

Astronomy

The study of stars, planets, and other heavenly bodies, and their physical properties

What the Theory of Evolution Says

The Theory of Evolution is a biological theory intended to describe the origin and development of life on earth. However, the word *evolution* is used in astronomy to describe the origin of the universe and simply means “change” over time. Stellar evolution, the evolution of stars, for example, describes star burning processes during the life of a star, from “birth” to “death.”

Many early scientists and philosophers thought the universe was static, continuous and unchanging. The current major theory offered for how the universe “evolved” is the Big Bang theory. This theory proposes that the entire universe, including the Milky Way galaxy containing our solar system, exploded from a super-hot “point,” some 15 billion years ago. The theory says that the universe continues to expand, as predicted by solutions to Einstein’s General Theory of Relativity.¹

What Evolutionists Say We Ought to See

If the Big Bang theory, proposed in 1917, explains the formation of the universe, we should see stars and planets moving away from each other like particles moving away from the point of an explosion. We should also still see some radiation from the Big Bang’s fiery explosion, predicted by physicist George Gamow and his students,² in the 1940s. Both of these effects have been observed exactly as predicted.

The Big Bang theory and general relativity predict that the universe had a beginning and that space and time were created at a point some 15 billion years ago. Scientists do not know what caused the Big Bang. They simply call it “the CAUSE.”

What We Actually Observe in Nature

Scientists observe that the universe is expanding and most likely had a fiery beginning. In 1914 astronomer Vesto Slipher, cited by Kitty Ferguson,³ observed that some galaxies are moving away from our Milky Way galaxy at enormous speeds as predicted subsequently by the Big Bang theory. In the late 1920s another astronomer, Edwin Hubble, measured the distance to and the velocity of many more of these galaxies, establishing the expansion rate for the universe. Those galaxies farthest away move at the greatest speeds. If we could look back in time, all the matter of the universe might appear in a very compact state at a very high temperature.

The universe is far from being static, as some philosophers and scientists proposed; rather, it is expanding. The Big Bang theory⁴ which predicted that traces of energy from an initial fiery explosion would remain today got a big boost in 1964 when two physicists, Arno Penzias and Robert Wilson of Bell Laboratories⁵, measured this background radiation remnant. More than 25 years later, further measurements of this radiation by the Cosmic Background Explorer (COBE satellite) fit the Big Bang theory’s predictions perfectly.⁵

Psalm 19:1 The heavens declare the glory of God; and the firmament sheweth his handywork.

Job 26:7 He stretcheth out the north over the empty place, and hangeth the earth upon nothing.

What Scientists Say

Some scientists have resisted the Big Bang idea, possibly because it sounds too much like biblical Creation. In the 1920s Albert Einstein⁶ proposed a rival theory of a static universe—infinitely large and infinitely old—with no beginning (no Big Bang). He had to change the general relativity equations to obtain this result. However, this modified theory did not agree with actual observations. Later, Einstein was quoted as saying, this was “the greatest mistake of my life.”⁷ Einstein finally accepted the necessity of a beginning⁸ and the presence of a superior reasoning power, but not a personal God.⁹

In 1948 eminent astronomer Sir Fred Hoyle and a few other scientists developed a continuous creation solution called the steady state model. However, observations now prove that the steady state model is impossible.

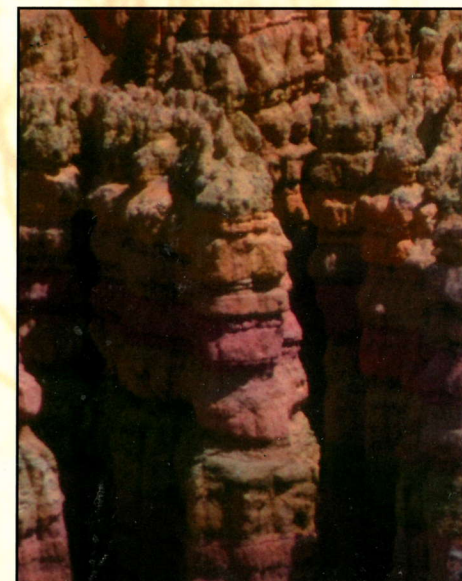
Currently the Big Bang theory, based upon many observations and proofs, is widely accepted by astronomers.

Explanations Offered by Creationists

All creationists believe that God created the heavens and earth as the Bible says in Genesis. Many creationists accept the Big Bang theory as a description of “how” God created the universe. They say that this theory echoes what the Bible says about “the beginning” in Genesis 1. There are two major groups of creationists: “old-earth” creationists and “young-earth” creationists. Both groups believe that God set up the laws of physics to allow the universe to run in a predictable way.

“Old-earth” creationists believe that the universe is very old (about 15 billion years), and accept most scientific research in this area. Young-earth creationists believe that the universe was created in six 24-hour days and is less than 10,000 years old (based partly on the genealogies in the Bible going back to Adam). Thus, young-earth supporters reject the Big Bang theory and also challenge many other observations and theories of mainstream science. They say that God has the power to make the universe “look” old (or fully mature), just as Adam and Eve were created mature.

Colossians 1:16 For by him were all things created, that are in heaven, and that are in earth, visible and invisible . . . all things were created by him and for him.



Geology

The study of the earth’s physical nature and history

What the Theory of Evolution Says

In his pioneering work *On the Origin of Species*, Charles Darwin¹⁰ believed that scientists would find fossils showing transitions from one kind of animal to another. Darwin assumed that strata (layers of sedimentary rock) are thick, continuous, and old with the oldest records in the lowest layers and the youngest in the uppermost layers. Life forms would be preserved in those layers having the same age as the life forms; hence, similar histories of strata in different locations, species’ emergence, transition forms, and extinction records could be correlated.

Darwin was influenced by a geologist of his day, Sir Charles Lyell, who argued that the earth was quite old and that geology is explained by uniform gradual, not catastrophic, processes currently observed. This is called uniformitarianism. However, Darwin argued that some geological changes occurred (in agreement with 20th century geologists) and isolated species environmentally. Darwin¹⁰ believed that this isolation might be important in the production of new species.

What Evolutionists Say We Ought to See

Major geological changes can cause new environmental conditions, including isolated geographic regions, which might stress or favor a shift in surviving plant and animal biological populations. We ought to observe this shift by seeing fossils of transitional forms of plants and animals.

In the 1850s, eighty years before geologists accepted the theory of continents splitting and drifting apart, Darwin¹¹ speculated that this “splitting” had occurred. He proposed that the earth had a long history of land being “divided,” “united,” and “divided again,” with far more change than from erosion, earthquakes and volcanos.

With so much change, species were geographically isolated in new environments. Darwin thought these changes could have brought about new kinds of plants and animals by the “natural selection” of those that could survive. Key animals and plants unable to reproduce in new environments would die out. If this were true, we ought to find remains or traces of these continuously changing life forms, called “transitional life forms” by Darwin, over time in the fossil record.

What We Actually Observe in Nature

Observations made of large, sometimes catastrophic, geological changes have led geologists to rethink the earth's history. The catastrophic changes usually referred to are caused by asteroid and meteorite impact, volcanos, floods, atmospheric and oceanic circulation patterns and temperatures, glaciation and tectonic plate collisions. These events have been used to explain observations in geology and paleontology and have been cited as important in both the formation and extinction of species, especially the latter.

Dating of events in earth history is important in geology. Modern geologists have measured the approximate age of the earth as about 4.5 billion years (much, much older than Lyell and Darwin thought) using radioactive decay of various chemical elements present when the earth's crust was first formed. Dating of inverted, “upside down” strata presented some special problems because fossils were used to date strata. Usually younger layers of the earth's crust are on top of older layers, but not always.¹⁰ For some time now, suspected upside down strata have been dated by the fossils found in the

strata. Some geologists cited by Morris¹² say that this approach may be flawed by circular reasoning because evolutionary theory was assumed to date or sequence the fossils from youngest to oldest. Other geologists^{13, 14, 15, 16} say that the process is not flawed. They claim that occurrence of these upside down strata is rare, not the rule. The inverted strata are disclosed by using fossils as time-markers whose sequence is already established by many examples of gradually deposited strata, not by any assumptions of evolutionary theory.

What Scientists Say

Modern geologists have replaced Lyell's ideas held for 150 years, of the earth's gradual change (uniformitarianism) with a belief in dynamic changes, incorporating both gradual and catastrophic processes. These geologists say that the deposition of sediments is a dynamic, not a continuous process. Modern geology predicts that there will be an incomplete fossil record and that the diversity of species may be related to isolation of continents over time.

Darwin became aware that the geological record was insufficient and that its interpretation did not always support his views. As he put it, one problem, “namely the distinctness of specific forms, and their not being blended together by innumerable transitional links, is a very obvious difficulty.”¹⁰ He wrote, “But as by this theory innumerable transitional forms must have existed, why do we not find them embedded in countless numbers in the crust of the earth? . . . This perhaps is the most obvious and gravest objection which can be urged against my theory. . . . it cannot be doubted that the geologic record viewed as a whole is very imperfect.”¹⁰ But Darwin recognized that not all species can be preserved. “No organisms wholly soft can be preserved. Shells and bones decay and disappear when left on the bottom of the sea, where sediment is not accumulating.”¹⁰

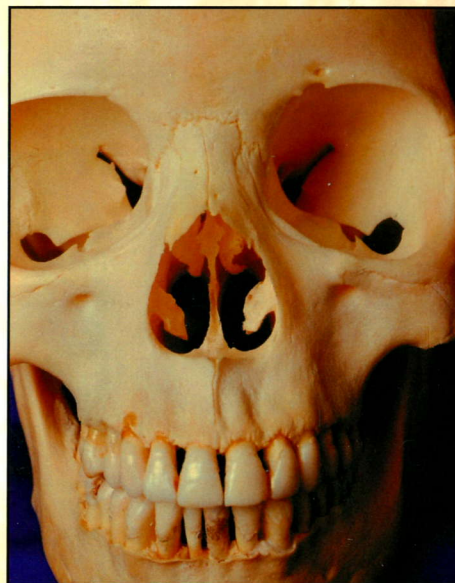
Explanations Offered by Creationists

All creationists believe that God was the first cause in the earth's geological formation and development. Young-earth creationists challenge the findings and sometimes the methods of geology. They point out uncertainties in radiometric dating. Some

say that the earth was created suddenly and recently with features that make it look old. They indicate that the Hebrew word *yom* used in Genesis 1 is most often translated as “day.” They attribute many present-day geological features (such as rapid formation of coal seams) to the flood of Noah in Genesis 6-9. Drs. Henry and John Morris,¹² foremost advocates of the young-earth position are the founders of the Institute for Creation Research. They label its beliefs in flood geology and six 24-hour days creation as “creation science” or “scientific creationism” although some creationists do not believe that either evolution or creation is a science that can be proved.

Old-earth or “progressive” creationists such as Dr. Hugh Ross¹⁷ accept current scientific dating methods. Old-earth adherents say that the Hebrew word *yom* is translated as “a long period of time” more than 60 times in the Bible. For example, a “day” of creation might be the Bible's way of referring to a longer, indefinite period, suggests chemist Robert Fischer in his book, *God Did It, But How?*¹⁸

Genesis 1:2; Isaiah 40:28; Isa. 45:12; Isa. 45:18



Paleontology

The study of fossils, the hardened remains of prehistoric animals & plants

What the Theory of Evolution Says

The Theory of Evolution (sometimes referred to as macroevolution) states that all living things—all species—have come from a single ancestor through a process of natural selection of small variations or descent with modification over a long period of time.

Before Darwin,¹⁰ biologists classified living things on the basis of similarities in appearance. But Darwin proposed that kinds of animals (species) should be classified on the basis of ancestry, in the form of a family tree called a phylogenetic tree. The most recent species to evolve would be like twigs at the ends of ancestral branches. These branches are attached through larger branches of still older ancestors, and then to a trunk representing the first living form from which all were evolved.

What Evolutionists Say We Ought to See

Darwin¹⁰ hoped that the fossil record would agree with and strengthen his theory by containing many transitional forms between species, filling out the branches of his hypothetical “tree.” The record was very incomplete at the time but he expected additional discoveries to make it more complete. Darwin¹⁰ also expected to see only gradual changes, not abrupt changes such as the Cambrian “explosion” of life, dated some 550 million years ago.

If Darwin's theory of evolution were true, we should see transitional forms in fossils, showing gradual change. Instead gaps occurred because these transitional forms were not found.

Many explanations for gaps in the fossil record are given. For one thing, fossilization is relatively rare, especially for land-dwelling animals. The vast majority of fossils are of animals that lived in the sea. Darwin¹⁰ expected fossils of the earliest ancestors to occur in the oldest layers of compacted sediments from sea bottoms.

What We Actually Observe in Nature

In general, we do not see fossils of transitional forms between different species of plants or animals. A few fossils that appear transitional have

been reported, but major gaps remain. Most of the transitional forms (the missing links) Darwin¹⁰ expected to find are still missing. Despite the illustrations in textbooks showing a gradual transition in the family tree of the horse or from ape to man, there is no hard evidence for it. In the case of ape to man, virtually every “missing link” has turned out to be either an ape or a man, but not a transitional kind of ape-man. Some finds were deliberate hoaxes.

Another finding, the “Cambrian Explosion,” seems to contradict Darwin’s theory of gradual change over long periods of time. Layers of sediment from the Cambrian period, estimated to be about 550 million years ago, show a sudden appearance of about 100 phyla of plants and animals. Biochemist Michael Behe¹⁹ uses the phrase “the biological big bang” to describe this period thought to be less than five million years in duration.

Biologist Richard Dawkins,²⁰ in commenting on the Cambrian Explosion in *The Blind Watchmaker*, said, that “It is as though they [these species] were just planted there, without any evolutionary history.” This mystery has caused some scientists to modify parts of Darwin’s theory and adopt a new theory called punctuated equilibrium (or “punk eek”). Punk eek suggests that most transitions happened quickly in small isolated groups of animals so there never were transitional forms.

What Scientists Say

Why then is not every geological formation and every stratum full of such intermediate fossil links? Darwin¹⁰ writes, “That our paleontological collections are very imperfect, is admitted by everyone.” Nonetheless, fossilized shell species and vertebrate species fragments preserved in deposits are observed in nature, and from those, evolutionary sequences are assumed and proposed as evidence supporting Darwinian evolution. Paleontologist Stephen Gould²¹ writes, “All paleontologists know that the fossil record contains precious little in the way of intermediate forms; transitions between major groups are characteristically abrupt.” Gould²² says further, “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 fossils.”

Heribert Nilsson²³ writes, “The family tree of the

horse is beautiful and continuous only in the textbooks.” Darwin, in a later book, the *Descent of Man*²⁴, proposed that man evolved from lower forms based on comparisons of body dimensions, effects of environments, use and disuse of body parts, distinctive facial features, natural selection, social habits and intelligence. According to zoologist Percival Davis,²⁵ “. . . Darwin did not cite a single reference to fossils in support of his belief in human evolution. Clearly his original idea of human evolution did not grow out of a study of human fossil evidence, but out of a previously held opinion about the origin of man.”

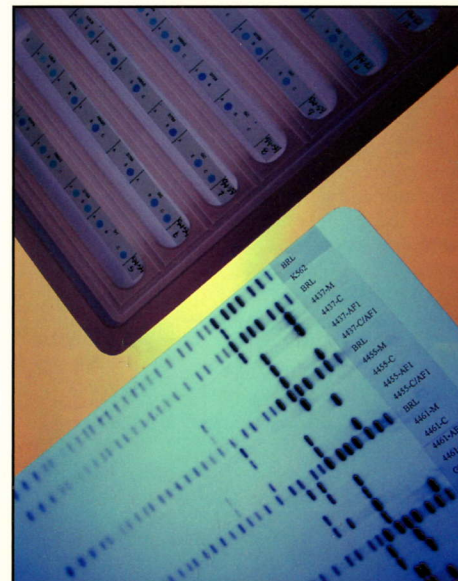
Explanations Offered by Creationists

Creationists believe the rarity of observed transitional forms is due to the rarity of actual transitional forms because natural evolution alone did not produce what we now observe. Most creationists regard the history of life on earth as following roughly the same order and sequence given in Genesis 1. Young-earth creationists do not accept the geologic time table in general, nor its use to infer any dating of fossils, in particular. They believe in God’s direct intervention in the creation of life and of major “kinds” of living things. *Genesis 1:11-27*

Old-earth creationists who accept the geologic time table also give God credit for the origin and development of living things. Creationists may differ on how much of the process was actively directed by God’s hand. Research scientist Don Stoner,²⁶ in his book *A New Look at an Old Earth*, says, “This [Cambrian Explosion] is an interesting companion to the Bible’s phrase, ‘Let the water teem with living creatures.’” *Genesis 1:20*

Darwinists believe that man evolved from the lower primates. Davis says, “Darwinists have been searching for fossil remains to establish their belief that man evolved . . . fossil remains of hominids are not only comparatively few in number, they are usually very fragmentary. . . . [And paleontologists] cannot agree on any one scheme of evolution . . .”²⁷

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Genetics

The study of heredity and variation in related animals and plants

What the Theory of Evolution Says

Darwin’s¹⁰ theory stated that evolution can change one type of organism into another. He also thought the father’s contribution “blended” with the mother’s, and that a trait which supports survival would become reproductively dominant over time. Darwin did not have a clear understanding of the laws of inheritance of such traits, because they were discovered only a few years earlier by an Austrian monk, Gregor Mendel. In the 1900s geneticists incorporated Mendel’s four laws of inheritance into Darwin’s theory. They called the new theory “neo-Darwinism” in which the individual units of inheritance were called genes which were thought to be stable and retained from generation to generation. For example, when Mendel crossed a pea plant having round seeds with one having wrinkled seeds, all the offspring in the first generation were round peas, not “blended.” The wrinkled-seed gene was present, suppressed by the dominant round-seed gene. However, wrinkled peas

appeared in one-quarter of the offspring in the second generation. Blended traits did not exist. Now we know that mutations can cause chemical changes on genes.

What Evolutionists Say We Ought to See

If neo-Darwinism were true we would expect to see strong evidence of change from one species to another (for example, ape to man, or descent with modification from a common ancestor). We should see that traits follow the genetic laws of Mendel and appear relatively stable from one generation to the next. However, dominant genes do not become more dominant as had been hoped by those favoring Darwinian evolution. Mendel’s laws of inheritance only explain microevolution, such as natural or domestic breeding of desirable changes or variations within plant and animal species.

For macroevolution to occur we ought to see something which dramatically changes the genes, something like gene mutation, a proposed mechanism to provide an increase in species complexity. We should see the effects of beneficial mutation and natural selection making significant changes in species. While mutations can be increased by heat, chemicals and radiation, most mutations are harmful. Most lead to structural impairment, genetic diseases and death. (The ratio of harmful to beneficial mutations is at least 10,000 to one.)

What We Actually Observe in Nature

We observe microevolution both in nature and through purposeful domestication within species. We do not observe macroevolution. Purposeful domestication (selective breeding) has been used to produce changes or desired variations within many species for more than 2000 years. Examples include cats, dogs, beef and milk cattle, race and plow horses, roses, wheat and corn. All have been changed through microevolution which follows Mendel’s law of inheritance, not the concept of blending traits envisioned by Darwin. Scientists admit macroevolution cannot be observed under natural conditions. If it happened, it occurred in the distant past and would be too slow to observe now. However, in laboratory experiments, fruit flies have been altered to grow legs from their heads, one of many freakish major mutations possible. These changes were produced by large doses of radiation to

greatly increase the mutation rate and alter the genes. These changes neither created a new structure (just altered existing ones) nor changed the fly into a new kind of insect. These flies may breed under laboratory conditions, but cannot survive in nature because of this harmful mutation.

Davis²⁶ writes, "Mutation does not introduce new levels of complexity, and it cannot be shown that it is a step in the right direction. Most observed mutations are harmful, and there is no experimental evidence to show that a new animal organism or even a novel structural feature has ever been produced from the raw material produced by mutation."

What Scientists Say

Some scientists promote evolution despite the lack of evidence. Others point out the failure of evolution. "There is no debate within the scientific community over whether evolution has occurred, and there is no evidence that evolution has not occurred," writes the National Academy of Sciences of the U.S.²⁷ In 1995, the American National Association of Biology Teachers stated, "The diversity of life on earth is the outcome of evolution: an unsupervised, impersonal, unpredictable and natural process of . . . descent with genetic modification that is affected by natural selection, chance, . . . and changing environments."

Many secular scientists^{21, 23, 28} disagree. Pierre-Paul Grasse²⁸ of the French Academy of Sciences writes,

"No matter how numerous they may be, mutations do not produce any kind of evolution." Molecular biologist Michael Denton²⁹ says, "The failure to validate the Darwinian model has implications which reach far beyond biology." Information theorist Hubert Yockey writes, "One must conclude that, contrary to the established and current wisdom, a scenario describing the genesis of life on earth by chance and natural causes which can be accepted on the basis of fact and not faith has not yet been written."³⁰ Ferguson³ says, "Scientists are particularly loath to relinquish the last form of prejudice . . . It must be true because anything else would be unthinkable." For example, Dawkins says, " . . . the only alternative explanation of the sudden appearance of so many complex animal types in the Cambrian era is divine creation, and [we] both reject this alternative."²⁰

Explanations Offered by Creationists

While accepting variation within species (microevolution, not Darwinian evolution), most creationists do not believe that new species have arisen through macroevolution. All creationists worship God as the Creator of humans, believing that in some special way He made us in His own image. (Genesis 1:26) Morris¹² objects to the term *microevolution* to describe "horizontal variations" of plants and animals at the same level of complexity because microevolution may give the impression that with enough time, it could become macroevolution. In their book, *The Genesis Flood*, John C. Whitcomb and Henry M. Morris show a diagram of *how* specially created "kinds," the horse and dog for example, may have become diversified from their common ancestral pairs from the beginning to the present. This has been called "creationist adaptation" (natural selection).

Behe¹⁹ says, "On a small scale, microevolution, Darwin's theory has triumphed . . . But it is at the level of macroevolution—of large jumps—that the theory evokes skepticism. . . . Persuasive evidence to support that position has not been forthcoming." On mutations, Davis writes, "There is no evidence mutations create new structures. They merely alter existing ones. . . . Mutations are quite rare. This is fortunate, for the vast majority are harmful, although some may be neutral."²⁵ Some creationists explain the rapid speciation of the past as the six days which God created, and the present lack of speciation, as the "seventh day" in which God rests.

1 Corinthians 15:38, 39 . . . God giveth . . . to every seed his own body. All flesh is not the same flesh; but there is one kind of flesh of men, another flesh of beasts, another of fishes, and another of birds.

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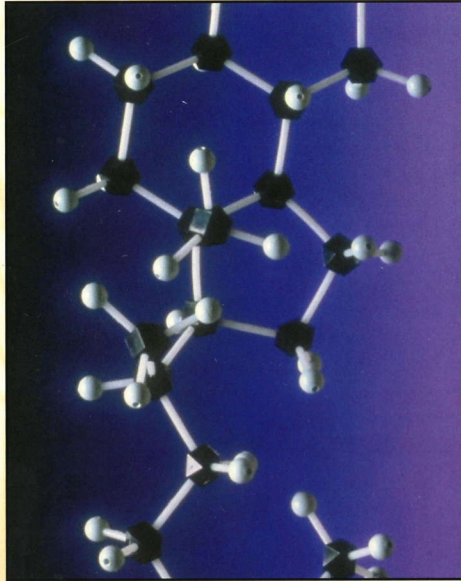
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Biochemistry

The study of chemical processes occurring in living plants and animals

What the Theory of Evolution Says

With the discovery of DNA, the genetic data bank, evolutionists were given new hope that they might find evidence supporting evolution of molecules. Darwin developed his theory at a time when little was known about the chemical composition of plants and animals, even less about chemical reactions within living cells, and nothing at all about the chemistry of genes (DNA) and gene products (proteins). The double helix structure of DNA,³² discovered in 1953, almost 100 years after Darwin's¹⁰ pioneering work, cleared up many mysteries. Now we know that each gene is a section of a long DNA molecule containing many genes. Genetic information can exist in stable form for thousands of years, yet can be copied easily when cells divide. Knowledge unavailable to Darwin enables genetic engineers to manipulate DNA, transfer it from one species to another, and even clone animals. Therefore,

artificially (or directed) as well as naturally (or random) occurring mutations on a single part of a DNA molecule are possible sources of biological variation.

What Evolutionists Say We Ought to See

Evolutionists say that evolution needs to make sense at the molecular level. If evolution were true, we ought to observe and explain many things, including the following:

- how the nucleic acids and proteins became so complex and well adapted to their highly specific functions
- how evolutionary processes were directed from the first forms of life—proteins to cells to plants and animals
- how mutations work in the DNA molecule
- how molecular “clock” findings, used to estimate the time since an animal or plant split off from its common ancestor, can correlate and be consistent with the fossil record
- how comparison of DNA between species, for example, humans and apes, can show how closely they are related on a molecular “tree of life.”

What We Actually Observe in Nature

Microevolution is now observed in molecules, yet an orderly progression from one species to another is not clearly supported by biochemistry. Many mutations are known to be changes in a single “letter” in a message “written” on a long DNA molecule. For example, a person can become quite sick from having a slightly different form of some protein, like hemoglobin (the molecule that carries oxygen in our red blood cells). Biochemists can detect which part of the molecule differs from the normal protein and even pin the blame on a specific chemical change in the DNA of the gene for hemoglobin structure.

Can scientists prove that two kinds of animals are related by observing DNA? Molecular biologist Christian Schwabe writes, “Molecular evolution is about to be accepted as a method superior to paleontology for the discovery of evolutionary relationships. As a molecular evolutionist I should be elated. Instead it seems disconcerting that many exceptions exist to the orderly progression of species as determined by molecular homologies; so many in fact that I think the exception, the quirks, may carry

the more important message.”³³ Some molecular biologists speak of evidence of directed evolution, not Darwinian evolution.

What Scientists Say

Evolutionists expected that an improved understanding of mutations, amino acids and DNA should put their theory on firmer ground, but instead biochemistry has raised challenging new questions. Biochemistry has not confirmed macroevolution. Attempts have been made to use molecular clocks to tell us how long ago each species branched off from its common ancestor of a proposed evolutionary tree. But, these molecular clocks run at different rates for different species and for different positions along the DNA molecule. These differences produce very large uncertainties in time, and the data have not compared well to fossil records, so the molecular clock's usefulness is questionable.

Denton³⁴ says, “The really significant finding that comes to light from comparing the protein's amino acid sequences is that it is impossible to arrange them in any sort of evolutionary series. Thousands of different sequences, protein and nucleic acid, have now been compared in hundreds of different species but never has any sequence been found to be in any sense the lineal descendant or ancestor of any other sequence. In terms of their biochemistry, none of the species deemed ‘intermediate’, ‘ancestral’, or ‘primitive’ by generations of evolutionary biologists, and alluded to as evidence of sequence in nature, shows any sign of their supposed intermediate status.”³⁸

Davis³⁵ says, “. . . it has proved impossible to arrange protein sequences in a macroevolution series corresponding to the expected transitions, from fish to amphibian to reptile to mammal.”

Explanations Offered by Creationists

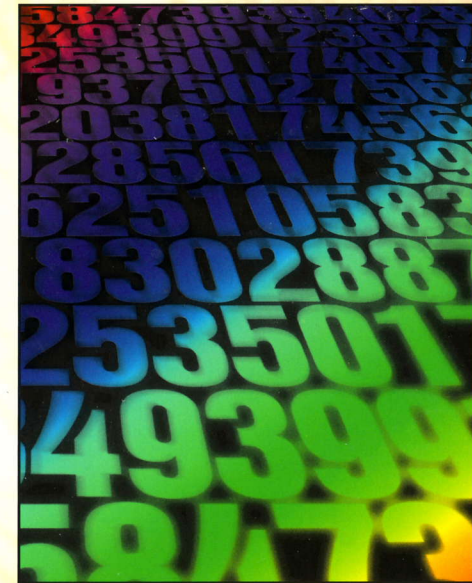
Creationists credit God with the creation of everything that exists, down to the molecular and even the subatomic level. A DNA molecule contains massive and complex “genetic information” which, like a blueprint, specifies how one living cell is put together. Molecular biologists speak of “messages” and whole “libraries” with information “written” in the “DNA code” or the “language of proteins.” Lindsay³⁵ wrote that the “information in one cell

would fill about a thousand, 600-page books; and, this one cell can be used to reassemble the entire body . . .”

Davis says “Darwinists have held high expectations that biochemistry would provide evidence of gradual change between taxonomic groups. However, biochemistry has not provided this kind of evidence.”²⁵

Behe points to the structure of an organ, the human eye, which would not work unless all its many components were integrated. To illustrate the concept, Behe uses a simple mouse trap comprised of five “well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.” Behe argues that no feasible evolutionary explanation exists for some “irreducibly complex systems” [not only in organs, but] in even the simplest cells and molecular systems.¹⁹ Behe argues that this challenges the whole idea of molecular evolution.

Psalm 8:3-8; Isaiah 55:8, 9; Colossians 1:17



Mathematics

The use of numbers, symbols and equations to study quantities and their relationships.

What the Theory of Evolution Says

Scientists can calculate the probabilities of certain biological changes occurring over a given time. Evolutionists assume there was enough time (4.5 billion years) to originate pre-biological life and to evolve complex life forms from the first living cell.

They think lifeless chemicals were somehow changed into life according to chemical laws that we can observe today. They propose that small molecules combined to form larger molecules which organized themselves into a one-celled living organism. But, this simple self-replicating organism (requiring dozens of molecules) would be extremely difficult to assemble by a natural process.

While evolutionary biology is not very quantitative, some laws of chemistry and genetics can be expressed in the form of equations which provide probability of change over time. This means scientists can estimate the amount of time it would take to originate a single cell and the time needed to evolve complex life forms from it.

What Evolutionists Say We Ought to See

If life originated from chemicals by chance, then under laboratory conditions we should be able to see chemicals changing into living organisms today. Mathematics should be able to show with reasonable probability that there is adequate time for chemicals to combine to produce life and cause complex life forms to arise from "primordial soup." If some event, such as a specific mutation in a DNA molecule, has a mathematical probability greater than zero, the chance that it will occur increases with time. (Similarly, your chance of having a bicycle accident increases with the amount of time you spend on your bike.) Even if the probability of an occurrence is extremely small, it can happen, given enough time. Scientists were elated in 1952 when Stanley Miller showed that small organic molecules (such as amino acids, the building blocks of proteins) form when a mixture of simple gases is exposed to a spark-source of energy. The hope that these molecules would accumulate into a rich organic "soup" that would produce life was dashed by decades of subsequent research showing the unlikelihood of this soup-to-life theory.

What We Actually Observe in Nature

Scientists show that the probability of complex life (such as plants and animals on earth) evolving by Darwin's evolutionary model is extremely small, zero statistically. According to most mathematical calculations, a universe even 100 billion years old is still not old enough for a single cell to have developed on earth. Even attempts to synthesize RNA, an information carrying molecule, in the laboratory have also been unsuccessful. Life has not been explained through chemical origins.

Harold Morowitz,³⁶ a biophysicist, compared the number of interactions needed to randomly produce a living cell with the total number of interactions available since the beginning of the universe. The mathematical probabilities are so small that we ought to see no life at all at this stage of the earth's history. The probability of assembling amino acid building blocks into a functional protein is also too small to be considered possible. Random assembly is therefore ruled out of the question.

Hoyle³⁷ comments, "The current scenario of the origin of life is about as likely as the assemblage of a [Boeing] 747 by a tornado whirling through a junkyard." The Darwinian theory of evolution fails to predict what we actually currently observe. Schutzenberger,³⁸ a mathematician writes, "There is a considerable gap in the neo-Darwinian theory of evolution, and we believe this gap to be of such a nature that it cannot be bridged with the current conception of biology."

What Scientists Say

Hubert Yockey,³⁹ an information theorist, argues that the information needed to begin life could not have developed by chance; he suggests that life be considered a given "quantity," like matter or energy. He and some other mathematicians have challenged evolutionary biologists by citing the extreme improbability of the origin of life by chance chemical reactions, and of the improbability of the origin of all known species by random mutations. If the real "units of life" are bits of information (that is, the messages coded on DNA rather than the DNA molecule itself), evolutionary biology may take quite a different turn in the future.

A very mathematical "information theory" has been developed to solve problems in storing and transmitting information, as do computers and telecommunication systems. Some scientists are applying information theory to help unravel certain unsolved problems in biology, such as prebiological selection, similar in concept to the biological natural selection of Darwinism. They are also studying the self-organizing properties of complex chemical systems, and searching for ways to reduce the minimum complexity needed for life. The goal is to find a sensible plausible theory to explain the origin of life. Nobel Laureate Francis Crick⁴⁰ writes, "An honest man, armed with all the knowledge available to us now, could only state that in some sense, the origin of life appears at the moment to be almost a miracle, so many are the conditions which would have been satisfied to get it going."

Explanations Offered by Creationists

Creationists agree with scientists and mathematicians that the formation of life through evolution is extremely improbable, in fact, statistically impossible. Creationists believe that God is the author of the whole universe and also of the messages written on the DNA molecules of all living things.

How did those DNA messages get there in the first place? Some scientists, mathematicians, and philosophers are working on a theory of "intelligent design" (ID) claiming that the first life was designed and could not have been produced by an unintelligent naturalistic process. Most proponents of ID think "God did it" but do not include this claim in their theories. Scientific evidence for an intelligent designer is discussed by J. P. Moreland and others.^{41,42} They are trying to find new ways to explore the origin and transformation of biological information, believing firmly that God is the ultimate source of that information.

The Bible states, "He hath made everything beautiful in his time: also he hath set the world in their heart, so that no man can find out the work that God maketh from the beginning to the end (Eccl. 3:11); Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear (Hebrews 11:3); Thou art worthy, O Lord, to receive glory and honor and power: for thou hast created all things, and for thy pleasure they are and were created (Revelation 4:11)." Genesis 1:1-2:7; Psalm 8:3-8; Psalm 33:6-9; Proverbs 8:22-31; Romans 1:20, 21; 2 Peter 3:5-7

REFERENCES

1. Einstein's solution of the General Theory of Relativity, in very condensed form in English, is cited in Ross, H., *The Fingerprint of God*, Promise Publishing, Orange, CA (1989) pp. 43-50
2. Alpher, R. and Herman, R., "Evolution of the Universe," in *Nature*, 162. (1948), pp. 774-775
3. Fergusson, K., *Fire in the Equations*, Eerdmans, Grand Rapids, MI (1994)
4. Pensias, A., and Wilson, R., "A Measurement of Excess Antenna Temperature at 4080 Mc/s," in *Astrophysical Journal*, 142,(1965), pp. 419-421.
5. Cowen, R., "COBE: A Match Made in Heaven," *Science News*, 143 (Jan. 16, 1993) p. 43
6. Einstein's static model of the universe, in very condensed form in English, is cited in Ross, H., *The Fingerprint of God*, Promise Publishing, Orange, CA (1989) pp. 53-59
7. Douglas, V., "Forty Minutes with Einstein," in *Journal of Royal Astronomical Society of Canada*, 50 (1965) p. 100
8. Barnett, L., *The Universe and Dr. Einstein*, William Sloane Associates, New York (1984) p. 106
9. Einstein, A., *Out of My Later Years*, Philosophical Library, New York (1950) pp. 27-28
10. Darwin, C., *The Origin of Species*, Penguin Classics (1985)
11. Darwin, C., *Notebooks on the Transmutation of Species*, edited by Sir Gavin deBeers, British Museum of Natural History Bulletin (1969)
12. Morris, H., and Morris, J., *The Modern Creation Trilogy: Science and Creation, Vol. II*, Master Books, El Cajon, CA, second ed. (1996)
13. Francis, Daniel, Personal Communications, Geology Dept., California State Univ., Long Beach, CA (1999)
14. Olson, Edwin, retired, Personal Communications, formerly Geology Dept., Whitworth College, Spokane, WA (1999)
15. Moshier, Stephen, Personal Communications, Geology Dept., Wheaton College, Wheaton, IL (1999)
16. Simpson, G., *Fossils and Time*, Scientific American Library, Scientific American Books (1983)
17. Ross, H., *Creation and Time*, NavPress, Colorado Springs, CO (1994)
18. Fischer, R., *God Did It, But How?* Am. Scien. Affiliation Press, Ipswich, MA (1997) pp. 44-45, 63-64
19. Behe, M., *Darwin's Black Box*, The Free Press, New York (1996)
20. Dawkins, R., *The Blind Watchmaker*, W. W. Norton & Company, New York (1996)
21. Gould, S., "The return of hopeful monsters," *Natural History*, vol. LXXXVI(6), June-July (1977) p. 24
22. Gould, S., "Evolution's erratic pace," *Natural History*, vol. LXXXVI(5), May (1977) p.14.
23. Nilsson, H., *Synthetische Artbildung*, Verlag CWE Gleerup, Lund, Sweden, (1954) pp.551-552
24. Darwin, C., *The Descent of Man*, John Murray Publisher, London. (1871)
25. Davis, P., and Kenyon, D., *Of Pandas and People*, Houghton Publishing Company, Dallas, TX (1993)
26. Stoner, D., *A New Look at an Old Earth*, Harvest House Publishers, Eugene, OR (1997)
27. U.S. National Academy of Sciences Guidebook (1988)
28. Grasse, P., *Evolution of Living Organisms*, Academic Press, New York (1977) p. 88
29. Denton, M., *Evolution: A Theory in Crisis*, Adler and Adler (1986)
30. Yockey, H., *Journal of Theoretical Biology*, vol. 67, (1977) p.396
31. Whitcomb, J., and Morris, H., *The Genesis Flood*, Baker, Grand Rapids, MI (1961)
32. For which F. H. C. Crick, J. D. Watson, and M. H. F. Wilkins were awarded the Nobel Prize in 1962.
33. Schwabe, C., "On the Validity of Molecular Evolution," *Trends in Biochemical Sciences*, July (1986)
34. Denton, F., *Nature's Destiny*, The Free Press, New York (1996) pp. 279-280
35. Lindsay, G., *Harmony of Science and Scripture: Volume II*, Christian Science Series, Christ for the Nations, Dallas TX (1997)
36. Morowitz, H., "Biological Self-Replicating Systems," *Progress in Theoretical Biology*, Ed. F. Snell, New York, Academic Press (1967) pp. 35ff
37. Hoyle, F., *The Intelligent Universe*, London, Michael Joseph, (1983); Kenyon and Steinman, *Biochemical Predestination*.
38. Schutzenberger, M., "Algorithms and the Neo-Darwinian Theory of Evolution" in *Mathematical Challenges to the Neo-Darwinian Interpretation of Evolution*, ed. P. S. Moorhead and M. M. Kaplan, Wistar Institute Press, Philadelphia (1967) p. 75
39. Yockey, H., *Information Theory and Molecular Biology*, Cambridge University Press, Cambridge, England, (1992) chap. 935.
40. Crick, F., *Life Itself: Its Origin and Nature*, New York, Simon & Schuster (1981) p. 88
41. Moreland, J., *The Creation Hypothesis*, InterVarsity Press, Downers Grove, IL (1994)
42. Moreland, J., *Three Views of Creation*, Zondervan, Grand Rapids, MI (1999)