A GEO-ECOLOGICAL EXPLANATION OF THE FOSSIL RECORD BASED UPON DIVINE CREATION

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The fossil series is discussed and an attempt is made to explain the distribution of index fossils in various strata. Factors such as proximity to early bodies of water, preflood population size, and morphology are used to predict the relative fossil production potential of various living forms. Predictions based on these factors show a good fit with the observed order of fossils in the geologic column. This provides a non-evolutionary framework for geology. Absence of larger or more "complex" types from deeper fossil strata is attributed to unavailability of rocks rather than expanded evolutionary development. Inaccessibility and metamorphosis make deeper strata unavailable and account for the general absence of fossils from such complex creatures as mammals. The available fossil record considered together with the available rock record explains the geologic "column" without recourse to evolutionary speculation or expanded uniformitarian time scales. This model is based upon the concept of creation and the Noachian deluge.

When examining the fossil record, some people are impressed with it as supposedly convincing evidence for the theory of evolution. It is "as it should be," they argue, in that the supposedly older fossils are of "simple" organisms, while the fossils dated more recently are of "complex" organisms.

There exists today a general preoccupation with and acceptance of evolution theory as the only plausible explanation of the fossil record. But if, as I and many others believe, all things were created by the Divine Power of God during Creation Week, then the evolutionary interpretation of the fossil record is not correct. If so, then what is the true explanation for the fossil record?

Using present day knowledge in geology and ecology, it is possible to depart from the evolutionary approach to the fossil record and explain it quite logically with commonly accepted scientific principles. The following explanation is propounded as a workable alternative to the evolutionary description of the fossil record.

Available Fossils

Two important facts must be pointed out regarding fossil formation. The first is that nearly all fossil evidence is found in a particular type of rock called sedimentary rock. Sedimentary rocks are formed when particles or minerals originating from the breakdown of rocks are swept into bodies of water such as lakes, or oceans. These particles settle out as unconsolidated sediments which later harden into true rocks. Because of this process of settling out of water, sedimentary rocks have the distinguishing feature of being layered or stratified.[1] There are other sources of fossil remains such as amber, glaciers, tar pits, etc., but these sources are relatively rare. We will deal, then, only with fossils found in sedimentary rocks as do all paleontologists with the rarest exceptions.[2]

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The second fact is that a prerequisite for the formation of any fossil formed in sedimentary rocks is that very soon after the death of an organism, it becomes buried. To remain exposed, whether on land or in water, soon results in the destruction and decomposition of the organic tissue by scavengers and micro-organism.[3]

Rapid burial in sediment is a necessity in the formation of fossils, and has a direct bearing upon the fossil production potential of any group of organisms. Not all organisms have an equal likelihood of leaving fossil remains. Because of certain ecological and environmental conditions, some groups of organisms have a greater chance of being fossilized in greater number than do other groups of organisms. We may refer to this index as the Relative Fossil Production Potential (RFPP) of a species.

Although fossils may have been formed to some small extent in minor floods after the Noachian deluge, it is reasonable to believe that most of the sedimentary deposits were formed during the global flood (see Genesis 7-9). With rapid burial in sediment the primary requirement for the formation of a fossil, any organism in any niche of the preflood community might possibly have left fossil remains. It is obvious also that organisms living in an aquatic or semi-aquatic habitat would have been under optimum condition for fossil production during the flood, since they would have been most likely to sink into or become covered with advancing sediments.

Other Fossil Formation Difficulties

When considering fossil land animals such as the reptiles, birds and mammals, additional difficulties in fossil formation are encountered. When these animals were buried, most of the carcasses would have been first scattered and destroyed by scavengers and micro-organisms. Uniformitarian geologists largely agree, stating that terrestrial organisms may not be buried at all *unless a sudden flood or freshet occurs which may also have the effect of scattering the remains*

still more.[4] Proximity to water, then, would have provided a greater RFPP for aquatic organisms in the deluge than for terrestrial organisms.

Another factor to consider in determining the RFPP of a group of organisms is their population size. If all other factors influencing the RFPP of two groups of organisms were equal, the group with the largest population size would have produced the greatest quantity of fossil remains. Smaller organisms generally have the greatest population sizes. This is true because the smaller creatures require less space and energy from the ecosystem than the larger ones, and therefore a larger number of niches are available for them.[5]

A third factor, morphology, should be considered, although its effect in determining RFPP may have been minimal. By morphology I mean the kind and quantity of tissue making up the body structure. Size and structure as factors in fossilization would have had a much more important application to land organisms than aquatic organisms because the opportunity for rapid burial is not as great for land organisms. This is true now and was probably also true during the flood event.

Remains of a terrestrial organism with a large amount of hard tissue probably would have survived decomposition longer than one with a small amount of hard tissue, thus increasing the chances of fossilization. On the other hand, a small quantity of tissue requires less sediment in which to become buried! Apparently, either an extremely large size or an extremely small size could be beneficial in fossil production.

An example as to how structural composition may influence RFPP comes from palynology—the study of pollen grains. Fossil evidence of pollen grains and microspores may be quite abundant in some rock strata, while evidence of the parent plants in the same stratum is completely absent. Population size alone could account for this phenomenon, since the number of pollen grains must be millions of times greater than that of the parent plants. But an additional influencing factor may be that the outer walls of spores are especially resistant to decomposition.[6]

One must conclude that the extent of the specific influence of the size and structure factor upon the RFPP of a group of organisms is difficult to determine.

Habitat, population size, and size and structure of the organism are the three main factors that influenced the Relative Fossil Production Potential of the preflood groups of organisms. It can be summarized in the following qualitative equation:

habitat + population size
+ size and structure = RFPP

For example, a creature that was near the water, that came from a large population, and that was structurally resistant to decay would have been more readily fossilized than one which was terrestrial, from a small population and/or had a structure prone to decay.

Application of Relative Fossil Production Potential Upon Index Fossil

In the fossil record, many organisms are often referred to as index fossils. They include the following groups of organisms: insects, fishes, mammals, invertebrates, reptiles, protozoans, amphibians, and birds. If the above equation is applied to the index organisms, we can determine the RFPP for each group and compare it to their stratigraphic arrangement in the fossil series.

Using the first factor, habitat, the groups may be arranged in a column with those in or nearest water at the bottom.

birds mammals insects reptiles	primarily terrestrial
amphibians protozoans fishes invertebrates	primarily aquatic

Notice that the column can be divided into two convenient groups—those that are primarily aquatic and those that are primarily terrestrial. These two groups should be given separate consideration in any further rearrangement because the groups that are primarily aquatic would have had a definite advantage in fossil production over the groups that are primarily terrestrial. Their vertical order in this sequence (sometimes called the "Principle of Faunal Succession") could thus relate to their proximity to bodies of water before the flood and not to the supposed long ages of fossil history.

Applying the next factor, population size, the column may be rearranged as follows with descending order from least to most easily fossilized:

Index Fossils	Number of Known Species	
mammals	4,500[7]	
birds	9,000[8]	primarily
reptiles	5,000[9]	terrestrial
insects	800,000[10]	
amphibians	2,000[11]	
fishes	30,000[12]	primarily
invertebrates	236,000	aquatic
protozoans	30,000[13]	

After each index group the number of known species is recorded. No one could possibly know the exact population sizes for these groups before the flood, but the number of species known at present may serve as an index of their relative population sizes. The interpretation of population size is, of course, the larger the population

size the larger the quantity of fossils produced in the flood and now available for discovery. (It should be pointed out that the figure for the known species of invertebrates includes the following phyla: Porifera—5,000 sp.[14], Coelenterata —9,000 sp.[15] Arthropoda—(except Class Insecta) 91,000 sp[16], Echinodermata—6,000 sp.[17], Mollusca—100,000 sp.[18], Annelida—15,000 sp.[19], and Platyhelminthes—10,000 sp.[20]. Only the more commonly known phyla were included in arriving at the total number of species of invertebrates.)

Two Discrepancies Noted

There are two discrepancies in the arrangement of these groups according to population size in comparison to their arrangement in proximity to water and that is in the placement of protozoans and reptiles. Both groups immediately above these two have larger numbers of known species.

There are two reasons why protozoans should possibly be left where they are despite the fact that fewer protozoan species are known than other invertebrates. First, because they are microscopic in size, greater opportunity exists for them to become more numerous in the ecosystem than any of the other organisms listed even though fewer species are recognized. Second, many species of protozoans may not as yet have been discovered as pointed out in the following quotation from a noted zoologist:

> The number of named species of Protoza lies somewhere between 15,000 and 50,000, but this figure probably represents only a fraction of the total number of species. Some protozoologists think that there may be more protozoan species than all other species together. . . .[21]

The second discrepancy involves placement of reptiles before birds. The ultimate advantage in fossil production is a close proximity to water. Generally speaking, reptiles may be more closely associated with water than birds. Also in this particular situation, the third factor, **size and structure,** may make a difference. Reptiles have a tough scaly skin and some of them, like the extinct dinosaurs, had massive bone tissue; whereas, birds are generally quite fragile in structure. They have no tough outer skin except on their legs and much of their bone structure is hollow to provide for easier flight. The size and structure factor coupled with the habitat factor could raise the RFPP of reptiles above that of birds.

The index fossils are now arranged in an order according to their Relative Fossil Production Potential. The greatest RFPP is at the bottom of the column and the least RFPP is at the top (see Figure 1). The horizontal width of the band for each index group indicates its RFPP, which is to say the quantity of fossils available for discovery.

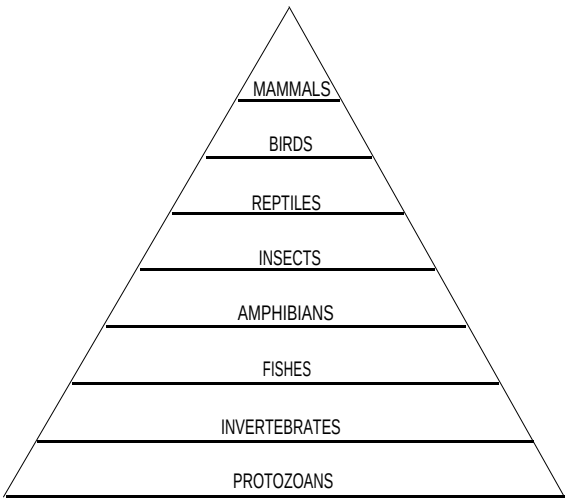

FIGURE I. AVAILABLE FOSSILS

It is significant and meaningful to note that the index fossils are now arranged according to the fossil record and that the concept of evolution has been *completely dismissed* in arriving at this arrangement. Instead, the principle of relative abundance and proximity to water (RFPP) before the flood has been used.

Determining Relative Fossil Production Potential of Specific Organisms

Difficulties may be encountered when attempting to stratigraphically arrange specific kinds of organisms, rather than large representative groups, according to the RFPP factors. These difficulties are due to a lack of obvious differences in the RFPP factors among some of the organisms involved.

Let us work out the stratigraphic arrangement of the following kinds of organisms which have been related to specific rock strata: shark, cockroach, opossum, crocodile, horseshoe crab, and *Bairdia* (a tiny marine arthropod).[22]

The immutability of these organisms cannot be satisfactorily explained in evolutionary terms.[23] Fossil evidence of these organisms dates back to rock strata supposedly millions of years old; yet, they have remained apparently unchanged up to the present, according to the uniformitarian frame of reference.

These organisms also contradict the following statement by Charles Darwin: "Judging from the past, we may safely infer that not one living species will transmit its unaltered likeness to a distant futurity."[24] These organisms have transmitted their unaltered likeness to a distant futurity.

Beginning with the **habitat** factor, the above mentioned organisms may be arranged as follows:

6. opossum	primarily
4. cockroach	terrestrial
5. crocodile	
1. horseshoe crab	primarily
3. shark	aquatic
2. *Bairdia*	

The organisms have been numbered to indicate the way they should be arranged stratigraphically from bottom to top according to historical geologists. The habitat factor alone brings about a rough semblance of order in that the organisms numbered 1, 2, and 3 are at the bottom half of the column and organisms numbered 4, 5, and 6 are at the top half, which is stratigraphically correct so far.

A judgment in the current or past difference in the **population sizes** of opossums and crocodiles is difficult to make. If the opossum population was and is greater than that of the crocodile population, it apparently has been overshadowed by the semi-aquatic habitat of the crocodile, resulting in a greater RFPP for the crocodiles during the flood.

Conversely, the population size of cockroaches, an insect, is overwhelmingly larger and more widely distributed than that of either crocodiles or opossums, resulting in their having the greatest RFPP of the three primarily terrestrial organisms. One should also remember that, although insects are small in **size,** they are not fragile. Their tough exoskeleton often results in unusually complete fossils.[25] The additional influence of the population factor could rearrange the primarily terrestrial organisms in their proper stratigraphic sequence—cockroach, crocodile, opossum.

Turning to the three organisms that are primarily marine, one would have to assume that sharks, a considerably larger organism than either the horseshoe crab or *Bairdia,* would have the smallest population size of the three, resulting in a lower RFPP. When considering the horseshoe crab and *Bairdia,* it is easy to determine why they would have a greater RFPP than all of the other organisms being compared, but due to the lack of a significant difference in any of the RFPP factors, it is difficult to determine, between the two, which has the greatest RFPP. Perhaps the rate at which sediment was deposited in the marine environment had an effect upon the RFPP of some organisms.

The following list shows the accepted stratigraphic arrangement and the geological period of the organisms we have been considering.

6. Opossum — Cretaceous
5. Crocodile — Triassic
4. Cockroach — Pennsylvanian
3. Shark — Devonian
2. *Bairdia* — Ordovician
1. Horseshoe crab — Cambrian

Available Rocks

This explanation of the fossil record is based upon Divine Creation as recorded in the Holy Bible. It is obvious when examining the fossil record that there is not much direct evidence to support Divine Creation. There is considerable indirect evidence in that many "gaps" exist. The various groups of animals or plants appear in the strata as if they had no evolutionary ancestry.

Yet, inevitably the question arises, "If all organisms were created during Creation Week, why do we not find evidence of higher forms of life in the oldest rock strata?" The answer may rest upon the difference in the quantity of fossils produced by various groups of organisms as previously discussed. It is comparatively easier to find a million needles (protozoans) in a hay stack than it is to find one needle (mammals).

The quantity of fossils partly answers the question, but one must turn to some basic geology for additional factors. Fossil production is of no use in studying the past if the rocks in which the fossils are located are not available for examination. The quantity of available rocks determines the variety of fossils that can be discovered.

Sedimentary rocks are formed in layers and the strata formed first in the flood are at or near the bottom while those formed later are at or near the top. This stratification of sedimentary rocks makes random sampling difficult because the deeper layers are more inaccessible than the upper layers. In fact, in order to be available for extensive study, deep strata must be uplifted and exposed to the surface.[26]

Accessibility of rocks deserves serious consideration. For example: If the deep rock strata can be examined only to a limited extent because of their inaccessibility, then the kinds of fossil remains one will most likely find will be the kinds that are most abundant, the protozoans, invertebrates, etc., not birds and mammals. Conversely, one **can** find the comparatively rare fossils in the last-formed or more accessible strata. These upper strata can be examined more thoroughly.

To say that it is all simply a matter of chance that one cannot find the higher forms of life in the deeper strata, may not by itself be a convincing argument. One should realize, however, that after a fossil has formed, it may not necessarily remain indefinitely available for discovery because the environment in which the sedimentary rocks were formed may change, thus changing the rocks and the fossils in them. This is pointed out by a noted geologist:

> Some of the rocks now visible on the surface of the earth were once buried as deeply

> as ten miles down. Under such conditions of extreme pressure and heat many common minerals, especially those of sedimentary rocks, are subject to change, being stable only within a limited range of rather low pressure and temperature. Under deep burial or in other parts of the crust where unusually high temperatures or pressures prevail or where hot magmatic fluids can affect them, these minerals tend to change, slowly without melting, into other minerals more stable in the new environment. These changes are called metamorphism.[27]

From this one may deduce that the deeper, first-formed layers of sedimentary rocks were changed since the flood by the process of metamorphism. If the rocks were changed, what about the fossils in them?

> Some metamorphosed rocks retain as relicts the original structures of the parent rocks. Pebbles in a conglomerate, for example, may be preserved in the metamorphosed rock, but each pebble is usually distorted and stretched out. Fossils, too, tend to be deformed (broken or stretched) in the rare cases where they are preserved in the metamorphosed sedimentary rocks.[28]

So fossils are rarely found in deep metamorphosed rocks because they were destroyed or if not destroyed, distorted.

Uniformitarians hold that the oldest strata of rocks were formed during what is referred to as the Precambrian period. One author writes that it is difficult to study about Precambrian rocks because of:

> the general concealment of overlying, younger rocks. In addition, most precambrian rocks have existed long enough and been buried deeply enough to have been metamorphosed and deformed, thus destroying or altering original mineral composition, sedimentary or igneous structures, and other evidence of former conditions.[29]

In the Biblical view, if deep fossils have been destroyed by metamorphism since the flood, then the kinds of fossils that most likely would have survived the process, and also been left as fossil evidence, would have been from organisms that had the greatest RFPP.

One other point should be made regarding fossil destruction; namely, that even if a deep stratum of rock does become uplifted or somehow exposed to the surface, it and the fossils in it may have been removed by erosion.[30]

In summary, primarily two factors, accessibility and metamorphism, determine the quantity of rocks available for examination. I propose another qualitative equation:

accessibility + metamorphism = available rocks

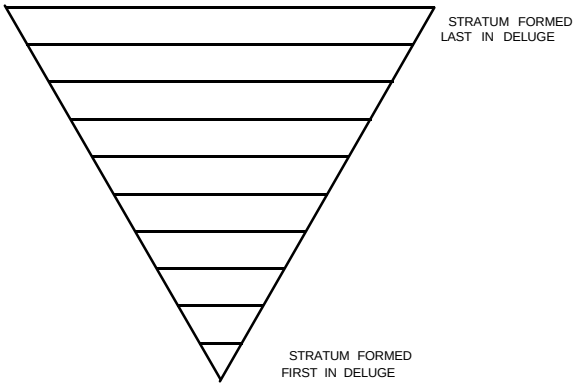

FIGURE 2. AVAILABLE ROCKS

The strata of rocks first formed are generally more inaccessible and more likely to have become metamorphosed than strata of rocks formed last. The quantity of unmetamorphosed and easily accessible upper strata of rocks should be much greater than that of deeper strata. This is illustrated in the triangle in Figure 2.

As stated previously, if examination of strata formed first in the flood is limited because of inaccessibility and metamorphism, one would most likely find only the fossil remains of organisms with the greatest RFPP. If examination of strata formed later in the flood is less limited by inaccessibility and metamorphism, one would find fossil remains of organism with a low RFPP as well as a high RFPP. This is illustrated by superimposing the available rocks triangle over the available fossils triangle as in Figure 3.

Interpretation of the Triangles

All of the index organisms existed when the Precambrian rocks were formed either before the flood or in its earliest stages. Only fossil remains of protozoans are found in the Precambrian rocks **not** because they evolved prior to the rest of the index organisms, but because they have the greatest RFPP of all the index organisms, while the quantity of available sedimentary rocks is at a minimum in that stratum.

And so it is with each of the index fossils. Fossils remains of insects were not discovered until the so-called Devonian period, because the RFPP or quantity of fossil evidence of insects along with the quantity of available rocks made discovery possible at that particular stratum and not a deeper stratum. A third equation encompasses these ideas:

Available Fossils + Available Rocks
= Known Fossil Record

Notes on the Fossil Record

It has been estimated that the fossil record which we have today (an accumulation of fossil discovery since the eighteenth century) may

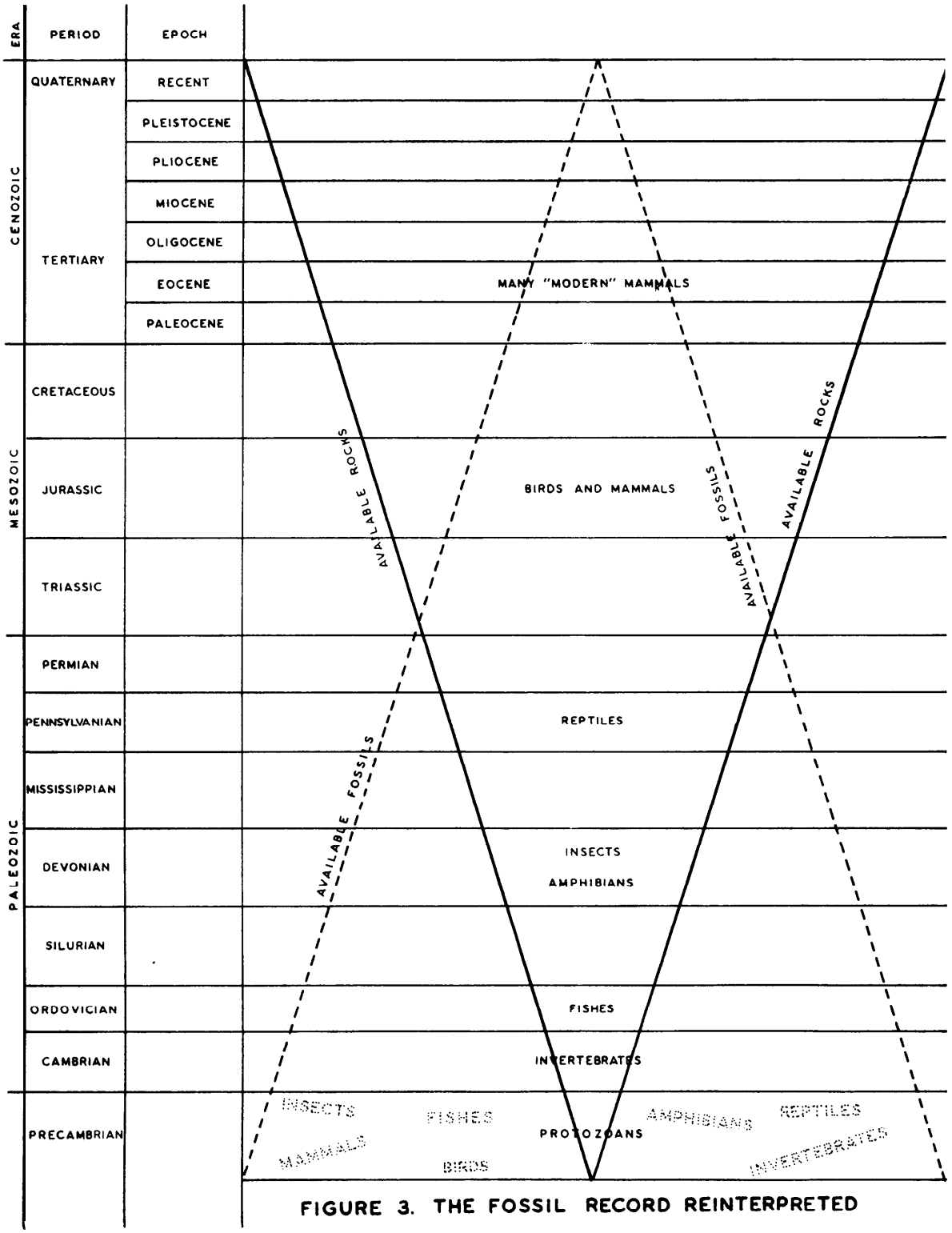

FIGURE 3. THE FOSSIL RECORD REINTERPRETED

represent no more than l% of the possibly ten million species of plants and animals that may be preserved in rocks.[31] That being the case, and if this explanation of the fossil record is correct, one would expect, as more rocks are examined, a gradual shift downward in the stratigraphic arrangement of the fossil evidence. Over the years, that has been the trend. Thus many organisms may have lived at an **earlier** date than was once believed. The following organisms are a few examples of that trend:

1. Neocalamites (Equisetales)—Remains of this plant were previously known from the Devonian to the end of the Paleozoic. This reference reports them as being found in upper Triassic age strata, although most of the remains are very fragmentary. It will be noted that in this case the stratigraphic range is extended upward.

2. Ogygopsis—A trilobite genus—heretofore known in the Midcambrian and now extended downward to the upper part of the Lower Cambrian of the Canadian Rockies region.

3. Eryops—a labyrinthodont amphibian. the stratigraphic range of this animal has been extended from the Permian down into the Pennsylvanian period.

4. Anisus pattersoni (a freshwater snail). Earlier restricted to the Pleistocene; now found in the upper Pliocene epoch as well.

5. Sphenodontids (reptiles of Triassic period)—Footprints of this reptile have now been found in Triassic period sediments, and the author contends it is only a matter of time until true fossil remains are uncovered.

6. Early Seed Plants — gymnosperms — which are plants characterized by naked seeds and include the seed ferns, conifers, and cycads. Reference is made here to the fact that the gymnosperms first appear in the early lower Carboniferous periods some 250 million years ago. However, the reference states that it will not be surprising if the gymnosperms eventually are traced back to the underlying Devonian period. The author states that the first generally accepted flowering plants have been found in the mid-lower Cretaceous, but fossils that have been attributed to this group come from the Jurassic and Triassic, and a few botanists have expressed the opinion that they originated as far back as the Permian.

It is apparent from the above data that the changes involving the stratigraphic position of fossils are of minor magnitude, for the most part. In other words, the first appearance of a particular fossil may be shifted downward on the time chart from one epoch to the next older epoch or from the upper horizons of one geologic system to the midportions of the same system. It is questionable whether shifts involving several periods by virtue of a single new discovery will be encountered. However, as new discoveries continue to be made, this slow displacement may result in a time span of considerable magnitude.[32]

The fossil record chart used with this paper indicates discovery of birds and mammals in the Jurassic system. Many charts indicate discovery of fossil mammals at a slightly lower level than that of birds. This is predictable since everything points to birds and mammals as having nearly the same RFPP. Then too, mammals have a generally more massive structure which would make it more likely for them to survive fossil destruction by weathering.

Conclusions

It is good if a theory lies within the realm of the scientific method because then it is possible to put it to a test. The test for this explanation of the fossil record could be an analysis of an extensive, random sampling of fossils from rock strata that formed after the last index fossil, mammals, supposedly evolved.

The rock strata would have to be generally easily accessible and unmetamorphosed. All of the index fossils will be discovered, of course, but I predict that they will be in the same comparative quantity as illustrated in the available fossils triangle. This test would have the effect of verifying the correlation between available fossils and available rocks.

Fossil formation and subsequent discovery, like geology and ecology, are governed by natural laws, therefore, like them it possesses a degree of predictability. I have attempted to explain the predictability of the fossil record in relation to the global flood. In doing so, the theory of evolution in general and two of its basic concepts in particular have been challenged.

Is the fossil record the most direct evidence of evolution as one paleontologist suggests?[33] I contend that the fossil record in scientific terms is nothing more or less than a manifestation of available fossils and available rocks. By way of ultimate correlation, the fossil record demonstrates the sequence of events during the inundations of the Genesis flood.

Does the fossil record support the popular concept that life evolved from the sea? I contend that the presence of marine forms deepest in the series is nothing more or less than a manifestation of preflood habitat (proximity to water).

Regardless of the dogmatic manner in which the various communications media refer to the theory of evolution and regardless of the way in

which the evolution theory is presented as a fact by authors of high school and college textbooks, its acceptance requires **faith.** The data of geology have reasonable fit with the non-evolutionary, catastrophic model presented here.

References

[1]Leet, Don L. and Sheldon Judson. 1965. Physical geology. Third Edition. Englewood Cliffs, New Jersey. pp. 91 and 92.
[2]Simpson, George Gaylord. 1953. Life of the past: an introduction to paleontology. Yale University Press, New Haven and London. p. 20.
[3]*Ibid.,* p. 20.
[4]*Ibid.,* p. 37.
[5]Simpson, G. G., Cohn S. Pittendrigh and Lewis H. Tiffany. 1957. Life: an introduction to biology. Harcourt, Brace and World, Inc. p. 623.
[6]Zimmerman, Paul A., Editor. 1970. Rock strata and the Bible record. Concordia Publishing House, St. Louis and London. p, 128.
[7]Hickman, Cleveland P. 1966. Integrated principles of zoology. Third Edition. C. V. Mosby Co., St. Louis. p. 536.
[8]*Ibid.,* p. 509.
[9]*Ibid.,* p. 464.
[10]Storer, Tracy I. and Robert L. Usinger. 1965. General zoology. Fourth Edition. McGraw-Hill, Inc. p. 466.
[11]Hickman, C. P. *Op. cit.* p. 455.
[12]*Ibid.,* p. 436.
[13]*Ibid.,* p. 110.
[14]*Ibid.,* p. 146.
[15]*Ibid.,* p. 158.
[16]Storer, T. I. and R. L. Usinger. *Op. cit.* p. 455.
[17]Hickman, C. P. *Op. cit.* p. 373.
[18]Weiz, Paul B. 1966. The science of zoology. McGraw-Hill Book Co. p. 621.
[19]*Ibid.,* p. 651.
[20]*Ibid.,* p. 566.
[21]Hickman, C. P. *Op. cit.* p. 110.
[22]Newell, Norman D. Feb. 1963. Crises in the history of life, Scientific American, 208, No. 2:77.
[23]Volpe, Peter E. 1967. Understanding evolution. Wm. C. Brown Company Publishers, Dubuque. p. 140.
[24]Darwin, Charles. 1859. The origin of species. Random House, Inc., New York. p. 373.
[25]Simpson, G. G., Colin S. Pittendrigh and Lewis H. Tiffany. *Op. cit.* p. 743.
[26]Simpson, G. G. *Op. cit.* p. 25.
[27]Fagan, John J. 1965. View of the earth: an introduction to geology. Holt, Rinehart and Winston, Inc. p. 161.
[28]*Ibid.,* p. 164.
[29]*Ibid.,* p. 388.
[30]Simpson, G. G. *Op. cit.* p. 37.
[31]Zimmerman, Paul A. *Op. cit.* p. 130.
[32]*Ibid.,* pp. 127-128.
[33]Simpson, George G. 1961. Horses. Doubleday and Company, Inc. Garden City, New York. p. 220.

NEW PUBLICATIONS

The Creation of Life (A Cybernetic Approach to Evolution) by A. E. Wilder Smith, D.Sc., Ph.D., Dr. es. Sc., F. R. I. C., Professor at the University of Illinois at the Medical Center, Chicago. Harold Shaw Publishers, Wheaton, Illinois, 1970.

In *The Creation of Life* Dr. A. E. Wilder-Smith probes the varied means by which scientific materialists have attempted to solve some problems. He finds their answers far from convincing. Further, he approaches this vital and fascinating area of controversy from a new angle. Bringing to bear recent and startling evidence supplied by the computer sciences he proves that information and order, including that of life itself, is *always the result of intelligence rather than chance reactions.*

The Creation of Life, like its predecessors, *Man's Origin, Man's Destiny* and *The Drug Users,* is a disturbing book. It should be read by those who are prepared to think through, without bias or preconception, evidence which may radically modify their view of life and its meaning.

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"In *The Creation of Life* Dr. Wilder Smith evaluates the practicing evolutionist's experimental design and data. In advancing the resolution of reasonable scientific deductions from pseudo-scientific extensions of simple experimental findings he provides the type of necessary balance not normally found in enclaves under the influence of Neo-Darwinianism and scientific materialism. His logical application of evolutionary principles to the field of cybernetics yields significant insights. This volume should take its place beside *Man's Origin, Man's Destiny* in the library of the concerned student of scientific thought."—John W. D. Kay, Ph.D., Senior Research Biochemist

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Nomogenesis or Evolution Determined by Law by Leo S. Berg. Original Russian edition, 1922. First published by Constable and Company, Ltd., London, 1926. Paperback (MIT 109), The Massachusetts Institute of Technology Press, Cambridge, Massachusetts, 1969.

Charles Darwin's theory of natural selection has since its earliest days drawn toward itself both fierce followers and fierce dissenters. Russian scientist Leo Berg was of the later. Disturbed by the element of chance in the Darwinist theory (the survival of those who are, quite by accident, the fittest and best adapted), he posed nomogenesis in its stead, built on the *analogy* (emphasis added) between individual development (ontogeny) and evolutionary development (phylogeny).

From Foreword by Th. Dobzhansky, dated 1968:

> Berg's book would be of only limited interest had he confined himself to expression of

(Continued on Page 230)