ceases to exist. B and C ceases to exist with every further division that occurs, thus no life in the second stage of the theory (1990).

So far there are two big conclusions (by way of responses) that can be drawn from the ongoing discussion that can advance the course of our argument. One, at no time are/were human beings a zygote. Zygotes cease to exist at the end of the first stage of the theory. Two, as long as there is a possibility of twinning, the two-cell embryo is not a single being or organism whose activities constitute life; the multi-cellular organisms do not exist until after the differentiation period. Next is to consider how these two responses are brought to bear on the first claim

in the abortion debate. If Van Inwagen is right on both counts, then it means the developing embryo does not have the genetic identity of a human being, a specific one or in general. That is, there is no particular individual whose identity has been determined at the embryonic stage, until much later in the process. Hence a woman named Ms. X, who aborts an embryo named Y at any of the first two stages of Van Inwagen's theory is not in any way endangering the life of some genetically identifiable individual whose features (like DNA) would be intimately related to the embryonic cells.

We have now seen how the theory responds to the first claim in the abortion debate. We now turn to the second claim in the abortion debate: whether or not abortion would lead to preventing a potential person from existing. In order to see the reasoning behind this claim, let me briefly say something about the claim by way of an overview, before we consider how Van Inwagen's theory would respond to it.

The advocates of the potentiality argument claim that "a human being begins to exist at conception because an organism with the potential to become a human being is then formed" (Persson 2003:505). Thus, they ground their claim on the idea that once conception occurs, there is a possibility a human being could exist, since, biologically speaking, the zygote, an organism with the same genetic make-up (e.g., DNA) as a human being, is formed. With the formation of the zygote, they believe that as long as the process goes uninterrupted and the embryo is allowed to live and develop, it will eventually become a human being (Persson 2003). And now, what will van Inwagen have to say about that? Van Inwagen's response is simple, I think. He will have to say, as he has done so earlier, that such a view is mistaken because the zygote ceases to exist as soon as the monozygotic cell division occurs – given that it is a single cell, it ceases to exist as soon as the division takes place, giving way to the two-cell embryo. In other words, his response to the potentiality claim would be that the zygote's potentiality to become a human being is a false claim because the zygote does not have "the potentiality to itself become what will undoubtedly be a human being"

(Persson 2003:505–509). In essence, the point is that in order for the zygote's potentiality to be actualized, fate has it that it undergoes certain cell divisions. Unfortunately, these cell divisions bring the zygote's existence to an end (Persson). So "the zygote only has the potential to give rise in place of itself to something else that will, if it has what it takes, become a human being" (Persson 2003:510). Hence the potentiality argument does not work.

If the zygote lacks this potentiality, what about the two-cell embryo? What is its fate? We had seen that if zygote, A, divides, resulting into two cells, B and C, then neither B nor C is A. Hence it could be SAID that "none of the two cells B and C will itself have the potential to become a human being, since they will in a few days cease to exist by division" (Persson 2003:510). So like van Inwagen, the response would be that after the zygote ceases to exist, a new organism, two-cell embryo is formed, which undergoes similar cell divisions. Thus, no potentiality is preserved in B and C (Persson). In addition, earlier we saw that the two-cell embryo is not a single living being; they are cells which merely adhere to each other without any form of interaction, thus do not compose anything, metaphysically speaking.

We have now considered how Van Inwagen's theory would respond to the two major concerns in the abortion debate. First, we have seen that prior to the differentiation stage, there is no human life, thus, no particular persons can be claimed to exist. Two, for van Inwagen, the potentiality argument does not work – there is no potential person around. Hence acts of abortion results neither in the death of a human being/infant, nor the prevention of a potential person (one whose identity has been identified at fertilization) from existing.

4. Potential person by fertilization

In this section I will advance the view that abortion at whatever stage is an issue of moral significance, for two reasons. My first premise is that fertilization makes a huge difference because of the genetic structure that is formed as soon as conception occurs. I will proceed by first laying

out the argument, and then see how it impacts on what Van Inwagen has said so far.

Once there is conception, the answer to what kind of organism or "the thing" we are talking about is settled. That is, the genetic structure helps to determine the *type* of organism we are concerned about, i.e., that it is a biological organism of the *homo sapiens* category, a species which is genetically distinct from other species as winter is from summer. No matter how primitive the stage of this biological organism might seem to us, we cannot refer to it as a cow's, chimpanzee's, or hippo organism. Thus, in a way, its identity (one of genetic form) has been fixed, courtesy of species membership as Human organism (Quinn 1984). So, if we let the organism to live and develop, chances are the end result will be an organism with the same genetic structure or form as the embryo.

Further, the potentiality by fertilization argument can be reinforced because it is implausible to imagine the possibility of a change in species membership; in fact, this is impossible. For instance: is it possible for individual biological organisms to change their species memberships, say from *homo sapiens* to another species (Persson 2003)? Species membership has been identified (Persson 2003) as one of the essential properties of organisms that belong to a biological species. Imagine a situation in which a man named Methuselah contemplates turning into a giant bug: "if his brain, or just the parts underlying his mind or consciousness were removed from his body and transplanted into some other unconscious body, like a giant bug, would Methuselah go on to exist in that body" (Persson 2003:507)? What would we say has become of the being that was Methuselah a while back? Would we now have a bug or a human being in existence? Is it possible for Methuselah to turn into a being of a different species, i.e., a bug? I think the vast majority believe Methuselah will continue to exist in the shape of a bug. We are likely to think that in this case, what determines his identity is the memory, mental consciousness or the mind which continues to exist, but now clothed in a bug's organism.

This view is consistent with the idea that species' membership is an essential feature for every individual biological organism, that no biological organism can change species membership from say, human being to a cow. Thus there is preservation in species membership (Persson 2003).

We could run the same argument in a different way, without having to go from one species to another. This argument seems to work even for biological organisms that are members of the same species. Again, let us use Ms. X as an example. The doctor has diagnosed her with a viral infection in which all her eggs have been invaded by a deadly virus. From now on, any fertilized eggs will generate cellular organisms but of a different species membership, say swine (we could also imagine that as long as this virus is active, it dominates the male sperms and solely determines the genetic make-up of her conception). She has the option of changing her reproductive genes from eggs to sperms. If she succeeds, the infection is rendered inactive, and she will now produce normal human sperms. If she fails, and continues to produce the now condemned eggs, her fate is sealed, any pregnancy will result into the birth of swine. Assuming she cannot tolerate the idea of giving birth to swine, what other options does she have? I am not aware of any scientific procedure that might help to alter X's genetic make-up from eggs to sperms to enable her to escape the misfortune. There could be some research going on out there on this front. However, at the moment, and as long as there is no scientific breakthrough yet, many would agree that X's fate is sealed, altering her genetic make-up would not work. She is genetically hard-wired to produce eggs, not sperms. This was sealed, first, by the entity/organism which was formed at conception. At that critical moment, other than being determined to be an organism of a particular species (human organism), her DNA was categorized to be of female type. Thus, in virtue of the overall genetic structure, her sexual orientation had been determined to produce eggs, not sperms.

Let us do a recap of what we have said so far for purposes of clarity. First, we have said that at conception, there is a biological organism which is formed of the *homo sapiens* type. A human organism is distinct from other species, the distinction courtesy of the genetic structure. Since it is an organism of the species *homo sapiens*, let us refer to it simply as a human organism. Important to note is the significance of this terminological distinction. The entity is not a human being; thus, we are not conferring human significance to the organism at this time. Neither are we suggesting there is something remotely in existence along those lines (Quinn, 1984).

Second, we have also intimated on the question about the organism's life span or persistence. This is where we have said that it is implausible to think that an organism of a particular species membership could change and belong to one of a different species other than what was determined by the genetic structure at the time of conception. This is the case of Methuselah and the giant bug. In addition, we have seen that there are restrictions on organisms of the same species membership. This is the case of Ms. X and the swine. In both cases, the biological organism stays the same, it does not change. Methuselah does not become a giant bug. He remains a human being. There is no change of species membership. Likewise, Ms. X cannot alter her sexual reproduction trend from eggs to sperms. For both Methuselah and Ms. X, such unchanging features were fixed at conception. Hence while different changes might occur in the course of embryonic development, "the human organism persists, and continues to develop … through all these changes it will remain one and the same biological organism" (Quinn 1984:27, 30).

If this is correct, then we need to find out if there is a connection between the human organism and human being. The potential person by fertilization argument helps to establish a link between Human organism and human being, a link which comes by virtue of certain essential features that we possess as human beings. A good example is the attribute of mental faculties. Conventional sagacity tells us mental

faculties is perhaps the most distinctive attribute to a human being. But underlying these mental faculties are the mental *capacities* (Quinn 1984) that makes it possible for us to learn and develop the normal cognitive powers:

> … for if we distinguish between the mental faculties that are developed as a normal human infant collects and sorts experiences of himself and the world, that is, the mental faculties that the child or infant comes to have in virtue of the learning he has done, from the underlying mental capacities that make this learning possible, it seems attractive to identify the latter as what is essential (Quinn 1984:33).

Hence, we have these essential features (mental faculties) first and foremost because of other underlying essential features called mental capacities. We possess these things by virtue of being members of a particular species, i.e., human beings. But we become members of the human species by virtue of the core attribute, i.e., the human organism.

How does this impact on Van Inwagen's metaphysical theory as we know it so far? Based on what we know about the theory, Van Inwagen would be hard pressed to deny the force of my reasoning under the genetic structure argument but might be uncomfortable with its implications. Hence, in principle, what I have said so far does not involve me disagreeing with Van Inwagen's metaphysical claims. For instance, suppose that at the time Ms. X is contemplating to abort Y, Van Inwagen is asked the following question: what kind of organism are we contemplating its abortion? I think he will have to say it is a human organism. He may not refer to it as human organism as such, he may say something like, "human cells," but the difference in terminology (not substance) is of no consequence, since I am not ascribing human significance (i.e., of genetic identity) to the embryonic cells at this stage.

How about a second question, one of the possibilities of a change in species membership? If cell division occurs, whether at the first or second stage under van Inwagen's theory, will there be change in

genetic structure, will the "human cells" now belong to a different species? Like the rest of us, I think his response is in the negative. He would say that cell divisions at whatever stage will not alter species membership. He will admit that genetic structure is constant in the first two stages of embryonic development. Hence, in both stages, the cells are human organisms. If the cells are human organisms at the first and second stages, then they are human organisms at the third stage, since for Van Inwagen, life starts at the third stage. Once he admits that the genetic structure is preserved in both stages, he will have to live with the results thereafter. For example, while he will deny that human organism is a human being, a view which is not different from mine, however, it is not clear what he will say concerning whether or not they form some kind of entity. He will have to say the organisms are cells with a certain *type* of identity, meaning, cells of a biological organism of the species *homo sapiens*. Hence, they have an identity determined at fertilization, one of genetic form. And since their genetic structure has been preserved, in a way, their identity as human organism is preserved because this identity is brought about by the unchanging structure. In which case, it would be right to maintain that the same biological organism persists throughout (in the three stages), hence, there is potentiality of personhood that is obtained.

4.1 Potential person by gradualism

In the previous section I argued for the existence of a potential person once fertilization takes place. In this section I hope to arrive at the same conclusion via a different route. Here, I will adopt Quinn's view that embryonic development is a process (1984). Quinn's view is based on an intuitive idea that before a human being comes into existence, a process comes into play, albeit a passive one: "our ordinary concepts recognize and make room for processes in which things come into existence" (1984:36).

Let me make some remarks about this process to help clarify what I have in mind.

First, there is the idea that there is a basic plan of development in place by which human beings gradually come into existence. For example, there is a tendency for things to happen in a certain way, a trend that is both "conceptually unobjectionable and empirically verifiable" (Quinn 1984:27–28). Conceptually, we know what we are referring to, a process that has been initiated after fertilization. While we may disagree on the status of the embryo at different stages of its development, we all acknowledge it is a process, nevertheless. Once there is conception, we all believe a process has been initiated, directed towards a specific end which if not interrupted, will most likely result into the birth of a human being. Here, we could say that the basic plan of development seems to proceed in a fashionable manner or tendency. Each cell division (no matter what stage) leads to another cell division, until in the end, a life is formed (unless of course, interference with the process occurs, e.g., hostile maternal environment, or voluntary abortion, all which have the effects of retarding or ending the development) (Quinn 1984).

Second, "the smooth gradualism of … development is, of course, part of the reason" (Quinn 1984:27–28). This is what we talked about earlier in the human organism case. We saw that no matter what changes the human organism undergoes, there is persistence/continuity; the organism persists throughout the entire process. The gradualism argument is reinforced because this process is empirically verifiable. For example, we can study and monitor the organism's "progress" (Quinn 1984).

We should be clear with the point being made here. We are not saying there is a definite person who, like a house which has been specifically designed and is under construction, is waiting to emerge from the process upon completion. All we are doing is to try to appeal to our basic intuition about what such a process would amount to if the right conditions were to obtain. Hence there is no specific "house" (metaphorically speaking) that we have in mind, nor a potentially identifiable one in the horizon. But if we let nature take its course, it is possible to have a "house" – one with the same genetic form as the

construction material (the embryo). Strictly speaking, we don't have a human being until life is formed, but I think it would be counterintuitive to suggest that there is nothing going on worth talking about.

So how are these two arguments relevant here? That is, how exactly do they address my embryonic cells' potentiality of persons claim? This question is important. This is because many arguments about the potentiality of personhood (like Quinn's) fall into the temptation that to be persuasive, we should try and establish a direct link of genetic identity of the human being to be born with its potential counterpart, the embryo/zygote. Mine is a different approach, so Van Inwagen should not find my potentiality arguments disagreeable. But this does not mean my arguments have lost their force either.

To see what I am trying to say, first, let us consider the concept of "potentiality" and see what it means. What does it mean to say that P has the potential to become a human being? To have the potential is to be in possession of a certain capacity to be something else. So, if P has the potential to become a human being, it means it *can* become a human being, one, if that capacity is actualized, and two, if the conditions of becoming a human being obtains. In other words, the potentiality to become something does not mean that P will automatically become that thing (in this case a human being). Rather, it will be that thing only after its potentiality is actualized, and when the necessary and sufficient ingredients are present. Quinn has said that embryonic cells have the potential to be human being since the potentiality resides in the zygote/embryo, but this does not imply its being a human being (Persson 2003).

Imagine the case of a college student who is hoping for a good career at the end of his college education. He believes that in the end, he can graduate to become a lawyer, nurse, philosopher, pilot, or any other professional as long as he meets the requirements. Once he decides to take philosophy as a major, it means he is limiting his potentiality to become all the other things. Further, he can set up to go to graduate school to start working on his PhD so he could become a philosopher.

That said, he will not become a philosopher, nor any of the other career opportunities by simply enrolling himself into a school. He must meet the requirements to be awarded a degree in order to become a philosopher or any of the other professions. And finally, even after he has met the requirements for the award of a particular degree(s), it is the institution that awards the degree (Persson, 2003).

What am I trying to say here? The power of the student to actualize his potentiality does not reside in him. Such that his becoming something else, i.e., a lawyer, pilot, philosopher, etc., depends first, on what he studies, second, on whether or not he has met the requirements – a decision to be made by his professors; and finally, it has to be decided by the institution that awards the degree. In short, the student has the potential to become different things, but their actualization depends on other external factors (Persson 2003). There is no guarantee the student will become any of these things, this is because "the force that determines which, if any of these things, the student will become is not located inside him, but is external to him, e.g., in the hands of his professors" (Persson 2003:506). The case is different with human organisms. As we saw earlier, given their genetic makeup, "the force that determines that a zygote or a two celled embryo becomes a human being rather than a horse or a donkey is located inside it, in its DNA" (Persson 2003:506). Thus:

> … to say that P has the potentiality to develop into a human being entails that P is in some internal state that "steers" P towards becoming a human being if certain "non-steering" external circumstances are present, e.g., if P obtains nutrition and is exposed to no harmful influences (Persson 2003:506).

It is important to emphasize here that for the case of human organism, the external factors do not determine what kind of thing it becomes in the future, hence are largely non-steering factors. In the end, we can say that while it is correct to maintain that the developing embryo is not a genetically identifiable person, nor is it one that will exist to become a person, still, it is not implausible to believe that as a process,

embryonic development does produce a potential person, once the process is completed (Persson 2003).

There are two objections to my general view that embryonic development yields potential persons. I will answer these questions before I talk about the ethical implications of the potential persons' arguments.

The first objection involves Van Inwagen's twinning argument. From what we saw, Van Inwagen claims that the possibility of twinning is proof that the embryonic cells do not exist, i.e., are not organism. My potentiality of persons' arguments is immune from monozygotic twinning rebuttal. For example, once the genetic structure is laid out, and a biological organism is formed, we have nothing to worry about in the event that twinning occurs. For example, even if twinning should occur, there is no change in the general species membership of the organism, say from *homo sapiens* to another. Besides, if twinning does occur, it won't alter the genetic features of an individual who is a member of a specific species, say changing the genetic feature of a human organism to produce sperms instead of eggs. These are the Methuselah vs. giant bug, and Ms. X vs. swine cases, respectively. When monozygotic twinning occurs, neither of these aspects will change. Unlike for van Inwagen, monozygotic twinning is not injurious to my arguments. Besides, we have seen that there is one entity throughout the embryonic cycle, the human organism. This entity is preserved no matter the remarkable changes in the embryonic cycle.

I will now address the second objection. It goes something like this: since I maintain that fertilization has a huge part in determining the outcome of the abortion debate, it is not clear where we should draw the line between potential and non-potential persons. Such a state of affairs is worrisome, the critic might add. For instance, it could lead to wholesale condemnation of contraceptives and other family planning methods, including abstinence, methods which are popular especially among the conservatives in the society. In the end, if my potentiality of persons' arguments is stretched to their logical conclusions, says the

critic, it has somewhat unwelcome consequences, namely, that any sexual act could be thought to produce a potential person. But I think my potentiality arguments don't have the problem of arbitrariness. The idea that we might end up condemning birth controls and the like is unfounded because, as we all know, not every sexual act results in a conception. From what I have said, as long as fertilization has not occurred, there is no moral challenge we are up against because the genetic structure has not been determined. In the absence of the latter, there is no biological organism, and where the organism is absent, no potential persons of the sort I have argued for could be claimed or imagined to exist.

But I think there is one instance where my theory would be opposed to the use of contraceptives and other birth control methods. So, there is one instance in which the use of contraceptives and other birth controls would amount to interfering with the life of a potential person. Imagine a couple who for their entire productive life cannot regularly generate 'fertile' sperms and eggs. As husband and wife, each has only one parcel of "fertile" sperm and egg respectively that would result into sexual reproduction. I think this is a difficult case to handle. Given their condition, the couple has only one window within which fertilization would occur. In such a case, it makes sense to believe that in a way, the genetic structure of the "organism to be" has been determined. This places serious restrictions on their sexual life. There is a potentially determined human organism that's vulnerable. To secure the organism's right to life, the couple should not use contraceptives or any other birth control method until after the fertilization.

5. The ethical implications of the debate

To consider the ethical implication(s) of Van Inwagen's theory on the abortion debate, and the extent to which they might differ with mine, we could start by asking whether the embryonic cells have any rights of the very sort possessed by human beings.

Let us first be clear about what we mean by rights, especially the rights to life's claim. What is a right? Robert Armstrong (1977) thinks there is a general consensus that the essential feature of right has to do with the fact that in order for one to exercise their right, there is need for non-interference from others. Hence it only makes sense to talk about rights within the framework of certain social constraints, moral and legal in nature, where we seek to protect an individual person's rights from being violated by others/society on the one hand, and seek to restrain the individual from violating others'/society's rights as he goes about exercising his rights, on the other hand (Armstrong 1977). As Armstrong asserts, "a right is a societal concept. Rights only obtain in a community of persons, a social context, and is determined by just those rules that govern permissible activities that may adversely affect the interests of other persons" (1977:13). If this is correct, Armstrong adds, then "we have rights by virtue of our membership in a human community, by virtue of the moral and legal structure of that community" (1977:14). Significant also is that rights come with duties. Where people have rights, we have a corresponding duty not to interfere with their rights. To fail to observe this clause in a way harms the bearers of such rights (Armstrong 1977).

So, what do we make of embryonic cells' right to life claim? Do they have rights to life? A good amount of literature has gone into the discussion of the question whether or not embryonic cells have rights. For example, other than being admitted as members of the human community, there is the expectation that the bearers of such rights should be those with the will to act as well as the ability to engage in constructive interaction with other members of the said community. There are no doubt embryonic cells lack such abilities (Armstrong, 1977). But from what I have said about them so far, we can make use of the potential persons' arguments and make the case that embryonic cells have certain attributes that can qualify them to be considered part of the human community, albeit remotely so. For instance, we saw that a biological organism is formed as soon as fertilization takes place, with a species membership (as human beings), followed by persistence in

the entire process of embryonic growth until when life is formed. In the end it can be said the organism is a 'member' of the human community, having earned its rightful place through the proper channel of species' membership complete with an enduring genetic structure. It therefore has claims to the right to life clause, putting some restrictions on us to not to interfere with and/or cause it harm. If I am right with the potential persons' arguments, then it might be the case that the human organism has certain right to life and should be protected from being harmed by other members of the community. Given the status I have ascribed to the human organism, we have a duty to not to interfere with the gradual process of growth that takes place after the conception.

But someone might object that we cannot have a right to anything, let alone life, if we don't have a desire for it. The right to life goes hand in hand with a corresponding desire to live, says our critic. So, does the human organism have the desire to live? I think there is some merit in the objection. In many standard cases of abortion, the pro-abortionists' view is that the embryonic cells lack the desire to live, meaning that we have grounds to interfere with the life that is in process, if it is life at all. But I think the embryonic cells' desire to live clause can be spelt out differently to achieve the same results.

Let me try and make this argument more precise. I will use Armstrong's (1977) view of what it means for the embryo to have desire for life. For example, it seems that we are genetically hardwired to have certain desires. If someone is out to hurt me, my first instinctive response is to want to defend myself. But what makes this the case? The reason is pretty simple. First, I have an in-built desire to want to continue living. Hurting me puts that desire in jeopardy. Second, I have strong belief, could be innate, that other persons should not interfere or harm my interests in life (Armstrong 1977).

The problem, however, is that the human organism does not have such desires, even though we might say it has the potential, given its species membership. However, I still think there is a way in which it does. Let us consider what we have said about it so far, and the process of its

development. There seem to be a common denominator between the organism in question and a human being: vulnerability. That is, in exactly the same way a human being requires a hospitable environment/community to thrive, for example to go to school/college, get a job, start a business, have a family (all these projects require that his/her right to life be respected, and supported by others). Similarly, a human organism requires a similar environment or much more (i.e., a mother's womb, stimuli, etc.) in order to thrive/develop, and be able to grow from stages 1,2, 3 of the theory as we saw in Van Inwagen's account. When such an environment is not forthcoming, the organism's development process stagnates or ends, the same way it does for a human being. We can thus say that given this vulnerability, the organism can be harmed or benefitted by our actions (Armstrong, 1977). Explicitly stated or not, the organism has certain desires which it acquires by virtue of its species membership and its enduring genetic form. In fact, looking at the aspect of vulnerability of a human being in comparison to that of a human organism, the gap is not even close, thus we could even make the case for a supererogatory duty, not just the positive and negative ones that have been sketched here. Extreme vulnerability means we should go out of our way to cushion and enhance their wellbeing. The highest moral strength or virtue of an individual and society is expressed in their responses to the plight (s) of the weakest and most vulnerable among us.

6. African narratives, theological perspectives and implications

Because of space constrains, what I intend to do here is to perhaps initiate what I hope will be an ongoing discussion around the following key questions: what are some of the African and theological narratives and perspectives on embryonic cells? How would Van Inwagen's metaphysical claims of the unborn sit within theological and African worldview circles? Are there some guidelines or clues that can be gleaned from scripture and/or Judeo-Christian traditions, beliefs, customs and laws that could shed light on the abortion discourse? What

are some of the African cultural practices, beliefs, customs, laws and perspectives regarding the status of the unborn, about pregnancy and life in the womb, on childbearing? Were there special protections accorded women at pregnancy? What were the Judeo-Christian and African traditional beliefs around the subject of children, marriage, and childlessness? What beliefs do Africans and Christians have about God/Supreme Being and life in the womb? What did the great church theologians, fathers, and reformists teach concerning the life of the unborn?

For purposes of style, the discussion in this section flows from the conclusions of the previous section to make its case. More precisely, this section draws from the fundamental question of the previous section, namely, whether embryonic cells have rights (rights to life), and if so, the basis of that right. As we saw in the previous section, we established that embryonic cells have rights, the sorts of rights ascribed to humans. This right was defended on two grounds. One, through the potentiality argument, where we saw that embryonic cells somewhat are part of the human community, courtesy of species membership and enduring genetic structure. Two, on account of their vulnerability, from which the obligation and duty (supererogatory) to protect and promote their wellbeing ensues.

And so, are there justifications, theologically and from the perspective of African narratives, for claiming that embryonic cells have a right to life? Is a fetus part of the human community, within the theological and African narratives? What is the status of the unborn/fetus from the two schools of thought?

We start with the question whether embryonic cells have a right to life. Tertullian, one of the most profound, prolific church fathers, in the *Apology*, had this to say on matters around abortion:

> It is unlawful even to destroy the fetus in the womb while the blood is still forming into a human being. Preventing of birth is premature murder, nor does it alter the question whether one takes away a life already born or destroy one which is in process of formation. This

> also is a human being, which is about to become one; just as every fruit exists already in the seed (Bindley, H.T. 1890:31).

Clement of Alexandria (AD 150–215), in the *Paedagogas*, had this to say on abortion: "But women who resort to some sort of deadly abortion kill not only the embryo but, along within, all human kindness (Klusendort, S 1995). Thus, for Tertullian and Clement, it is clear the unborn/fetus has a right to life. The basis of that right is drawn from at least two grounds. First, because a fetus is a living organism, and the process of 'life' evidently is going on. Thus, unlike Van Inwagen, they maintain that embryonic cells are far from virtual objects merely sticking together. Second, on the grounds of humanity. In fact, for Tertullian, potentiality and humanity of the fetus seem to go hand-in-hand: fetus is fruit and seed at the same time. So, both theologians believe the fetus deserve our protection as they are part of the human community. Dietrich Bonhoeffer also thought the unborn had a right to life: "the destruction of the embryo in the mother's womb is a violation of the right to life which God has bestowed on this nascent life" (Neuhaus, R.J. 2006). Pope John Paul II, in *Evangelium Vitae*, had similar sentiments, "No word has the power to change the reality of things: procured abortion is the deliberate and direct killing, by whatever means it is carried out, of a human being in the initial phase of his/her existence" (Klusendort, S. 1995). The question of when does life begin is settled for Bonhoeffer and Pope John II, as it does for Tertullian and Clement. Life begins at conception plain and simple, and God is the source of that life.

If the unborn/fetus is potential human being thus portrayed, what would we say are our moral obligations as the human community, and why? John Calvin (1509–64), another protestant reformist had an insight why the unborn deserves our protection, drawing from the vulnerability argument:

> The fetus though enclosed in the womb of its mother … it is a most monstrous crime to rob it of the life which it has not yet begun to enjoy. If it seems more horrible to kill a man in his own house than

> in a filed, because a man's house is his place of most secure refuge, it ought securely to be deemed more atrocious to destroy a fetus in the womb before it has come to light (Brown, S. 2009:293).

Calvin raises two big issues touching on theological ethics. Distributive justice means we got to be fair in how we share the assets and burdens of society. One of the assets of society is right to life, and ensuring that this life is protected, even promoted in certain cases. Calvin is here using the language of equity. Acts that lead to not to protect or promote the life of the unborn are monstrous in nature, he says, because they bring about unequitable distribution of the human asset called life. Secondly, he appeals to the argument of vulnerability through the analogy of a house; killing a man in his house is more horrible than killing him in the field he says. The house is man's sanctuary, the safest place one could ever be. By analogy, the womb is the safest place a fetus should ever be. The fetus deserves utmost protection there. Further, expecting the human community to go out of their way to ensure and enhance the wellbeing of the unborn would not be asking for too much. Thus, according to Calvin, supererogatory deeds towards the unborn are actually expected if not required.

The African society as well as the Judeo-Christian tradition celebrates human life, expressed through the gift of children (Klusendort, S. 1995). This idea is mirrored in other religious traditions as well, especially those of the Far East (e.g., Hinduism, Buddhism, and others), where it was known as fertility, with each of the religions having a specific deity ascribed with the office of fertility for the worshippers.

In the Judeo-Christian tradition in particular, children are seen as the highest possible blessing, this according to Psalms 127:3-5, 113:9, Genesis 17: 6. Hence children in the Judeo-Christian tradition are not a nuisance or unwanted (Klusendort, S. 1995). Thus, pregnancy whether expected or not was something to be celebrated, not a source of agony as it is sometimes the case today. According to Psalms 127: 3b: "and the fruit of the womb is his reward." Here scripture refers to conception as 'fruit of the womb' and secondly, as a reward from God. So, if it is a fruit

and reward from God it means it is a treasure, a sign of prosperity and favour from the divine. And of course, a reward means a good thing, especially if it is from God. Life in the womb was therefore a good thing. God's rewards make us better, according to scripture, the blessings of the Lord make us rich and adds no sorrow (Prov 10:22).

In the same vein, a pregnant woman in the African society was treated special. She would be assigned special meals complete with a nurse (who would sometimes translate into a mid-wife at the time of delivery), a practice that was common in the Jewish culture as well. This is why it was a taboo in the African culture for a man to beat his pregnant wife, for the simple reason of the protection of the unborn and as an expression of the treasure in the unborn.

In the Jewish as well as the African culture, the concept of immortality through children/descendants is ingrained in their psyche. Abraham became father of many nations through Isaack, Jacob, Joseph and on and on (Psalms 127:3, Krusendort, S. 1995). In the African setting there is value for children for the same reasons. In fact, one's social status was determined by the number of children. Their heritage or legacy was continued through the children. It therefore goes without saying that there was high premium placed on the unborn 'child' among African societies.

Lastly, both the Judeo-Christian setting and the African society see God/Supreme Being at work in the womb, in the shaping of human life. This is well articulated in Psalms 139:13–16, Isaiah 49: 1, 5, Jeremiah 1: 5 (Klusendort, S. 1995). Martin Luther (1483–1546), the great protestant reformist, saw conception as nothing short of a miracle. In *Luther's Works*, he says, "even if all the world were to combine forces, they could not bring about the conception of a single child in any woman's womb nor cause it to be born; that is wholly the work of God (Pelikan, J., Lehmann, H.T., 1955:333). This means conception was not man's affair, it was divine. In the African traditional context, it showed the gods, other deities (e.g., the ancestors – living dead) were in good terms, even pleased with the family. And so, if God is the one fashioning

the unborn then certainly there is a lot more going on in the womb than the human mind can articulate or comprehend. This is in direct conflict with the view that says that embryonic cells are mere virtual objects.

7. Conclusion

We could end by asking a question that requires a simple intuitive response: does the human organism have the same moral protection (should it be accorded) as a human being? Does it have full right to life? Or, is abortion in the first two stages the same as the killing of a human being/infant? We start with how Van Inwagen's theory would respond. From his theory, since the human organism is neither a human being nor a potential one (the embryonic cells are merely a mass of cells with no moral significance until much later), abortion during the first and second stages pose no serious moral, cultural, even religious concerns. We are not killing a human being at any of the two stages of abortion, not even a potentially identifiable one. The organism has no right to life. I take a different view from Van Inwagen. Intuitively, I think Van Inwagen's theory is right to say that abortion at the first two stages is not morally equivalent to the killing of a human being or infant. I have argued that potentiality does not mean the embryonic cells are human beings. In fact, it does not mean they will *become* human beings. All it means is that it will become a human being if the right conditions obtain. Up to this point, Van Inwagen and I agree. However, from the potentiality of persons' argument, I have shown that the human organism has some claims of right to life which a mere cell does not have. Further, I have shown how the concept of potentiality and the rights to life's argument could be used to enrich the abortion debate as it opens another window to this debate by looking at the theological perspectives as well as African narratives around the life of the unborn/fetus.

That said, however, I also still think that the claim of right to life is different from the one possessed by human beings or even infants – since the organism in question is not a human being, nor is it something that will exist to become one.

In sum, if stretched to a logical conclusion, Van Inwagen's metaphysical claims have serious ethical implications and much more. Intuitively, his view is contrary to what most of us seem to think about embryonic cells, that they have some moral significance. That is, it is counterintuitive to think, as Van Inwagen does, that the embryonic cells are a mere mass of cells, and thus lacking any moral significance. While I maintain that the embryonic cells do not have similar rights or moral status as human beings, my potentiality arguments place embryonic cells in a different category; they belong, though remotely, to the family of the human community. Thus, they have claim of right to life as does human beings. But given their lack of possession of a complete moral status, they do not have claim to *full* right to life, for to maintain that they do would equally be counterintuitive.

The merit of my argument is that it avoids extremists' views that is the rank and file of standard abortion debates. As I have intimated in this discussion, the extreme pro-abortionists take the counterintuitive view that the embryonic cells are a mere mass of cells, and we can do whatever we want with them until much later in the third stage of embryonic development. The extreme antiabortionists, on the other hand, subscribe to the view that the organism, as a potential human being, deserve full rights to life as those conferred on humans. This is equally counterintuitive, as most of us believe the embryonic cells do not have the full moral status of a human being. The position I have taken in this debate falls in neither of these two camps. It is a view that is in tandem with some of our basic moral beliefs, cultural norms, and religious perspectives.

Bibliography

Armstrong, R. 1977. The Right to Life. *Journal of Social Philosophy*, 8(1):13–19.

Bindley, H.T. 1890. *The Apology of Tertullian*. Oxford, UK: Parker and Co.

Brown, S. 2009. *Family Reformation: The Legacy of Scola Scriptura in Calvin's Geneva*. North Carolina, NC: Merchant Adventurers, Inc.

Fraser, A.C. (ed.). 1894. *An Essay Concerning Human Understanding*, 2 vols. Book 2, Vol. 1. Oxford, UK: Oxford University Press.

Klusendort, S. 1995. Answering the Theological Case for Abortion Rights. [Online]. Available: https://www.inplainsite.org/html/abortion_and_theology.html [Accessed: 17 September 2020].

Pelikan, J., Lehmann, H.T. (eds.) 1955. *Luther's Works: Reformation Writings and Occasional Pieces*. Concordia.

Persson, I. 2003. Two Claims About Potential Human Beings. *Bioethics*, 17:(5–6):503–517.

Quinn, W. 1984. Abortion, Identity and Loss. *Philosophy and Public Affairs*, 13(1):24–54.

Neuhaus, R.J. 2006. "Bonhoeffer Today." *First Things: A Monthly Journal of Religion and Public Life,* (167):68.

Van Inwagen, P. 1990. *Material Beings.* New York, NY: Cornell University Press.

Warner, R. 1974. Abortion: The Ontological and Moral Status of the Unborn. *Social Theory and Practice,* 3(2):201–222.