BIOLOGICAL EVOLUTION

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Bert Thompson, Ph.D.

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INTRODUCTION

There are two fundamentally different, diametrically opposed explanations for the origin of the Universe and all living things in that Universe. Each of these explanations is a cosmogony—an entire world view, or philosophy, of origins and destinies, of life and of meaning. One of these world views is the concept of creation. According to the theory of creation, or as it may be called more properly, the creation model, the Universe **is not** self-contained. Everything in the Universe, and in fact, the Universe itself, came into being through the design, purpose, and deliberate acts of a supernatural Creator Who, using processes that are not continuing as natural processes in the present, created the Universe, the Earth, and all life on that Earth, including all basic types of plants and animals as well as humans.

The second alternative and opposing view is the concept of evolution. According to the theory of evolution, or as it may be called more properly, the evolution model, the Universe **is** self-contained. Everything in the Universe has come into being through mechanistic processes without any kind of supernatural intervention. This view asserts that the origin and development of the Universe and all of its complex systems (the Universe itself, living non-human organisms, man, etc.) can be explained solely on the basis of time, chance, and continuing natural processes that are innate in the very structure of matter and energy.

According to this theory, all living things have arisen from a single, one-celled organism that in turn had arisen from a dead, inorganic world. This theory may be called the “General Theory of Evolution,” a name ascribed to it by George Kerkut, the famous British physiologist/evolutionist who wrote: “On the other hand, there is the theory that all living forms in the world have arisen from a single source which itself came from an inorganic form. This theory can be called the ‘General Theory of Evolution’...” (1960, p. 157). George Gaylord Simpson, formerly of Harvard, defined evolution by stating that it “is a fully natural process, inherent in the physical properties of the universe, by which life arose in the first place

and by which all living things, past or present, have since developed, divergently and progressively" (1960, p. 969). Theodosius Dobzhansky, evolutionary geneticist of the Rockefeller University, suggested:

> The theory of evolution asserts that: (1) the beings now living have descended from different beings which lived in the past; (2) the evolutionary changes were more or less gradual, so that if we could assemble all the individuals which have ever inhabited the Earth, a fairly continuous array of forms would emerge; (3) the changes were predominantly divergent, so that the ancestors of the now living forms were on the whole less different from each other than these forms themselves are; (4) all these changes have arisen from causes which now continue to be in operation, and which therefore can be studied experimentally (1951, p. 11).

It is important to distinguish between the General Theory of Evolution, as defined by such men as Kerkut, Simpson, and Dobzhansky, and the Special Theory of Evolution, which states that limited changes within groups may be observed but that such changes always remain within what biologists call "phylogenetic boundaries." Dr. Kerkut, who first coined the phrase, "Special Theory of Evolution," defined it in these words: "There is a theory which states that many living animals can be observed over the course of time to undergo changes so that new species are formed. This can be called the 'Special Theory of Evolution' and can be demonstrated in certain cases by experiments" (1960, p. 157). In other words, this is limited variation within groups. In all cases we start with life, the seed produces after its basic kind, and there are limits to the variations. None among us denies the fact that the Special Theory of Evolution is true. Change **does** occur. And in this sense everyone believes in evolution. The real question that must be asked, however, is this: Does that change cross phylogenetic boundaries? Or, put another way, is **organic** evolution true?

WHY DO PEOPLE BELIEVE IN EVOLUTION?

One of the most mind-numbing mysteries for those who do not believe in evolution is trying to understand the people who do. [Perhaps evolutionists feel the same exasperation in regard to creationists' beliefs, but on that point I am less qualified to judge.] Such an observation is not intended to be derogatory, but is offered merely as a statement of fact. Many who believe in creation do so because they have seen the evidence that establishes the Creator's existence. They understand that where there is a painting, by necessity there must be a painter. Where there is a poem, there must be a poet. Where there is a law, there must be a lawgiver. Where there is design, there must be a designer.

Because the Universe is intricately designed, creationists find it not only difficult, but impossible, to believe that it "just happened." To them, suggesting that purely natural forces are capable of explaining the size, complexity, and organization of the Universe, and the delicate intricacies of life found within it, is illogical; the only rational conclusion is that there must have been a Grand Designer. Further, those who believe in creation do so because they have examined the empirical evidence, and are confident that a reasonable *prima facie* case can be made to support their conviction. Creationists contend that the evidence points not to a Universe that is self-created or self-explained, but to a Universe that is the result of creation at the hand of an omnipotent Creator.

As one who writes and lectures often on the topics of creation and evolution, frequently I am asked the question: "Why do people believe in evolution?" Often the question is phrased in what are intended to be complimentary terms: "Why is it that so many **obviously intelligent** people believe in evolution?" Neither question is easy to answer because generally the querist wants a simple, concise answer. It is difficult for him to understand why people whom he accepts as "obviously intelligent" believe a concept such as evolution that he, personally, considers so unworthy of acceptance or recommendation by intelligent people. It has been my experience that rarely is there a singular response that can provide an answer to such a question, because rarely is there a singular reason that can explain adequately why a person believes what he does. Especially is this true in regard to belief in evolution.

At times, the controversy that centers on the topics of creation and evolution has generated more heat than light. This does not necessarily have to be the case, however. In an open society, the topic of origins, and the varying views that people hold on origins, ultimately will be discussed; in fact, they **should** be discussed. But because the subject matter has to do with deeply held convictions, emotions often run high. One good way to avoid emotional entanglement, and the "more heat than light" syndrome that generally accompanies it, is to work diligently to comprehend the other person's position as completely as possible, and therefore to discuss it as accurately and calmly as possible in any given situation. That task is made easier if there exists—at the beginning of the discussion—a basic understanding of **why** the person believes as he does. Again, especially is this true in regard to belief in evolution.

While it may seem somewhat of a truism to suggest that people believe in evolution for a variety of reasons, realization of this fact, and a legitimate exploration of the reasons people offer for believing what they do, can go a long way toward a better understanding of opposing views found within the creation/evolution controversy. With better understanding comes improved communication. And with improved communication comes increased opportunity for dialogue—which can set the stage for the presentation of other viewpoints that perhaps have not been considered previously (e.g., in this particular instance, persuading the evolutionist to consider the evidence for creation).

As we attempt to respond to the question, "Why do so many obviously intelligent people believe in evolution?," we hope to be able to provide a better comprehension of the system of organic evolution, and of the people who accept it. Included among the reasons why people believe in evolution are the following.

Reason #1

There can be little doubt that many today believe in evolution simply because it is what they have been taught. For the past century, evolution has been in the limelight. And for the past quarter of a century or more, it has been taught as a scientific fact in many elementary, junior high, and senior high schools, as well as in most colleges and universities. Marshall and Sandra Hall have offered this summary.

> In the first place, evolution is what is taught in the schools. At least two, and in some cases three and four generations, have used textbooks that presented it as proven fact. The teachers, who for the most part learned it as truth, pass it on as truth. Students are as thoroughly and surely indoctrinated with the concept of evolution as students have ever been indoctrinated with any unproven belief (1974, p. 10).

In their book, *Why Scientists Accept Evolution*, Bales and Clark confirmed such an observation. "Evolution," they wrote, "is taken for granted today and thus it is uncritically accepted by scientists as well as laymen. It is accepted by them today because it was already accepted by others who went before them and under whose direction they obtained their education" (1966, p. 106). People believe in evolution because they have been taught that it is true.

Reason #2

To suggest that many people today accept evolution as true merely because they have been taught to believe it does not tell the whole story, however. Intellectual pride enters into the picture as well. Who among us does not want to present at least the appearance of being smart and well educated? Over the last century, we have been led to believe that if we wish to be considered intelligent, then we should believe in evolution, because intelligent people all over the world believe in evolution. As Henry Morris well stated the issue: "...the main reason most educated people believe in evolution is simply because they have been told that most educated people believe in evolution!" (1998, p. 12).

Consider the hypothetical example of two college students discussing their professors and courses. One of the students, Joe, asks his friend, Mark, the following question: "Hey, Mark, do you believe in evolution? My professor says all smart folks do." Honestly, what is Mark supposed to say? If he says, "No, Joe, I don't believe in evolution," by definition he has admitted to being outside the sphere of all the "smart folks." On the other hand, if he says, "Yes, Joe, I do believe in evolution," he may be admitting to a belief based not on an examination of the evidence, but on the idea that he does not wish to be viewed by his peers as anything but "smart." Undoubtedly, many people today fall into this category. They do not accept evolution because they have seen evidence that establishes it as true. Rather, they believe it because doing so places them in the same category as others who are considered to be well educated and intelligent.

Reason #3

Further exacerbating the problem is the fact that evolution has been given a "stamp of approval" by important spokespersons from practically every field of human endeavor. While there have been those from politics, the humanities, the arts, and other fields who openly have defended evolution as factual, in no other area has this defense been as pronounced as in the sciences. Because science has seen so many successes, and because these successes have been so visible and well publicized, scientists have been granted an aura of respectability that only can be envied by non-scientists. As a result, when scientists champion a cause, people take notice. After all, it is their workings through the scientific method that

have eradicated smallpox, put men on the Moon, prevented polio, and lengthened life spans. We have grown used to seeing "experts" from various scientific disciplines ply their trade in an endless stream of amazing feats. Heart surgery has become commonplace; organ transplants have become routine; space shuttles flying to the heavens have become standard fare.

Thus, when evolution is presented as something that "all reputable scientists believe," there are many who accept such a statement at face value, and who fall in line with what they believe is a well-proven dictum that has been enshrouded with the cloak of scientific respectability. As philosopher Paul Ricci has written: "The reliability of evolution not only as a theory but as a principle of understanding is not contested by the vast majority of biologists, geologists, astronomers, and other scientists" (1986, p. 172). Or, as Stephen Jay Gould put it:

> The fact of evolution is as well established as anything in science (as secure as the revolution of the earth around the sun), though absolute certainty has no place in our lexicon (1987, p. 64, parenthetical comment in orig.).

These kinds of statements leave the impression that well-informed, intelligent people simply do not doubt the truthfulness of evolution. The message is: "All scientists believe it; so should you." And many do, because, as Marshall and Sandra Hall have inquired: "How, then, are people with little or no special knowledge of the various sciences and related subjects to challenge the authorities? It is natural to accept what 'experts' say, and most people do" (1974, p. 10). The simple fact is, however, that truth is not determined by popular opinion or majority vote. A thing may be, and often is, true even when accepted only by the minority. Believing something based on the assumption that "everyone else" also believes it often can lead to disastrous results. As Guy N. Woods has remarked: "It is dangerous to follow the multitude because the majority is almost always on the wrong side in this world" (1982, 124[1]:2).

Reason #4

Without a doubt, there are many people who believe in evolution because they have rejected God. For those who refuse to believe in the Creator, evolution becomes their only escape. They generally make no pretense of believing it based on anything other than their disbelief in God. Henry Fairfield Osborn, one of the most famous evolutionists of the early twentieth century, suggested: "In truth, from the earliest

stages of Greek thought man has been eager to discover some natural cause of evolution, and to abandon the idea of supernatural intervention in the order of nature" (1918, p. ix). Henry Morris has noted: "Evolution is the natural way to explain the origin of things for those who do not know and acknowledge the true God of creation. In fact, some kind of evolution is absolutely necessary for those who would reject God" (1966, p. 98).

Sir Arthur Keith of Great Britain wrote: "Evolution is unproved and unprovable. We believe it because the only alternative is special creation, and that is unthinkable" (as quoted in Criswell, 1972, p. 73). Professor D.M.S. Watson, who held the position of the Chair of Evolution at the University of London for more than twenty years, echoed the same sentiments when he stated that "evolution itself is accepted by zoologists, not because it has been observed to occur or can be proven by logically coherent evidence to be true, but because the only alternative, special creation, is incredible" (1929, 123:233). These kinds of statements leave little to the imagination, and make it clear that those who say such things believe in evolution not because of any evidence, but instead because they have made up their minds, *a priori*, that they are not going to believe in God.

In his text, *Man's Origin: Man's Destiny*, the eminent United Nations scientist, A.E. Wilder-Smith, observed that "Darwinism and Neo-Darwinism, rightly or wrongly, have been used everywhere in the East and West, in the hands of the atheists and agnostics, as the main weapon against the biblical doctrine of origins" (1975, p. 31). For the person who stubbornly refuses to believe in God, belief in evolution becomes automatic. Similarly, opposition to God as the Creator, the Bible as His Word, and the system of origins the Bible describes become just as automatic. Whenever a person rids himself of God, he simultaneously (even if unknowingly) embraces evolution. By his disbelief, he has eliminated creation as an option regarding his origin.

Reason #5

Another reason people offer for their belief in evolution has to do with the fact that there is so much evil, pain, and suffering in the world. No rational, well-informed person can deny the widespread and unmistakable occurrence of "bad" things that happen, often engulfing those who seem undeserving of

such tragic events. To some, no explanation from religionists—regardless of how elaborately stated or elegantly defended that explanation may be—ever will provide an adequate answer to the conundrum of how an omnipotent, omniscient, omnibenevolent God can allow atrocities to fill His specially created world.

Evolution, on the other hand, provides what appears to be a perfectly logical explanation for such a scenario. According to evolutionary dogma, throughout the history of the world various species (including man) have been engaged in a struggle for survival and advancement. Charles Darwin, borrowing a phrase from the English philosopher, Herbert Spencer, referred to it as "survival of the fittest." The evolutionist—by the very nature of his theory—is forced to view the Universe and everything within it as the end result of numerous purposeless accidents. All living things, man included, exist on the Earth not because of any Grand Plan, but because of fortuitous occurrences that resulted from chance happenings in nature. And, to survive, and thrive, in such a world may seem to justify a "might makes right/strong subjugates the weak/to the victor go the spoils" attitude. It is a jungle out there, and in the jungle it is the law of tooth and claw that prevails.

Since man is viewed as little more than a "naked ape" (to borrow the words of evolutionary anthropologist, Desmond Morris), why should he somehow be exempt from the perils that continually befall other species of animals? These animals live their entire lives with one eye looking over their shoulder, as it were, because they exist in a dog-eat-dog world with no set moral standard. Man, according to evolutionary theory, is no different. His only claim to fame lies in the fact that (thus far) he stands on the last rung of the evolutionary ladder.

But nature confers on him no special rights, privileges, or protection. In a world where evolution is considered as true, and "survival of the fittest" is touted as nature's way of weeding out the weak, it should be no surprise that evil, pain, and suffering exist. In fact, from the evolutionary vantage point, whenever competition occurs for such things as food supplies, adequate shelter, reproductive advantages, etc., humanity has to learn to cope with evil, pain, and suffering. Granted, at first this may sound harsh, yet from the evolutionists' perspective it not only is consistent but offers an attempted explanation for the

undeniable existence of “bad” things in our world. Unfortunately, all too often the answers offered by religionists for the problem of evil, pain, and suffering have fallen short of the mark, and as a result people have accepted evolution as providing a legitimate explanation for a very real problem in their lives.

Reason #6

As unpleasant as it is to have to admit it, some people believe in evolution because they have heard about, witnessed, or experienced first-hand the mistakes of religionists through the ages. Whether it is the offering of young virgins to an imaginary deity, the burning of alleged witches at the stake, or the adultery of a highly visible televangelist, the truth of the matter is that on occasion believers in God have set a very poor example—one that sensitive, thinking people naturally would have difficulty following.

To some, the very history of religion makes it suspect from the outset. Attempts to force people to accept a certain religion (as in the Crusades), or misguided attempts to squelch open discussion of important issues (as in the Catholic Church’s censure of Galileo), have left a bitter taste in the mouths of many. Add to that the hypocrisy of, or word spoken in anger by, a person who wears the name “Christian,” and the damage may be such that even in a lifetime it cannot be repaired. The result is that those who have been offended want nothing whatsoever to do with the God of the Bible, and as they reject Him, they also reject His account of the creation of the world in which they live.

Reason #7

While it is undeniable that some reject creation because of inappropriate conduct on the part of those who advocate it, nevertheless it is true that some reject God, and creation, to excuse or legitimize their own inappropriate personal conduct. In other words, they believe in evolution because it allows them to avoid any objective moral standard of behavior. It keeps them “out of reach” of any deity. It provides a subjective climate of situation ethics where any and all behavior, no matter how absurd or perverse, is acceptable. It nourishes a “do your own thing” attitude that precludes rules and regulations—in a vain attempt to circumvent the guilt that inevitably comes from doing wrong.

In the evolutionary scenario, humans are merely the last in a long line of amoebas, crocodiles, and orangutans resulting from fortuitous cosmic accidents. In such an arrangement, it is futile to speak of

"personal responsibility." There exists, in the grand scheme of things, no reason why one "ought" or "ought not" to act a certain way, or to do/not do a certain thing. Aldous Huxley stated the matter succinctly in his article, "Confessions of a Professed Atheist":

> I had motives for not wanting the world to have meaning; consequently, assumed it had none, and was able without any difficulty to find reasons for this assumption.... The philosopher who finds no meaning in the world is not concerned exclusively with a problem in pure metaphysics; he is also concerned to prove there is no valid reason why he personally should not do as he wants to do.... For myself, as no doubt for most of my contemporaries, the philosophy of meaninglessness was essentially an instrument of liberation. The liberation we desired was simultaneously liberation from a certain political and economic system and liberation from a certain system of morality. We objected to the morality because it interfered with our sexual freedom (1966, 3:19).

Were Huxley and his cohorts to abandon belief in evolution and accept the existence of God and the truthfulness of creation, it would have interfered with their "sexual freedom." Realizing that, they freely chose instead to abandon belief in God. That left them with only one option—belief in evolution. It was not something they accepted because of the weight of the evidence. Rather, it was something they accepted because they wished to avoid any personal accountability to their Creator. Their actions belied their motives. As Guy N. Woods has remarked: "Convince a man that he came from a monkey, and he'll act like one!" (1976, 118[33]:514).

Reason #8

Lastly, we may state that some people accept evolution because they are convinced that it is the correct answer to the question of origins. They have examined the evidence and, on the basis of their examination, have concluded that evolution is the only plausible explanation for the Universe and all that it contains. These people generally are both sincere and open-minded. They are not attempting to rid themselves of the idea of God. They do not feel the need to be "intellectually correct." They are not reacting to unkind treatment at the hand of religionists. They are not searching for a way to justify worldly behavior. They simply believe the evidence favors evolution, and thus have accepted it as the correct view of origins.

What evidence exists that causes people to believe in evolution? And what is the creationist's response to this evidence? I would like to examine three of the most popular arguments for evolution and then present a creationist response to them.

NATURAL SELECTION

The Origin of Species by Means of Natural Selection was the title of Charles Darwin's book, published in 1859. Those last two words, "natural selection," have come to be as oft' discussed in the halls of science as the "origin of species." Darwin, of course, gave to natural selection an almost metaphysical quality. He wrote: "Natural selection is daily and hourly scrutinizing every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working at the improvement of each organic being" (as quoted in Hitching, 1982, p. 83). And it certainly is no secret that Darwin's concept of natural selection, or "survival of the fittest" as it has come to be known, has long been at the center of evolutionary thought. According to Darwin, an individual creature with a particular advantage—the "fittest of its kind"—would be selected naturally to pass on the advantage to its offspring. A horse with long legs, for example, would be able to gallop faster than the rest and therefore escape from wolves or other predators, thus surviving to produce heirs. A "fit" creature was the one best able to carry out the functions that kept it alive—i.e., it was the best adapted to its local environment and its way of life. This is what Darwin meant by "survival of the fittest."

Evolutionist Francis Hitching, in *The Neck of the Giraffe*, observed that natural selection did not become just biology's unifying principle "but its mantra—a phrase embodying a kind of spiritual power" (1982, p. 83). Harvard's renowned taxonomist, Ernst Mayr, compared it to a sculptor. Sir Gavin de Beer called it the "master of ceremonies." George Gaylord Simpson thought it like a poet or a builder.

But difficulties with the concept of natural selection soon developed. T.H. Morgan, the eminent geneticist and pioneer of fruit fly research, seems to have been the first to spot the problem. He wrote early in this century: "For it may be little more than a truism to state that the individuals that are best adapted to survive have a better chance of surviving than those not so well adapted to survive" (as quoted in Bethell, 1976). Nevertheless, evolutionists, both past and present, have continued to defend the concept. As late as 1977, Stephen J. Gould of Harvard wrote:

> Certain morphological, physiological, and behavioral traits should be superior *a priori* as designs for living in new environments. These traits confer fitness by an engineer's criterion of good design, not by the empirical fact of their survival and spread. It got colder before the woolly mammoth evolved its shaggy

> coat.... The essence of Darwinism lies in its claim that natural selection creates the fit.... It preserves the favorable variants and builds fitness gradually (1977a, pp. 42,44).

Hitching observed that "Darwinism, as Darwin wrote it, could be simply but nonsensically stated: survivors survive. Which is certainly a tautology; and tells us nothing about how species originate, as even Darwin's supporters admit" (1982, p. 84). Hitching went even farther to note that "a tautology (or truism) is a self-evident, circular statement empty of meaning, such as 'Darwin was a man,' or 'biology is studied by biologists.' The trouble with natural selection (and survival of the fittest) is that it seems to fall into this category" (p. 84, parenthetical comments in orig.).

Creationists have been trying for years to get evolutionists to see just that. Natural selection **is** a tautology. It somehow is supposed to ensure the "survival of the fittest," yet the only pragmatic way to define the "fittest" is "those that survive." Various writers (even evolutionists) have begun to take notice of this serious problem. At a professional symposium on Neo-Darwinism, C.H. Waddington of Edinburgh University opined:

> The theory of neo-Darwinism is a theory of the evolution of the changing of the population in respect to leaving offspring and not in respect to anything else. Nothing else is mentioned in the mathematical theory of neo-Darwinism. It is smuggled in, and everybody has in the back of his mind that the animals that leave the largest number of offspring are going to be those best adapted also for eating peculiar vegetation, or something of this sort; but this is not explicit in the theory. All that is explicit is that they will leave more offspring. There, you do come to what is, in effect, a vacuous statement: Natural selection is that some things leave more offspring than others; and you ask, which leave more offspring than others; and it is those that leave more offspring; and there is nothing more to it than that. The whole guts of evolution—which is, how do you come to have horses and tigers and things—is outside the mathematical theory (as quoted in Moorhead and Kaplan, 1967, p. 14).

Waddington is not alone in his summary of the serious problems facing evolution as a result of natural selection having been shown to be a circular argument. G.A. Peseley joined the ranks of those criticizing natural selection as evolution's mechanism when he stated:

> One of the most frequent objections against the theory of natural selection is that it is a sophisticated tautology. Most evolutionary biologists seem unconcerned about the charge and make only a token effort to explain the tautology away. The remainder, such as Professors Waddington and Simpson, will simply concede the fact. For them, natural selection is a tautology which states a heretofore unrecognized relation: the fittest—defined as those who will leave the most offspring—will leave the most offspring.
>
> What is most unsettling is that some evolutionary biologists have no qualms about proposing tautologies as explanations. One would immediately reject any lexicographer who tried to define a word by the same word, or a thinker who merely restated his proposition, or any other instance of gross redundancy; yet no one seems scandalized that men of science should be satisfied with a major principle which is no more than a tautology (1982, 38:74).

Arthur Koestler, vitalist philosopher and author, incisively described the tautology of natural selection in these words:

> Once upon a time, it all looked so simple. Nature rewarded the fit with the carrot of survival and punished the unfit with the stick of extinction. The trouble only started when it came to defining fitness.... Thus natural selection looks after the survival and reproduction of the fittest, and the fittest are those which have the highest rate of reproduction.... We are caught in a circular argument which completely begs the question of what makes evolution evolve (1978, p. 170).

Yet, as Harvard-trained lawyer Norman MacBeth observed: "In the meantime, the educated public continues to believe that Darwin has provided all the relevant answers by the magic formula of random mutations plus natural selection—quite unaware of the fact that random mutations turned out to be irrelevant and natural selection a tautology" (1982, 2:18).

The problem for natural selection, however, does not stop there. In fact, it gets even more serious, as Gould admitted when he wrote: "The essence of Darwinism lies in a single phrase: natural selection is the creative force of evolutionary change. No one denies that selection will play a negative role in eliminating the unfit. Darwinian theories require that it create the fit as well" (1977c, p. 28). Unfortunately, that is the one thing natural selection **cannot** do. Colin Patterson, senior paleontologist of the British Museum of Natural History in London, placed the matter in its proper focus when he said: "No one has ever produced a species by mechanisms of natural selection. No one has ever gotten near it and most of the current argument in neo-Darwinism is about this question: how a species originates. And it is there that natural selection seems to be fading out, and chance mechanisms of one sort or another are being invoked" (1982).

Creationists never have objected to the idea of natural selection as a mechanism for eliminating the unfit, non-adapted organisms. As a matter of fact, creationists long before Darwin were advocating natural selection as a **conservation principle**. As a screening device for eliminating the unfit, natural selection represents the Creator's plan for preventing harmful mutations from affecting and even destroying the entire species. But that is **all** it does. Further, to employ an old adage, that which says too much says nothing at all. The long neck of the giraffe and the short neck of the hippopotamus both are explicable by natural selection, as are the dull coloration of the peppered moth and the brilliant colors of the bird of paradise. Natural selection "explains" everything and therefore really explains **nothing**. It cannot create

any new species, genera, families, phyla, etc. As Patterson rightly observed, no one ever has produced a single species by natural selection. Furthermore, it cannot explain adaptation. The fact that an organism **is** adapted to its environment tells us absolutely nothing about how it **became** adapted. Any organisms not so adapted would not have survived, but this constitutes no proof that the adaptations were produced by evolution. Yet Gould has admitted that natural selection must be able to "create the fit" if it is to be deemed successful in an evolutionary scenario. That it cannot do. It is nothing more than a tautology—an argument that reasons in a circle. As such, it is to be rejected. It certainly cannot explain the vast complexity of life around us. Circular arguments are not equipped with the power to "explain" such, much less "create" such.

GENETIC MUTATIONS

At the turn of the century, just as Darwin's dogma of natural selection was beginning to fall on hard times, the science of genetics was born. Some who began to study this fledgling science felt for the first time that they had in their possession the actual mechanism of evolution—genetic mutations. Their suggestion was that species arose by mutations that then somehow were incorporated into the system by natural selection. Today the alleged mechanism of evolution is **natural selection plus genetic mutations**. As Simpson and Beck have stated: "Mutations are the ultimate raw materials for evolution" (1965, p. 430). Dobzhansky commented that "the process of mutation is the only known source of the new materials of genetic variability, and hence of evolution" (1957, p. 385).

Hitching corroborated the statements of both Simpson and Dobzhansky when he commented: "The theory is that a chance favorable mutation gradually spreads through a population of plants or animals by a process of natural selection of the fittest; and over geological periods of time, a new species emerges. Genetics provides the mechanism that supports Darwin's original insight" (1982, p. 34). Ernst Mayr agreed: "The proponents of the synthetic theory maintain that all evolution is due to the accumulation of small genetic changes, guided by natural selection" (1963, p. 586).

Evolution without a mechanism is like a car with no engine—it is not going anywhere. Evolutionists soon realized that **natural selection alone** was not a sufficient mechanism. Organisms would not change

from one species to another unless their genetic material was changed. Mutations are hereditary changes caused by alterations of the original genetic material. As one biology textbook reported, mutations are "a change in the form, qualities, or nature of the offspring from their parent type brought about by a change in the hereditary material from the parents" (Wasserman, 1973, p. 803). It is no overstatement to say that the only known mechanism of evolution today is natural selection plus genetic mutations. We are told that "nature" has "selected" certain beneficial mutations and incorporated them into various organisms, eventually causing those organisms to change from one kind to another. If "mutations are the ultimate raw materials for evolution" and therefore provide the only known mechanism for evolution, there are some very serious problems indeed. Consider, for example, the following.

Mutations are random. C.H. Waddington, an evolutionary geneticist, once noted: "It remains true to say that we know of no other way other than **random** mutations by which hereditary variation comes into being..." (1962, p. 98, emp. added). Henry Morris, a creationist, concurred: "There is no way to control mutations to make them produce characteristics which might be needed. Natural selection must simply take what comes" (1974, p. 54). In other words, nature is not "selecting" at all. Rather, nature is pressed into accepting whatever it is that appears. The obvious question, then becomes: What appears?

Mutations are very rare, not common. How often do random mutations occur? Francisco J. Ayala, evolutionary geneticist of the University of California, has written: "It is probably fair to estimate the frequency of a majority of mutations in higher organisms between one in ten thousand and one in a million per gene per generation" (1970, p. 3). The evolutionists themselves frankly and candidly admit what every research biologist knows: mutations occur rarely, and when they do, they are entirely random.

Good mutations are very, very rare. There are, theoretically speaking, at least three kinds of mutations: good, bad, and neutral. Obviously, the bad mutations (that cause various diseases and death) are not what the evolutionist needs. Neutral mutations are of little use to the evolutionist (see Hitching, 1982, pp. 62-63) because they, then, are dependent on still more mutations in order to be fully expressed and "useful" (in an evolutionary sense). So the question really is: How often do **good** mutations occur? Hermann J. Muller, Nobel laureate in genetics, said: "Accordingly, the great majority of mutations, certainly well

over 99%, are **harmful** in some way, as is to be expected of the effects of accidental occurrences" (1950, p. 35, emp. added). Dobzhansky admitted that favorable mutations amount to less than 1% of all mutations that occur (as quoted in Davidheiser, 1969, p. 209). Dr. Dobzhansky even remarked that "most mutants which arise in any organism are more or less **disadvantageous** to their possessors..." (1955, p. 105). C.P. Martin, also an evolutionist, wrote in the *American Scientist*: "Accordingly, mutations are more than just sudden changes in heredity; **they also affect viability, and, to the best of our knowledge, invariably affect it adversely**. Does not this fact show that mutations are really assaults on the organism's central being, its basic capacity to be a living thing?" (1953, p. 102, emp. added).

Addressing the rarity of these "good" mutations, one researcher commented: "From the standpoint of population genetics, positive Darwinian selection represents a process whereby advantageous mutants spread through the species. Considering their great importance in evolution, it is perhaps surprising that well-established cases are so scarce" (Kimura, 1976, 138:260). Further, those animals or plants that ought to show the most mutants apparently show the least—which is not an insignificant problem for the population geneticist. France's preeminent evolutionist, Pierre-Paul Grassé, lamented:

> Bacteria, the study of which has formed a great part of the foundation of genetics and molecular biology, are the organisms which, because of their huge numbers, produce the most mutants.... bacteria, despite their great production of intra-specific varieties, exhibit a great fidelity to their species. The bacillus, *Escherichia coli*, whose mutants have been studied very carefully, is the best example. The reader will agree that it is surprising, to say the least, to want to prove evolution and to discover its mechanisms and then to choose as a material for this study a being which practically stabilized a billion years ago (1977, p. 87).

Interestingly, the same is true of other species. Consider the lowly fruit fly. "The fruit fly (*Drosophila melanogaster*), the favorite pet insect of the geneticists, whose geographical, biotropical, urban, and rural genotypes are now known inside out, seems not to have changed since the remotest times" (Grassé, 1977, p. 130).

Dr. Grassé has provided an insightful evaluation. We are being asked to believe that, somehow, organisms that have been in a period of **stasis** (i.e., no change) provide the proof of evolution (vast amounts of change). As one writer remarked upon hearing of this: "Mutations and natural selection must have been

energized by a continuous succession of miracles if they really do constitute the explanation of evolution" (Morris, 1982, p. 50).

What is the conclusion to be drawn from these facts? Simpson admitted that if there was an effective breeding population of **100 million** individuals, and they produced a new generation **every day**, the likelihood of obtaining good evolutionary results from mutations could be expected only about once every **274 billion years**! He was forced to conclude: "Unless there is an unknown factor tremendously increasing the chance of simultaneous mutations, such a process has played no part whatever in evolution" (1953, p. 96).

Adding their combined weight to Simpson's testimony are such eminent evolutionists as Pierre-Paul Grassé, who held the position of the Chair of Evolution at the Sorbonne in Paris for over 30 years, and Stephen J. Gould of Harvard. Dr. Grassé remarked:

> The opportune appearance of mutations permitting animals and plants to meet their needs seems hard to believe. Yet the Darwinian theory is even more demanding: a single plant, a single animal would require thousands and thousands of lucky, appropriate events. Thus, miracles would become the rule: events with an infinitesimal probability could not fail to occur.... There is no law against day-dreaming, but science must not indulge in it.
>
> Some contemporary biologists, as soon as they observe a mutation, talk about evolution. They are implicitly supporting the following syllogism: mutations are the only evolutionary variations, all living beings undergo mutations, therefore all living things evolve. This logical scheme, is, however, unacceptable: first, because its major premise is neither obvious nor general; second, because its conclusion does not agree with the facts. No matter how numerous they may be, **mutations do not produce any kind of evolution** (1977, p. 103, emp. added).

Gould's testimony is no less weighty. In a speech titled, "Is a New and General Theory of Evolution Emerging?," presented at Hobart College on February 14, 1980, Dr. Gould went on record as stating: "A mutation doesn't produce major new raw material. You don't make a new species by mutating the species.... That's a common idea people have; that evolution is due to random mutations. A mutation is not the cause of evolutionary change" (as quoted in Sunderland, 1984, p. 106).

If evolution does not occur by natural selection, and it does not occur by mutation, how, then, does it occur? Even evolutionists have admitted that both of the alleged mechanisms for evolution are impotent in this regard. Creationists have been stressing these points for years by noting that mutations either are harmful or neutral (neither of which provides the forward thrust for evolution) and that since mutations

are unpredictable, random changes in an extremely complex system, any change represents a **mistake**, not an improvement. The practical end result of mutations has been noted time and again by those within the scientific community. The Environmental Mutagenic Society, in a report published in *Science,* warned that "being an error process, mutation consists of all possible changes in the genetic material (excluding recombination and segregation)" and that "most mutations producing effects large enough to be observed are deleterious." Further, the Society stated in its report that "since the vast majority of detectable mutations are deleterious, an artificially increased human mutation rate would be expected to be harmful in proportion to the increase" (1975, 187:503-504).

Mutations, as much as evolutionists hate to have to admit it, **presuppose creation**. After all, mutations are changes in **already existing genes**. A gene must be present before it can mutate, and the end result of such mutations is merely a varied form of an already existing gene (i.e., variation within a type, which is consistent with the creation model). Mutations represent an undesirable departure from the original. We do not know of mutations that can cause one kind of animal to give rise to another kind of animal or one kind of plant to give rise to another kind of plant. What we **do** know, and **have** documented, are mutations that damage or destroy what already is present. The creation model predicts a built-in variation within the gene pool. If living things were created, variation within types certainly is good design. Mutations militate **against** evolution. The story confirmed by the actual scientific facts is much more in accord with the creation model than with the evolution model.

THE FOSSIL RECORD

Renowned evolutionist LeGros Clark once remarked: "That evolution actually did occur can only be scientifically established by the discovery of the fossilized remains of representative samples of those intermediate types which have been postulated on the basis of the indirect evidence. In other words, the really crucial evidence for evolution must be provided by the paleontologist whose business it is to study the fossil record" (1955, p. 7). That was in 1955. Twenty-two years later, the story still was the same. Pierre-Paul Grassé commented in 1977 that "naturalists must remember that the process of evolution is revealed only through fossil forms" (1977, p. 4).

Indeed, if the theory of evolution is a true account of the history of the origin of life on the Earth, it is obvious that the record of gradual development of plant and animal forms to higher forms should be found imbedded in the crust of the Earth in successive layers. The evolution model predicts: (1) "oldest" rocks would contain evidence of most primitive forms of life capable of fossilization; (2) "younger" rocks would exhibit more complex forms of life; (3) a gradual change from "simple to complex" would be apparent; and (4) large numbers of "transitional forms" would be present. In fact, this is exactly what Charles Darwin said in *The Origin of Species*: "The number of intermediate and transitional links between all living and extinct species must have been inconceivably great" (1976 reprint, p. 293). The creation model predicts: (1) "oldest" rocks would not always contain evidence of most "primitive" forms of life and "younger" rocks would not always contain evidence of more "complex" forms of life; (2) there would not always be a "simple to complex" gradual change in the fossil record, which instead would show a sudden and "explosive" appearance of very diverse and highly complex life forms; (3) major animal and plant kinds would appear abruptly and fully formed; and (4) there would be a regular, systematic **absence** of transitional forms between higher categories of plants and animals, since according to the creation model **there were no transitional forms**.

The question now is: What **do** we find in the fossil record? First, until fairly recently an examination of the Precambrian strata of the geologic timetable showed no undisputed evidence of multi-cellular fossils, while the Cambrian layer (the next layer in succession) exhibited a sudden "explosion" of life forms. In the past, this was a serious and fundamental problem in evolutionary theory. Today evolutionists believe that they have found, in the Precambrian era, multi-cellular animals that had neither shells nor skeletons. Known as the Ediacaran fossil complex, these finds include animals resembling jellyfishes, segmented worms, and possible relatives of corals, (according to evolutionists). But even with these new finds, the fundamental problem for evolutionists still remains. Geneticist John Klotz has explained why.

> All of the animal phyla are represented in the Cambrian period except two minor soft-bodied phyla (which may have been present without leaving any fossil evidence), and the chordates. Even the chordates may have been present, since an object which looks like a fish has been discovered in Cambrian rock. It is hardly conceivable that all these forms should have originated in this period; and yet there is no evidence for the existence of many of them prior to the Cambrian period (1972, pp. 193-194).

Since Dr. Klotz's book was published in 1972, the chordates **have** been found in Cambrian rocks (see Repetski, 1978, 200:529-531; Monastersky, 1999, 156:292). The problem of the "missing ancestors" in Precambrian rocks is as severe as it ever was. As one recent science text expressed the matter:

> Even theoretically, to make the vast biological leap from primitive organisms to the Cambrian fauna poses enormous problems. A remarkable series of transformations is required to change a single-celled protozoan into a complex animal such as a lobster, crab, or shrimp. The new lifeforms appearing in the Cambrian were not simply a cluster of similar cells; they were complex, fully formed animals with many specialized types of cells.... The new Cambrian animals represented an astonishing leap to a higher level of specialization, organization, and integration (*Teaching Science*, 1986, pp. 35,37).

We are being asked by evolutionists to believe that from such "ancestors" as those found in the Ediacaran complex **all** of the major animal phyla known to us today "evolved" in the time period represented by the jump between the Precambrian and Cambrian periods.

Second, it is important to note that the situation worsens appreciably upon examination of the remainder of the fossil record.

> None of the intermediate fossils that would be expected on the basis of the evolution model has been found between single-celled organisms and invertebrates, between invertebrates and vertebrates, between fish and amphibians, between amphibians and reptiles, between reptiles and birds or mammals, or between "lower" mammals and primates (Gish, et al., 1981, p. iv).

Or, as evolutionists themselves have admitted quite freely:

> Despite the bright promise that paleontology provides a means of "seeing" evolution, it has presented some nasty difficulties for evolutionists, the most notorious of which is the presence of "gaps" in the fossil record. **Evolution requires intermediate forms between species, and paleontology does not provide them** (Kitts, 1974, p. 466, emp. added).

As late as 1977, Stephen Jay Gould was reminding his evolutionary colleagues of this very fact when he wrote: "All paleontologists know that the fossil record contains precious little in the way of intermediate forms: transitions between major groups are characteristically abrupt" (1977c, p. 24). In fact, Dr. Gould admitted:

> The extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology. The evolutionary trees that adorn our textbooks have data only at the tips and nodes of their branches: the rest is inference, however reasonable, not the evidence of the fossils (1977b, 86[5]:14).

Gould then listed two characteristics of the fossil record that cannot be ignored:

> (1) Stasis: Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking much the same as when they disappear…. (2) Sudden appearance: In any local area, a species does not rise gradually by the steady transformation of its ancestors; it appears all at once and "fully formed" (1977b, 86[5]:12-16).

Lest some think that Kitt, Gould, and Simpson (all evolutionists) are alone in their thinking or are speaking of some sort of anomalies in this matter, consider the following. In 1978 Colin Patterson, senior paleontologist of the British Museum of Natural History in London, editor of the journal published by the Museum, and one of our generation's foremost authorities on evolution, authored a book titled *Evolution*. In that text, he spent only six or seven pages dealing with the fossil record (and much of that material was graphs and charts). Luther Sunderland of New York wrote Dr. Patterson a letter, inquiring regarding this matter (and others). Dr. Patterson's response was printed in the August 1981 issue of the *Bible-Science Newsletter*. I have in my possession an exact photocopy of that response (provided by Mr. Sunderland) on the stationery of the British Museum. Dr. Patterson wrote, among other things:

> ...I fully agree with your comments on the lack of direct illustration of evolutionary transitions in my book. **If I knew of any, fossil or living, I would certainly have included them**.... Yet Gould and the American Museum people are hard to contradict when they say **there are no transitional fossils**.... I will lay it on the line—**there is not one such fossil for which one could make a watertight argument** (1981, emp. added).

This is the same Colin Patterson who, in a speech in November 1981 at the American Museum of Natural History, said:

> We have access to the tips of a tree; the tree itself is theory and people who pretend to know about the tree and to describe what went on with it, how the branches came off and the twigs came off are, I think, telling stories.[*]

The creation model predicts a sudden "explosion" of life—fully formed plants and animals. The creation model predicts a "mixture of "simple and complex" forms of life. The creation model predicts a systematic absence of transitional forms. The evidence from the fossil record clearly shows: (a) fully formed life appearing suddenly; (b) a mixture of "simple and complex" forms of life (e.g., almost all, if not all, of the major animal phyla already present in the Cambrian period); and (c) a serious lack of transitional forms. As Gould has commented:

> The absence of fossil evidence for intermediary stages between major transitions in organic design, indeed our inability, even in our imagination, to construct functional intermediates in many cases, has been a persistent and nagging problem for gradualistic accounts of evolution (1980, p. 127).

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[*] This quotation is from a written transcript of Dr. Patterson's oral presentation at the American Museum of Natural History in November 1981. The transcript was made from an audio tape of the speech.

That is to say, not only have intermediate forms not been found, but they cannot even be imagined! In his 1976 presidential address before the British Geological Association, Derek V. Ager stated:

> It must be significant that nearly all the evolutionary stories I learned as a student...have now been debunked.... The point emerges that, if we examine the fossil record in detail, whether at the level of orders or of species, we find—over and over again—not gradual evolution, but the sudden explosion of one group at the expense of another (1976, 87[2]:132-133).

Professor Simpson wrote in his book, *Tempo and Mode in Evolution*:

> This **regular absence of transitional forms** is not confined to mammals, but is an almost universal phenomenon, as has long been noted by paleontologists. It is true of almost all orders of all classes of animals, both vertebrate and invertebrate. *A fortiori*, it is also true of the classes, and of the major animal phyla, and it is apparently also true of analogous categories of plants (1944, p. 105, emp. added).

Gould echoed those same sentiments when he stated that "all paleontologists know that the fossil record contains precious little in the way of intermediate forms; transitions between major groups are characteristically abrupt (1977b, p. 24).

It hardly is surprising, then, to hear evolutionists begin to disown the fossil record as a proof of evolution. Mark Ridley of Oxford University's Zoology Department stated, for example: "In any case, no real evolutionist, whether gradualist or punctuationist, uses the fossil record as evidence in favor of the theory of evolution as opposed to special creation..." (1981, 90:831). Evolutionists certainly are in an embarrassing position. They can find neither the transitional forms their theory demands nor the mechanism to explain how the evolutionary process supposedly occurred. Yet all the while they maintain that evolution is a "fact" of science.

EMBRYOLOGY

In his *Origin of Species*, Darwin asserted (in a discussion occupying 12 pages) that similarity among the various embryos of animals and man was a primary proof of the theory of evolution. He called it, in fact, "second to none" in importance. Ernst Heinrich Haeckel (1834-1919) was a German biologist who was such a devoted follower of Darwin that he was dubbed "the apostle of Darwinism in Germany." He taught at the University of Jena and became famous for his popularization of the so-called "theory of embryonic recapitulation" (or, as he called it, the great "Biogenetic Law"). Haeckel stated that successive stages of embryonic development repeat the evolutionary stages of one's animal ancestry. He said that

"ontogeny (the development of one) recapitulated (repeated) phylogeny (the development of the race)." In other words, the human embryo passes through all stages representing its ancestors—from the one-celled stage to the human. Seeing a human embryo grow was like watching a silent, moving picture of all your ancestral history.

Today, we recognize that this argument is specious, and those who keep up with the scientific literature no longer use it. Why? To quote Simpson: "It is now firmly established that ontogeny does not repeat phylogeny" (1965, p. 352). Sir Arthur Keith bluntly stated:

> It was expected that the embryo would recapitulate the features of its ancestors from the lowest to the highest forms in the animal kingdom. Now that the appearances of the embryo at all stages are known, the general feeling is one of disappointment; the human embryo at no stage is anthropoid in appearance. The embryo of the mammal never resembles the worm, the fish, or the reptile. **Embryology provides no support whatsoever for the evolutionary hypothesis** (1932, p. 94, emp. added).

A word of explanation is in order. Haeckel was an accomplished artist and used that artistic ability to falsify some of the drawings that accompanied his scientific articles. "To support his theory, however, Haeckel, whose knowledge of embryology was self-taught, faked some of his evidence. He not only altered his illustrations of embryos but also printed the same plate of an embryo three times, and labelled one a human, the second a dog and the third a rabbit to show their similarity" (Bowden, 1977, p. 128). He even went so far as to alter the drawings of some of his colleagues, including the famous embryologist, professor L. Rutimeyer of Basel University, and professor Arnold Bass. The University of Jena convened a university court where, after seeing the evidence, five professors convicted Haeckel of scientific fraud. As evolutionist H.H. Newman put it, Haeckel's works "did more harm than good to Darwinism" (1932, p. 30).

Haeckel's falsified works were published around 1866. We have known for more than 100 years that the "Biogenetic Law" is not correct, yet to this day some of Haeckel's drawings still are turning up in modern biology texts as a "proof" of evolution—in spite of testimony like that from Simpson and Keith (quoted above). Perhaps this quote from John Tyler Bonner, former head of the biology department at Princeton University, will explain why: "We may have known for almost a hundred years that Haeckel's

blastaea-gastraea theory of the origin of the metazoa is probably nonsense, but it is so clear-cut, so simple, so easy to hand full-blown to the student" (1961, p. 240).

What is the creationist's response to embryology as a "proof" of evolution? The response—if indeed any is called for in light of these startling facts—perhaps should be the same as that offered by the eminent Canadian biologist, W.R. Thompson, in the "Introduction" he authored for the 1956 edition of Darwin's *Origin of Species*. He wrote: "The 'Biogenetic Law' as a proof of evolution is valueless" (1956, p. xvi). Or, perhaps the creationist would agree with W.D. Matthew, former chairman of the geology department at the University of California, when he said: "Many a false theory gets crystallized by time and absorbed into the body of scientific doctrine through lack of adequate criticism when it is formulated" (1939, p. 159). Indeed, embryology no longer can be offered as a legitimate proof of evolution. Rather, life's startling complexity—complete with DNA-coded instruction causing each embryo to be totally different from all others—is compelling evidence of a masterful plan of design inherent in the system.

> ...in terms of DNA and protein, right at conception each of these types of life is as totally different chemically as each will ever be structurally.... Embryonic development is not even analogous to evolution, which is meant to indicate a progressive increase in potential. The right Greek word instead would be *entelechy*, which means an unfolding of potential present right from the beginning. That's the kind of development that so clearly requires creative design (Morris, 1982, p. 34).

COMPARATIVE ARGUMENTS AND THE CASE FROM HOMOLOGY

Undoubtedly, one of the most impressive arguments for the theory of evolution is provided by the comparative sciences—comparative anatomy, comparative physiology, comparative cytology, comparative biochemistry, etc. As scientists have worked in these related fields and have learned to compare one organism with another, basic similarities have arisen among, and between, various groups. When making comparisons of parts of organisms, scientists commonly speak of **homologous** structures, suggesting that these particular structures go through similar stages of development, have similar attachments, etc. In discussing these comparative arguments and homology, R.L. Wysong noted:

> Much of the case for amoeba to man evolution is built upon arguments from similarity. Evolutionists argue that if similarity can be shown between organisms through comparative anatomy, embryology, vestigial organs, cytology, blood chemistry, protein and DNA biochemistry, then evolutionary relationship can be proven (1976, p. 393).

Michael Denton, in his text, *Evolution: A Theory in Crisis*, devoted a large portion of the book to such arguments and wrote: “Since 1859 the phenomenon of homology has been traditionally cited by evolutionary biologists as providing one of the most powerful lines of evidence for the concept of organic evolution” (1985, p. 143). Dr. Denton is correct in his assessment. Charles Darwin himself thought of the argument from homology as one of the greatest single proofs of his theory. Denton commented that “homology provided Darwin with apparently positive evidence that organisms had undergone descent from a common ancestor” (1985, p. 143). Darwin himself stated as much in *The Origin of Species* when he wrote: “We have seen that the members of the same class, independently of their habits of life, resemble each other in the general plan of their organization.... Is it not powerfully suggestive of true relationship, of inheritance from a common ancestor?” (1962 reprint, pp. 434-435). Denton therefore observed: “The phenomenon of homology has remained the mainstay of the argument for evolution right down to the present day” (1985, p. 144). Strausburg and Weimer, in their text, *General Biology*, suggested: “The greater the similarity of structure, the closer the relationship, and, wherever close relationship is found, a common ancestry is indicated” (1947, p. 629).

That statement was made in 1947. Decades later, the same kind of thinking still is commonplace. For example, the 1981 edition of the respected *Encyclopaedia Britannica* gave pride of place to the argument from homology in discussing the evidence for evolution:

> The indirect evidence for evolution is based primarily on the significance of similarities found in different organisms.... The similarity of plan is easily explicable if all descended with modification from a common ancestor, by evolution, and the term homologous is used to denote corresponding structures formed in this way.... Invertebrate animals, the skeleton of the forelimb is a splendid example of homology, in the bones of the upper arm, forearm, wrist, hand, and fingers, all of which can be matched, bone for bone, in rat, dog, horse, bat, mole, porpoise, or man. The example is all the more telling because the bones have become modified in adaptation to different modes of life but have retained the same fundamental plan of structure, inherited from a common ancestor (1981, 7:8).

Denton acknowledged the importance of such thinking within the evolutionary camp and showed why such thinking is so necessary when he observed that “without underlying homologous resemblance in the fundamental design of dissimilar organisms and organ systems then evolution would have nothing to explain and comparative anatomy nothing to contribute to evolutionary theory” (1985, p. 145). The late biochemist, Isaac Asimov, one of America’s most prolific science and science fiction writers, suggested that

our ability to classify plants and animals on a groups-within-groups hierarchical basis virtually forces scientists to treat evolution as a "fact" (1981, 89[9]:85-87).

At first glance, descent from a common ancestor appears to be a very "logical" argument because it seems to make so much sense. After all, isn't that how we explain such similarities as brothers and sisters looking more alike than, say, cousins? They have parents closer in common. And evolutionists have an impressive array of data at their disposal. They are quick to point out that the wing of the bat, the forefoot of the turtle, the forefoot of the frog, and the arm of the man all have the same general structure. They also note, correctly, that the forefoot of the dog, the flipper of the whale, and the hand of the man contain essentially the same bones and muscles. As Michael Pitman observed:

> To the evolutionist, homologous structures are clear evidence of common ancestry and a family tree of life. Bat wings, bird wings, flippers, and human arms are similar because the ancestors common to birds, bats and humans had just such a structure—a forelimb built on the pattern that biologists identify as "pentadactyl" or "five-fingered" (1984, p. 40).

In more recent times, this argument even has been carried to the molecular level as scientists begin to compare similarities in blood groups, cytochrome C composition, enzymes, cellular DNA, and a myriad of other molecular entities. Of late, for example, it has been discovered that the chimpanzee and the human have DNA that is similar 99% of the time. The conclusion we are supposed to draw, of course, is that evolution must be true because we can trace our ancestral lineages to a common ancestor who lived millions of years ago. That, in fact, is exactly what the late scientist of Cornell University, Carl Sagan, suggested: "The inner workings of terrestrial organisms—from microbes to men—are so similar in their biochemical details as to make it highly likely that all organisms on the Earth have evolved from a single instance of the origin of life" (1966, p. 183).

What is the creationist's response to all of this? Do similarities exist? And if so, is the evolutionist's explanation the correct, or the only, explanation that fits the facts of the case?

First, let us note how the creationist does **not** respond to this argument. Creationists do not deny the existing similarities; similarities **do** exist. Creationists are not ignorant of the existence of such facts of science. It is here, however, that we can learn an extremely valuable lesson in the creation/evolution con-

troversy. That lesson is this: **rarely is it the data that are in dispute—it is the interpretation placed on the data that is in dispute**. In the cases of basic similarities, whether at the anatomical or biochemical level, denying that such similarities exist serves no good purpose. Creationists and evolutionists both have access to the same data. The evolutionist, however, looks at the data and says that similarity is proof of **common ancestry**. The creationist, on the other hand, examines the exact same data and suggests that similarity is evidence of **creation according to a common design**. In essence, a stalemate exists. Both sides have an answer to the data at hand. And in many instances, either explanation might appear legitimate.

However, the evolutionists' argument works only if certain portions of the data on homology are presented. If **all** the available data are allowed full exposure, then the evidence from homology fails. Many years ago, T.H. Morgan of Columbia University, himself a committed evolutionist, candidly admitted what many evolutionists do not want to become common knowledge: "If, then, it can be established beyond dispute that similarity or even identity of the same character in different species is not always to be interpreted that both have arisen from a common ancestor, the whole argument from comparative anatomy seems to tumble in ruins" (1923, p. 246). Or, as Wysong wrote: "If the law of similarity can be used to show evolutionary relationships, then dissimilarities can be used to show a lack of relationship" (1976, pp. 393-394).

Ferenco Kiss, Dean of the Medical Faculties at the University of Budapest, once stated that "...it is necessary for the evolutionists—in order to maintain their theory—to collect only the similarities and to neglect the numerous differences" (1949, p. 3). Evolution is a complete cosmogony. It must explain both similarities **and** differences within its own framework. It is not the similarities that present the problem; it is the numerous differences. As Sir Alistair Hardy, former professor of zoology at Oxford University, wrote: "The concept of homology is fundamental to what we are talking about when we speak of evolution, yet in truth we cannot explain it all in terms of present-day biological theory" (1965, p. 211).

What does Dr. Hardy mean when he says that "we cannot explain it all in terms of present-day biological theory"? He means simply this: only when evolutionists are allowed to "pick and choose" similari-

ties that fit their theory can the argument from homology be made to work. When evolutionists are forced to use **all** the data—including those documenting dissimilarity—the argument from homology utterly fails.

His point is well taken. It is a well-documented fact that evolutionists are guilty of filtering the data to make it appear as if homology supports evolutionary theory. Now, however, that "picking and choosing" method has been exposed, as Lester and Bohlin have observed.

> Another problem is that from the raw data alone, not one single phylogeny emerges, but several. The one that agrees most closely with the traditional phylogeny is **assumed** to be the most "correct." This hardly demonstrates the independent confirmation of evolutionary relationships. The combining of several phylogenies from different proteins combines not only strengths but also weaknesses (1984, p. 173, emp. in orig.).

Vincent Demoulin likewise pointed out the fallacy inherent in this kind of "pick and choose" game when he noted that "the composite evolutionary tree encompasses all the weaknesses of the individual trees" (1979). That is to say, adding up **all** the available data from homology studies makes for an even weaker argument than already is present when examining just a few of the data on this topic.

But there is no need to take any creationist's word on the subject. Evolutionist Michael Denton stated quite succinctly just how valuable all this "proof" from similarity studies really is.

> Invariably, as biological knowledge has grown, common geneology as an explanation for similarity has tended to grow ever more tenuous. Clearly, such a trend carried to the extreme would hold calamitous consequences for evolution, as homologous resemblance is the very *raison d'être* of evolution theory. Without the phenomenon of homology—the modification of similar structures to different ends—there would be little need for a theory of descent with modification....
>
> Like so much of the other circumstantial "evidence" for evolution, that drawn from homology is not convincing because it entails too many anomalies, too many counter-instances, far too many phenomena which simply do not fit easily into the orthodox picture. The failure of homology to substantiate evolutionary claims has not been as widely publicized as have the problems in paleontology.
>
> The discussion in the past three chapters indicates that the facts of comparative anatomy and the pattern of nature they reveal provide nothing like the overwhelming testimony to the Darwinian model of evolution that is often claimed. Simpson's claim that "the facts simply do not make sense unless evolution is true," or Dobzhansky's that "nothing in biology makes sense except in the light of evolution" are simply not true if by the term evolution we mean a gradual process of biological change directed by natural selection....
>
> In the last analysis the facts of comparative anatomy provide no evidence for evolution in the way conceived by Darwin, and even if we were to construe with the eye of faith some "evidence" in the pattern of diversity for the Darwinian model of evolution, this could only be seen, at best, as indirect or circumstantial....

> ...the same hierarchic pattern which may be explained in terms of a theory of common descent, also, by its very nature, implies the existence of deep divisions in the order of nature. The same facts of comparative anatomy which proclaim unity also proclaim division; while resemblance suggests evolution, division, especially where it appears profound, is counter-evidence against the whole notion of transmutation (1985, pp. 154-155).

What did Denton mean when he said that the "evidence" for evolution from homology studies "entails too many anomalies, too many counter-instances, far too many phenomena which simply do not fit easily into the orthodox picture"? The answer to that lies in an examination of the data that have become available during the past several years. For example, Wysong provided an extensive list of such data, among which are the following examples:

1. The octopus eye, pig heart, Pekingese dog's face, milk of the ass, and the pronator quadratus muscle of the Japanese salamander are all very similar to analogous human structures. Do these similarities show evolutionary relationships?

2. The weight of the brain in proportion to body weight is greater in the dwarf monkey of South America, the marmoset, than in man. Since this proportion is used to show relationship between primates and man, is the marmoset, therefore, more evolved than man?

3. The plague bacterium (*Pasteurella pestis* [now known as *Yersinia pestis*—BT]) afflicts only man and rodent. Does this similarity show close relationship?

4. Plant nettle stings contain acetylcholine, 5-hydroxytryptamine and histamine. These chemicals are also found in man. Are man and plant closely related?

5. The root nodules of certain leguminous plants and the crustacean, *Daphnia*, contain hemoglobin, the blood pigment found in man. Are these organisms closely related to man?

6. If certain specific gravity tests are run on the blood of various animals, the frog and snake are found to be more similar to man than the monkey is to man.

7. If the concentration of red blood cells in animals is compared (millions per cubic millimeter of blood), man is more similar to frogs, fish, and birds than he is to sheep.

8. Since bones are often used to show relationships, bone chemistry should be useful in this regard. If the calcium/phosphorus ratio is plotted against bone carbonate, man proves to be close to the turtle and elephant, the monkey close to the goose, and the dog close to the horse but distant from the cat.

9. The tetrapyrole chemical ring is found in plant chlorophyll, in hemoglobin and other animal respiratory pigments, sporadically as a coloring pigment in molluscan shells, and also in the feathers of some bird species. How does tetrapyrole similarity speak for relationships?

After examining examples such as these, it is easy to understand what Dr. Denton meant when he said that there are too many "anomalies," too many "counter-instances," and "too many phenomena which simply do not fit easily into the orthodox picture." Other writers, both evolutionists and creationists, have

documented this same problem. Michael Pitman, for example, remarked:

> Consider reptilian scales, bird feathers, and fur. The evolutionist holds that feathers and fur have evolved, divergently, from scales. But can such different skin coverings be called "homologous"? For example, a feather and a scale develop from different layers of skin and follow different development paths; the feather's greater structural complexity must reflect a more complex genetic background. Yet the first known feather is entirely featherlike, not at all scale-like. The genes coding for each type of skin-covering must contain a sequence (subroutine) for keratin, because each is made primarily of a form of keratin. Yet this subroutine could well be integrated into quite a different overall set of genes. If so, how could we explain their origin in terms of simple inheritance from a common ancestor (1984, p. 42).

Such anomalies have caused evolutionists to search for a way to salvage the argument from homology. Some evolutionary scientists have suggested that evidence now is available that can perform such a salvage operation. Bernard Davis of the Bacterial Physiology Unit at Harvard Medical School explained:

> In most of its development evolutionary biology has depended on morphological homologies, both in the fossil record and among living species; but this approach has not revealed the continuum of transition forms between species that Darwin predicted. Moreover, while he expected further research in paleontology to fill in the gaps, we no longer entertain that hope. But now, at least, molecular genetics has provided a direct, radically different kind of evidence for such continuity.... Not only does molecular genetics provide the most convincing evidence for evolutionary continuity, but this evidence should impress a public that is well aware of the power of this science in other areas (1985, 28:252-253).

Notice two important points in Davis' statement. First, he admits that the approach from morphological homologies "has not revealed the continuum of transition forms that Darwin predicted." In other words, if you look at the data from morphological homologies (i.e., the kind of data examined above), then the result is a dismal failure for evolutionary theory. The required "continuum" simply does not exist. Second, however, Dr. Davis believes that something better, something more powerful as a proof from homology, has been found—evidence from molecular (as opposed to morphological) homology. His point is: now that the "proofs" from morphological homologies have failed, the hope is that the "proofs" from molecular homologies will not. Dr. Davis obviously is optimistic that such proofs **will** succeed. His optimism, however, proved to be short lived.

Despite the bright promise that molecular evidences are so strong as to provide almost undeniable proof for evolution, several puzzles have emerged from studies in molecular homologies. Several such puzzles were examined in a paper by Paul Erbrich that appeared in *Acta Biotheoretica*. Erbrich titled his paper, "On the Probability of the Emergence of a Protein with a Particular Function." In the abstract that accompanied the paper, he stated:

> Proteins with nearly the same structure and function (homologous proteins) are found in increasing numbers in phylogenetically different, even distant, taxa (e.g., hemoglobins in vertebrates, in some invertebrates, and even in certain plants).... The probability...of the convergent evolution of two proteins with approximately the same structure and function is too low to be plausible, even when all possible circumstances are present which seem to heighten the likelihood of such a convergence. If this is so, then the plausibility of a random evolution of two or more different but functionally related proteins seems hardly greater (1985, 34:53-80).

The bulk of Erbrich's paper was devoted to a careful, critical, quantitative analysis of the likelihood of molecular evolution. He stated in the abstract that proteins can be found in "different" or "even distant" groups. Then he provided a specific example—hemoglobin.

As long ago as 1969, scientists had discovered the problem with which Erbrich's research dealt. Dickerson and Geis, in their classic text, *The Structure and Action of Proteins*, noted that the hemoglobin molecule (which is the oxygen-binding molecule in red blood cells) occurs in all vertebrates, some invertebrates, some annelids (earthworms), some echinoderms (the starfish group), some mollusks (the clam group), some arthropods (the insect group), and some bacteria. In each case, the hemoglobin molecule was the same kind of molecule—complete and fully functional. If evolution were true, we ought to be able to trace how hemoglobin evolved. But we cannot. Dickerson and Geis thus concluded: "It is hard to see a common line of descent snaking in so unsystematic a way through so many different phyla" (1969). I beg to differ. It is not merely "hard" to see the same hemoglobin molecule in so many "evolutionary unrelated" species, it is impossible! Someone might wonder if these hemoglobin molecules (in their eight-helix folded pattern) have "evolved" repeatedly by time and chance, and yet each time have turned out to be identical? Dickerson and Geis answered: NO!

In his 1985 paper, Erbrich spent considerable time and effort on this problem and concluded:

> The probability for the *de novo* emergence of a particular protein by chance alone is extremely small, even for a very imperfect one.... Why then does the scientific theory of evolution hold on to the concept of chance to the degree that it does? I suspect it is the fact that there is no alternative whatsoever which could explain the fact of universal evolution, at least in principle, and be formulated within the framework of natural science. If no alternative should be forthcoming, if chance remains overtaxed, then the conclusion seems inevitable that evolution and therefore living beings cannot be grasped by natural science to the same extent as non-living things—not because organisms are so complex, but because the explaining mechanism is fundamentally inadequate (1985, pp. 77-78).

Dickerson, Geis, and Erbrich are not the only evolutionists aware of the poor condition of the evidence from molecular homology. In November 1981, Colin Patterson (of the British Museum of Natural His-

tory) came to America to speak to several scientific societies. During his various speeches, Dr. Patterson suggested that he had "experienced a shift from evolution as knowledge to evolution as faith." He then presented numerous specific examples documenting the failure of the evolutionary hypothesis of common ancestry. He said that the hypothesis acted as an "anti-theory" and conveyed nothing but "anti-knowledge." Dr. Patterson presented data on amino acid sequences for the alpha hemoglobins of a viper, crocodile, and chicken. Evolutionists "know" (since evolution is true) that vipers and crocodiles (two reptiles) should be much more closely related than either is to a bird. But the crocodile and the chicken showed the greatest similarity (17.5% of their amino acids in common) with the viper and the chicken the next most similar (10.5%) and the two reptiles with the **least** similarity (5.6%).

An examination of the amino acids in myoglobin showed that crocodiles and lizards (two reptiles) shared 10.5%, but that a lizard and a chicken (reptile/bird) also shared the same percentage (10.5%). Dr. Patterson then described studies of mitochondrial DNA performed on man and on various primates. He acknowledged that where there should have been a high percentage of similarities, there was a very low percentage. After all his data were presented, Dr. Patterson remarked that "the theory makes a prediction, we've tested it, and the prediction is falsified precisely" (as quoted in Sunderland, 1982).

Other molecular studies over the past few years have yielded no better results. For example, within cells of living organisms are found chromosomes that carry the genes responsible for the individual organism's genetic make-up. If there has been a gradual evolution of all creatures—from the simple to the complex, as evolution demands—then the evolutionary scheme would predict that there likewise would be an increase in chromosome number and quality as one moves up the evolutionary scale. Today, however, advanced molecular technology has caused the evolutionary prediction to fall on hard times. Note the following chart comparing the actual chromosome numbers of several organisms with the evolutionary prediction.

PREDICTION	FACTS
Simple to Complex	Chromosome Count
Man	Fern—512
Dog	Crayfish—200
Bat	Dog—78
Herring Gull	Herring Gull—68
Reptiles	Reptiles—48
Fern	Man—46
Crayfish	Bat—32

The chromosome count does not "fit" what one would predict based upon the theory of evolution. Evolutionist Ashley Montagu thus was forced to admit: "The number of chromosomes does not appear to be associated with the degree of complexity, and that would most assuredly include the chromosomes, since they are the carriers of the genetic material.

Other such "anomalies" abound. Wysong pointed out that human cells contain 7 picograms of DNA/cell, whereas the frog contains more and the African lungfish contains 100 picograms of DNA/cell. According to evolutionary predictions, should the frog and lungfish contain more DNA than a man? Or what about amino acid sequences? Cytochrome C, for example, is a coenzyme found in the mitochondria of all aerobic cells and therefore is found in most organisms. As evolutionists have studied amino acid sequences among organisms, they have found many similarities. But what about the many differences? One hears a lot these days about the similarities among organisms in regard to their cytochrome C content, yet numerous dissimilarities exist as well (but rarely are mentioned by evolutionists). Frair and Davis, in their book *A Case for Creation*, pointed out that 104 amino acids are strung together in building cytochrome C. On the basis of the number of differences in these units, the gray whale has more in common with the duck than with another mammal, the monkey; the bullfrog has more in common with the fruit fly than with the rattlesnake; and the tuna has more in common with the rabbit than with the dogfish

(1983, pp. 45-53). Lester and Bohlin, in their discussion of cytochrome C and many of the dissimilarities associated with it, noted:

> The most well-known phylogeny is that of cytochrome C, which appears to agree very well with the accepted phylogeny. However, there are exceptions and procedural difficulties of interpretation. There are often large discrepancies between the protein phylogeny and the traditional one. In cytochrome C chickens are more closely related to penguins than to ducks and pigeons, turtles are closer to birds than to snakes (fellow reptiles), and people and monkeys diverge from the mammals before marsupial kangaroos separate from the rest of the mammals (1984, pp. 172-173).

The facts simply do not fit the predictions. And perhaps no one has done a more outstanding job of providing the evidence for that statement than evolutionist Michael Denton. Evolutionists suggest that as one ascends the "tree of life," organisms should become increasingly separated by differences in biochemistry from the "earliest" and most "primitive" organisms. In fact, no evolutionary trend can be observed in the biochemical data—at least none that can be adequately defended. Denton showed that bacteria are as divergent from yeast (69%) as they are from wheat (66%), silkmoths (65%), tuna (65%), pigeons (64%), horses (64%), or humans (65%). There is no gradation from one group to another that would show any kind of evolutionary sequence. Denton's conclusion was that "at a molecular level there is no trace of the evolutionary transition from fish to amphibian to reptile to mammal" (1985, p. 285). He then added: "To those well acquainted with the traditional picture of vertebrate evolution, the result is truly astonishing" (p. 285). Dr. Denton went on to state that "at a molecular level, no organism is 'ancestral' or 'primitive' or 'advanced' compared with its relatives" (p. 290). "Yet," he said, "in the face of this extraordinary discovery the biological community seems content to offer explanations which are no more than apologetic tautologies" (p. 306).

CONCLUSION

From DNA to the organs of the body, random evolution must face evidence of design while gradualistic development is countered by the discontinuity of nature. There is nothing—either within the proposed mechanisms or available from observation—to show that the General Theory of Evolution can be substantiated. Mankind's knowledge of history (as seen in the fossil record) and of science (as seen in the miracle that we call life) now is adequately sufficient to allow a person to reach a fair, rational conclusion.

That conclusion is this: the evolution model simply cannot account for the discontinuity of life and thus (to use the words of geneticist T.H. Morgan) "tumbles in ruins."

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