10. FOSSILS AND THE GENESIS FLOOD[1]

Why did those terrible dinosaurs become extinct? Many ideas have been proposed. One scientific article lists 40 possible reasons ranging from stupidity to changes in the gravitational constant.[2] More recently consideration has been given to the possibility that a huge asteroid, rich in the element iridium, struck the Earth, causing a gigantic catastrophe that destroyed dinosaurs and many other forms of life. This arresting idea is especially popular with the public media and geophysicists, but comparable groups of other scientist, especially the paleontologists who study fossils, think that other factors, such as heat or volcanoes, caused the extinction of the dinosaurs.[3]

FIGURE 1. View of the Grand Canyon of the Colorado River. The Precambrian is exposed in the layers just below the tip of the black arrow at the left, the Cambrian Explosion and the Phanerozoic in the layers just above.

Scientists who believe the Bible is the Word of God interpret the past history of life on Earth differently. They see the worldwide flood described in the book of Genesis,[4] as the horrendous event that would have destroyed the dinosaurs and deposited the main fossil bearing layers of the crust of the Earth. Such a view is not accepted at present in scientific circles, although it very much was in the past. The variety of ideas about the demise of the dinosaurs warns us to be cautious in interpreting a past we cannot now observe.[5]

A CRUCIAL QUESTION

Which is true, science or the Bible? The differences between the scientific evolutionary model and the biblical creation model are striking, and could hardly be more different. This is not just about dinosaurs dying. The evolution model proposes that life originated thousands of millions of years ago by itself, and then evolved into more and more advanced forms eventually producing man. The creation model, as given in the Bible, proposes that God created the main forms of life, including man, a few thousand years ago. Because of man's wickedness, that creation was destroyed by a worldwide flood. How we interpret the arrangement of the fossils in what we call the *geologic column* has much to say about these two models.[6] More importantly, these models can profoundly affect our world-view. Are we here only as a result of a prolonged meaningless mechanistic evolutionary process, or were we created in

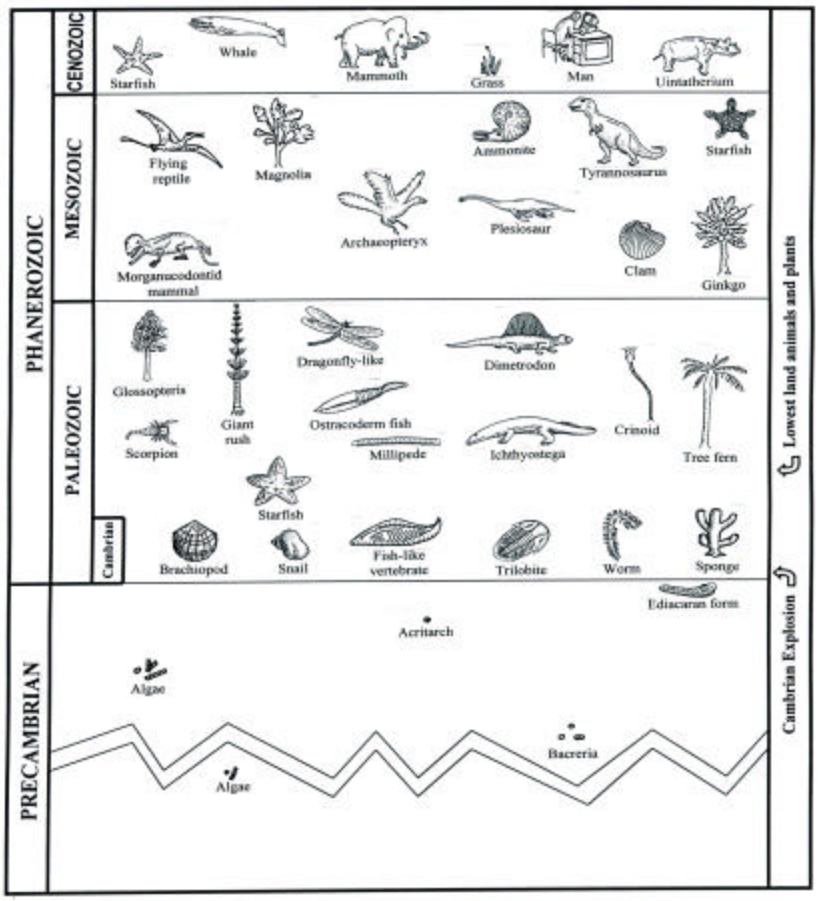

FIGURE 2. Major divisions of the geologic column and examples of some representative organisms.

the image of God, with purpose, responsibility, and hope for future eternal life, as indicated in the Bible? Many have struggled over these questions, and many will continue to struggle.

THE GEOLOGIC COLUMN—WHAT IS IT?

There is no place in the rock layers that form the crust of the Earth where you can go and find the geologic column. The geologic column is more like a map. It is a column-like representation of the general order of the rock layers over the surface of the Earth. The lowest layers, that would have been deposited first, are at the bottom of the column, and the most recent are at the top as we find them in nature. When you look at deeply eroded places like the Grand Canyon in Arizona (Figure 1), you are seeing a significant part of the Geologic column represented by layers that are exceptionally thick in that locality. You can think of the geological column as a slice of a layered cake. The slice represents the various layers in the order found in the cake. Likewise if you would cut a thin vertical slice through layers forming the wall of the Grand Canyon, you would have a geologic column of the area.

As is usual in the study of nature the picture is complicated. Often in many parts of the Earth, some layers of the geologic column are missing. We can tell they are missing because we find them in other places. There is no place on the surface of the Earth where we can find a complete geologic column. In a few places the major divisions are all well represented. The complete geologic column is the ideal where all the layers are represented in the expected order as we go up or down through the layers of the crust of the Earth. The geologic column was patiently put together as paleontologist compared the fossil sequence in the geologic column of one locality with another. It was noted that certain kinds of fossils, like crab-like trilobites, were below dinosaurs, and dinosaurs below elephants. A sample of a few characteristic organisms found in the main parts of the geologic column is illustrated in Figure 2. The column shows a striking difference between the Precambrian part, where fossils are very rare, and essentially microscopic in size, in contrast to the higher Phanerozoic where the fossils are comparatively abundant and represent a variety of much larger organisms. Very scarce and very odd (Ediacaran) types of larger organisms are found immediately below the Phanerozoic.

HOW RELIABLE IS THE GEOLOGIC COLUMN?

When you look at the Grand Canyon (Figure 1), you are not aware that major parts of the geologic column are missing. While the Cambrian period is represented (layers just above the arrow at the left in Figure 1), the Ordovician and Silurian periods are absent. Furthermore the Mesozoic and Cenozoic eras (see Figure 2 for terminology) are not there either, as they comprise layers that lie just above the Canyon wall. Since the geologic column is put together from sequences in different localities, and since parts of the column are often missing, can we trust the sequence that has been put together? Furthermore there are a few places where normally lower parts of the geologic column lie *above* higher parts, but these are disturbed areas where lower layers have been thrust over younger ones. In spite of these weaknesses, in most areas of the world, the geologic column is generally in the right order and remarkably reliable.

THE GEOLOGIC COLUMN AND EVOLUTION

The geologic column provides one of the strongest arguments for evolution. Simple life is believed to have evolved 3,500 million years ago and we find evidence of simple life forms in the lower Precambrian layers (Figure 2). Above this, in the lower part of the Paleozoic, one finds more complex

marine animals like sponges. Just above these in the upper Paleozoic and Mesozoic are more advanced land animals and plants like tree ferns and dinosaurs. In the uppermost Cenozoic we find the most advanced organisms like elephants and flowering trees. In general, simpler organisms are also found in the higher layers and advanced organisms are not found in the lower ones. The general trend of some advancement as one goes up the geologic column is considered to represent evolutionary advancement over eons of time as the layers were gradually laid down, trapping organisms that became fossilized.

EXPLANATIONS FOR THE GEOLOGIC COLUMN IN THE CONTEXT OF THE BIBLICAL MODEL OF ORIGINS

The advancement of life seen as one ascends the geologic column has been explained in several ways that fit with the Biblical model of a recent creation. Crucial to these explanations is the worldwide Genesis Flood as the event that caused the deposition of most of the Phanerozoic layers. Explanations include: (1) During the Flood, the larger more advanced animals could escape to higher levels. This can explain some sequences of advancement that we see in animal fossils, but it is very unlikely that it can explain the whole geologic column. On the other hand exceptional organisms like whales would be expected to escape. (2) Some experiments show that the carcasses of more advanced forms like mammals and birds float for weeks, while less advanced animals like reptiles float for a shorter period, and simpler amphibians for only days.[7] These lengths of time fit well with those of the Flood events and this may be a significant contributing factor. (3) The most comprehensive explanation is the *Ecological Zonation Theory*.[8] This model proposes that the distribution of organisms before the flood (Figure 3) is responsible

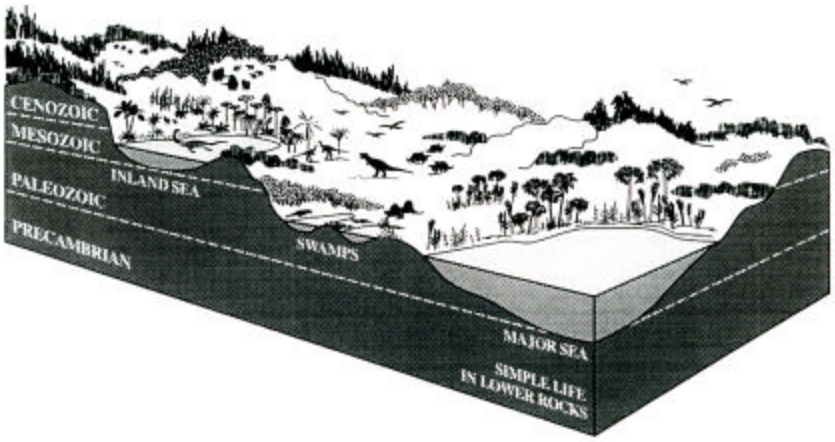

FIGURE 3. Proposed distribution of organisms before the Genesis Flood. The Ecological Zonation Theory suggests that the gradual destruction of these environments by the rising waters of the flood would produce the fossil sequence we now find in the geologic column.

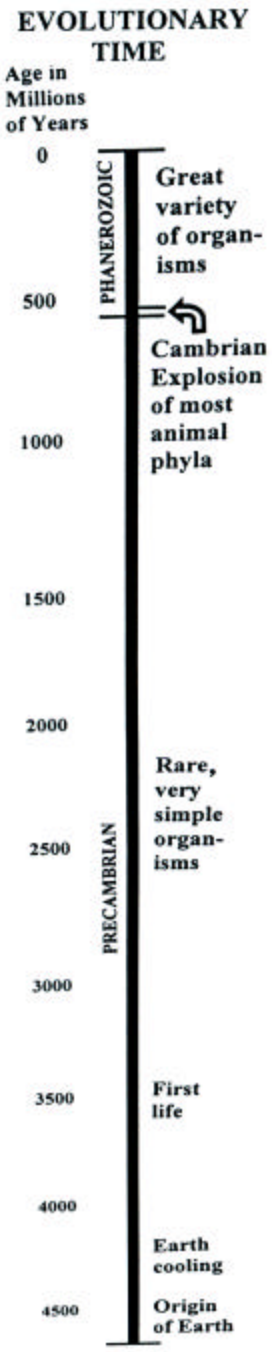

FIGURE 4. The evolutionary time scale. The Cambrian Explosion took only about 20 million years. Proposed ages not endorsed by the author.

for the distribution of organisms in the geologic column. The organisms living in the lowest regions of the world before the flood represent the lowest part of the geologic column, and those in the highest, the top of the column.

The suggested mechanism for the Ecological Zonation Theory is that as the surface of the Earth was broken up and the waters of the flood rose *gradually*; the various landscapes before the flood were destroyed as waves eroded them. The waters would erode and carry the sediments and organisms away from low lying areas first and deposit them in still lower regions (sedimentary basins). Higher and higher areas would then gradually be eroded and deposited in order in large sedimentary basins where a geologic column would form. The process was placid enough that the deposited layers were not significantly disturbed and remained in order as we see them now (Figure 1).

SOME QUESTIONS

While the general distribution of organisms on the Earth now fits the general distribution in the geologic column (see below), this is not the case in certain important details. These are considered to be the most serious objections to the ecological zonation theory. For instance, in the geologic column we find mammals and flowering plants mainly in the upper parts (Figure 2).

This would have been high up in the terrestrial landscapes before the flood, while on Earth now we find these organisms way down to seashore level. To accommodate these and other objections it is proposed that the ecological distribution of organisms before the flood was somewhat different from the present. A worldwide Flood would be expected to cause some differences. The distribution of organisms before the Flood may have been more restricted and orderly than at present, and there probably were seas at different levels (Figure 3). Note the similar distribution of organisms in Figures 2 and 3.

Questions also arise as to why, thus far, convincing examples of fossil man are found only near the very top of the geologic column. Explanations include: (1) Before the flood man and mammals resided in only higher cooler regions. (2) During the flood, intelligent man escaped to the highest regions where the chance of burial and preservation by sediments was slim. (3) There may not have been that many humans before the flood hence chances of finding them are meager. The biblical record indicates

much slower reproductive rates before the flood. For instance, Noah had only three sons in six hundred years.[9]

EVIDENCE FROM THE GEOLOGIC COLUMN THAT SUPPORTS THE BIBLICAL MODEL OF ORIGINS

The presence of fossils of simple microscopic organisms throughout the Precambrian fits better with the biblical model than the evolutionary one. These fossils would come from the recently discovered microbes of various types, including algae[10] that live in deep rocks. For the evolutionary model these microscopic fossils mean that virtually no advancement takes place here for 3,000 million years (Figure 4), and this represents 5/6 of all evolutionary time. The Precambrian does not look at all like gradual progressive evolutionary development.

All of a sudden, just above this, in what evolutionists call the *Cambrian Explosion*, almost all your basic animal types (Phyla) appear (Figures 2 and 4).[11] This looks more like creation than a gradual evolutionary process. Evolution needs all the time it can muster to accommodate all the virtually impossible events necessary for producing complex life forms, but the geologic column does not allow for much. Evolutionists speak of only 5 to 20 million years for the Cambrian Explosion![12] That is less than one percent of all evolutionary time. Samuel Bowring of the Massachusetts Institute of Technology, whose specialty is dating rocks, comments: "And what I like to ask some of my biologists friends is, How fast can evolution get before they start feeling uncomfortable?"[13] The black arrow at the left in Figure 1 indicates the location of the Cambrian Explosion in the Grand Canyon. The Cambrian Explosion fits very well with the Ecological Zonation Theory. This represents the lowest seas (Figure 3) before the Flood that harbored a great variety of marine animals as found in present seas.

As you go further up the geologic column, you encounter marine (ocean) types of organisms until you reach the middle of the Paleozoic. There a great variety of land (terrestrial) organisms begins to appear (Figures 2 and 3), including fungi, mosses, rushes (horsetails), ferns, insects, millipedes, spiders and amphibians.[14] Evolution has to answer why so many different kinds of land organisms evolved at about the same time. For the ecological zonation theory this would represent, as expected, the lowest dry land regions before the flood.

Further up the column you find, according to the evolutionary scenario, that most of the orders of mammals appeared in only 12 million years, and living orders of birds in 5-10 million years. Some evolutionists characterize such rapid rates as "clearly preposterous."[15] Fossil species are thought to last several million years each, and you need a great number of species generations for any significant evolutionary changes.

Another serious problem for evolution revealed by the geologic column is the notorious absence of fossil intermediates especially between the major groups of both plants and animals. This is specifically where you would expect the greatest number. A few have been described, but where there should be hundreds or thousands, such as just below the Cambrian Explosion, virtually nothing applicable is there. It does not look as if evolution has occurred.

THE VERDICT

Many evolutionists feel that the general progression of life forms as one ascends the geologic column is compelling evidence for their model. However, a closer look reveals rather severe problems; especially lack of time and fossil intermediates. In a biblical context one would also expect some general progression of life forms as the Genesis Flood contributed to the geologic column. A worldwide flood on our present Earth would also produce a geologic column with a general increase in complexity. Lowest would be the simple microorganisms that live in the deep rocks, next would be the marine organisms of the oceans, and highest the advanced land organisms of the continents. Furthermore, if the landscapes of the Earth before the Flood were as pictured in Figure 3, and they were gradually buried in order by that Flood, you would get the geologic column as we see it. Evidence such as the presence of microscopic life in the deep rocks, the Cambrian Explosion, and the same level of appearance of a number of terrestrial organisms, provide strong evidence for the Ecological Zonation Theory and the biblical Flood explanation for the geologic column.

ENDNOTES

[1] Modified from: Roth AA 2003. Genesis and the geologic column. Dialogue 15:9-18.
[2] Jepsen GL. 1964. Riddles of the terrible lizards. American Scientist 52:227-246.
[3] Hallam A. 1989. Great geological controversies. Second edition. Oxford: Oxford University Press, p 185-215; Dobb E. 2002. What wiped out the dinosaurs? Discover 23(6):35-43.
[4] Genesis 6-8.
[5] For further cautionary considerations see: Kerr RA. 2002. Reversals reveal pitfalls in spotting ancient and E.T. life. Science 296:1384-1385; Roth AA. 1996. False fossils. Origins 23:110-124.
[6] There are some views like progressive creation and theistic evolution etc., that are intermediate between creation and evolution. For an evaluation see: Roth AA. 1998. Origins: Linking science and Scripture. Hagerstown, Maryland: Review and Herald Publishing Association, p 339-354.
[7] For some details see: Roth AA. 1998. Origins: Linking science and Scripture. Hagerstown, Maryland: Review and Herald Publishing Association, p 169.
[8] Clark HW. 1946. The new diluvialism. Angwin, California: Science Publications, p 37-93; Roth AA. 1998 Origins: Linking science and Scripture. Hagerstown, Maryland: Review and Herald Publishing Association, p 162-177.
[9] Genesis 5-7.
[10] The presence of algae in deep rocks is unexpected. For further discussion see: Roth A. 1992. Life in the deep rocks and the deep fossil record. Origins 19:93-104; Sinclair JL, Ghiorse WC. 1989. Distribution of aerobic bacteria, protozoa, algae, and fungi in deep subsurface sediments. Geomicrobiology Journal 7:15-31.
[11] Valentine JW. 1995. Why no new phyla after the Cambrian? Genome and ecospace hypotheses revisited. Palaios 10:190-194; Thomas RDK, Shearman RM, Stewart GW. 2000. Evolutionary exploitation of design option by the first animals with hard skeletons. Science 288:1239-1242.
[12] Bowring SA, Grotzinger JP, Isachsen CE, Knoll AH, Plechaty SM, Kolosov P. 1993. Calibrating rates of Early Cambrian evolution. Science 261:1293-1298; Zimer C. 1999. Fossils give glimpse of old mother lamprey. Science 286:1064-1065.
[13] As quoted by: Nash M. 1995. When life exploded. Time 146(23):66-74.
[14] For a comprehensive illustration see: Roth AA. 1998. Origins: Linking science and Scripture. Hagerstown, Maryland: Review and Herald Publishing Association, Figure 10.1, p 165.
[15] Stanley SM. 1981. The new evolutionary timetable: Fossils, genes and the origin of species. New York: Basic Books, p 93.