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# Evolution and the Embryo: The Evidence for Special Creation

by

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## Part I – Evolution and the Embryo

July 1, 2008 will mark the 150th anniversary of the reading of the “Tendency of Species to Form Varieties, and the Perfection of Varieties and Species by Natural Means of Selection”, a paper by Charles Darwin and Alfred Russell Wallace before the Linnaean Society, London. The reading was prophetic; it announced the elements of a theory of evolution.

Darwin wanted to present a theory of evolution, which he did in his book *The Origin of Species* in 1859, hoping to promote fitness and selection with the understanding that these were discussed, as he said, metaphorically. “All results follow from the struggle for life. Owing to this, variations, however slight, if they be in any degree profitable to individuals will tend to their preservation and will generally be inherited. I call this principle by which each slight variation, if useful, is preserved by the term natural selection, but survival of the fittest is more accurate. . . I should premise that I use this term in a large and metaphorical sense.”<sup>1</sup>

Darwin realized that it would be difficult to convey the specific meaning of selection and fitness. “In order to make clear how, as I believe, natural selection acts, I beg permission to give one or two imaginary examples,”<sup>2</sup> which he did by citing the obvious, survival of the strongest among predators, and adaptation among plants. Darwin noted the difficulty here and answered, again, metaphorically “Some have objected that the term selection implies conscious choice in the animals which become modified... In the literal sense of the word, no doubt, natural selection is a false term... everyone knows what is meant and implied by such metaphorical expression... I mean by nature only the aggregate action and product of many laws, and by laws the sequence of events as ascertained by us.”<sup>3</sup>

What kind of a process is selection? How does it work? Darwin compared it to "affinities" by which different elements combine. But those combinations are fixed; each time the particular elements are mixed, a specific and predictable compound is made. On the other hand, no one can predict what the putative force called natural selection will bring. Its work can only be judged after the event. How do we get to man then?

What mechanism, what action in nature over countless millennia gave rise to human life? Darwin's answer was "a mechanical operation similar to what men do in stock breeding"<sup>4</sup> – without the men. Darwin continued, saying that by this operation, selection, new varieties evolved "varieties, not yet new species, but species in the process of formation or, as I have called them, incipient species"<sup>5</sup> ... "mere chance, as we may call it, might cause one variety to differ in some character from its parents in greater degree." But this no more harmed the theory than did his argument introducing sexual selection which proceeds by the fine instincts of females who mate only with the best males so that quality breeding promotes a better species which, presumably, then promotes transformation into a new and higher species.

And so it all goes back to Darwin's original idea, "It may metaphorically be said that natural selection is day and hour scrutinizing, throughout the world, the slightest variation... silently and insensibly working whenever opportunity offers at the improvement of each organ's being"<sup>6</sup>, that is teleological biology, by design and not by chance, for, as he wrote "man selects only for his own good, nature only for that of the being which she tends"<sup>7</sup> Teleology, the "science of ends" the law of purpose and the goal of change and "motion" is inescapable here. Richard Dawkins wrote that "the world becomes full of organisms that have what it takes to become ancestors. That, in a sentence, is Darwinism."<sup>8</sup> Gary Marcus, in a recent book on the genetical evolution of the human mind, states the teleological "law" even though he denies its imperative, "what propels an embryo from one stage to the next, makes one species different from another – is not a blueprint but rather an enormous autonomous library of the instructions combined within its genome."<sup>9</sup>

The genes are an instruction carried out by the embryo propelled by its own entelechia (i.v.) within a species. We can look ahead, then, to the embryo as the key because it is the plan with its informational genome, keeping in mind that the genomic DNA is unable to program the information or imprint the message unless the continuum of human life is already in place. The embryo encloses the irrefutable principles of form, telos, and entelechia, in unqualified individuation and irreducible speciation from the fossil record to the genetic code.

Long-standing debate over aspects of the fossil record has moved

some evolutionists from fossil studies to primate studies, emphasizing psychological links between man and ape and "speaking chimps." Others incorporate the psychological data (ape "language", "emotions" and "social life") with the fossil data to support evolutionary theory from functional and structural perspectives. These scientists have had little hesitation in offering chimp language as a "functional" missing link. There should be little surprise that chimps can communicate, all living things communicate through instinct and association. But there is an absolutely qualitative and unbridgeable difference between animal communication, signing, and association etc. and human language. The human skill is no single or simple skill; it represents the totality and complexity of man's consciousness. Only human communication can transcend the immediate and cross time. Only human language is expositional, allegorical, metaphorical and anagogical. Logos is word and thought.

Research in which chimps supposedly develop a vocabulary that they can retrieve on computers describe a skill, no doubt, but it is a learned skill absolutely dependent on the human factor. A chimp may make a particular sign, punch out a specific word or repeat a sound that has been previously matched to the object, but it is the passive recipient of all of the data and structure in the experiment. Men introduce the sign and conceptualize the logo. The chimp is taught to connect the two, but the chimp only connects, it does not turn to teach its mates nor does it build a structure or syntax beyond the elements presented. There is no spontaneous development of logos, the chimp neither abstracts nor conceptualizes. Conceptualization is on a far different order making our language/thought the specifically and uniquely human experience it is.

The identification of the genetic code and the development of new technologies which can manipulate genetic material is the basis for the molecular scientists' claim that they have solved the problems inherent in older evolutionary theory. They readily admit that selection and fitness were elusive concepts and that paleontology was not going to reveal them. They argue that the effects of molecular evolution are not to be sought in individual organisms but in large populations successfully meeting the mutation pressure by "differential reproduction." Fitness is conferred by higher "net reproduction rates" having less to do with the numbers of surviving offspring and more with the chances of begetting offspring which yield offspring who survive.

One exponent of molecular evolution notes that

It is not the lineages of descent but whole animal populations that undergo evolution. The population that was deemed to undergo evolution could best be thought of as a population of fundamental replicating units of genes rather than a population of individual

animals or cells. Natural selection can now be measured in terms of the net reproductive advantage of the replication unit that prevails over competitors or alternatives.<sup>10</sup>

The fossil record was the wrong place to look for evolution, its real locus is the genes and the mechanisms are molecular, "in evolutionary theory there is no proof of evolution as crushingly decisive as pictures proving the earth is round. The reasons that have led professionals to accept (evolution) are in the main too subtle to be grasped by laymen."<sup>11</sup>

Selection may work through mutation pressure at the molecular level, well and good, but how? You recognize that in the "survival of the fittest" concept fitness occupies all the terms of the syllogism. Sure, one can say the best survive and that the best are identified by their survival but all the head scratching in the world isn't going to demystify that phrase. Likewise, the high degree of genetic and molecular similarity (not identity) among primates and man could be argued as a single template for life, the basic molecular architecture of living things set by design and having no basis in evolutionary ascent.

There are other questions. Where are new kinds of life appearing? All we see are intraspecies accommodations to the environ; bacteria which develop resistance to antibiotics, for instance, or aquatic life that tolerates ever increasing levels of toxins. These are adaptations, clearly, but they are not new life forms. And how about adaptation? Doesn't the term imply adaptability, and isn't adaptability a capacity which inheres in living things "prior to" the environment?

This is an important point. Evolutionary theory, at bottom, is a theory about survival. On the other hand, if evolution really describes the natural world then it is a world of evolutionary excess. The appearance of man is an explosion right in the middle of a natural order ordered to survival. What place does human consciousness have in such an order if consciousness confers a radical surfeit of fitness and takes control of the whole enterprise? Human consciousness vanquishes evolution, it banishes gradualism, fitness and selection in biology because it is of a different order than biology.

Evolution through gradualism remains the scientific explanation for the appearance of man but within the scientific community there is one area of debate which poses an interesting challenge to Darwinian gradualism and is, in fact, a reformulation of the old theories of sudden, catastrophic changes that were popular before the work of Lyell and Darwin. Evolution by cataclysm (catastrophism) is a notion advanced by a psychiatrist, Immanuel Velikovsky. Velikovsky believed that catastrophism may have been an important factor in changes in nature, and one which would explain some of the inconsistencies in Darwinian gradualism. Velikovsky's evolution suggests that natural disasters, floods, fires,

mammoth storms, etc. may have followed upon celestial events i.e. comets, meteors etc., bringing a radical and sudden reordering of the ensemble of life as well as affecting the psychic experiences of peoples who lived through them. Obviously, by suggesting the psychic impact of catastrophism Velikovsky conveyed a view about the archeology of psychic life and the psychic impressions which transform mind similar to those discussed by Freud and Jung.

There is another formulation of the theory of evolution which is singularly unique. It was put forth by a paleontologist, Pierre Teilhard DeChardin, who was also a Jesuit priest. It is the only formulation which deals with the radical explosion of consciousness onto the process of evolution, and it invests evolution with a profound teleology. Chardin's evolution is developed in harmony with the essential principles of Christianity. Chardin accepts the idea of evolution as a scientist but sees it as a process in the direction of spirit and God. Consciousness, in his theory, is evolving toward a state of collective perfection in a meeting with the spirit, a spiritual impetus to increasing harmony and perfectibility, a realm of collective psychism called the "noosphere", the evolutionary movement of mankind toward Christ.

Chardin's is the first internally consistent Christian cosmology developed in harmony with the scientific world view of natural biological evolution. Central to Chardin's conception of the whole enterprise of "cosmogensis" is the idea of vitalized matter which is inherently impelled toward consciousness in two directions, exteriorization (assimilation) and interiorization (psychism) in concert with a cosmos that is both evolving and involuting on itself.

Evolution, in any case, demands material monism, the transformation of matter into life, and the aggregation of matter from primeval elements. Some speak of phase transitions as the mechanism for this, a term meant to explain an abrupt change in the character or form of matter itself. Professor Freeman Dyson invokes this principle as a good monist.

The transition from dead to living was a phase transition of a new type. It was a transition from disorder to order (with) the ability to perpetuate itself after the conditions that caused it to appear had changed. There are many theories of the origin of life, and there is no direct evidence to decide which theory is true. All that we know for sure is that a completed mixture of organic chemicals made the transition (to) grow and reproduce itself and feed on the surroundings... to mutate and evolve into a million different species.<sup>12</sup>

We know nothing of the truth of this, it is a grand hypothesis, actually it is a grand speculation which demands great leaps of faith along

the steps from chemical elements to complex life. The putative steps are said to go like this: DNA, or RNA, formed out of dead matter which, of course, does not contain DNA or RNA. Nonetheless, out of this dead matter the DNA-RNA then began to configure itself into various amino acids. These building blocks of life then came together in various combinations to form proteins. The proteins then built the scaffold of all living things. One scientist offered a formulation built on RNA rather than DNA, RNA being the newest "first cause."

pre-biotic RNA had two properties not evident today, a capacity to replicate without the help of proteins, and an ability to catalyze every step of protein synthesis...there are a few reasons why we favored RNA over DNA as the originator of the genetic system. One consideration was that ribonucleotides in RNA are more readily synthesized than are the deoxyribonucleotides in DNA.<sup>13</sup>

Professor Orgel goes on to describe experiments where an artificial environment presumed to be very similar to the earth's primitive atmosphere was "created" in the laboratory. Methane, ammonia, water, and hydrogen were pumped above an "ocean" of water, and then subjected the gases to lightning in the form of a continuous electrical discharge. The experimenters found that amino acids were formed, claiming this was proof "that the amino acids needed for the construction of proteins, and for life itself would have been abundant on the primitive planet."

Professor Gunter Wächtershäuser actually takes it back one step, even before RNA or DNA. He postulates that life started as a spontaneous chemical reaction in minerals, "the cycle acquired a cover of protective chemicals to separate its own reactions. When the cover... enveloped the cycle and broke free of its mineral surface, the first cell was born."<sup>14</sup>

Professor Orgel's theory is more seductive simply by invoking RNA as a dual purpose chemical, acting anciently both as an enzyme, a chemical catalyst, and a genetic information molecule. Could life really spring forth from matter by spontaneous generation? The observation of Richard Lewontin, the Harvard geneticist, answers the "sponsors" of RNA-DNA spontaneous generation of life.

"DNA is a dead molecule, one of the least chemically active of the living world. DNA does not reproduce itself... only whole cells can contain the entire mechanism of self-reproduction (sic)."<sup>15</sup>

The simple yet elegant virus gives us an answer. Viruses are the simplest "prebiotic" forms, composed of long strands of nucleotides, the very same base pairs which, in different combinations, make up our own DNA and RNA, the molecules we mistakenly call the "code of life." In fact, these molecules have no power outside of the living cell, and the power of force which we call life. Now for the virus or the DNA to work it

must already be in existence by whatever agency which already brings life and matter together. The DNA within the cell now becomes the template for billions of replications and cell divisions and the growth and maturation of the organism. But the DNA or RNA cannot initiate this without life itself already there! Packaged DNA, usual DNA Duplex (the classic double strands) is the same kind of template as the DNA which is contained in every single cell of our bodies, but the cell must supply the life impetus because viral DNA is, in effect, dead matter.

Wild viruses may enter cells under bacterial cover, by invading the bacterial DNA as a bacteriophage, or by direct invasion, endocytosis. The invading DNA overwhelms the host and multiplies prodigiously causing the cells to rupture and flood the tissues with the invading virus. Scientists have been able to use this to insert a "good gene" piece into a virus with its DNA removed. The vectors deliver the gene into a new host, where it initiates the synthesis of beneficial proteins. While we know that DNA cannot of itself make life it is still true that at no time in the cycle of life is there an absence of DNA or RNA. There is, however, those first 18-24 hours after fertilization during which the DNA from the mother and the father has to assemble a new genome (DNA template for the chromosomes) of the new human being – a process called syngamy. Syngamy includes all the biological events from the moment of the penetration of the sperm into the oocyte until the formation of the genome, after the molecules of DNA of the parents have moved toward each other and aligned themselves homologously in precise and exquisite arrangement. All of this occurs within the stream of life, a continuum going all the way back to the first human beings. The point is this, the DNA cannot anymore bring life than those primitive viruses could have brought living things out of their inert molecules. Something much more wondrous is at work here! Hans Richenbach stated the case fifty years ago:

The production of just one living cell from inorganic matter is the most urgent problem for the biologist who wants to make the theory of evolution complete.<sup>16</sup>

The experiments with water, amino acids and electromagnetic shock prove the principle in the negative – where life is not already present no life springs forth, nothing is present to allow a cell to "decompose vitally" within the stream of life to keep that life continuum sustained. Consider, as well, that in any of these theories or experiments all the basic substrates are already "given." In every case man borrows on what has been graciously given, he neither creates nor magnifies what is already set by the Divine Intelligence. Therein lies the great challenge to evolutionary biology, as Hans Richenbach stated over fifty years ago.



This is why a brief survey of the evidence the evolutionists have presented is necessary for our understanding of the multiple assumptions that are made, the great number of metaphors and analogies which are used. All of these confirm that the theory of evolution does not fulfill the scientific first principle of empirical verification, or the principle of reductive – controlling reproducibility and, hence, the most important principle – predictability.

So we ask the most fundamental question of all, just as Professor Orgel asks, “how did life begin?” This is the most vexing question for surely everything that lives has a finite life span marked off by a definite beginning which in no way admits a “pre-biotic” state, and by a natural death from which it cannot be called back! When human life first appeared it was human life. No intermediate or precursor animal has been shown to genetically imprint for another animal, and no animal embryo at any time, even under laboratory control, has demonstrated the genomic retooling necessary to transform itself alone, indeed that individual alone, into a new form (species). The DNA of each species, close as they are, imprints for that species inscribed by its own entelechia continuously homogeneous with itself.

There are only two possibilities, biogenesis and the spontaneous evolution of all life from dead matter, or special creation – intelligent design from a common template DNA and the living milieu of the cell. Likewise, life might have been driven either by orthogenesis, where all the parts of a new life are enclosed in the “seed” of its progenitors, or by epigenesis, in which each of the parts of the new life develop “new.” Actually, genomic science tells us that both orthogenesis and epigenesis can be deduced, but life must be presumed.

Science, too, must reckon with the occult, in the sense that Newton meant saying that gravity was “an occult force which I do not scruple to know, but only its effects.” As DeLubac says, “Analysis builds up the edifice of science... by pulling down the greater edifice of reality. In the end it is mysticism against mysticism.”

We recall Darwin’s statement on selection “day and night scrutinizing, throughout the world, the slightest variation... silently and insensibly working... at the improvement of each organ’s being.” This is a sound declaration of the logic of teleology that both the ensemble of life and the complexity of each life point to a creating power.

Aristotle gave us the definitions and understanding of teleology, the logic of ends, twenty-five hundred years ago. He taught that each living thing has an internal coherence by which all of the operations, functions, and activities proper to it proceed of necessity. This is the logic of *telos*, ends, and the dynamic power of *en-telos*, the fulfillment of ends at each moment of life, growth and development. This internal coherence, the logic of life, is a fundamental first principle of all living things.

Entelechy itself is that principle which announces the "future before" contained within a living organism from the first moment it comes into existence. Entelechia is most correctly understood as the "unfolding of form." A living thing being both an individual and a type as it is, it cannot be anything else. A new human life, for instance, possesses the form of a human being which is the general form possessed by every human being, in all of its purpose and action (philosophical idea of motion).

By the principle of form and the power of entelechy, the final end, condition, or state of a living thing is already determined by what it is at the very beginning of its term of life.

Entelechy, says Joseph Pieper, "fuels the dynamic of material existence and defines its internal norms. It is both a pattern of existence and the image of the goal to which it tends."<sup>17</sup>

Aristotle's *Entelechia* is part of his entire system which is teleological, and which gives the correct knowledge of life, as he states in the *Metaphysics*:

The science which knows to what end each thing must be done is the most authoritative science – and this end is the good of that which is. This must be a science of first principles and causes for the good, the end, is one of the causes.

This end is "imprinted" in the organism even before the genetic imprinting of a new life from the very beginning. In this way the end of life is joined to the beginning, and all that lives between. *Entelechia* tells us the order of actual development of a living thing and the order of logical existence are always the inverse of each other.

Simply, a man is "logically prior" to an embryo, for the goal of all of that "teeming" (embryo) life is the man and from this we know definitely that man is the goal because *embryology is teleology*, self evidently prior to demonstration, the first principle of a living being.

Ernst Haeckel wrote a biogenetic law which argued that the human embryo in its day by day development in its first six weeks of life passes through the developmental stages of lower forms of embryos in their stepwise evolution to higher forms, presumably over millions of years. The human embryo "recapitulates", if you will, the embryology of lower forms. He adds that this also traces the descent of man from those lower forms. But this is flawed because the human embryo does not have a tail or fins or gills – it is always an embryo of human form, just as the embryos of lower primates remain in the form of their species. No transitional embryos are found and no genetic analysis of different "species" of embryos can demonstrate a radical or "phase transition", a change in imprinting or expression that would redirect the vector of life away from the embryo of lower form to an embryo of higher form. The human embryo has no

phylogenetic precursor or analog. If one argues that this is not a full human being until the genome is assembled (imprinted), this is not itself definitive for one could equally argue that it is not until full genetic expression; i.e., protein assembly, since imprinting without proteins would be futile. And so on – proteins must produce new cells, and they, in turn, must build “systems” within the logic of the existing organism. Everything, therefore, folds back to the moment of conception, and the embryo can only unfold in its coming to be that for which it is destined!

Here the evolutionists meet the hard-core evidence, but Professor Dyson and others have been able to turn Darwinian evolution into a highly flexible phenomenon which he calls the “Darwinian Interlude”, before which all of the genetic material of living things was “pooled”, until one gene piece “broke away” to begin speciation. Likewise, Dyson says, with the appearance of man speciation retreats because the work of evolution is completed.

Evolutionary theories of our human origins must be able to mark out the time, place and mechanism of the first human embryo, that one embryo which definitively marked man as man. But, impossible as that is, it would not be good enough because evolution is not simply linear, it is also binary. The next duty is to show us where and when the first pair, male and female, appeared for “pair-bonding.” If there is one transitional embryo there must be a second one of the opposite sex. This is a most important point. Close animal “relatives” cannot mate. The mule, of course, is an exception, but the hybrid mule is always sterile!

When the first human embryo appeared, there must have been a male and female to grow, to mate, and “speciate.” This binary rule of embryos applies throughout all putative evolutionary lines. As each higher form appeared, it appeared as male and female together for speciation, a male and a female chimpanzee embryo, for example, as the next “step-leap” toward man. Those who say that the rule of large numbers would satisfy this should remember that large numbers vector toward their mean, the precise genome. Neither selection nor random assortment can do this!

If evolution does not explain pair bonding on the basis of simultaneous male-female embryologies, then it is left with the more absurd explanation that speciation at each level of animal hierarchy was originally single sex, and the generation of the opposite sex was by selection-mutation. These are the only possibilities, contemporaneous pair bonding or the mutational generation of one or the other sex for “pair bonding.”

In these manifold ways the embryo is the key to special creation and the specific evidence against evolution:

- 1) No transitional pairs of embryos, male-female, can be demonstrated phylogenetically. The theory collapses simply on the

weight of proof that would demand a perfect system of embryogenesis chronologically, genetically, and formally to give the sexual pairs in each species.

2) "Pathways" for each sex for each species would demand "biological parallax", if you will, to signal maturation and mating within each species.

3) Survival of the fittest is an outcome, not a process discovered embryologically.

4) Biology is teleology, the embryo is entelechia, and consciousness is the vector of the directed "mechanism of nature."

5) Monism cannot answer the question "why is there being rather than nothing!"

## Part II – The Human Embryo and the Stem Cell

### The Argument

How far back would you open the scroll of your life to say, "From here and no further I mark the term of my life?" Would you not ask that the scroll be open to the very beginning as it is from there your life is written?

They say that Nero himself wished to look into the corpse of his dead mother and gaze upon that first domicile of man, and no wonder, for everything diligent in the whole of nature, everything provident and elegant, God, the Father of Nature, has employed in preserving a single fetus.

Heironymous Fabricius of Aquapendente  
Anatomist at Padua

Listen to us. It is worthwhile – our word is peace – once again we feel the tremor of fear lest some catastrophic imprudence might lead to incredible and uncontrollable holocaust. What is happening? Where are we going? What has gone wrong? Let it be that over this field of nascent life peace spreads its first protective shield – a shield endowed with the softest protection, but a shield of defense and love.

(H.H. Paul VI, World Days of Peace '71 '78)

What has gone so wrong that we must argue against the destruction of the embryo, a subject so fearfully beyond our nature, so beyond our

comprehension, the transformation of "nascent life" into raw biological material for experimentation, for multiplication, for the most heinous manipulation? This question cannot be considered as some abstraction or a calculus of relative goods. No, this is human life and just as once in an instant you and I were called into existence, as the littlest ones, small beyond measure but "teeming" with life, so now they are called. Who are we to presume their call is arbitrary while ours was absolute? Do not forget, either, that as everything has a beginning so does everything end.

We begin by addressing the evil of human embryonic vivisection, the assault on the embryo, with the gravest moral objections. We see in this the blind drive of the technicians joined to the ancient impulses of the alchemist, seeing the transmutation of life.

We are touching the deepest mysteries of genesis and existence but no one knows how it all works. No one can say what brings all of the biology together in the mystery of life. Let us be clear about one thing, we are not creating life, but we are radically redirecting the enterprise of life and turning it away from its necessary and inherent order and purpose in nature.

We already have thousands of embryos which sit in frozen suspension awaiting the sorcerer's hand to "reanimate" them for the most iniquitous reasons. We are ready to generate thousands more for their reparative cell line (the embryo itself is the cell line!) even to clone ourselves using female oocytes as receptacles for donor DNA to produce these new embryos. But here is the lie for, "ultimately, the nucleus of the donor cell must render itself to be reprogrammed by the egg (sic) which, in turn, must be capable to induce all the epigenetic changes."<sup>18</sup> Even this "intervention" depends on the precise order of events which we cannot mimic.

Here technicians are mere facilitators of a hidden power far beyond their comprehension, alchemy without any sense of mystery and awe as it engages its subject. It is life itself that is being swept into the vortices where we have no maps, no paths to guide us, no idea of what the "mechanism" of life is. We have no regard for the mysterious power which brings life and gives it its first impetus to unfold and complexify. We have no regard for the harm to life we will bring and so we are far worse than the alchemists of old who would never dare to intimately enter and deform the place of life.

The meeting of science and magic is defended on the grounds that these new beings are not yet human and therefore not fully "entitled." The argument is further made that in any case the living protoplasm from these new lives will work a greater good for all of us. Some ethicists, while they recognize the dignity of the embryo and a level of respect to be accorded, justify embryo destruction by saying that "the blastocyst be 'used with care' in research that 'incorporates substantive values' such as reduction of suffering." Nonetheless "an embryo can be killed, to do so is not disrespectful."<sup>19</sup>

This is not just a question as to when human life begins, but the profound question of existence itself. Certainly the scientific question "what is the moment of life" should be studied but at the same time we know that science can never answer the question since science cannot penetrate the true mystery of life. That is beyond its power and yet "scientism" has forced a great split between "nature and the form of reason... fleeing God in an impossible metaphysical suicide."<sup>20</sup> It is a great error to claim that science can unravel the full mystery of life, indeed "most of the evil of our day comes from the neglect of metaphysics in thought."<sup>21</sup> After all, life itself is our subject; each one of us lives at the intersection of the natural order and the supernatural power. Scientism, the "ideology" of science, insists that it has the defining power, the explanatory power. This is the source of the "metaphysical suicide" which in turn becomes the point of entry for the assault on life and a culture of death.

Reductionism isolates the various stages and functions of life and renders them discontinuous. While it expands our knowledge of life processes and their profound internal coherence, it also allows grave moral error to insert itself into life where the pace and place of unfolding and complexification of new life is taking place. At the first moment this life is the same ontic reality as it is only some hours later when we already distinguish the trophoblast, the blastula, and the first differentiation in gastrulation. From penetration, then, to the embryo two weeks later, all is proceeding out of what is already "is."

We know that the new life at conception is in every case a full human life, not a composite or "virtual" life, inchoately issuing out of the life of parents or progenitors. From the moment of conception, we know two things. The first is that the DNA, the genome, is not the life force for it, too, must find its own stability within that which already exists as human life. The genome can have no existence outside of life. It is simply inert, no matter how elegantly the substrates of bases weave their patterned assembly, however magnificent their integral multiplication. Secondly, we can only say that the genome is actualized in mysterious reciprocity within the "milieu interior" of the new life. If thereafter the genome directs life within the form and to the natural ends of new life, this only confirms how "bios" serves the higher principle of "entelechia", which comprehends life in genesis, growth and end. As such, entelechy disqualifies any thought that the moment of new life is somehow an inferior or inchoate "qualitatis media."

There is one other truth here, for the science of ends finds its principles in a different relation to those of reductive science; previously stated "the order of actual development and the order of logical existence are always the inverse of each other." For all of us considering life, genesis, and end, this is an immense help for it tells us that the very first

moment of life, while it is existence itself, may also be measured against the last moment, as the last moment verifies the first.

It is important to say here that any life issuing out of the milieu of human life, derived from human capacities and powers, is human life and that at the first moment it exists. I say that because of the "parthenote problem." Is the parthenote a full human being if it cannot grow into a fetus? The speculation is that a parthenote will not grow beyond embryonic stage, nonetheless at that stage it is human life – human life however anomalous. Here we say it is the violation of the order of nature which has introduced this anomaly for, by all the terms of entelechy and telos, human life draws its impetus and end out of genesis within the natural order. If it is the case that the parthenote is not human because it cannot be born that gives us no authority over the precursor embryo, an embryo generated against nature. The question here is not what is human in terms of the new life, but what is proper to human beings.

#### The two questions of the day:

- 1) Is there a time in our locus of a new life when this life may be negotiated for another good?
- 2) Does the competent technical power over life confer authority over life?

We begin our consideration with the human person:

A New Life – "How then is a living being conceived? Is it the substance of both body and soul formed together at one and the same time, or does one of them precede the other in natural formation? We indeed maintain that both are conceived and formed perfectly simultaneously, and born together so that not a moment's interval occurs in their conception that a prior place can be assigned to neither." (Tertullian)

All of us recognize that moment of indelible memory when that first cry is heard and a new life is announced. There is another moment, equal to the first, all the more for its hiddenness and explosive power – when a new life is conceived. In the wink of an eye, God breathes (Ruah) life into matter. Henceforth, each and every moment, from first to last, is sustained by that breath. The theologian knows this as the first power of the soul by the breath of God. The scientist discovers it as the law of bios inscribing each human being with his own name "coming to be" with the DNA of God. In the first six weeks this new life will grow and develop at an incredible pace which will not be matched throughout the entire life of that human being. From the first union of sperm and oocyte to the embryo and early fetus, the whole biology of life is unfolding and complexifying with

incalculable precision and power, purpose and design for life, from birth to death. It all begins in the first moment of life, in the wink of an eye.

The Woman as Custodian of Life – All of these “technologies” flow through the biology of the woman. All of them depend on the same methodology which drives in vitro fertilization. The woman donor is subjected to an intense biochemical and pharmaceutical assault on her biological milieu, for the goal of hyper stimulation and super ovulation. This is both unphysiologic and potentially dangerous. It positions the woman in the objective condition of utilitarian manipulation whatever the woman’s personal goals and perceived good may be. This always places her in the hands of technical manipulation prescinding the full and loving human sexual act and fecundation in the order of nature. We decry the technologies of manipulation of the woman and her regenerative power. These manipulations are both a moral error and acts “adversus bios”, against the order of life. None of these dignify the woman, all of them threaten her.

We also speak of the Locus of Life. The locus of life does not change the terms of life. The blastula in the oviduct of the mother, not implanted, is the same life which will be implanted some seventy to one hundred hours after conception. We must reject any proposition which regards life pre-implantation differently from life post-implantation. Reduction is the method, ontology the principle.

A Place for the Embryo – In this regard we would ask where the embryo can find safe harbor. There are those who permit destruction of life in the womb precisely because it is in the womb. Implanted in the maternal home, some would say it “belongs to the mother.” Others would permit its destruction at any time prior to implantation precisely because it is not yet within the maternal home. Embryonic stem cell advocates would stop at the womb. Those who advocate abortion would not. We ask again, where is the safe harbor, where can the embryo find domicile?

The Conceptus Encloses a New Life – Any time the conceptus reposes in the nourishing broth of life, in or extra utero or in vitro, having DNA in its requisite chromosomal number and order, it encloses new life. This new life is either procreated (sperm and oocyte) in human sexuality, or is generated in the laboratory by the substitution of the full complement of somatic donor cell DNA for evacuated oocyte DNA. This is The Clone.

In the former case, an embryo is destroyed after five days at the blastocyst stage of approximately one hundred cells. These cells are transferred to incubators of plated nutrients and growth factors to stimulate new “immortal” cell lines.

In the latter case, in adult somatic cell cloning, cell from skin fibroblasts, bone mesenchyme, cord blood, etc. have their nuclear DNA removed and transferred into a recipient oocyte with its own DNA previously removed. Again, after several days the embryo, now growing



(with the same number of chromosomes as the embryo of natural conception) is sacrificed and the cells plated and stimulated. As these cells are somatic cells and no germ cells and are “aged”, they do not yield immortal lines but conceivably could yield a fetus!

We say with certitude that there is *no distinction between therapeutic clones and reproductive clones* – both clones issue out of the same sources, by the same agency and methodology. The therapeutic clone is a definition of one kind of utility, a reproductive clone of another utility – that is the *only* difference. A reproductive clone is a clone that will become a child, and to what use? A therapeutic clone is a clone that will not become a child because it will be sacrificed, a life forfeited for embryonic stem cells.

The Stem Cell is a primitive undifferentiated totipotent cell (embryonal stem cell) or a primitive less differentiated, pluripotent cell (adult somatic cell). The embryonal stem cells are harvested from the early stage blastocyst which is forming an outer layer cover (trophoblast) and an inner cell mass. The latter is the source of cells which are then placed in a facilitating environment to produce cell lines. The embryonal source is either the product of in vitro technology transfer or adult stem cell DNA transfer into an evacuated oocyte. Either one of these is a *clone*. Promoters of embryonal stem technique claim their advantage as totipotent cells which can transform into any type(s) of the over two hundred tissue cells in the body.

Adult stem cells which are directly *infused into target tissue* are not clones, there is no DNA transferred into oocytes. These adult pluropotential cells have been introduced into tissues for specific therapeutic advantage. There are important clinical implications here and this technology should be encouraged as this technique is both morally acceptable and biologically valid, directed to an appropriate use of the goods of the body. Cord blood cells and mesenchymal cells show exceptional promise and early reports continue to commend further work.

The Parthenote, an asexual creation – is the exceptional folly of technical manipulation of the oocyte prior to the process of meiosis (reduction division), in the attempt to “stabilize” the genetic processes of life, to freeze them so that the oocyte itself becomes the sole progenitor of new life without any male donation. This asexual reproduction is called parthenogenesis. We call it evil. This evil meets the equally pernicious: Asexual Regeneration of the Male – and the conceptual goal of joining the DNA (sperm) of the two donors (giving the full human complement) then introduced into an oocyte with its DNA removed. We do not believe it is possible to do this, but we believe that it was unthinkable to try.

A New Human Good? – There is no human good which supersedes the first and preeminent good, that it is good “to be.” Existence is the first good and therefore when a life at any time of life becomes a question, then all of life is in question. Introducing new life to forfeit it for any gain to any

other life is an absolute violation of the first law of life, “You are wonderfully made.”

It is for the sake of our own lives that He made us ... Life is not enkindled for a brief time to be snuffed out. He did not create man for the sake of any other work.

(St. Athenagoras of Athens)

Dangerous Reprogramming Errors – can be expected in human cloning. In normal germ cell formation the DNA in oocyte or sperm is continuously scrutinized and stabilized assuring a much healthier genotype (fewer inheritable abnormal genes). This genetic optimization takes months to years (sperm or oocyte respectively) and its precision brought over time the key to minimizing gene dys-regulation.

In cloning we know of the intense time compression in which genetic reprogramming (which occurs only hours after nuclear transfer) simply cannot scrutinize the genotype properly. Multiple epigenetic reprogramming errors are to be expected, and the resulting phenotypes will, predictably, be severe biological anomalies. It simply is not possible to produce a faithful genetic copy within a few hours. Such rapid reprogramming has no parallel in nature.

All of this tells us that we are putting life in chaos where nuclear transfer technology is producing nothing but “nuclear” freaks with cells with multiple nuclei, dumbbell nuclei, and various nuclear deformities, all with presumably extreme DNA imprinting errors. Either these cannot survive, or will survive as biological monsters and we will see the awful curse of nature in rebellion.

Altered Nuclear Transfer proposes an ethical bypass of the morally impermissible embryonic stem cell. The idea is to rewire the somatic cell nuclear DNA prior to its introduction into an enucleated oocyte (The same technique as cloning but with a genetically altered nucleus that would fail embryogenesis. Nonetheless harvesting of oocytes as in IVF would be necessary.)

Alteration of nuclei destined for oocytes is research different in kind from other interventions in biological systems. First of all, the elements of new life (disorganized human life?) are there. Second, the donor woman is subject to the risk of ovarian hyper stimulation, unarguably a technical intrusion into God’s plan for life. Finally, the alteration of the donor nucleus, or the receptor oocyte, to render the daughter cells “competently disorganized”, competent to form “stem” cells but too disorganized to become an embryo, is still an attempt to initiate a new living system. Part of this system is built on the teleology of ovulation – fertilization, another part of which deliberately breaks it down.

The objection to the construction of a living system with the reengineered nuclei is the great risk for reprogramming errors in the daughter cells and unknown downstream effects linked to the specific genetic alterations that drive this disorganization. It may be claimed that these cells are nothing of human life but that is not true. They issue out of the stream of life latent in gametogenesis and actualized to be incapable of embryogenesis but capable of therapeutic efficacy. It is clear that the elements which are set for normal embryogenesis are diverted from their governing entelechia.

Altered nuclear transfer is a misuse of the good enclosed by this entelechia. The use of somatic cell nuclei injected into oocytes is a mimicry of the biology of procreation where every oocyte is potentially a female donation to new life. It is a perversion of use and ends to thus engage somatic cell nuclear transfer for any purpose or by any up or down regulation of epigenesis that would be called good because it is deliberately disorganized, by the argument that this could restore health without destroying an embryo.

Oocyte Assisted Reprogramming proposes a molecular bypass of embryogenesis by alteration of the somatic cell nucleus, or the oocyte, prior to nuclear transfer. The claim is that the resulting cell is rendered pluripotent rather than totipotent hence is not a true zygote, incapable of normal embryonic development. This is different, it is said, from rendering a defective embryo, as in altered nucleus transfer.

We simply state that "humanness" cannot be definitively pronounced absent if totipotency be absent, anymore than we can say a defective embryo has nothing human of itself. Indeed all of these biological products (ANT or OAR) are derived from that "milieu interior" by nature directed always to new life, which we should never intrude upon other than for the good of that new life!

A stern warning must be raised against the seductions of a new biologism which clothes itself in the therapeutic over and against the natural order of things directed to their own goal. First, it must be said, life is not a therapeutic goal but the profoundest aspiration, reaching toward its ultimate goal. Then, it is clear, all therapeutics must defend the inchoate powers of life. We must avoid that futile striving by which we desire to place ourselves always within the "firm science" of the secularist. No, we must mark out the zygote and embryo for protection against any and all interventions which in any way are against them or wish to utilize them. We must say of this inchoate power and gift of life "so far, and no further," the limits of intervention being only for the good of that specific life.

## Summary

In the shadow of your wings I take refuge  
till the storms of destruction pass by.

(Ps. 57)

We must precisely reckon our duty regarding "the whole truth about man." We possess competent authority over the technological power. We must superintend that power to assure that the indifferent mechanic is never in control of the indifferent machine. We must assure that the engineers of life never be the architects of life, or admit the destruction of any life at any time, for any reason or putative advantage to other lives. Our authority over the competent technical power demands that such power itself never be transferred into authority over life.

We must say to all who honor life by studying life to assist mankind and the happiness of existence by their research that they must be "diligent, provident and elegant." We must say regarding all human cloning for whatever purpose, that here science may not enter the mystery of existence. We must preserve the mystery to preserve ourselves, especially the tiniest ones who, after all, are "fathers to the men." We must say that we will never allow any "good" to deform the truth about man, that he is "beautifully and wonderfully made." We must never agree to barter away the immediate jewel of life. We must say all of this now, as the chaos we fear becomes a reality beyond melioration. We are living at the morning of the magicians, and only the power of heaven can rout them.

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\* Dr. Joel Brind, Personal Communication. Dr. Brind's term is the precise definition of embryo research.