PALEOECOLOGY AND THE FLOOD

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Modern uniformitarians assume long geological ages, but in recent years advocates of the Flood theory of geology have found many problems that make it more reasonable to interpret the fossil evidence in terms of catastrophism rather than long ages of evolution.

The complexity of the Cambrian and other lower Paleozoic strata creates a very difficult problem for the evolutionist, but indicates that these rocks represent a natural habitat buried suddenly. The sudden extermination of the trilobites, and the irregular distribution of the ammonities all point to catastrophism. The coal beds have many problems that evolutionists fail to explain, but which can be solved if such beds are assumed to represent an ancient type of habitat or life zone. The extinction of the dinosaurs fits well into the same explanation, as also does the peculiar distribution of the mammals in the Tertiary rocks.

All in all, the Flood theory offers the most satisfactory explanation of ancient paleoecology, in what has been designated the "ecological zonation theory."

History of Uniformitarianism

Modern uniformitarianism was introduced by James Hutton to the Royal Society in Edinburgh in 1785. He imagined one cycle after another, and concluded that "the result . . . of our present inquiry is, that we find no vestige of a beginning—no prospect of an end."[1]

Hutton's presentation was so difficult to follow that little attention was paid to it until John Playfair[2] published his commentary on it in 1802. He argued against a "debacle," as the Flood was generally called in those days, and proposed a purely uniformitarian theory. This idea was developed further by Charles Lyell, who in 1830 published the first textbook of geology.[3]

Lyell's *Principles of Geology* became very popular, going through several editions and being used as a text in colleges in England and America for over 50 years. It was written for the obvious purpose of establishing the uniformitarian theory of geology. Today Lyell's interpretation is almost universally accepted in scientific circles and taught in colleges and universities throughout the world.

Yet uniformitarianism was not accepted without some opposition. When Adam Sedgwick retired from the presidency of the British Geological Society, he argued[4] that the distribution of life in the ancient seas must have been similar to that of modern seas. He opposed the uniforitarian view put forward by Lyell.

The theory of regular succession of faunas and floras throughout long ages was attacked by Herbert Spencer[5] in 1859. He challenged the current "onion-coat" theory, as he called it, and argued that the fossil zones in the ancient world were distributed as they are today. Of course we must not gain the idea that Spencer was a creationist, for he was not, but he did see the flaws in the growing uniformitarianism.

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These criticisms of the uniformitarianism seem to have had little effect, but they did stimulate the thinking of one young inquiring mind. In 1906, George McCready Price took up the idea under the same title used by Spencer, *Illogical Geology*.[6] Price emphasized the lack of logic in uniformitarianism, and continued to do so in his later publications. For example, we read: "How simple this problem becomes, how natural the whole phenomenon appears, when we look upon the geological series as only old-time taxonomic series of a complete world all living contemporaneously."[7] And, "They, [the geological formations] simply represent a taxonomic or classiflcation series of the ancient world."[8]

As Price's contention became known worldwide, other scientific men who believed the Genesis record of the Flood to be that of a universal catastrophe became more and more interested in diluvial interpretation. They began to realize that stratigraphic geology should not be interpreted in terms of geological ages. The Genesis Flood interpretation may offer an explanation that encompasses all the valid data, but explains stratigraphy in terms of diluvialism.

Since Price wrote these words, some diluvialists have given considerable study to the problem of paleoecology. Several examples will be used and facts will be explained in terms of what may be called zoological provinces, life zones, habitats, or associations.

Example One: The Complex Life of the Paleozoic

Inasmuch as these rocks are at the bottom of the geological sequence, it would be expected, if evolution were true, that their fossils would be simple. But such is not the case.

The complexity of Cambrian life gives great perplexity to the paleontologists. In all of North America more than 1200 kinds of animals are found in the Cambrian strata, representing all the major phyla except the vertebrates. And they are not simple, either, but are as complex as members of their phyla found in the higher strata.

One of the most interesting of all Cambrian formations is the Burgess shale near Field, British Columbia. This formation contains the remains of many soft-bodied animals flattened like flowers in a press, and perfectly preserved. As many as 130 species have been described from a bed only a few feet thick.

In the *Olenellus* fauna, named after a trilobite, we find, distributed worldwide, animals such as sponges, jellyfishes, corals, starfishes, worms, brachiopods, bivalves, and trilobites. How this elaborate assemblage of animals could appear so suddenly, without any evidence of ancestors in the Precambrian rocks, is a mystery.

The Ordovician strata are much like the Cambrian, with graptolites, corals, crinoids, bryozoa, and clams either new or in greatly increased numbers. In the Silurian Niagaran formation are found reefs extending from the Arctic to southern Illinois, and as far east as the mouth of the St. Lawrence River. Their average size is about one-half mile across. They are built up of corals, sponges, crinoids, bryozoans, trilobites, cystoids, and blastoids. Most of Alberta's oil comes from reefs with typical Devonian fossils.

Another peculiar feature of the lower Paleozoic strata is the occurrence in many localities of black shales. Many geologists believe them to have been formed from ancient soils. Another suggestion that has been made is that the Cambrian and Ordovician black shales appear to be similar to the black muds now being formed in depressions in the North Sea, Baltic, and other protected areas in the oceans, where fine sediments, mostly silts and clays, are known to be accumulating in basins and troughs where there is not sufficient current to disturb them.

When we take all these facts into consideration, and look at the lower Paleozoic rocks as a whole—Cambrian, Ordovician, Silurian, Devonian, and Mississippian—we can readily see how they could have been formed in deep, quiet waters, doubtless some of them before the Flood. Then when the Flood waters did begin their work, they quickly buried these deep-sea forms of life in mud and silt. Here is an example of rocks that can be explained, not by long ages of gradually accumulating sediments, but by the burial of the original habitats before and during the Flood.

Example Two: Paleozoic Exterminations

In the Cambrian rocks the trilobites are the dominant fossils. They are abundant in the lower Paleozoic, but none are known above the Permian, and even there only three species occur. Why did they "die out"? Geologic formations contain no clue to the puzzle. It is reasonable to consider these rocks as representing an ancient habitat rather than a time-span of millions of years.

The ammonites, a peculiar form of coiled mollusk, are first seen in the Pennsylvanian rocks, according to some authorities. However, their history is very peculiar. So-called "primitive" types are represented in the Devonian and Mississippian.

Then when ammonites appear in great abundance in the Permian rocks, paleontologists are puzzled because so few of the Permian species persist. New families and a great abundance of species within them are present in Triassic rocks.

Again, only a few of these persist into the Jurassic and Cretaceous, but there are hordes of new species in these rocks. In the Cretaceous many peculiar variations in shape of the coiled shells may be seen. There are none of them in the Cenozoic rocks.

This peculiar distributional pattern, while it is perplexing to evolutionists, is quite easy to explain if we understand these different groups to be simply natural ecological groups at different levels in the ancient seas, which were buried by the rising waters of the Flood.

Another fascinating problem concerns the Paleozoic fishes. Several types existed which are entirely unknown today, such as the ostracoderms or armored fishes.

The ostracoderms are abundant in Silurian and Devonian rocks. They were somewhat similar to the modern cyclostomes, or lampreys. They had no limbs, or very small ones. Their armor consisted of bony plates, especially heavy on the front of the body. They had no jaws, and are considered to have been filter-feeders or mud-grubbers. The placoderms were much like them in appearance, though larger.

Other fishes, sharks and bony fishes, or teleosts, are found in the rocks all the way from the Devonian upwards. So abundant are they and the armored fishes in the Devonian rocks that this system has been called the "age of fishes." But the peculiar fact is that whereas the armored fishes all became extinct in the Paleozoic, the sharks and teleosts continue in the higher strata all the way up to the modern. Why should this be?

It is quite easy to imagine that the heavily armored, sluggish bottom-feeders or mud-grubbers would be overwhelmed and buried in muddy sediments, while the active fishes like the sharks and teleosts could escape, for the most part, and survive to a certain degree throughout the whole surge of Flood waters. I say "for the most part" because sharks and teleosts certainly did not escape completely. Many of their remains are found in all the stratigraphic column from the Devonian up. But the relation between sharks and teleosts on the one hand, and the armored fishes on the other, is exactly what we would expect from the Flood theory of geology.

Example Three: Burial of the Coal Forests

Popular texts on geology describe the coal beds as having been formed in great bogs, where ferns and scale-trees and many other forms of vegetation fell and were buried in the mud of the bog. But the bog theory has many inconsistencies, and it is much easier to understand the coal beds as having originated in an entirely different manner, by Flood waters.

In many coal regions from 50 to 100 alternating beds of shale and silt occur between the coal beds. This would have required uplift and depression over and over again across areas of thousands of square miles in extent during millions of years. Such a phenomenon is extremely difficult to comprehend, and does not correlate with other evidences of past geological action. Furthermore, if such alternations had occurred, the whole region should show a series of seabeaches repeatedly; yet there is no such evidence.

Another peculiar fact about the "coal age" is that it is assumed to have lasted for about 50,000,000 years, and yet during all that time, while there were quite significant differences in vegetation types, the plants in the upper beds show no changes that could be attributed to evolutionary progression.

The coal beds of Europe and America are not uniform in composition, but show differences in species composition that geologists attribute to shifting shore lines. These differences can be explained just as readily as changes in composition due to back and forth wave action. And also there are some "upland" species mixed with the "lowland" species—again an evidence of violent water action.

In the Appalachian region of North America the rocks show a very striking phenomenon. Streams rushing down from the eastern highlands, now non-existent, deposited a succession of shales, sandstones, and other materials in which much vegetation was included, but little marine material. A vast series of deltas was formed, reaching the whole length of the Appalachians, from as far down as the Devonian rocks up through the Pennsylvanian.

Coal beds in Nova Scotia and New Brunswick, where the Pennsylvanian rocks are 13,000 feet thick, are described as having been deposited in great basins between the mountains. The entire group is non-marine.

Yet in other coal regions there is a mixture of land and sea types. Shellfish of various kinds are abundant. Other marine invertebrates such as starfishes form some of the most abundant marine deposits. This indicates that the sea waters were involved in forming the Pennsylvanian rocks.

All in all the Flood theory affords the most satisfactory explanation for the formation of the coal beds. It brings into reasonable correlation such apparently contradictory evidences as badly macerated material in some beds and finely preserved plant remains in others, and a mixture of marine and land forms. Wave after wave dashing on the shores would tear away the earth and carry off great masses of trees and other vegetation to be buried in layers of sand and mud. The alternation of coal with sandstone and shale and silt would be the natural result of these wave actions.

Example Four: Death of the Dinosaurs

Reptiles present one of the most outstanding groups of ancient times, with great variety of types. When the term *dinosaur* is used, most people think of huge reptiles, such as carnivorous and herbivorous species, flying reptiles, fish-like reptiles, etc. Some were adapted to open plains, others to marshes and ponds and lakes. Dinosaurs were only one among many types.

In order to understand the relation between the dinosaurs and the environmental conditions, we must examine fossil botany.[9] We find that the plant life of the Triassic was similar to that of the Pennsylvanian, although the large trees do not seem to have been so abundant. It is suggested that the environment consisted of savannas at low altitudes, with valleys and swamps that harbored ferns and horsetails.

When we come to the Jurassic, where the dinosaurs are the most abundant, we find a different situation. The seed ferns persist, and so do many other ferns. But new assemblages of trees are evident, such as cycads, ginkgos, and conifers. *Araucaria* is the most prominent conifer.

The vegetation apparently consisted of widespread forests of the humid lowlands, with plants growing in and adjacent to the swamps. Above these were more or less open woodlands and plains, where the *Araucarius* and cycads grew. Ocean waters must not have been far away, for marine faunas are common. It was in this kind of surrounding that dinosaurs appear to have thrived.

Why did the luxurious "forest" growth of the Pennsylvanian vanish from the earth? And again, why did the Middle Mesozoic so quickly become replaced by modern types? Why did the dinosaurs vanish?

"The most dramatic and in many respects the most puzzling event in the history of life on the earth," says an eminent authority, was their sudden disappearance.[10] The simultaneous extinction of this great assemblage of giant forms, says the geologist Carl Dunbar,[11] is hard to explain. Edwin Colbert tells us that while they were abundant in Mesozoic "times," not one of them has ever been found in post-Cretaceous rocks. This is a big question, he declares, for which no satisfactory answer has ever been proposed.[12]

The lowlands of the earth were clothed in the peculiar vegetation which is now preserved in the coal deposits. Remains of amphibians are found among these beds, which naturally belong in the damp lowlands. There are few reptiles as might be expected. But as soon as we get into the Mesozoic rocks, particularly the Jurassic and Cretaceous, there is a great array of reptiles. Then in the Cenozoic the great reptiles have disappeared.

Why did the dinosaurs "appear" so suddenly and "disappear" so abruptly? It might be more meaningful if we asked why they disappeared at all. Why did dinosaurs not persist right on into the Cenozoic?

From all we can learn, the upper part of the Cretaceous beds have a very modern-looking assemblage of plants. There are magnolia, fir, poplar, beech, maple, oak, walnut, sequoia, and many shrubs. Grass and angiosperms are abundant. These continue throughout the whole sequence of the Tertiary. Why could the dinosaurs not have continued to live on, and to leave their remains in the rocks of the Tertiary if these represent valid time-sequences?

From the standpoint of Flood geology, the appearance of the dinosaurs in the rocks marks the rise of the Flood waters beginning to engulf their habitats. The disappearance of dinosaurs marks their extinction by catastrophic action. Perhaps this explanation appears to be too simple, but why invoke complicated ages of evolutionary progress and mysterious disappearance when the simple Flood interpretation will suffice?

In this discussion I have suggested that the Flood ended around the Cretaceous or early Tertiary. I realize that some workers think it ran clear up to the Pleistocene, while others feel that it ceased earlier, even as far back as the Permian rocks.

The Permian tectonics, however, are not great enough. Running the post-Flood period as far back as the beginning of the Mesozoic deposits would invoke too much violent action after the Flood.

In fact, the greatest of all worldwide upheavals, those of the American cordillers, the Alps, and the Himalayas, came around the close of the Cretaceous and the early Tertiary. For this reason, I place the death of the dinosaurs there at the closing paroxysms of the Flood, in connection with these earth-shaking movements.

Further evidence for this view may be seen in the transition of climate between the beginning of the Tertiary and its end. In the plant and animal life, Miocene and Pliocene deposits give evidence of being post-Flood. The whole subject is too complicated to consider fully here, but I have discussed it at quite some length in a recent treatise on the Flood.[13]

Example Five: The "Age of Mammals"

Mammals have given diluvialists much difficulty. Why, it has been asked, should mammals be found only in the Tertiary rocks, if there was no succession of life throughout geological ages? Why, on the Flood theory of geology, should there be no mammals down in the Mesozoic, for example, or even in the Pennsylvanian?

It is easy to understand why mammals are not found in Pennsylvanian rocks, for these rocks show a type of environment that would not be suitable or them. In fact, about the only vertebrates found in these rocks are fishes and amphibians, and a few small reptiles. The presence of amphibia correlated with the general belief that the Pennsylvanian "coal forests" were dense, damp regions quite unlikely to shelter mammals.

But why should we not find mammals among the dinosaur remains in Jurassic and Cretaceous rocks? We do, and while it is true that the greater number of mammals are found in Cenozoic rocks, those found in Mesozoic rocks are significant, as we shall see.

The Rhaetic formation in western Europe, which is on the border-line between Triassic and Jurassic, has a few teeth of mammals in the muds and sands. In America similar remains are found up through the Jurassic, particularly in the Morrison formation, but they are small and "primitive" in structure. Simpson supplied important information on this problem.[14] In the lower Cretaceous only teeth and fragments of teeth of mammals have been discovered, but in the upper Cretaceous some marsupials and insectivores are found, such as shrews and moles.

Here the fact stands out that all the Mesozoic mammals are "primitive," or generalized. The marsupials are sluggish and stupid, and the shrews and moles are burrowing types or types that frequent low spots among masses of vegetation. They would not be able to escape the rising waters. On the other hand, the larger animals could walk away from the flooding and escape to the last.

Dunbar speaks[15] of the Cretaceous as the "time of the great dying." This has been described by some geologists as the last great overwash of oceans over the land. But if this is so, where were the mammals? We must remember that the Genesis record gives 40 days before the highest lands were covered. There was ample time for mass migration of intelligent types.

Thus it is possible that the mammals migrated upward until eventually they were overwhelmed by the waters. Their presence in the Tertiary rocks, therefore, is best viewed as resulting from their migration and final destruction rather than burial in their natural habitats.

Is there a trend toward modern types in the later Tertiary? It appears so, but these rocks are so interrupted in their distribution that it is difficult to interpret their sequential arrangement.

Sediments containing the last remnants of the antediluvian life might also contain bones of the first animals to move into the region after the Flood. There is evidence of a period of great violence for a long time after the Flood, and some of the rapidly changing deposits might easily have received recycled fossils as well as new material from the living animals.

Conclusion

In 1946 I suggested that we might interpret the fossil sequences in terms of ecological zonation rather than long ages of evolution. Then in *Fossils, Flood, and Fire,* a whole chapter was devoted to the subject. "The concept is simple, in fact so simple in its primary aspects that some may find it difficult to grasp. But its very simplicity makes it all the more reasonable. It is merely a question of *area* rather than time."[16]

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[15]Dunbar, *Op. cit.*

[16]Clark, *Op. cit.,* p. 60.

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The fossil record shows loss of order and design rather than evolution. This is in keeping with the second law of thermodynamics.

Mutations are degenerative changes in the genetic materials that cause changes resulting in loss of design and often death. This is in keeping with the second law of thermodynamics. This is not evolution, but rather degeneration.

Design requires a designer. The creation shows the intelligent work of the Creator.

> Understand, ye brutish among the people: and ye, fools when will ye be wise? He that planted the ear, shall he not hear? He that formed the eye, shall he not see? (Ps. 94:8,9)
>
> For every house is builded by some man; but he that built all things is God. (Heb. 3:4)