

A Basis for Conflict

Is there evidence for Creation science? How does it compare to evolution? The following articles give insight in to these questions and more.

The Rise of Evolutionary Thinking

The question of origins has always fascinated the human mind. From the earliest times, the existence of life has mostly been attributed to supernatural intervention.

However, naturalistic models of origins based on logic and philosophy can be traced to about the fifth century BC in Greece. Plato (428-348 BC) and Aristotle (384-322 BC) were the philosophers that probably had the greatest impact on western thought. Their idealistic view of striving for perfection laid the foundations for a naturalistic view of origins.

Plato's idealistic views had a profound effect on biology. To him, the structure and form of organisms could be understood from their function, which in turn was designed to achieve ultimate goodness and harmony imposed by an external creator.

Aristotle, the father of biology, expanded this idea to include the development of organisms and the origins of groups of organisms. To Aristotle, the adult form represented the final goal or *telos*, and the changes occurring during embryological development represented a striving towards the *telos* and is dictated by the *telos*.

Aristotle used this idea to develop a "scale of nature," in which he arranged the natural world on a ladder commencing with inanimate matter to plants, invertebrates, and vertebrates. Among the vertebrates, he placed the fish at the lowest rung of the ladder and humans on the highest rung. This "scale of nature" represents a progression from the most imperfect to the most perfect.

The concepts developed by the Greek philosophers retained their influence well into the 18th century and were nurtured by prominent thinkers such as Goethe (1749-1832), who believed that the origin of each level of organism was based on a fundamental primitive plan—an archetype—from which the more complex features and organisms developed.

Although these naturalistic models of origins have existed for many centuries, only since the work of Charles Darwin (1809-1882) has biological evolution become socially accepted. The ideas propagated by Darwin were totally in conflict with the Christian worldview of his time.

The Biblical account of Genesis was considered by Church authorities to be the only correct version of origins and the age of the earth was measured by the number of generations since Adam. In contrast, the Darwinian concept of evolution required

millions of years for the gradual change of form and structure required for the transition of one species into another.

The conflict between Christianity and Darwinism centered largely on time and fixity of species. Ironically, Aristotle believed in the fixity of species, and Augustine (AD 345-430) had incorporated this concept into Christian thought. The European worldview in Darwin's time was that God had created unchangeable fixed species in the not-too-distant past.

Earth's History: Conflicting Paradigms

There are two main conflicting paradigms concerning the origins of life. This article gives important background information on both sides of this conflict so we can make informed decisions.

Defining the Terms

The concept that the present is the key to the past is called *uniformitarianism*. The term means that the processes in the world today existed in the past, and a study of present events can be used to create models of past events. Uniformitarianism has become basic to scientific thinking. It forms the cornerstone for current dating techniques.

Before 1780, uniformitarianism was not readily accepted. The dominant doctrine was *catastrophism*. According to this view, the earth's features and the fossil record were the consequence of a series of global catastrophes, each of which had wrought extensive changes, both in the physical features of the earth and in all living things.

The History of Uniformitarianism

James Hutton (1726-1797) first championed the idea of slow gradual change to account for changes in the earth's topography, but it was not until about 1830 that Charles Lyell (1797-1875), an Englishman sympathetic to the views of Hutton, documented uniformitarianism in his interpretation of the origin of the rocks and landforms of western Europe.

Lyell argued that the earth must be very old for its many geological changes to have taken place by such gradual processes.

Charles Darwin was much influenced by the work of Lyell. During his voyage of the *Beagle*, he carried with him Lyell's *Principles of Geology* and noted all the geological features of the terrain he covered.

The concepts of evolution were not entirely new to Charles Darwin, as his grandfather, Erasmus Darwin (1731-1802), had been an early popularizer of evolution. Charles Darwin's ideas on this issue only really crystallized during the voyage of the *Beagle*, and his experiences and observations on the lava-ridden Galapagos Islands off the coast of Ecuador probably had the most profound

influence on his thinking.

On these islands, he found the most unusual collection of organisms—giant tortoises and iguanas, unusual plants, insects, reptiles, and many varieties of finches. The finches in particular interested him, as these normally seed-eating birds adapted the insect-eating habits of other bird species, such as warblers, that did not exist in the Galapagos islands. The subtle changes in form, structure, and habit of the finches stirred the evolutionary thought in Darwin, leading him to begin his first notebook on the *Transmutation of Species* in 1837.

It seemed reasonable to Darwin that the organisms on the islands had been transformed over time and that the new structures and habits had developed over time. However, the mechanism for the transformation of species was not nearly as easy to explain as the assumption that such transformation had indeed occurred.

It must be noted that the world at that time had no knowledge of the science of genetics. Gregor Mendel (1822-1884), the father of genetics, was a contemporary of Darwin, but his work was unknown to the world at large and unavailable to Darwin.

Lamarck Proposes Natural Selection

Lamarck was the first biologist to propose a mechanism for evolution. He proposed that organisms acquired features as they needed them. A giraffe would require a long neck because it strove to eat leaves high up in the trees, and birds that did not like swimming, but collected food in shallow water, would develop long legs and become waders. Lamarck, at times, ascribed the process of evolution to some inner mystical property of life.

Darwin, on the other hand, proposed the mechanism of natural selection as an evolutionary mechanism more acceptable to biologists. He defined the principle as follows:

As many more individuals of each species are born than can possibly survive, and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary, however slightly, in any manner profitable to itself under the complex and sometimes varying conditions of life, will have a better chance of surviving and thus be naturally selected. From the strong principle of inheritance, any selected variety will tend to propagate its new and modified form.ⁱ

This theory provided a mechanism for change over time, but it was not until the science of genetics had developed and the concept of mutations was understood that the concept could be developed into its present-day form, in which mutations provide the material for variation and variation becomes the substance upon which natural selection could feed.

The basic difference between Lamarckism and Darwinism is that Lamarck proposed

that adaptations were acquired because organisms needed them, whereas Darwinism states that the adaptations developed by chance through mutations and selection takes place by natural selection. In a sense, natural selection becomes the driving force for change.

The basic Darwinistic view of origin by natural selection is upheld by most biologists today. They might vary on the mechanism of change, but the basic principles of Darwinism are deeply entrenched in current scientific thinking.

Science today leaves little room for a literal interpretation of the Genesis account, or the short chronology associated with it. At best, scientists might ascribe to some form of theistic evolution where God is seen as the originator of life and the mechanisms of evolution as the "creator" of the varied life forms in existence today.

This theory proposes that God used evolution to create people and all the other living organisms on Earth. A basic problem with this theory, however, is that the Bible declares that death is a consequence of sin, whereas natural selection sees death as an underlying principle for change. In essence, the two worldviews of origin by evolution or special Creation seem mutually exclusive.

Creation:	Evolution:
God spoke living organisms into existence a few thousand years ago.	Life originated from non-living material under primitive atmospheric conditions in a chemically rich ocean millions of years ago.
God created basic life forms which He called "kinds."	All life forms originate from a common ancestor.
Change is limited by the boundaries defined by God.	Organisms change because of mutations, thus giving rise to new species.
Since the fall there has been a deterioration. Development is regressive. The modern world is a distorted remnant of the perfect world which existed after Creation.	By natural selection better adapted organisms are selected for survival of the fittest. Development is progressive.

In light of these differences, it is evident that it would take quite a degree of distortion to reconcile the two concepts. Indeed, the modern concept of scientific creationism is largely frowned upon, and even ridiculed, by the scientific community.

Nevertheless, some new evidence strongly supports at least some of the arguments put forward by propagators of the Creation model, and there have been some major

modifications in the thinking of even the uniformitarians. Even many geologists have come full circle in the past few years, accepting the possibility that some of the catastrophic events in our geological past may have had more than local significance.

Since scientist Luis W. Alvarez proposed in 1980 that an asteroid had collided with the earth and caused widespread destruction and extinction of species, there has been a greater acceptance of catastrophism as a causative agent in the shaping of geological features.

Although the concept of a worldwide flood on the scale described in Genesis is still taboo, post-catastrophic floods are being regarded more and more as shapers of geological features that were previously considered to have developed as a consequence of uniformitarian principles over thousands or millions of years.

One example of such a change of position is the story of the Columbia River Dry Falls which are now considered to have been shaped by catastrophic floods at the end of the last ice age.

The Age of the Earth

The oldest historic records on Earth date back no further than 3000 BC. A study of numerous Biblical chronologies dates the earth to a maximum of 10,000 years, with most chronologies advocating an age of 6000 years. Even if we accept a Bible-based age of 10,000 years, the discrepancy between 10,000 years and the scientifically-accepted age of 4.5 billion years is vast.

How do scientists calculate the age of the earth?

The age of the earth can be derived by applying the principle of uniformitarianism, the idea that current processes in the world today also existed in the past, and present events can be used to create models of past events.

For example, it can be observed how quickly sediments accumulate in a shallow lake. Assuming that we find that the rate of accumulation is 0.1 cm/year over our study period, then we could use this figure to calculate the approximate age of a sedimentary geological feature that we consider to have developed under similar circumstances.

A layer of sediment 10 meters thick could then have taken 10,000 years to form. It is easy to see that geological age can be considered vast indeed.

The conclusion reached in the above scenario is, however, only correct if the uniformitarian principle applies. What if there had been a catastrophic flood that washed vast amounts of sediment into the lake within one day? Whole villages can be buried in sediment in an instant after catastrophic floods.

Our assumption that the sedimentary layer took 10,000 years to develop might be

based on logic, but it need not necessarily be right. It could have formed rapidly.

Interestingly, the more data is accumulated, the more the age of Earth theories come into conflict. In fact, recent arguments on rates of evolution have produced a storm of scientific papers, slashing millions of years out of the geological time frame in order to accommodate new ideas. If this is acceptable in the scientific world, then surely it is an admittance that their time frame is not as rigid as they would have us believe.

Is Carbon Dating Accurate?

How accurate are carbon-dating methods? All methods of radioactive dating rely on three assumptions that may not necessarily be true:

1. Rate of Decay

It is assumed that the rate of decay has remained constant over time. This assumption is backed by numerous scientific studies and is relatively sound. However, conditions may have been different in the past and could have influenced the rate of decay or formation of radioactive elements.

Evolutionists assume that the rate of cosmic bombardment of the atmosphere has always remained constant and that the rate of decay has remained constant. Scientists place great faith in this dating method, and yet more than 50% of radiocarbon dates from geological and archaeological samples of northeastern North America have been deemed unacceptable after investigation.ⁱⁱ

While there is no proof that the rates were different in the past than they are today, there is also no proof that they were the same. Thus radioactive dating relies purely on assumptions. We could put forward the following counter arguments to the constancy of these assumptions:

- a) The constancy of cosmic ray bombardment might be questioned. The current high rate of entry might be a consequence of a disturbed post-Flood environment that altered the carbon-14 to carbon-12 ratio. Pre-Flood dates would thus have to be discarded.
- b) An increase in the magnetic field of the earth would have shielded the earth from cosmic rays. Some scientists argue that the magnetic field of the earth has declined over time.
- c) Atmospheric carbon forms just 0.0005% of the current carbon reservoir—99.66% of the earth's carbon exists in limestone, 0.31% in oil and gas, and 0.02% in coal. Carbon-14 comes from nitrogen and is independent of the carbon-12 reservoir. If even a small percentage of the limestone deposits were still in the form of living marine organisms at the time of the Flood, then the small amount of carbon-14 would have mixed with a much larger carbon-12 reservoir, thus resulting in a drastically reduced ratio. Specimens would then look much older than they actually are.

- d) Even if the rate of decay is constant, without knowledge of the exact ratio of carbon-12 to carbon-14 in the initial sample, the dating technique is subject to question.

2. Clock Reset

It's assumed that the clock was set to zero when the study material was formed. This requires that only the parent isotope be initially present or that the amount of daughter isotope present at the beginning is known so that it can be subtracted.

Many examples from literature show that the zero-reset assumption is not always valid. Volcanic ejecta of Mount Rangitoto (Auckland, New Zealand) was found to have a potassium-40 age of 485,000 years, yet trees buried within the volcanic material were dated with the carbon-14 method to be less than 300 years old.ⁱⁱⁱ

A further example from a lava flow off the coast of Hawaii shows similar discrepancies. If dated with the carbon-14 method, the flow appears to be less than 17,000 years old, but dating with the potassium argon method gives dates of 160,000 to 43 million years. A rock sample from Nigeria was dated at 95 million years by the potassium-argon method, 750 million years by the uranium-helium method, and less than 30 million years by the fission-track method.^{iv}

If the clock is not set to zero when a deposit forms, then there can be no starting point from which to calculate the age of a deposit.

3. Closed System

It is assumed that we are dealing with a closed system—no loss of either parent or daughter elements has occurred since the study material formed.

No scientist can guarantee that any sample can be considered a closed system unless it was isolated from its environment when it was formed. Elements can be transported into a sample or leach out of a sample.

Scientists will reject theories about the age of the earth that do not conform to the norm. They will argue that the clock was not reset if the age is too old, or that isotopes were selectively removed if the age turns out to be too young.

In the study on the Hawaii lava flow cited above, it was argued that entrapment of excessive amounts of argon gas had made the samples appear older than they were.

Radiometric dating techniques are thus based on sound scientific principles, but rely on so many basic assumptions that Bible believers need not have their faith shattered by data derived from these techniques.

i Monroe W. Strickberger, *Evolution* 2nd edition, (London, Jones & Bartlett Publishers): 1996.

ii J. Ogden III, "Annals of the New York Academy of Science," 288 (1977): 167-173.

iii A. McDougall Polach and J.J. Stipp, "Excess Radiogenic Argon in Young Subaerial Basalts From Auckland Volcanic Field, New Zealand," *Geochemica et Cosmochemica Acta* 33 (1969): 1485-1520.

iv E. Fisher, "Excess Rare Gases in a Subaerial Basalt from Nigeria," *Nature* 232 (1971): 60-61.