This paper will examine the moral status of the human embryo especially focusing on the current issue of dismembering them to obtain embryonic stem (ES) cells. ES cells are pluripotent, apparently able to make any cell except placental cells and are also immortal. These ES cells have been used to establish some estimated sixty stem cell lines. The hope is that ES cells will be capable of curing many diseases in other individuals. However, the process of removing ES cells ends the life of the embryo. Concerns are that human embryos are human life and are individual persons even though they have not been allowed to develop.

Lewis Thomas, the thoughtful physician and gifted essayist, wrote, “I was at one time, at my outset, a single cell. I have no memory of this stage of my life, but I know it to be so because everyone says so. ...I know that I began dividing. I have probably never worked so hard, and never again with such skill and certainty. At a certain stage, very young, a matter of hours of youth, I sorted myself out and became a system of cells, each labeled for what it was to become - brain cells, limbs, liver, the lot - all of them signaling to each other, calculating their territories, laying me out...If it had been left to me to do the mapping of my cells I would have got it wrong....”

Thomas had it right. It is amazing to think about what we have been through. Embryologists have said that the paradigm in development is that all cells are equal and that position is what determines their fate. Cells interact by producing various growth factors and modifying their local environments. The cells influence each other and commit to particular developmental pathways by turning off different parts of their DNA. Some cells become support cells forming the placenta and its accessories, and others are the embryo itself, the ES cells. Many die and disappear according to programming as development continues. The cells move to new locations. A complicated process, not fully understood by any measure: fearfully and wonderfully we are made (Psalm 139: 14).

The embryo has the cells of interest. When scientists take them apart, the ES cells (the inner mass cells) are no longer totipotent, that is, are capable of being implanted in the womb. But they are still pluripotent; they are capable of producing any of the 220 cell types of the body. This is their value to scientists.

Are these free for the taking? What is the status of the embryo at several days old? Is the embryo alive?

Yes, from its beginning the embryo is cellular. It does cell division (asexual reproduction). It does metabolism. The cells are interacting. No one questions this. It is alive; it is becoming what it will be. Taking it apart kills the organism. Any remaining cells will not become a human.

Is the embryo human? Perhaps one could catch the embryo before it reaches a stage of being judged human and then take the ES cells without any concern. According to Ernst Haeckel (1834-1919), the human embryo was genetically compelled to briefly repeat the entire process of its evolutionary history. “Ontogeny recapitulates phylogeny” was his bold catch phase. He meant that development reveals the evolutionary history of the organism. He believed that the embryo moved from a single cell through various animal stages until it reached a level that was distinctly human. Haeckel supported his hypothesis with drawings showing the similarities among various embryos and fetuses. These drawings took many liberties to make their point. Amazingly, Haeckel’s drawings appear without any cautions to the reader in the current edition of Molecular Biology of the Cell, a standard reference for today’s biology students.

The actual observation of human development does not support Haeckel’s theory. Rather, observations of human development done from 1930 to 1972 revealed a homogeneous, continuous process without such stages. Human development is uninterrupted. Even a strong defender of macroevolution such as John A. Moore admits that Haeckel’s hypothesis is “not quite” and only “sometimes” in line with what he predicts. Haeckel’s drawings are wishful exaggerations. Harvard professor Stephen Jay Gould has less time for it and bluntly states that even “(by) the end of the 1920s... the theory of recapitulation had utterly collapsed.” There is...
not a break or an event at which one can say, now it is human; before this point, it was not.

Nevertheless, some try to impose events and hold that the individual needs to qualify at some point in development to be a human person. Bioethicist Peter Singer, who has been a leader in proposing animal rights, managed a respectful reception earlier this month as he told advocates for the disabled that it is morally acceptable to kill severely disabled newborns. The Governor's Commission on Disability in New Hampshire was harshly criticized for inviting Singer to the conference because of that stance, first enunciated in a 1979 book.\(^7\)

If humans need to meet some standard set by mankind, we will be in deeper trouble. Who will set the standard? Humans do not have a good track record here.

There are other ideas for applying a natural qualifying standard. Some say that such a time might be when the organism’s immune system is able to distinguish between self and non-self. However, then one could suppose that if a person’s immune system failed, such as in acquired immune deficiency syndrome (AIDS) or even in an autoimmune response like rheumatoid arthritis, that individual would also suffer loss of humanity.

Others say that when the child is independent of the mother, then it is first to be regarded as a human. At birth when the umbilical cord is cut is the beginning of its human life. But before the child is born, it already knows its mother’s voice. The child can recognize and respond to music that it first heard while inside the womb. If it were born earlier than expected, it could survive. Then is it a human sooner? The parents, knowing better, even often nickname the child before it is born.

Some propose that because the loss of brain activity, as measured by an electroencephalogram (EEG) pattern, is used to determine death, it could be used to determine human life. The EEG pattern usually first occurs in development at about 27 weeks. But in cases that look at the beginning and the end of life, our expectations are different based on our experience. We expect the child to increase in brain activity, we expect that brain activity may not return in the adult who has lived a long life or has been injured. Do expectations count for nothing? Even at death we hesitate and wait; we ask for another opinion. The EEG is only one of several factors that are considered. We are rightfully fearful of making a wrong decision. Some say that personhood should start when the child could survive separately from its maternal environment, when the lungs mature, or with technological advances at about 25 weeks from conception. This is the view operating in many states, which makes abortion illegal beyond this point illegal.

If we think about this, we might justify saying that children and even teenagers are not human yet, because they cannot survive by themselves. Others might be said to lose their humanity because they require care and life support at a point in their lives.

Seeing that twinning can occur as late as day twelve after conception and such identical twinning will produce two individuals with different lives, this could be proposed as a post-embryonic stage where the single individual person is not yet fixed. Perhaps God waits until this point to add the soul or souls (as required) some say.

But this binds God to nature’s laws. God is not controlled by creation; God controls Creation. Furthermore, we have no knowledge that supports this.

Some say the new individual is created at fertilization. This is when the genes from the two parents combine to form an individual with unique properties.

How unique is that individual? There are 23 pairs of chromosomes in humans. When a sex cell is formed, the parent selects one from each pair of chromosomes. If one calculates the permutations possible when 23 such choices from one parent are combined with 23 selected chromosomes from another parent, the new organism formed represents one out of 70,000,000,000,000,000 possible children that the parents could have had.\(^9\) This calculation is conservative in that it does not include the chance of crossover of chromosomes or mutation of genetic material. There have not been seventy trillion people on the planet yet. Each conception is unique. Furthermore, we are not merely the product of our genes, but also of our environment, even the material environment of the womb, plays a huge role in our development.\(^10\) A unique organism with a genome for its species, which is interacting with his/her environment, would seem to be a person.

However, facts do not speak for themselves; scientists do not agree on what the facts mean. Our science makes this distinction difficult. Furthermore, C. S. Lewis warns that traditional values are being ‘debunked’ and mankind is being cut out into some new shape at arbitrary will because it is believed and is being promoted that there are no absolutes.\(^11\) If I value the zygote or the embryo, that is viewed as being only a personal view among many interpretations.
Now hear the Scriptures. Psalm 119:73: “Your hands made me and formed me, give me understanding to learn your commands.” Job 10:8: “Your hands shaped me and made me. Will you now turn and destroy me? Remember that you molded me like clay...Did you not pour me out like milk and curdle me like cheese...and knit me together...? Ps 100:3: “Know that the Lord is God. It is he who made us, and we are his.” Ps 138:8: “The Lord will fulfill his purpose for me...do not abandon the works of your hands.” Ps 139:13-16 “For you created my inmost being; you knit me together in mother’s womb. I praise you because I am fearfully and wonderfully made; your works are wonderful. I know that full well. My frame was not hidden from you when I was made in the secret place. When I was woven together in the depths of the earth, your eyes saw my unformed body. All the days ordained for me were written in your book before one of them came to be.” Jeremiah 1:5: Before I formed you in the womb I knew you, Before you were born I set you apart.

We are woven together according to Scripture. God knows us before we are formed. All our days are planned before the first one occurs. God is the artist. Our conception is part of the continuing creation-preservation of this world. He is guiding the DNA; He is guiding the cells. He orders and it happens. He produces the individual that He wills to have for this time and place in history. Every individual is precious...immortal...bought with a price. If He would withdraw, all would cease to exist.

To the contrary, the Devil is in the business of attacking the whole creation. He is jealous of the Creator, who is a God of order, truth and light. In rebellion the Devil rejoices in every case of chaos. He smiles at terror, at destruction, at pollution, at cancer, at abortion, at lies, at tearing apart what God would weave together.

What kind of people will we be? Those that worshiped Baal sometimes used child sacrifice. The science behind it was apparently that the life that was sacrificed behind it was apparently that the life that was sacrificed would bring life to the soil and increase the harvest. We realize that the Bible cannot speak in modern scientific terms. To use the term embryo or even the concept before its discovery would be meaningless and confusing. We also understand life as being a combination of activities in a different way that does not focus only on circulation of blood. Yet God still speaks and guides us in principle as Noah enters a new world: “But you must not eat meat that has its lifeblood still in it. And for your lifeblood I will surely demand an accounting. I will demand an accounting from every animal. And from each man, too, I will demand an accounting for the life of his fellow man.

Whoever shed the blood of man, by man shall his blood be shed for in the image of God had God made man (Genesis 9:4-6)."

The defense from many is that the frozen embryos are not yet human beings. William Dembski notes that for two hundred years materialist philosophers have argued that a human is some sort of machine. It should not surprise us then that embryos may be viewed as a source of spare parts for other machines. But machines do not have the possibility of changing and becoming. Machines do not become concerned about their Maker. Martin Galstad emphasized that through our whole lives it is God’s will that we should change and become that which we will be in heaven. This is also found in Luther who wrote, “This life is not righteousness, but growth in righteousness; not health, but healing, not being, but becoming; not rest, but exercise; we are not yet what we shall be, but we are growing toward it; the process is not yet finished, but it is going on; this is not the end, but it is the road; all does not gleam with glory, but all is being purified.”

We spend our whole lives growing and changing physically and spiritually. We do have purpose. Science does not see purpose in life; Scripture teaches us that. The embryo may not yet concern itself with knowledge of its Creator, but it will.

Then there are those who say that the frozen embryos might well be human and alive, but their current hopeless situation can be used to rationalize their use. After all they are “leftovers” or “surplus” from in vitro fertilization procedures. Frozen and stored they have little chance of ever being implanted and allowed to develop. We find ourselves not really knowing what to do with them. The best analogy to this situation that I have heard is that of prisoners serving life-long terms. Would we kill such prisoners and take their body parts?

Yet the possibility of many cures for diseases is usually linked with thoughts of the greater good of society. But the actual greater good may be more abstract. If we devalue our beginnings, we will change our perception of the value of life in general.

Immanuel Kant’s ethics serve us better. Kant, the Lutheran Pietist, tells us to make only those rules that you can apply to all people. In other words, a rule should apply to all, not just some others; it should be universal. Would we have been somehow willing to have our embryo’s existence ended for parts? Secondly, he holds that we should act in such a way that humanity is never treated as a means, but only as an end in itself. He establishes the value of each individual. He urges us not to use each other for gain.
We are fearfully and wonderfully made. As a science teacher the “wonderfully” is not difficult to see. It is the “fearfully” part that we need to recognize. If God is real, and He creates, should we unweave what He is weaving? If others have already taken embryos apart, should we then join in using the parts? I will grant that there is mystery here, and that should make us pause. We are right to be fearful, and it is better to err in the direction of guarding embryonic life.

C. S. Lewis wrote a wonderful book, The Abolition of Man, in which he scores mankind for questioning if there are any absolutes or any universal values: “Having mastered our environment, let us now master ourselves and choose our own destiny.... The regenerate science which I have in mind would not do even to minerals and vegetables what modern science threatens to do to man himself,” he states. Modern science can as it explains, explain things away. Humans become parts and pieces of a machine. Reductionism fails to find the soul. Mankind’s effort to understand and control his being and his fate, ends up in losing himself.

It was Christ who left heaven and did not fear to become an embryo to become one of us. Or do we think he skipped that stage? It is Christ, as God-man, on the cross who stretches across from embryo to heaven connecting us from what we were to what we will someday be. Here is the value of the human embryo. Here we are rightly fearful.

Footnotes


4Hilgers, Thomas W. et al. New Perspectives on Human Abortion. Frederick, Maryland: University Publications of America, 1981, p 7. The bulk of the study of the embryonic development was done at the Anatomical Institute of the University of Göttingen, in Germany.


9The calculations can be done as follows. Permutations = [kinds] / [number in set] number of sex cells involved


10Lewontin, R. C. Biology As Ideology: The Doctrine of DNA. New York: Harper, 1992 p. 63. Lewontin, a leading geneticist at Harvard, strongly attacks the idea that we are DNA-controlled robots. DNA is important but so is our environment. Human nature is richer than reductionism indicates.


14Some have proposed that the embryos be put up for adoption.


Comments and reactions to this article may be addressed to Dr. Boehlke via the editor.