

Does a Clone have a Soul?

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As a person who is first and foremost a Christian, yet secondarily a physician (semi-retired), I am deeply concerned, and have mixed emotions, regarding most of the current issues surrounding stem cell research. While I have no concern what so-ever about the ethics of utilizing stem cells extracted from cord blood as a source for such investigations, or in using one's own adult stem cells (I.e. stimulated from one's own bone marrow) for a similar purpose, I am definitely opposed to the use of embryo's which have been produced (via invitro fertilization) for that or any other research project. I view the use of embryos in the same way that I view abortion; it is the taking of one life for the advantage or convenience of another.

We all began as a stem cell, with one half of our genes deriving from our mother's ovum (egg) and one half from our father's sperm. Immediately after fertilization of an ovum by a sperm the resultant stem cell began to divide into two stem cells and then again into four, then eight, etc. Ultimately the blastocyst stage was reached at which point there were thousands of pluripotential stem cells, a uniform group of homogeneous cells which began to differentiate (by some miraculous but as yet little understood mechanism). They would take on characteristics of mesoderm, from which our connective tissues (muscles and bone) and circulatory system derive, endoderm, from which our digestive organs originate, and ectoderm from which the skin and nervous system take root. It is at that stage that embryos then begin to produce virtually every organ and organ system in what will combine to eventually become fully developed and functional human bodies.

When using one's own stem cells to ultimately produce organs for transplanation (this is the ultimate goal), one will be performing an autograft; "auto" meaning self. That is the tissues being placed in the body of that person whose organ is in need of replacement are of the exact

genetic code as that of the recipient. It is a "self" graft and the immune system, having recognized it as such, will not set processes in motion to reject it. This is the ideal scenario because anti-rejection drugs will not be necessary.

On the other hand, when using stem cells extracted from cord blood, while useful for research in which no ultimate graft is produced, the same rejection issues arise as when one receives an organ from another human. Such a transplanted organ (kidney, heart, liver or pancreas) is called an allograft; "allo" meaning other. A person receiving that type of graft is doomed to a life of various anti-rejection therapies, which are not only expensive, but fraught with numerous unpleasant side effects.

I have long been uncomfortable with in vitro fertilization. This science became necessary, in part, because we have been aborting 1.5 million babies annually that could have been placed up for adoption by barren couples. The purpose of that science is to produce an embryo that will survive in the womb of a woman whose marriage has been barren. For one reason or another, she and her husband have been unable to conceive a child. Thus the woman is given a fertility drug which causes her ovaries to produce many eggs at one time. Those ova are then captured via a laparoscopic procedure and are then placed in a nutrient solution along with some of her husband's sperm. The result is the production of numerous embryos, one of which is selected for implantation in her womb. If the first attempt at implantation fails another "spare" embryo is then placed in the womb. The process continues until the woman is found to be successfully pregnant. The first successful "test-tube" baby was accomplished in the 1970s and that person has since given birth to her own natural child. My main concern and discomfort has been regarding those "left over" embryos that are not utilized in the process. The standard procedure is for them to be frozen. At last count, the in vitro fertilization laboratories in our country alone have over 400,000 of these embryonic humans frozen in a state of suspended animation. As a believer I am fully convinced that each one of those humans is possessed of a God-given soul. (Ecclesiastes 12:7) Thus to use the science of in vitro fertilization for the expressed purpose of producing stem cells for organ transplantation is nothing short of murder.

Furthermore, one is still back to the problem of the allograft, the probability of rejection and the use of anti-rejection therapy.

We have long known that the only allograft that can be successfully utilized in organ donation is that which comes from an identical twin. The genetic blueprints for those two individuals are indistinguishable. Notice that I called them "individuals." If they are identical in respect to their DNA, the genetic blueprint for each and every feature and function in their separate bodies, what is it that makes them "individual?" The answer for the skeptic or naturalist is determinism, for the Christian it is the soul. The soul is what makes us God-like. When He created us in His image, it was the soul which was cast in His likeness, not the body. None of the three Persons comprising our triune God (who is One in essence), at that point in time (creation), possessed a body, for God is Spirit. The only exception now is Jesus who 2000 years ago became incarnate, was crucified, buried, resurrected, ascended back to Heaven and now sits at God the Father's right hand in a glorified body. The soul of each human is what distinguishes us from the animal world. While many of our body parts are similar (thus fueling the notion of evolution), they are as such because they serve similar functional, physiological and biochemical purposes. Cog wheels in grist mills and watches are also similar in appearance because they serve similar purposes but no one presupposes a common origin. The difference between humans and lower forms of life resides in the soul; the image of God, the seat of intellect, emotion, personality and will.

God is omniscient and we are intelligent, to one degree or another. God expresses emotion as do we. God is personal and thus we persons can communicate with Him on a personal and spiritual level if Christ has opened the door to that personal relationship with the Father. The key to opening that door of communication is of course faith, which comes by the grace of God. God has a perfect will and He has given us a free will to do whatever pleases us, and whatever we are capable of, at any particular moment in time. The difference is that our wills are far from perfect.

Another God-like quality in our souls is that of creativity. Our Creator has endowed every human with this attribute; some like Jefferson and Edison,

Irving Berlin and Chopin, Van Gogh and Norman Rockwell were highly creative. Finally, like God who is eternally existent, our souls will never die, they go on forever. When Hamlet, contemplating suicide, asked his infamous question "To be or not to be. . .?", he had posited the wrong one. The question is not whether to be, but rather where to be. There are only two options; heaven through faith in Christ or hell for those who reject His offer of eternal life. Once we become, we will always be. That is the problem that plagues this Christian physician when it comes to the entire issue of stem cell research.

My question (which may seem unanswerable) is this; "Does a clone have a soul?" Before the reader answers that question, consider these things. First, the way in which a clone is made, then the significance of a soul, next the two separate purposes of clones and finally the real value of cloned tissues.

To make a clone one takes the ovum (egg) from a female donor and extracts the nucleus (all of the DNA information which made her unique). Then one takes the nucleus from the cell of a person one wants to clone and places it in the ovum; that nucleus contains a full compliment of the DNA which made that person unique. The resultant fertilized ovum is then placed a nutrient solution where it is stimulated to begin a process of cell division (replication). The clone has thus been "conceived" so to speak. At this point in normal fertilization (one sperm and one ovum) God gives the newly formed, embryonic human a soul. Does God do that in this case? Read on.

If the clone has a soul, it is not the same soul of that person who is being cloned. God gives only one soul per customer, the Bible makes that quite clear in several places. If then He chooses to give the clone a soul, it will not really be a clone, but rather an identical twin. It will be every much as separate a person as one identical twin is from the other. As such, it should have individual rights; but that is another issue, pregnant (no pun intended) with many legal problems.

Science sees two purposes, or potentials for clones. One is procreative (reproductive) and the other non-procreative (therapeutic). In the first case the clone, having reached a certain stage in development is transferred to a

surrogate's womb. There, theoretically (as yet this has not been attempted) it will develop into a baby that will ultimately grow to look exactly like the one from whom its DNA component has derived.

If that baby has been gifted with a soul, it will in essence merely be the identical twin of the person from whom it derived its genetic blueprint. On the other hand if God has not placed His stamp of approval on this process, that cloned body will not have a soul and will be little more than an animal. There will be no intellect, emotion, personality or will. It will neither be creative nor productive in any way shape or form. It will be little more than a organ donor for the person from whom it was cloned.

Fortunately, at this point in time pro-creative cloning is not on the agenda. However, given the proclivity of the human race to be inclined to all manner of evil (Genesis 8:21), the fact that many scientists are naturalists who do not even believe in the existence of a soul and based on the precedent set by the Nazi physicians during the Third Reich's rein in Germany, it is only a matter of time before such grotesque creatures are cloned.

That brings us to non-procreative (therapeutic) cloning. In this case the development of the clone is arrested at the blastocyst stage; a point at which multiple stem cells have begun to differentiate. It is at this point that the clone's stem cells are most profitable for organ development. A stem cell from the endoderm could produce a new liver. One from the mesoderm a new heart and one from the neurectoderm a new spinal cord. The possibilities are limitless. The only agonizing question for me, as a Christian who deplores the act of murdering another human and yet at the same time as a physician who longs to see paraplegics walk again, lies in whether or not that cloned embryo has a soul.

At this point there is only one way to know that, and I hesitate to even suggest it. However, if one were to clone a human and implant that clone in a womb allowing an entire human organism to develop, one would surely know for certain whether or not God had graciously granted that creature a soul. If the clone could eventually speak, emote, and learn, as any normal child can, one could then be sure that God had endowed that identical twin

with a separate soul. If not, one would be safe in proceeding with the non-procreative production of clones for the harvesting of their stem cells. One would be dealing with animals, not humans, and the only protest would come from PETA (People for the Ethical Treatment of Animals).

This is a matter for Christ committed, evangelical scientists and theologians to delve into and seriously debate. It is one that the church should not shy away from, as it is already a topic of frequent discussions in the medical and other scientific literature. We need to face the eventuality of humans being cloned and we need to be proactive rather than reactive in this inevitable reality.