

HUMAN ORIGINS IN UNIFICATION THOUGHT

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18th International Symposium on Unification Thought

Tokyo, Japan

December 2006

ABSTRACT

A central goal of Unification Thought (UT) is to understand the design and creation of the universe, and especially the design and creation of human beings. Currently, the dominant view among scientists is Darwinism -- the belief that all living things (including human beings) are modified descendants of a common ancestor, and that all features of living things were produced by unguided processes such as natural selection acting on random mutations. If Darwinism is true, then the Unification doctrines that God created Adam and Eve by design, and that their fall introduced evil into the world, are false. The fossil record provides evidence that now-extinct ape-like creatures existed before the first humans, but the evidence doesn't support the Darwinists' claim that new species and anatomies originate through unguided processes such as selection and variation. UT can provide a plausible account of human origins that is consistent with the evidence and with God's role in creating Adam and Eve.

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1. INTRODUCTION

The goal of Unification Thought is to provide the philosophical and scientific basis for world peace under God. In order to do this, it is essential for Unification Thought to clarify, both logically and scientifically, the method of the design and creation of the universe -- especially human beings. According to the Unification Thought Institute: "Humankind today is entering an era when the ideal world can come to be realized; but what's posing the greatest obstacle on our path is precisely the theory of evolution."¹

"Evolution" in its broadest sense can refer simply to change over time, but this is clearly not the problem; no sane person denies the reality of change over time. The obstacle to world peace under God is Charles Darwin's theory of biological evolution, in both its original and modern forms. In what follows, "Darwinism" refers to this theory.

According to Darwinism, all living things are descendants of a common ancestor that have been modified by unguided natural mechanisms such as random variations and survival of the fittest. (In the modern version of Darwinism new variations are said to originate in DNA mutations.) A logical consequence of this doctrine is the claim that human beings are accidental by-products of unguided natural processes. Although human beings may appear to be designed or planned, this is merely an illusion.

In contrast, the view of traditional theistic religions such as Judaism, Christianity and Islam is that human beings were created by design, in the image of God. If Darwinism is true, then this view is false. Indeed, if Darwinism is true then the biblical God does not exist, and the goal of achieving world peace under God is unattainable. But is Darwinism true? Let's look at the evidence.

2. DARWINISM

Darwinists claim that they have overwhelming scientific evidence to support their view. But their "overwhelming evidence" consists almost entirely of (a) similarities among living and fossil species ("homology"), and (b) minor changes within existing species ("microevolution"). Neither of these supports Darwin's theory.

2a. Homology

Biologists before Darwin used the similarities and differences among organisms to group them in a hierarchy of species, genera, and higher taxonomic categories. Similarity in structure and position (e.g., the bones in wings of bats and birds, both vertebrates) was considered a more reliable guide to classification than similarity in function (e.g., the wings of bats and butterflies, one a vertebrate and the other an invertebrate). The former was called "homology" and the latter was called "analogy."

Pre-Darwinian biologists tended to attribute homology to a common archetype or design. In contrast, Darwin attributed homology to common ancestry. According to his theory, the bones in the wings of bats and birds were similar because both animals were descendants of the same organism. Ever since Darwin, evolutionary biologists have relied on homology to arrange fossil and living organisms in the branching-tree pattern of ancestry and descent prescribed by Darwinism.

The only illustration in Darwin's *Origin of Species* is a drawing of what he called the "great Tree of Life," a portion of which is reproduced below. The vertical axis is time, with oldest at the bottom. As Darwin explained, the lowest point represents a single ancestral species that included several varieties (the lines diverging vertically just above it). After thousands or millions of generations (indicated by the first horizontal line), varieties of this single species became two species, which continued to diverge over time into different genera, families, orders and so on, with the greatest differences at the top of the tree.

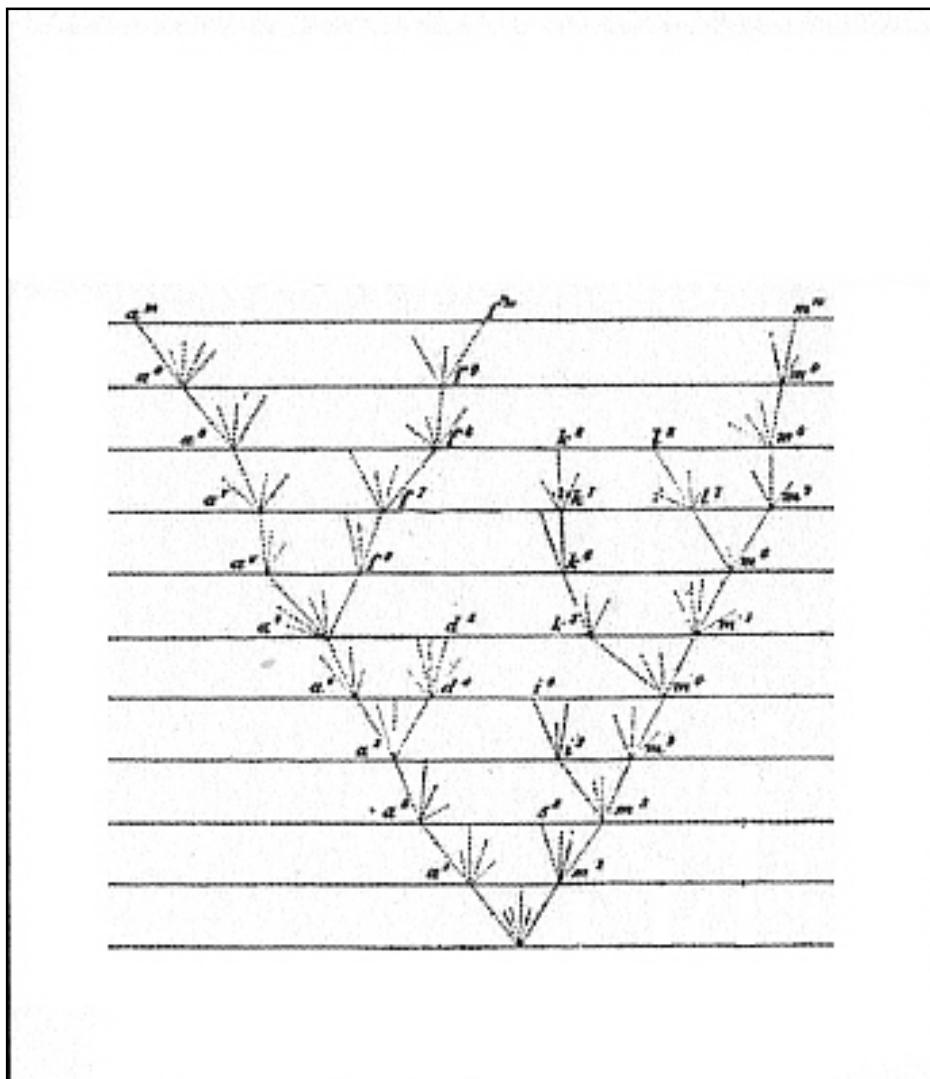


Figure 1.
A portion of Darwin's "great Tree of Life"
from Chapter IV of *The Origin of Species*.

Darwin wrote that according to his theory “all living species have been connected with the parent-species of each genus, by differences not greater than we see between the natural and domestic varieties of the same species at the present day; and these parent-species, now generally extinct, have in their turn been similarly connected with more ancient forms; and so on backwards, always converging to the common ancestor of each great class. So that the number of intermediate and transitional links, between each all living and extinct species, must have been inconceivably great.”² Yet Darwin acknowledged that those transitional links were not found in the fossil record.

Critics of Darwin’s theory have often pointed to whales to illustrate the problem of missing links. The fossil record shows that fish preceded animals, and land animals preceded whales, so according to Darwin’s theory whales must have descended from land animals. But for many years there was no evidence of any intermediates between land animals and whales.

In recent years, however, several fossils have been found with features intermediate between those of a land mammal and a modern whale. In 1994, Harvard evolutionary biologist Stephen Jay Gould called these “the sweetest series of transitional fossils an evolutionist could ever hope to find.”³ (Figure 2)

Yet as Berkeley paleontologist Kevin Padian notes, all of these animals have “distinguishing characteristics, which they would have to lose in order to be considered direct ancestors of other known forms.”⁴ In other words, the “intermediate forms” are side branches, not transitional links. (Figure 3)

Even if the fossils didn’t have features that disqualify them from being transitional forms, they would not demonstrate Darwinian evolution. Ohio State University biologist Tim Berra inadvertently showed this in a 1990 book written to refute critics of Darwinism. To illustrate how the fossil record provides evidence for Darwin’s theory of descent with modification, Berra used pictures of various models of Corvette automobiles. (Figure 4) Berra wrote: “If you compare a 1953 and a 1954 Corvette, side by side, then a 1954 and a 1955 model, and so on, the descent with modification is overwhelmingly obvious.”⁵ What is overwhelmingly obvious, however, is that automobiles are made by design. Corvettes actually prove the opposite of what Berra intended -- namely, that a succession of similarities does not, in and of itself, provide evidence for Darwinian evolution. A series of intermediate fossils could equally well be products of design.

Actually, it is impossible in principle to arrange fossils in ancestor-descendant lineages. Imagine digging up two recent human skeletons. Without written records and identifying marks it would be impossible to tell how the two skeletons were related to each other. (The only exception would be if DNA could be extracted from them and it turned out to be identical, in which case they would be identical twins.)

And humans are from the same recent species. With fossils of different species that lived millions of years apart in the remote past, there simply is no way to establish their biological relationships. As Chief Science Writer for *Nature* Henry Gee wrote in 1999, “no fossil is buried with its birth certificate.” Indeed, “the intervals of time that separate fossils are so huge that we cannot say anything definite about their possible connection through ancestry and descent.” Gee concluded: “To take a line of fossils and claim that they represent a lineage is not a scientific hypothesis that can be tested, but an assertion that carries the same validity as a bedtime story.”⁶

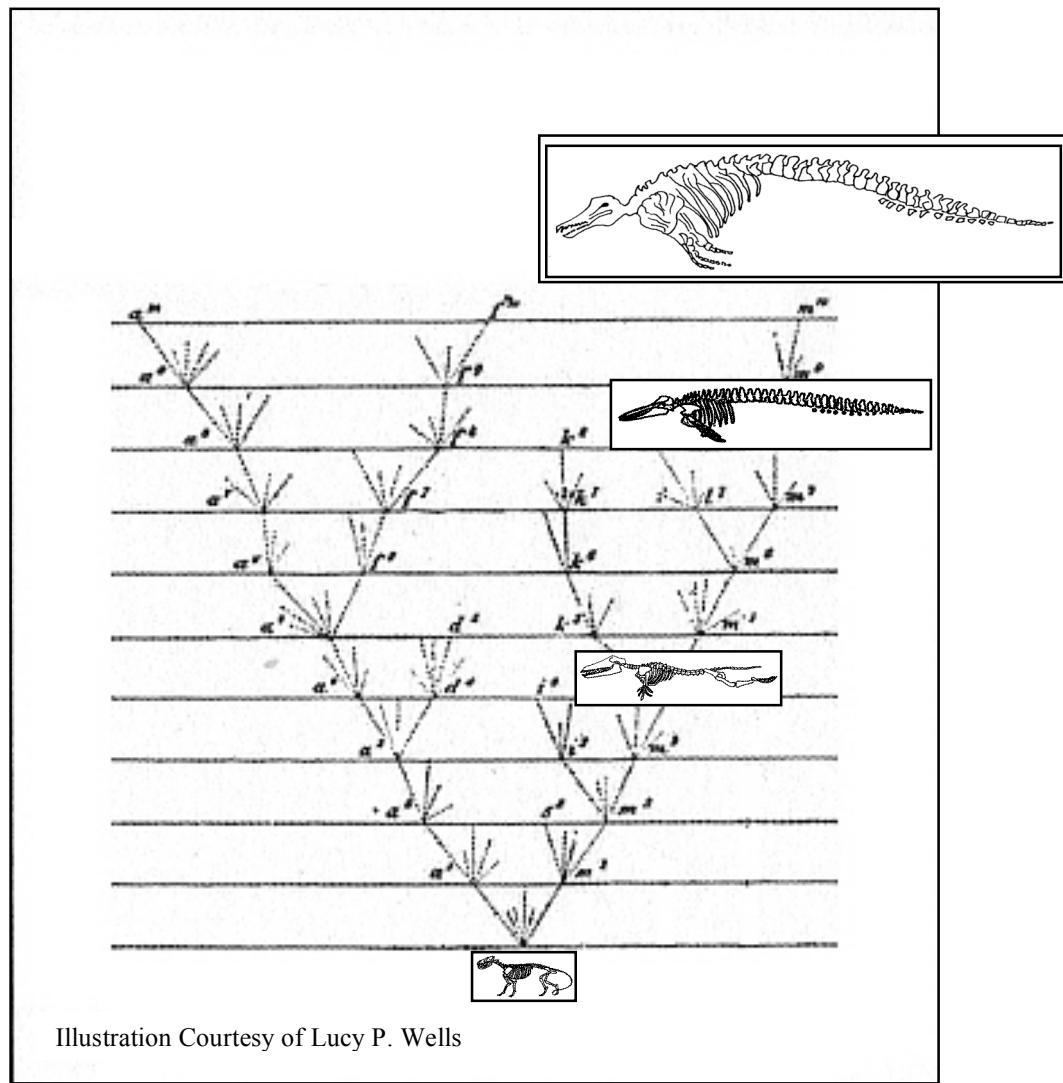


Illustration Courtesy of Lucy P. Wells

Figure 2.
A portion of the series showing fossils intermediate between an ancient land mammal (bottom) and a modern whale (top).

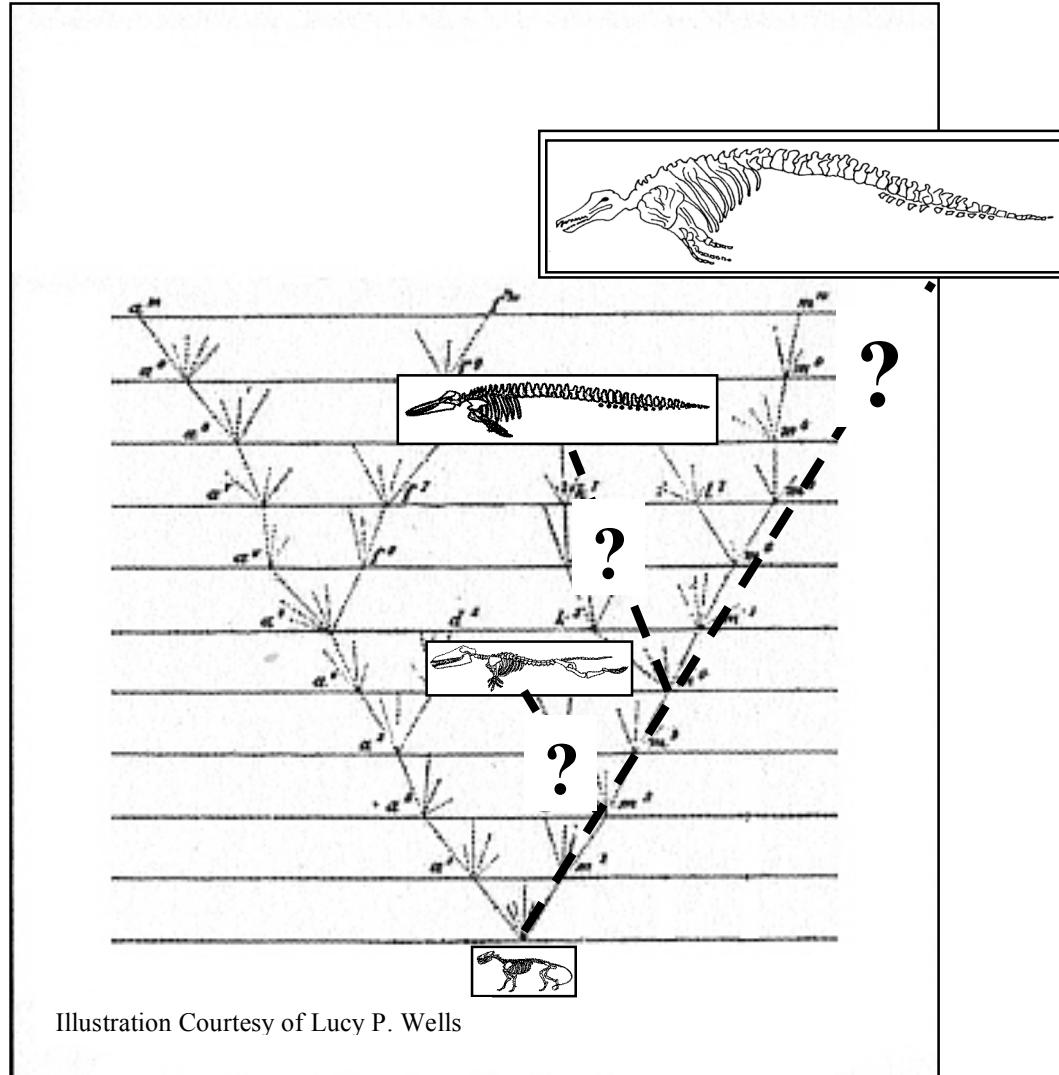


Figure 3.

What Gould called “the sweetest series of transitional fossils an evolutionist could ever hope to find” are actually side branches, not part of a lineage of ancestors and descendants. As the question marks indicate, their actual relationships are unknown.

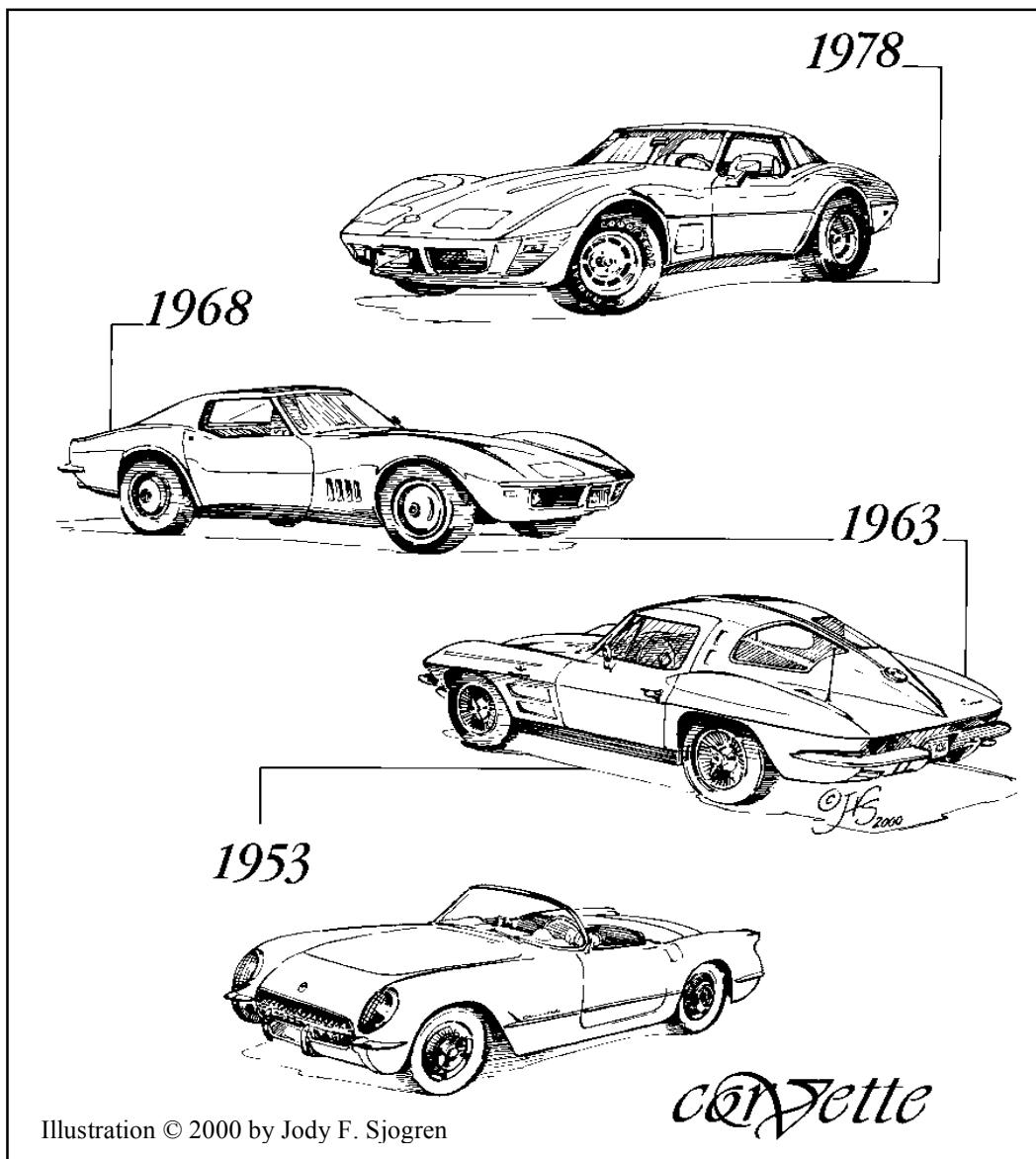


Figure 4.
Berra's Blunder.
A series of automobile models that supposedly illustrate Darwinian
descent with modification, but actually show progressive design.

Although Gee's conclusion applies to all fossils, he was writing specifically about paleoanthropology – the study of human origins. Compared to fossils that supposedly show the evolution of modern whales, the fossils of ape-like animals that were supposedly ancestors of modern humans are both rare and fragmentary. As *Science* writer Constance Holden once put it: "The primary scientific evidence is a pitifully small array of bones from which to construct man's evolutionary history. One anthropologist has compared the task to that of reconstructing the plot of *War and Peace* with 13 randomly selected pages."⁷ Thus, according to paleoanthropologist Misia Landau: "Themes found in recent paleoanthropological writing... far exceed what can be inferred from the study of fossils alone and in fact place a heavy burden of interpretation on the fossil record – a burden which is relieved by placing fossils into preexisting narratives structures."⁸

That preexisting narrative is Darwinism. The Darwinian story of human origins does not emerge from the fossils; its truth is assumed from the start, and fossils are used as window dressing to illustrate what is essentially a doctrine of creation without God.*

2b. Microevolution

The second major category of alleged evidence for Darwinism is microevolution, or changes within existing species. No one has ever doubted microevolution; indeed, people knew about it long before Darwin. But Darwinists claim that microevolution, if given enough time, will lead to "macroevolution" – the origin of new species, organs and body plans.

In 1937, evolutionary biologist Theodosius Dobzhansky noted that there was no hard evidence to connect microevolution macroevolution. Since "there is no way toward an understanding of the mechanisms of macroevolutionary changes, which require time on a geological scale, other than through a full comprehension of the microevolutionary processes observable within the span of a human lifetime," He concluded: "For this reason we are compelled at the present level of knowledge reluctantly to put a sign of equality between the mechanisms of macro- and microevolution, and proceeding on this assumption, to push our investigations as far ahead as this working hypothesis will permit."⁹

So Dobzhansky merely assumed that microevolutionary processes are sufficient to account for macroevolution, and his assumption has been scientifically controversial ever since. In 1940, Berkeley geneticist Richard Goldschmidt argued that "the facts of microevolution do not suffice for an understanding of macroevolution." Goldschmidt concluded: "Microevolution does not lead beyond the confines of the species."¹⁰

In 1996, biologists Scott Gilbert, John Opitz and Rudolf Raff wrote in the journal *Developmental Biology*: "Genetics might be adequate for explaining microevolution, but microevolutionary changes in gene frequency were not seen as able to turn a reptile into a mammal or to convert a fish into an amphibian. Microevolution looks at adaptations that

* A similar criticism applies to the use of molecules to construct branching-tree diagrams of hypothetical evolutionary relationships. See Appendix I.

concern the survival of the fittest, not the arrival of the fittest." And in 2001, biologist Sean B. Carroll wrote in *Nature*: "A long-standing issue in evolutionary biology is whether the processes observable in extant populations and species (microevolution) are sufficient to account for the larger-scale changes evident over longer periods of life's history (macroevolution)."¹¹

Gilbert, Opitz, Raff and Carroll believe that the controversy over microevolution and macroevolution will eventually be resolved within the framework of Darwinian theory. But their faith in a future resolution of the controversy does not alter the fact that the controversy still exists a century and a half after Darwin published *The Origin of Species*. And it exists because "evolution's smoking gun" is still missing.

Evolution's smoking gun is speciation -- the origin of species. Despite the title of his 1859 book, Darwin never solved this "mystery of mysteries," as he called it. In 1997, evolutionary biologist Keith Stewart Thomson wrote: "A matter of unfinished business for biologists is the identification of evolution's smoking gun," and "the smoking gun of evolution is speciation, not local adaptation and differentiation of populations." Before Darwin, the consensus was that species could vary only within certain limits; indeed, centuries of artificial selection had seemingly demonstrated such limits experimentally. "Darwin had to show that the limits could be broken," wrote Thomson, "so do we."¹²

Speciation due to hybridization and chromosome doubling has been observed in plants, but as evolutionary biologist Douglas J. Futuyma points out, this "secondary speciation" does "not confer major new morphological characteristics... [and] does not cause the evolution of new genera" or higher levels in the biological hierarchy.

Darwinism depends on "primary speciation," in which one species splits into two species that continue to diverge and split, over and over again. According to Futuyma, such branching speciation "stands at the border" between microevolution and macroevolution" and "is the sine qua non of diversity" in Darwin's tree of life.¹³ Primary speciation would be evolution's smoking gun, but it has never been observed.

When University of Bristol (England) bacteriologist Alan H. Linton went looking for direct evidence of primary speciation, he concluded in 2001: "None exists in the literature claiming that one species has been shown to evolve into another. Bacteria, the simplest form of independent life, are ideal for this kind of study, with generation times of twenty to thirty minutes, and populations achieved after eighteen hours. But throughout 150 years of the science of bacteriology, there is no evidence that one species of bacteria has changed into another... Since there is no evidence for species changes between the simplest forms of unicellular life, it is not surprising that there is no evidence for evolution from prokaryotic [e.g., bacterial] to eukaryotic [e.g., plant and animal] cells, let alone throughout the whole array of higher multicellular organisms."¹⁴

Ever since Darwinian evolution was synthesized with Mendelian genetics in the 1930s, the expectation has been that macroevolution could be explained by genetic changes. In the 1980s, however, molecular biologists discovered to their surprise that radically different animals have very similar developmental genes – so similar that a gene from a mammal can replace its counterpart in an insect. For example, a gene needed for eye development in a mouse can induce eye development in a fruit fly embryo.¹⁵

The eyes induced in a fruit fly embryo by the mouse gene, however, are fruit fly eyes rather than mouse eyes. So whatever it is that makes a fly a fly or a mouse a mouse is *not* in the developmental genes they share. This poses a profound puzzle for

Darwinists who claim that genes explain evolution. As Italian geneticist (and critic of Darwinism) Giuseppe Sermonti wrote in 2005, "Why is a fly not a horse?"¹⁶

So Darwinists claim that all species have descended from a common ancestor through variation and selection, but they can't point to a single observed instance in which even one species has originated in this way. Furthermore, everything we know about developmental genes points to one conclusion: Whatever we do to an ape embryo, there are only three possible outcomes -- a normal ape, a defective ape, or a dead ape. Not even a new species of ape, much less a human being.

3. UNIFICATION THOUGHT

Unification Thought (UT) is a philosophical systematization of the teachings of Sun Myung Moon. The UT view of biological origins is laid out in *Fundamentals of Unification Thought* (1991). It is repeated in summary form and combined with a critique of Darwinian evolution in *From Evolution Theory to a New Creation Theory* (1996). What follows is based on those two books, along with unofficial notes made during a 1965 talk by Sun Myung Moon (excerpts from which are in Appendix II, below) and a 1977 letter from Sang Hun Lee to Jonathan Wells (the relevant portion of which is in Appendix III, below).¹⁷

3a. The Order of Creation

According to the first chapter of Genesis, God created the universe and living things in six days. But data from fields such as cosmology and geology point to a universe about fourteen billion years old and an Earth about four and a half billion years old. UT accepts these data and interprets the Genesis "days" as symbolic. In 1965, Sun Myung Moon said: "In the Bible, one day is like a thousand years and a thousand years as one day. Often things revealed by God are not literally true, but symbolical." (This does not mean that the biblical accounts of Adam and Eve, Noah and his family, and Abraham, Isaac and Jacob are untrue, but only that biblical statements about chronology are not necessarily literal.)¹⁸

Fossil evidence suggests that life on Earth originated about three and a half billion years ago, starting with prokaryotes (single-celled organisms consisting of cells without nuclei, such as bacteria). Eukaryotes (cells with nuclei) appeared about a billion years later, and multicellular marine animals appeared about two billion years after that. Later came land plants, amphibians, reptiles, mammals, primates, and finally humans.

Darwinism explains this ordered progression by claiming that organisms at each stage are descended from organisms in the previous stage, modified by unguided natural processes such as random variation and natural selection. Human beings are accidental by-products of these processes; they were not planned. According to UT, however, human beings were planned from the beginning.¹⁹

Some Darwinists object that because an omnipotent God could have created all living things instantaneously in their present forms, the progression we see in the fossil record is evidence that God was not involved. But this conclusion does not follow. If God were free to create all things instantaneously, He was also free to create them in

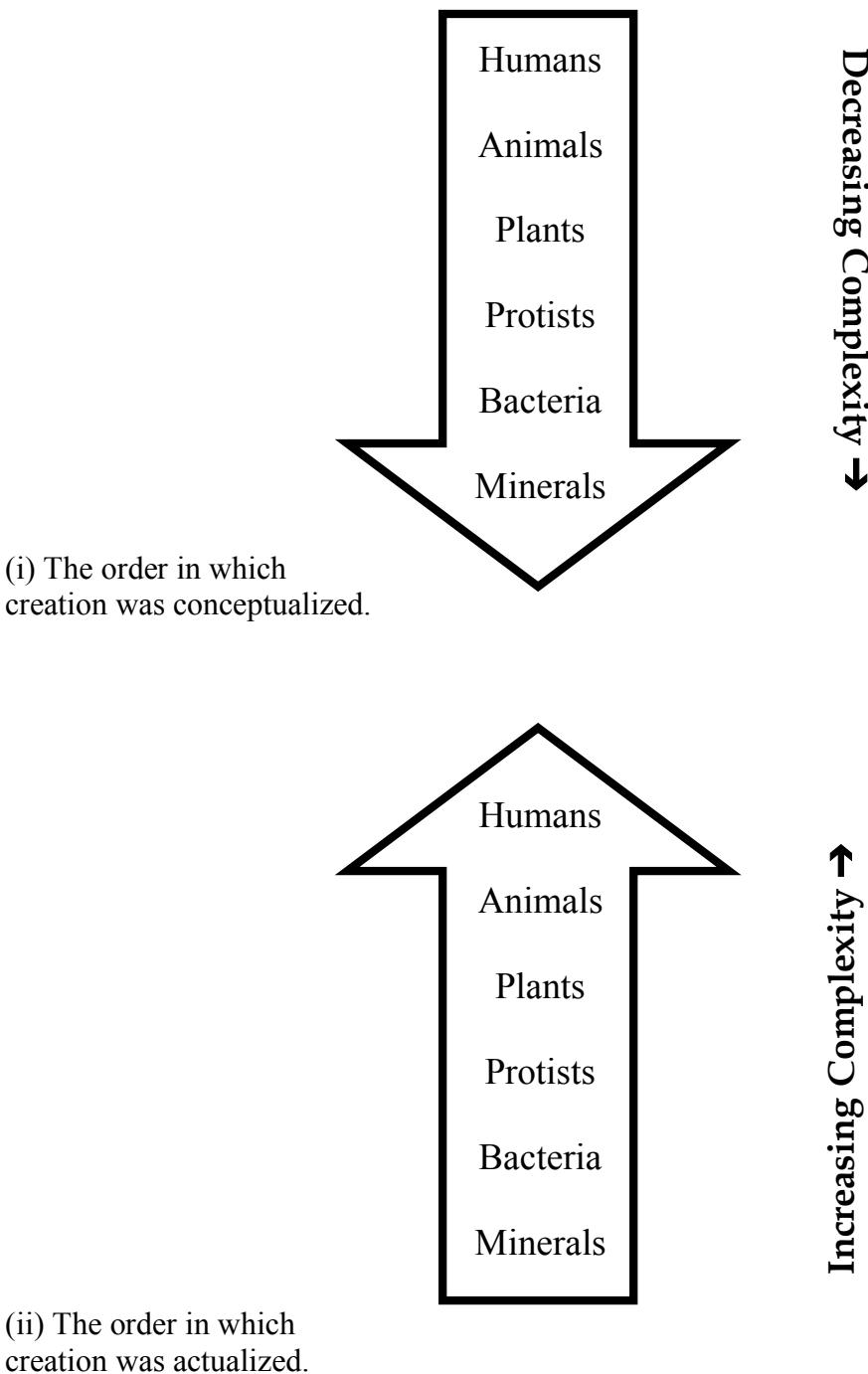
stages. UT takes the fossil evidence at face value and concludes that God chose to do the latter. The question is, Why?

The answer is, Relationship – what UT calls “give-and-receive action.”²⁰ Love does not exist in isolation, but depends on relationships. God created human beings to be His children so He could give and receive love. But in order for human beings to be God’s children they have to be, in some sense, His equals. They have to share in His freedom and creativity, otherwise they can never be more than God’s toys or pets or slaves. And in order for human beings to share in God’s freedom and creativity, they have to be given real freedom, a growth period during which they can choose whether or not to relate to God, and thereby participate in their own moral and spiritual development. So in order for God to actualize His original plan, He had to create human beings immature and unfinished. This pattern was extended analogically to the whole universe.

Sang Hun Lee wrote in 1991: “Prior to creating the universe, God first envisioned the image of the human being, which resembles God’s own image. Then, using the human image as the prototype, and in likeness to it, God formed the idea of the various things of creation.” Thus the obvious similarities between us and other living things are a result of common design -- not common ancestry, as Darwinism claims. By “taking the conception of the human being as the prototype, God developed the conception of animals; then, based on the conception of animals, He developed the conception of plants; and based on the conception of plants, He developed the conception of minerals. Hence, in the process of conceptions, God first developed the conception of human beings, then that of animals, plants, and finally minerals, proceeding downward. With regard to actual creation, however, the order of the universe was the exact opposite. Specifically, God first created minerals (i.e., the elements of the heavenly bodies), then plants, animals, and finally human beings, proceeding upward.” In other words, although the design of creation was conceived from the top down, it was actualized from the bottom up. This is called the “two-stage structure of creation.”²¹ (Figure 5)

One reason for the bottom-up actualization of God’s design was the need to provide a stable environment for human beings. Primitive organisms transformed a barren planet into one that supported plants and animals, which in turn formed self-sustaining food chains that would nourish human beings.²²

Not every living thing that God created was intended to survive to the present. According to UT, “those things that were prepared as the environment for human life have remained until today as they were, but those that were required only for the course of creating the human being and for the course of creating the environment for human life disappeared when those courses passed.” In the process, animals with features intermediate between apes and humans “were required in the course of creating human beings.”²³ But why?

**FIGURE 5.**

The two-stage structure of creation.

God first conceived of human beings in His image then abstracted from that image to conceive of other living things and the elements that compose them. God then created the world in reverse order, with human beings last.

3b. God's Method of Creating Human Beings

When Sun Myung Moon was asked about human origins in 1965, his answers (assuming the unofficial transcript of them is accurate) were enigmatic. He said: “Adam and Eve were produced by exactly the same process as we produce a child. By strong love and energy of father and mother, a child is conceived and grows, first within the womb, then outside of it. In the same way, God created Adam and Eve. By His love and energy, a little thing was created which grew and grew and became Adam.” When asked whether Adam and Eve were born of God as we understand birth, that is, physiologically, he said: “Through the power of God, Adam and Eve were created as a baby is created by humans today. Man was a special creation.” And when asked whether Adam and Eve had earthly, physical parents, he said: “No! The source of creation is energy. You don’t need physical parents to be created. Adam was a special creation.” (See Appendix II, below.)

So Adam and Eve each began life the same way all of us do, as a baby in a womb. Yet they were special creations who did not have biological parents.

When asked how long it took to create humans, Sun Myung Moon answered: “Suppose you have prepared all the material necessary to build a house. It doesn’t take long to build the house yourself. To collect the material may take time, but once you have the materials the building itself doesn’t take much time. Likewise, the animal, vegetable, and mineral kingdoms were all created over perhaps millions of years. All the materials were there. Out of those essences, it wouldn’t take long to create a man.” (See Appendix II, below.)

So Adam and Eve were created from materials that were already there.

In 1977, Sang Hun Lee wrote that these remarks could be interpreted in two ways. One possibility is “that God created a new creature in the following stage without any connection to the creation of the preceding creatures. For instance, after God created the anthropoids [animals with features intermediate between apes and humans – JW], He might have created man without any connection to the creation of them.” Another possibility is that “God created the anthropoids in advance; then by projecting a new idea (i.e., that of ‘the man’) and energy into one of them, God created the physical man, and then by projecting the spirit man into him (i.e., breathing into his nostrils the breath of life), God created man who has both the spirit man and the physical man together.” (See Appendix III, below.)

Only the second of these two interpretations explains why the fossil record includes extinct animals with features intermediate between apes and humans – as well as intermediates between many other groups of organisms, as we saw in the case of whales. Instead of creating everything instantaneously from nothing, God created new species, organs and body plans by building on what went before and rearranging the blueprints for embryo development. According to UT, “when a new species is created, God’s power works to bring about an abrupt change... [in its] Logos (blueprint).” Creation thus “took place, not in a continuous way, but by stages... God’s power worked, whereby a certain species was created; after that, a certain period of time passed – which could be called a growth period, or a preparation period – and again God’s power worked, whereby a new species was created.” Exactly how this happened, we don’t know, but “the day will come when this question will be clarified through the results of scientific research.”²⁴

In 1999, Sun Myung Moon said that Adam had a navel and grew up in his mother's womb, confirming the second of Sang Hun Lee's 1977 interpretations. Since God used His power to rearrange pre-existing materials (in the wombs of animals with features intermediate between apes and humans), Adam and Eve were special creations *and* they each had a navel and developed as an embryo in a womb.²⁵ Because of God's intervention, the animals that gave birth to Adam and Eve were their surrogate parents, not their biological ones.

When Sun Myung Moon was asked who nursed the first human infants, he said: "God Himself did. They were raised in a very unusual environment. Because of God's energy and power, He could do this. We don't know in what exact way. Even a plant grows from seed to tree in the natural environment which God created." (See Appendix II, below.) So God Himself nursed Adam and Eve, but it was by means of the natural environment He created. Animals who were physically almost human gave birth to Adam and Eve and then provided the nourishment and protection that the first two human infants would have needed. Once Adam and Eve were able to care for themselves, such animals were no longer needed and went extinct. According to Sang Hun Lee, they could have been "made only as a medium or a bridge between two stages" in the creation of Adam and Eve, like a "scaffold" that is dismantled "after a building is completed."²⁶

When Sun Myung Moon was asked in 1965 "How is man made in God's image?" he replied: "The body is created to conform with the mind, and the mind is created to conform with God... The whole being, physical and spiritual, is created in God's image." (See Appendix II, below.) So UT is not consistent with the view held by some Christians that God merely added a human soul to a physical body that just happened to emerge from unguided natural processes.

Not only was God involved in creating the first humans -- He is also involved in the birth of every person. According to UT, human beings "were created in a direct likeness to God, whereas the rest of creation was created in a symbolic likeness to God." Thus it is "not true that the individuality of a person comes from his or her parents rather than from God. Though certain aspects of the parents are passed on to the children, not all of the unique characteristics of the parents are inherited. Moreover, people are born with new unique characteristics that their parents did not possess. One must conclude, therefore, that God creates human beings by using their parents' unique characteristics as the material, but also by following a unique idea" envisioned by God.²⁷

So both God and human parents are involved in creating a child's spirit. UT thereby resolves a classical paradox in Christian theology: the origin of the soul. Some early Christian theologians maintained that each individual soul is directly created by God; otherwise, it could not be said to be created in God's image. This view was called "creationism" (not to be confused with biblical creationism in the modern Darwinian controversies). Others maintained that a child's soul is produced by its human parents; otherwise, it would not inherit the original sin introduced by the fall of Adam and Eve. This view was called "traducianism."²⁸ According to UT, however, a child gets its soul both from its human parents and from God. Creationism and traducianism are two different but complementary aspects of this. (Figure 6)

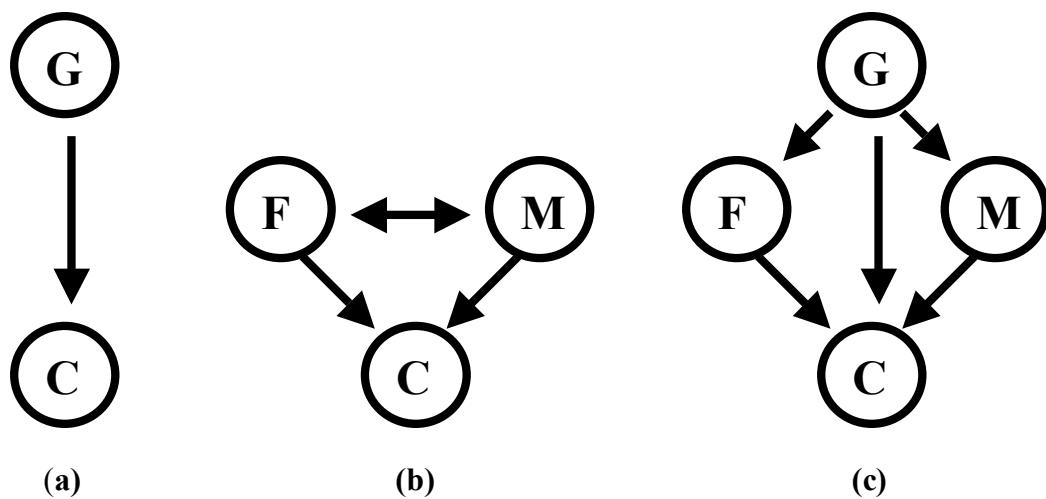


Figure 6.
Origin of the Soul.

G = God; F = human father; M = human mother; C = child.

- (a) Creationism (the soul is created directly by God);
- (b) Traducianism (the soul is generated by the child's parents);
- (c) Unificationism (the soul is created by God and the child's parents).

4. CONCLUSIONS

Darwinism consists of the following claims:

- All living things are descendants of one or a few original forms.
- They have been modified by unguided natural processes -- primarily natural selection acting on random variations (genetic mutations).

But these claims are unsupported by the scientific evidence:

- Similarity (homology) in some fossil and living organisms cannot establish descent with modification. Homology could be a product of common design rather than common ancestry.
- Although there is abundant evidence for changes within existing species (microevolution), there are no confirmed instances in which variation and selection have produced a new species, much less a new organ or body plan (macroevolution).

In contrast to Darwinism, Unification Thought maintains:

- Human beings were deliberately created in the image of God, not accidentally produced by unguided natural processes.
- Humans are similar to other living things not because the former evolved from the latter but because the latter were created in the likeness of the former.
- Although God conceived of human beings first, He created them last, after preparing everything for them; as a result, the history of life progresses from the simplest organisms to creatures more and more like human beings.

A possible scenario for the origin of the first humans is:

- Adam and Eve began their lives as babies, but they were not biologically descended from other animals. God may have created them from material in the wombs of extinct animals with features intermediate between apes and humans. Such creatures may then have provided the nourishment and protection needed by the first human infants.

The UT view of human origins is at least as consistent as Darwinism with what we know of the history of life, and it is more consistent than Darwinism with what we know of the inability of unguided natural processes to produce new species, organs and body plans. By explaining God's role in human origins, and in the birth of every human spirit, UT provides a scientific and philosophical basis for world peace under God.

APPENDIX I

Molecular Phylogeny*

Since fossils cannot *in principle* show us relationships of ancestry and descent, Darwinists have increasingly turned to molecular biology to supply the evidence needed by their theory.

A 1999 booklet published by the U. S. National Academy of Sciences states: "The evidence for evolution from molecular biology is overwhelming and is growing quickly. In some cases, this molecular evidence makes it possible to go beyond the paleontological evidence. For example, it has long been postulated that whales descended from land mammals that had returned to the sea." Recent genetic comparisons, the booklet claims, "have confirmed this relationship."²⁹

Nineteenth-century German Darwinist Ernst Haeckel coined the word "phylogeny" to refer to the evolutionary history of a group of organisms. In the 1960s, biologists Emile Zuckerkandl and Linus Pauling suggested that evolutionary histories could be reconstructed by comparing organisms at the molecular level. If evolutionary relationships are inferred from comparisons of molecules -- DNA, RNA or proteins -- the resulting pattern is called a "molecular phylogeny." But except for a few rare DNA sequences that are several thousand years old, all the molecules we have come from organisms that live in the present.³⁰

All organisms, from bacteria to humans, contain DNA, RNA, and proteins. These molecules consist of sequences of subunits, but the exact sequences may differ from one organism to the next. Molecular phylogeny compares those sequences to infer evolutionary relationships. DNA, RNA or proteins that differ by only a few subunits are presumed to be more closely related in evolutionary terms than those that differ by many subunits.

An attractive feature of molecular phylogeny is that it lends itself to quantitative measurement. It is more difficult to quantify the degree of similarity between the skeletons of a fish and a human (how does one assign a number to a shape?) than it is to quantify the number of subunits that are identical in two different DNA sequences.

Since all living cells use molecular factories called ribosomes to make proteins, molecular phylogeny has relied heavily on comparisons among the molecules in ribosomes. The most popular of these has been 18s rRNA. (The "18s" refers to its size, and "rRNA" is the abbreviation for "ribosomal RNA.")

In principle, it should be a simple matter to line up the 18s rRNA molecules from several different organisms, calculate the degree of similarity between each one, and use those numbers to draw an evolutionary tree reflecting their ancestor-descendant relationships. In practice, however, this is not easy to do. First, it is not always clear

* This appendix is a slightly modified excerpt from Chapter Four of Jonathan Wells, *The Politically Incorrect Guide to Darwinism and Intelligent Design* (Washington, DC: Regnery Publishing, 2006), pp. 37-43.

how to line up two different molecules. Shifting a molecule one subunit relative to another molecule can radically alter the alignment and thus the result. Second, real biological molecules contain thousands of subunits, and if more than two molecules or more than two organisms are being compared, the numbers get very cumbersome. Many molecular biologists have spent their careers devising and refining sophisticated mathematical methods for constructing molecular phylogenies, and there is still considerable disagreement among such people over which methods are best.

With these things in mind, let's take a look at what molecular phylogeny has accomplished.

Ia. Whales

Since the oldest specimens in the whale series consist of skulls and teeth that are similar to an extinct group of hyena-like mammals called mesonychians, University of Chicago evolutionary biologist Leigh Van Valen proposed in the 1960s that modern whales are descended from mesonychians. For several decades, that was the consensus view among paleontologists.³¹

In the 1990s, molecular studies suggested a very different picture. By comparing various molecules from whales with their counterparts in other living mammals, molecular evolutionists concluded that the closest living relatives of whales are hippopotamuses. Many paleontologists considered this anathema, since on morphological grounds hippos seem much more closely related to other even-toed hoofed mammals such as pigs and camels. On molecular grounds, however, the "whippo" hypothesis claimed that hippos are more closely related to whales than they are to other land mammals.³²

Some evolutionary biologists remained skeptical. In 1999, John E. Heyning wrote in *Science*: "Previous experience suggests we should be cautious about wholeheartedly embracing such provocative hypotheses of relationships. More often than not, such controversial claims are found to be weakly supported or contradicted when scrutinized in more-detailed analyses." State University of New York biologists Maureen A. O'Leary and Jonathan H. Geisler examined 123 morphological characters from 10 living and 30 extinct species and concluded that whales are probably descended from mesonychians and that the "whippo" hypothesis is false.³³

In 2001, scientists working with Philip D. Gingerich and J. G. M. Thewissen analyzed ankle bones in several newly discovered fossils and concluded that whales are more closely related to living even-toed hoofed mammals than they are to mesonychians. The Gingerich team also concluded that it is "plausible" that hippos "may be the closest living relatives of whales," though the Thewissen group stopped short of claiming that hippos are closer to whales than they are to pigs or camels. In commentaries accompanying the reports, French biologist Christian de Muizon wrote that the new results "contradict the previous hypotheses of both paleontologists and molecular biologists," while American biologist Kenneth D. Rose pointed out that "substantial discrepancies remain" between the morphological and molecular evidence. In particular, removing mesonychians from the picture means the tooth and skull features that whales share with them had to be the result of "convergent evolution."³⁴

"Convergent evolution" is a term Darwinists use for similarities that are not thought to result from common ancestry. But if similarities are the primary evidence for common ancestry, how can we know when they are *not* due to common ancestry? Similarities in fossils originally suggested that hippos are evolutionary sisters of pigs and camels but far removed from whales. Similarities in molecules now suggest that hippos are evolutionary sisters of whales but far removed from pigs and camels -- and that the fossil similarities on which Darwinists originally relied were never evidence for common ancestry at all. If the original fossil similarities were not evidence for common ancestry, how do we know that the molecular similarities are? Why should we trust either hypothesis?

The answer matters, for two reasons. First, in order to understand how evolution works, it is important for biologists to know the route it took. To explain the origin of whales we need to know where they came from. Second, relationships are important. Imagine waking up one day and finding out that the people you thought were your parents and siblings are no more closely related to you than space aliens.

We all want to know our true family relationships. When it comes to molecular phylogeny, however, it turns out that we can't tell whether we are more closely related to insects than we are to worms.

Ib. Evolutionary Relationships of the Animal Phyla

The simplest and presumably most primitive animals are sponges and jellyfish. Other major animal groups, or phyla, have traditionally been divided into three broad categories based on morphological similarities. In this scheme, vertebrates (animals with backbones, such as humans) were considered more closely related to arthropods (crustaceans and insects) than to nematodes (tiny roundworms found in soil and marine sediments). Morphologically, we are evolutionary first cousins of insects, but only distant cousins of roundworms.

In 1997, however, Anne Marie Aguinaldo and her colleagues proposed a radical revision of animal relationships based on comparisons of their 18s rRNA. According to the revised phylogeny, we are no more closely related to insects than we are to roundworms.³⁵

But some phylogenies inferred from 28s RNA (a larger molecule also found in ribosomes) conflict with phylogenies inferred from 18s rRNA. Even worse, 18s rRNA phylogenies differ from laboratory to laboratory. In 1999, evolutionary biologist Michael Lynch wrote: "Clarification of the phylogenetic relationships of the major animal phyla has been an elusive problem, with analyses based on different genes and even different analyses based on the same genes yielding a diversity of phylogenetic trees."³⁶

Lynch was optimistic that with improved methods molecular phylogeny would clarify relationships among the animal phyla. Despite the continuing efforts of many researchers, however, conflicts among molecular phylogenies of the major animal groups have not just persisted, but grown.

In 2000, French molecular biologist André Adoutte and colleagues affirmed their confidence in the new rRNA-based animal phylogeny. In 2002, however, Pennsylvania State University biologist Jaime E. Blair and colleagues compared over 100 protein alignments and concluded: "The grouping of nematodes with arthropods is an artifact that

arose from the analysis of a single gene, 18s rRNA. The results presented here suggest caution in revising animal phylogeny from analyses of one or a few genes... Our results indicate that insects (arthropods) are genetically and evolutionarily closer to humans (vertebrates) than to nematodes.³⁷

In 2004, National Center for Biotechnology Information researcher Yuri I. Wolf and his colleagues analyzed over 500 proteins using three different phylogenetic methods. They concluded that "the majority of the methods... grouped the fly with humans to the exclusion of nematodes." In 2005, French biologist Hervé Philippe and colleagues analyzed 146 genes and 35 species representing 12 animal phyla. They concluded that their data grouped arthropods with nematodes to the exclusion of vertebrates.³⁸

So round and round she goes, and where she stops, nobody knows. In a commentary accompanying Philippe's report, University of Edinburgh evolutionary biologists Martin Jones and Mark Blaxter wrote: "Despite the comforting certainty of textbooks and 150 years of argument, the true relationships of the major groups (phyla) of animals remain contentious." Although Jones and Blaxter favored Philippe's view, they predicted that the molecular tree of life "will sprout new shoots -- and new controversies -- very soon." Indeed, in December 2005, biologist Antonis Rokas and colleagues used two different methods to analyze fifty genes from seventeen animal groups. They noted that "different phylogenetic analyses can reach contradictory inferences with absolute support" and concluded that the evolutionary relationships among the phyla "remain unresolved."³⁹

Clearly, molecules are no better than fossils at resolving evolutionary relationships. Inconsistencies in the evidence are common, and they are growing. Most importantly, however, both fossil and molecules require that common ancestry be assumed in order to place the data into a branching-tree pattern as required by Darwinian theory. Since the theory is assumed to be true and inconsistencies are systematically ignored, it is clear that the data serve merely as window dressing.

APPENDIX II

Excerpts from "The Master Speaks on Creation" (MS-5)

Unofficial transcription of tapes made during sessions with members and guests
at church centers in the United States, April-May 1965.
(Q = question from member or guest; A = Sun Myung Moon's answer)

...

Q: Did man come into existence suddenly, while the rest of creation was the product of evolution? Or did man gradually evolve?

A: Grass didn't take long to grow. Bees didn't take long to grow. They took originally just as long as they take today. If you sow a seed this year, it will grow and become a young tree next year.

Q: The theory of evolution, which may not be right, says that life started out as a single cell and continues to multi-celled organisms. This is not true?

A: Man is made of animal essence, vegetable essence and mineral essence. Suppose you have prepared all the material necessary to build a house. It doesn't take long to build the house yourself. To collect the material may take time, but once you have the materials the building itself doesn't take much time. Likewise, the animal, vegetable, and mineral kingdoms were all created over perhaps millions of years. All the materials were there. Out of those essences, it wouldn't take long to create a man.

Q: Did Adam and Eve have earthly, physical parents?

A: No! The source of creation is energy. You don't need physical parents to be created. Adam was a special creation.

...

Q: Were Adam and Eve created from other animal-like humans?

A: Have you ever wondered how a plant came into being? Where did the seed come from? In the small seed is every potential of the big tree. Likewise, in God's energy and power itself is all the potential of man. A baby is born through the strong love of its father and mother. God's strong love, His energy, created the baby. Eve was not created out of Adam's rib, but was created after Adam and after Adam's pattern.

Q: Were Adam and Eve born of God as we understand birth? That is, physiologically?

A: Through the power of God, Adam and Eve were created as a baby is created by humans today. Man was a special creation.

Q: Archeologists are coming up with the bones of humans considered to be many millions of years old. How does this relate to Adam and Eve being created all at once?

A: On the whole, the process of creation was evolutionary. It took a long time to have the plants, animals and minerals on earth. There may have been animals very much like man. It is probably these skeletons which have been discovered.

...

Q: Were Adam and Eve, then, an actual physical creation as it says in the Bible, or did their physical bodies evolve and their spirits evolve?

A: Adam and Eve were produced by exactly the same process as we produce a child. By strong love and energy of father and mother, a child is conceived and grows, first within the womb, then outside of it. In the same way, God created Adam and Eve. By His love and energy, a little thing was created which grew and grew and became Adam. It is all an evolutionary process.

Q: Then who nursed the two babies?

A: God Himself did. They were raised in a very unusual environment. Because of God's energy and power, He could do this. We don't know in what exact way. Even a plant grows from seed to tree in the natural environment which God created.

Q: How is man made in God's image?

A: The body is created to conform with the mind, and the mind is created to conform with God.

Q: Some people are beautiful physically, but the inside is not beautiful. And some people have beautiful hearts but are outwardly ugly.

A: In God's eyes, external beauty is not beautiful. Only inner beauty is beautiful.

Q: In what manner is man created in God's image?

A: The whole being, physical and spiritual, is created in God's image. In the spirit world, the form or image of God is not visible. But the entire spirit world appears like a human form. Some people belong to the part which represents the eye, some people belong to the part which represents the feet, etc.

...

APPENDIX III

Excerpt from August 1, 1977 letter from Sang Hun Lee to Jonathan Wells

Dear Mr. Wells,

I have received your letter and thesis of July 18th... [personal details omitted]

In the following, I would like to arrange and introduce to you what Father has said about evolution. I would like you to understand that only the gist of what He has said is presented.

1. Because Unification Thought is based on the Doctrine of Creation, it does not accept the theory of evolution.

2. But Unification Thought acknowledges that creatures appear to have evolved phenomenologically because there were orderly stages in the creation of the universe.

Accordingly, a concept of “creative evolution” may be given. (But this is one thing, and that of Bergson’s is another.)

3. The so-called “stages of evolution” which were established by decoding fossils only appear to be such stages. It is merely dogmatic supposition that the stages are considered to have come through evolution. Evidence of intermediate stages is a prerequisite to the proof of the theory of evolution. Nevertheless such intermediate stages are rarely found.

It is irrational and dogmatic to try to prove the existence of “intermediate stages” in evolution by the existence of “the archaeopteryx.” With that alone, we can never assert that the creatures in the intermediate stages existed between all the stages.

4. The theory of mutation shows only that an organism varies all of a sudden when it continues to be stimulated. But we cannot demonstrate that mutations are the cause of evolution. We can not assert it because the experimental evidence shows only variation (i.e., emergence of new varieties), never evolution.

5. The creation was done in orderly stages. There can be two opinions in connection with this fact. (But these are only my guesses according to Father’s view concerning evolution.)

For one thing, we can imagine the following. By projecting a new idea and energy into a creature in the preceding stage, God created a new creature of next stage.

Let’s take the example of the creation of fish. By projecting a new idea (such as that of Amphibia) and energy into one or some fishes, God created an amphibian and then

multiplied it. After that, by projecting an idea like that of reptile and energy into one or some of the amphibians, God created a reptile and then multiplied it.

Let's take the case of man. As the preceding forms, God created the anthropoids in advance; then by projecting a new idea (i.e., that of "the man") and energy into one of them, God created the physical man, and then by projecting the spirit man into him (i.e., breathing into his nostrils the breath of life), God created man who has both the spirit man and the physical man together.

As another view, we can imagine that God created a new creature in the following stage without any connection to the creation of the preceding creatures. For instance, after God created the anthropoids, He might have created man without any connection to the creation of them.

The above are Father's opinions concerning the theory of evolution arranged by me and my guesses according to Father's view. If necessary, you can refer to this for your thesis.

Sang Hun Lee
Unification Thought Institute
Seoul, Korea

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