

for the genetic code, and so on. He also frequently uses the molecular similarities between species, for example, a close correspondence in the structure of their haemoglobins, as proof of a common origin in the 'evolutionary tree'. For those who believe in Creation, this is no different from the old argument that similarities between the limb structures of reptiles and birds 'prove' their evolutionary connection; they prove no more than the Creator's use of similar design features throughout the animal world.

Many more avenues could be explored. Perhaps this will be sufficient, however, to encour-

age the believer, whether or not tutored in the science of our age, to keep faith in his Creator—the God Who made the world to be filled with His glory, and made man to have dominion over His creation.

"He hath made every thing beautiful in his time" (Eccl. 3:11).

Acknowledgement

The author is grateful to several who have commented on drafts of this article, especially Brethren David Brown and Phil Mallinder.

Interpreting the fossil record

Alan Fowler

"Speak to the earth, and it shall teach thee" (Job 12:8)

THERE CAN be no conflict between the Divine record of Creation in Genesis 1 and the fossil record of creation in the rocks. Conflicts can only arise if we misinterpret either or both of these records.

As we hope to show, the species-specific zoning of fossils in the succession of sedimentary rocks indicates that they could not have been deposited from a single flood, and must have been laid down over a very long period of time.

In Genesis 1 we have a six-day time frame in which God revealed the creative power of His Word. Apart from the creation of man, there is no indication when Creation began ("In the beginning God created . . ."), nor are we told how God created the plants and animals. We are simply told that God said, "Let the earth bring forth" or "Let the waters bring forth". By contrast, when God created man He declared, "Let us make man in our image". This is followed by details regarding the creation of Adam and Eve, and the genealogies indicate that they were created about 4,000 B.C.

So, although the Divine record of Creation excludes the possibility that Adam and Eve evolved, we are free to explore the fossil record for clues regarding the manner in which the plant and animal kingdoms came into being.

What do we find in the fossil record?

Until recently, the oldest fossil-bearing rocks were found in the Cambrian series. In these sedimen-

tary rocks we are introduced to a spectacular burst of life containing representatives of all the major categories of marine life. A dragnet in the Cambrian sea would have brought up porifera (for example, sponges); coelenterates (for example, jellyfish and sea anemones); echinoderms (for example, sea lilies and sea cucumbers); brachiopods (lamp shells); molluscs (for example, bivalves such as mussels, and single-shelled gastropods such as limpets); annelids (segmented worms); arthropods (for example, trilobites); and vertebrates (for example, jawless fish).

Over 500 different species have been found in the earliest Cambrian deposits, but more remarkable than the numbers is the complexity of many of these creatures. For example, Cambrian trilobites, which vary from a quarter of an inch to eighteen inches long, had well-developed limbs, antennae, a digestive system, a nervous system and compound eyes. Yet they, like their contemporaries, appear abruptly and without evidence of their ancestry.

Evolutionists often speculate on possible steps in the evolution of the eye. Such speculation is futile because the eyes of early trilobites have never been exceeded for complexity or acuity by later arthropods. They were perfect from their beginning, and their acuity was enhanced both by a doublet lens structure and by a sophisticated aspheric correcting interface.¹

This record of the sudden appearance of new forms of life is repeated again and again in the

succeeding geological periods. In the **Ordovician** period the earliest graptolites (free-floating colonial animals), and bryozoa (marine mosslike colonial animals) appeared for the first time. We also find the first coelenterate corals and the first cephalopod molluscs (for example, squidlike nautilus).

In the **Silurian** period the first land plants (vascular plants) appear, including forms which are by no means primitive. Cartilaginous fish (for example, sharks and dogfish) are first found, as also are sea scorpions.

In the **Devonian** rocks we discover the first amphibians and the first ammonite cephalopods. Large numbers of modern kinds of bony fish appeared, and, with the spread of land plants to feed on, small insects are found.

In the **Carboniferous** deposits we find the first reptiles and large numbers of amphibians. There was an enormous growth of vegetation and an abundance of winged insects; one dragonfly had a wingspan of twenty-nine inches. Also spiders complete with spinnerets first appear.

The **Mesozoic** era (**Triassic**, **Jurassic** and **Cretaceous** periods) is associated with the appearance of a large variety of reptiles, including the dinosaurs. The earliest known bird, complete with perfectly constructed feathers, is found in the Jurassic; the first flowering plants (angiosperms) and the first placental mammals are found in the Cretaceous.

Finally, in the **Caenozoic** or **Tertiary** era a huge variety of placental mammals appear, including highly specialised whales and bats, all fully formed and endowed with all the characters of their orders.

This bare catalogue reveals that the fossil record is characterised by sudden and dramatic bursts of life. It also reveals equally remarkable disappearances of life. The onset of each period is marked by rapid changes; much of the old life has died out and been replaced by new forms of life. For example, no ostracoderms (fish with bony external skeletons) survived into the Carboniferous period, no trilobites are found in Mesozoic rocks, very few of the reptiles or amphibians of previous periods are found in the Jurassic period, none of the mammals of the Jurassic period is found in the Tertiary rocks, and at the end of the Cretaceous period the dinosaurs of the Mesozoic era become extinct together with the ammonites.

It must be appreciated that in saying that the fossil record reveals bursts of new forms of life

and rapid extinctions of old forms we recognise that these changes were not necessarily instantaneous. In many cases the newly appearing forms may have resulted from a rapid multiplication of previously created forms in new environments. Thus we do not have to believe that every extinction was immediately followed by a special creation to fill the gap. The important point is that, however they arose, all the fundamentally new forms of life appear in the fossil record without evidence of having evolved.

Thus we see that the fossil record shows that throughout geological time the earth has been inhabited by an ever-changing balance of living things resulting from successive creations and extinctions. The same conclusion was reached by Darwin in 1835 after contemplating the extinction of the giant sloths in South America, when he wrote that after their deaths "successive births must repeople the globe", replenishing species to keep the harmony established by the 'Author of Nature'.²

Pre-Cambrian Life

Darwin estimated that Cambrian life would have needed at least as long to evolve as the whole interval from the Cambrian period to his own day, and admitted that the absence of vast piles of strata rich in fossils beneath the Cambrian system was inexplicable. He suggested that the pre-Cambrian fossils might have been buried beneath the ocean floors, or that they might have been pressurised and cooked out of recognition (metamorphosed). Neither of these explanations is feasible. Vast tracts of unchanged pre-Cambrian sedimentary rocks have been explored, and most are found to be totally devoid of recognisable fossils.

Another explanation had to be sought, and it is commonly argued that pre-Cambrian fossils are rare because they had soft bodies and therefore were less likely to become fossilised. But many soft-bodied creatures have left fossils in the form of imprints. More than a hundred different kinds of soft-bodied animals have been found in Cambrian rocks, and some, such as

1. For a description of the trilobite eye see *Trilobites* by Riccardo Levi-Setti (2nd edition, 1993), University of Chicago Press.
2. Quoted by Desmond and Moore in *Darwin* (Penguin, 1991), p. 159. For a detailed refutation of major evolution in the fossil record see Douglas Dewar, *The Transformist Illusion*, 1957, Dehoff Publications, Murfreesboro, Tennessee.

the fossils of the Burgess shale, have been preserved in exquisite detail. And since there are no intermediate fossils between the soft-bodied pre-Cambrian and the hard-bodied Cambrian, evolutionists have to argue that the soft-bodied creatures rapidly acquired the ability to calcify their skeletons. Since sea water contains a very low concentration of calcium, this involves complex biochemistry.

Until 1947 practically no undisputed pre-Cambrian fossils, other than bacteria, spores and algae, had been discovered, but in that year a rich deposit of pre-Cambrian fossils was found in the Ediacara Hills of South Australia. Here was the abundance of pre-Cambrian fossils that Darwin dreamed of. Here is a test case for evolution. What do we find? None of the fossils throws any light on the origin of Cambrian life. There are no known Cambrian animals in the Ediacara fauna, and no Ediacara animals survived into the Cambrian period. The Ediacara deposits contain unique jellyfish and seapens, segmented 'worms' of doubtful significance, and several forms of life which defy classification into any known phylum.³

Since then, pre-Cambrian fossils have been found in many other parts of the globe, notably in Newfoundland, Canada, Russia, England and Wales. The story is repeated; none of the fossils has a calcareous shell or mineralisation of tissue, and none shows evidence of evolving into the more complex forms of life that appear in the Cambrian rocks.

Evolutionists suggest that a vast Ice Age may have wiped out the pre-Cambrian life, and that this ushered in a period of extraordinarily rapid evolution—so-called *quantum evolution*. But in the absence of intermediate forms this is pure speculation. It has to be admitted that what we are seeing in the Cambrian period is an explosion of new forms of life without any evidence of how they came into being.⁴

Bursts of life

This picture of the abrupt emergence of new forms of life without ancestry is repeated in subsequent geological periods. Thus, highly developed categories such as vascular plants, seed-bearing plants, winged insects, spiders, bats, whales, etc. appear in the fossil record without any evidence that their highly sophisticated biological mechanisms evolved.

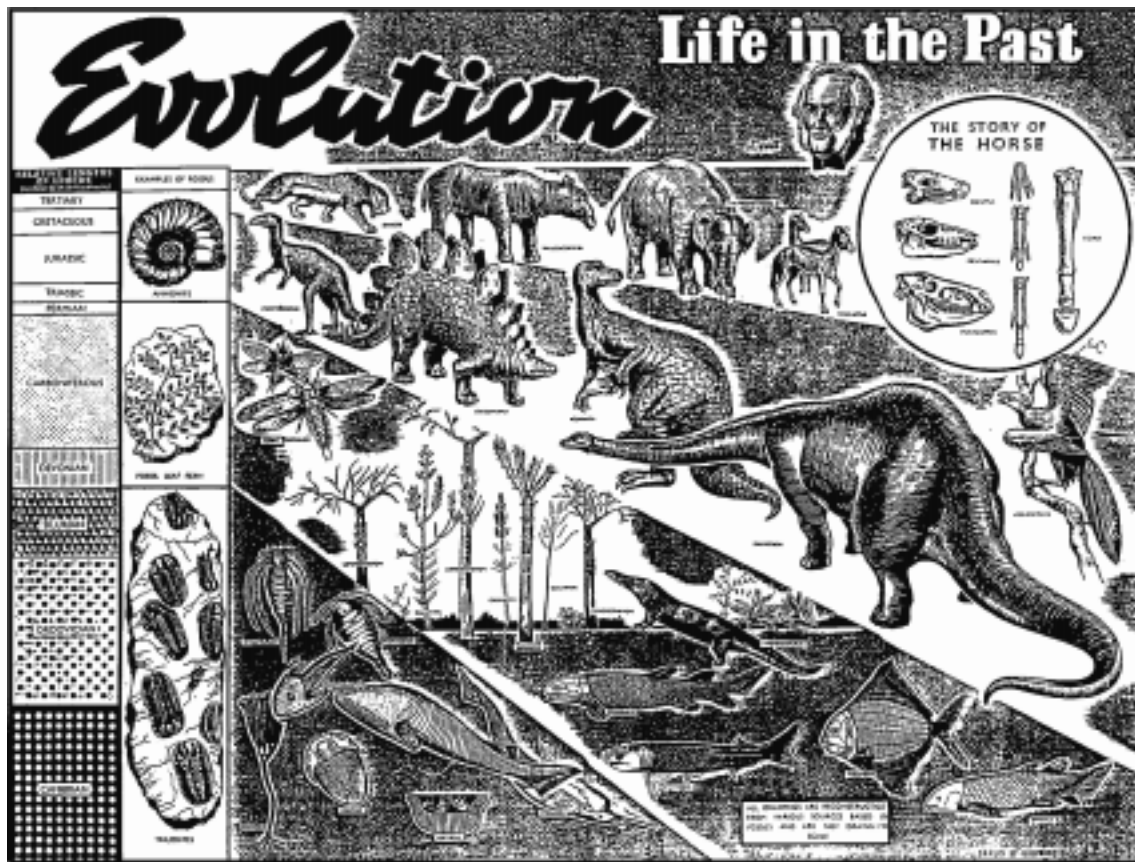
This is certainly not what one would expect to find if evolution were true. One would expect to

find the *gradual development* of new kinds of life evidenced by long *chains* with many links, indicating the slow changes that are the essential requirement of any reasonable theory of evolution. There should be chains of fossils demonstrating the evolution of major categories—not just modifications of well-established structures.

The fossil record shows that there has occurred through geological time a succession of bursts of life, which were adapted to successive changes in the environment of the earth's surface. Thus the marine life of the Palaeozoic era was suited to the vast primeval oceans. Amphibians thrived in the Carboniferous swamps. In the Mesozoic era, land reptiles were well fitted to the harsh, dry conditions of the Triassic period, and the vegetarian dinosaurs lived on the lush plants of the Jurassic and Cretaceous. The succession of life shows increasing complexity⁵ and interdependence because the surface of the earth became increasingly stable and was able to sustain more complex forms of life. Thus we find the succession: fish, amphibian, reptile and mammal—not because one was transformed into another but because this was the order best suited to the progressive development of the earth's crust.

We are now in a position to understand one reason why evolutionists claim that the study of fossils provides evidence favourable to major evolution. This conclusion is based on a false inference from the geological record. Successive changes leading to increasing complexity are interpreted as transformation. This reasoning is shown in the chart reproduced [opposite](#), which is one of a series of charts designed to teach the principles of evolution. It illustrates the points we have made—the clear distinction between the fossils of one period and the next, the absence of chains of intermediate forms, and the increasing complexity of life through geological

-
3. A good account of pre-Cambrian fossils will be found in M. F. Glaessner, *The Dawn of Animal Life* (Cambridge University Press, 1984). Gould (in *The Flamingo's Smile* [Penguin, 1991], p. 233) describes the Ediacara fauna as "a unique and extinct experiment in the basic construction of living things".
 4. For a frank discussion of this 'problem' see Richard Fortey, *Fossils: The Key to the Past* (Natural History Museum, 1990), pp. 140-54.
 5. Complexity exists at all levels. No living thing is simple. Even a one-celled organism is staggering in its complexity.



A succession of creatures has been interpreted as an evolutionary sequence

time. These facts are well shown, but the evolutionary inferences are an entirely unproven assumption. The facts of the fossil record are not in dispute. What we question are the ideas that have built these facts into an all-embracing theory which postulates that all life, including mankind, has evolved from pre-Cambrian slime.

Before leaving the fossil record we need to consider two of the favourite 'proofs' of evolution illustrated on the chart. The 'story of the horse' is based on the evidence that during the estimated 60 million years of their history the 300 different species of fossil horses tended to increase in size and to lose digits. But there is no evidence as to how the first horse appeared, and during all this time no new structure has evolved. So if this is an example of evolution then it shows the *limitations* of the process.

The chart also depicts the Archaeopteryx, which is the earliest bird found in the fossil record and is regarded as proof that birds evolved from reptiles. But Archaeopteryx had a full set of per-

fectly formed, curved, asymmetric flight feathers, which are essentially the same as in modern birds. It also had opposing and highly curved big toes designed to grasp branches. It was clearly a perching bird.

But much is made of the fact that Archaeopteryx had some features found in contemporary dinosaurs, including teeth and a long bony tail. These resemblances have prompted evolutionists to regard birds as descended from dinosaurs. However, search for the dinosaur ancestors of Archaeopteryx has been frustrated by the fact that their supposed ancestors first appear 40 million years *after* Archaeopteryx, had greatly shortened upper limbs, and showed no evidence of developing flight feathers. So although Archaeopteryx was built on a dinosaur model, it was, like nature's other fliers, complete from the beginning.

Archaeopteryx shared the skies with true flying dinosaurs—the pterosaurs. These were equipped with a completely different wing

design, which was formed by a membrane of reinforced skin stretching between a greatly elongated fourth finger and the side of the body and thigh. As with *Archaeopteryx*, these creatures first appeared in the fossil record as fully developed flying machines.

Bats, which appear considerably later in the fossil record, are equipped with even more sophisticated membranous wings, which stretch between all four fingers and between the two hind legs, giving them a high degree of manoeuvrability. Once again the fossil record reveals no evidence of evolution; the earliest fossil bat was found to have a stomach full of moths, indicating that it had a fully functioning sonar system.

The very first flying animals to appear in the fossil record are insects, which use highly sophisticated dynamics to achieve the speed of wing movements necessary for hovering. Yet the first flying insects which appear in the Carboniferous period were fully operational, and included dragonflies, which are extremely versatile fliers by reason of the fact that their front and back wings are uncoupled.

Our examination of the fossil record and of two of evolutionists' favourite examples of evolution reveals that the fossils refute major evolution and support God's continuous creation and minor evolution⁶ over geological time. But, not surprisingly, this lack of evidence for evolution has led evolutionists to argue that the fossil record is unrepresentative.

Are the fossils a reliable guide?

In his *Origin of Species* Darwin suggested three explanations for the lack of fossil evidence for his theory:

- 1 Incomplete examination of the rocks;
- 2 The scarcity and imperfect state of fossils;
- 3 Bias against evolution appearing in the fossil record for the following reasons:
 - (a) Fossilisation is more likely to occur when land is subsiding, whereas evolution is more likely during periods of elevation and erosion;
 - (b) Evolving fossils may be confined to one region for a long time, and when perfected would then migrate long distances, and thus appear suddenly in other regions;
 - (c) Periods of evolution were probably shorter than periods when no change was occurring.

The first explanation is no longer valid because since Darwin's day there has been extensive examination of the sedimentary rocks, especially

through deep drillings for oil. The second explanation is still invoked in spite of the fact that huge numbers of new fossils have been discovered and techniques of identification vastly improved. We now know that the number of extinct species in the fossil record greatly exceeds the number of species known today.

Evolutionists remind us that fossilisation is a very unlikely event. The vast majority of dead plants and animals undergo decay and dissolution.⁷ From this they argue that we would not expect to find a complete fossil record of evolution, but only fragments of the process. But this does not explain the conspicuous lack of evidence for evolution of the major categories of plant and animal life. By its very nature fossilisation is a random process, and for this reason fossils are representative of the plants and animals existing at the time of burial. Thus, although fossilisation is a very rare event, the fragments that have been preserved should be regarded as representative of the whole. This is the basis of random sampling. Random sampling may fail to produce reliable results in a demographic context (for example, pre-election polls), but it should produce reliable evidence when applied to inanimate objects such as fossils. As we have shown, the samples of the fossil record that we do possess do not support major evolution.

Darwin's third explanation attempted to circumvent this difficulty by suggesting that the fossil record was not a random sample but was, for various reasons, biased. His suggestion that the fossil record is biased is more subtle, and has been adopted in modified form by evolutionists today and given the name 'punctuated equilibrium'. This postulates that evolutionary changes occurred in isolated pockets over relatively short periods of time, and that these bursts of evolutionary activity were followed by long periods of stasis. This theory of evolutionary change cleverly sidesteps the problem of negative fossil evidence, because if evolution occurred in isolated

6. The term 'minor evolution' refers to modifications of existing structures that have been observed in nature or inferred from the fossil record. It includes changes in size, shape, colour and function of organs or organisms.

7. D. V. Ager in *The New Catastrophism* (Cambridge University Press, 1993), p. 14, expresses it succinctly: "Earth history is not a record of what actually happened. It is a record of what happens to have been preserved".

areas and in relatively short spurts then we should not expect to find many evolving forms in the fossil record.

So, by postulating that the major evolutionary changes occurred in limited areas or over limited periods of time, evolutionists have attempted to snatch victory out of the jaws of defeat. The fact remains that the long chains of fossils that are obviously required in order to demonstrate gradual development are not there. This attempt to explain their absence by claiming that the fossil record is biased⁸ is nothing less than an ad-

mission that, by its very nature, the fossil record will not yield the essential evidence needed to test evolution.

-
8. The alleged bias in the fossil record is discussed at length in a paper by Professor F. H. T. Rhodes contained in *Proceedings of the Geologists' Association*, vol. 77, part 1, (1966), pp. 1-54. Although somewhat technical, the non-specialist will be able to detect much special pleading in his arguments in favour of a biased fossil record.

God—the first physicist

“Making something from nothing”

John C. Bilello

THIS IS A STORY about a dead cat and how the universe could have been made from absolutely nothing. Though it may be hard to imagine how there could be any connection between a dead cat and the universe, if the reader will bear with me I hope eventually to convince you that whether a cat lives or dies has a profound influence on everything. Before we get to our tale we need first to contemplate a few basic principles concerning the physical nature of the universe and the Word of God.

Consider what the psalmist David said about the relationship between God and His creation: “The heavens declare the glory of God; and the firmament shows His handiwork” (Ps. 19:1).^{*} This passage is without ambiguity; undoubtedly David believed that the glory of the Lord God was self-evident to any one who observed the wonders of the universe that He had created.

Scriptural standards of evidence require that two or three witnesses must agree for anything to be held true (Deut. 17:6). The glory of God is thus not only declared in His Word, but is also elegantly displayed in the things He created. The physical world all around us, stretching from the earth beneath us to the furthest reaches of the cosmos, is visible evidence of His existence, power and glory.

God and the laws of physics

It is erroneous to call the laws that govern the universe ‘natural Law’, because there is nothing natural about them. When the universe was cre-

ated, the laws of physics were created with them. The laws which govern the motions of the sun, moon and stars, and indeed of all creation, are the ordinances of the Lord God Almighty. *Thus in a very direct sense they are Divine, not natural laws that just happened by a quirk of fate.* The prophet Jeremiah declared: “Thus says the LORD, Who gives the sun for a light by day, and the ordinances of the moon and the stars for a light by night, Who disturbs the sea, and its waves roar (The LORD of hosts is His name): ‘If those ordinances depart from before Me’, says the LORD, ‘then the seed of Israel shall also cease from being a nation before Me forever’” (31:35,36; also 33:20,21). In a very real sense, Jeremiah makes us aware that the Lord God was (and is) the prime physicist, because it was the Lord God Who created both the universe *and* the physical laws that regulate its activities. It is the work of science to seek to understand the laws that govern the universe, and to answer the question, *How?* How does it all work? Only God knows *why* the laws of physics are in the form that they appear to be.

The laws of physics are written in the language of mathematics, and to one familiar with this form of communication these ordinances are exceedingly simple, which is in itself an amazing result. I will attempt in the discussion that

^{*} All Scriptural quotations are from the NKJV unless stated otherwise.