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LOGIC AND THE INTERPRETATION OF FOSSILS

RUSSELL T. ARNDTS

ABSTRACT

Prehistorical events as proposed by evolutionists are difficult to determine by the study of modern plants and animals. Ideally these events should be determined by the analysis of a record left at the time they happened; thus, evolutionists study the fossils found in the earth. It will be shown that the logic of fossil interpretation has not yet reached the level of acceptable academic standards.

INTRODUCTION

In an attempt to explain man's origin without invoking God and his omnipotent power, evolutionists start with inanimate matter, such as rocks, and natural forces like gravity and magnetism. Since they are determined to have an explanation for the origin of man, they must imagine that the rocks came alive; evolutionists must believe in the natural origin of life. Further, to account for man their story must also involve a series of events which link man with some simple form of life; evolutionists must believe that major changes happened, and they call these changes evolution.

Logically, the belief in the natural origin of life and evolution results from rejecting God. Creationists will of course accept that their belief in creation is the result of the assumptions that God exists and the events in the Bible are correct. While creationists understand that their position is the result of their assumptions, evolutionists seem compelled to argue that they believe as they do because of scientific data.

History is defined as an investigation into the events of the past by the study of written records. The study of origins is a study of events before man and written records existed. Thus the study of man's origin is properly called prehistory. Evolutionists have no written records to study; they must study the natural world for confirmation of their prehistory. They claim to be able to "infer" prehistory from the imperfections and characteristics of modern plants and animals. The geographic distribution of living organisms as discovered by modern scientists is also cited to be evidence for evolution. Each conclusion based on these studies has its own logical flaws. It is the opinion of the author that any prehistory claimed to have been derived from the study of data was predetermined by the assumptions of those doing the study.

SCOPE AND LIMITATIONS

It has been pointed out that a paper like this one usually includes many references to other literature. However, this paper was written to challenge the evolutionary community to produce written statements describing the logic used to interpret fossils. Citing specific cases where no logic is given or poor logic is used could be viewed as merely picking on only specific weaknesses in the evolutionary literature. It is hoped that this paper will cause evolutionists to produce the rules they use to interpret fossils.

THE FOSSIL RECORD

It seems reasonable that clues to the prehistory of the earth may be inferred from the rocks and minerals of the earth; however, non-fossiliferous matter would be of little help to those studying the origins of plants and animals. Thus the fossils which are abundant and in the earth play a key role in the study of the origin and development of life.

THE LOGIC OF FOSSILS

There seems to be no doubt that fossils may be an excellent source of information about the death and preservation of former living animals. (Plants will not be mentioned in the rest of this paper.) However, evolutionists extend their study to the origin of the design and structure of the species itself. The study of bones to determine the origin of species has the same limitations as the study of living animals. The validity of extending the study of fossilized bones to the origin of its species is the central question in this paper.

We can illustrate the evolutionist's problem if we ask ourselves what information we may get from the bones of an individual buried in a cemetery in Smalltown, Minnesota. We may be able to tell that she was female, and we may be able to find out many things about her life, death, and burial. Study of the origin of the human species through analysis of human bones suffers from the same limitations as the study of living humans. Very little new information is gained from studying dead bodies or fossilized bones as opposed to the study of living animals. Evolutionists disagree; they claim that the evolutionary origin of plants and animals is highly supported by the fossil record. This paper is a study of the logic they use to interpret the fossilized bones of dead animals to determine the origin of a species. It will be demonstrated that their logic is weak, and evolutionary theory is based on naturalistic assumptions rather than on scientific data.

THE RULES OF FOSSIL INTERPRETATION

The whole question about the logic used to evaluate fossils to support evolution can be studied by one simple challenge: where are the rules? It can be argued that if evolutionists can't produce the rules they use to decipher prehistory from fossils, a serious flaw in evolutionary theory has been identified. It is as simple this: no rules, thus no logic. If a body of logic exists with which to evaluate fossils, it should be put into writing.

To illustrate this point, we can imagine asking a pastor for a copy of his rules of hermeneutics. The pastor may share his rules of Bible interpretation. For example, one rule of biblical interpretation specifies that a passage must be interpreted in light of its context. The logic of this rule can be judged without reference to any specific verse. In this case most Bible scholars would agree that this is a good rule. Various denominations and individuals may disagree over each other's hermeneutics; but their rules are available for critical, scholarly discourse.

Similarly, an attorney can describe the rules and logic by which a suspect is judged to be guilty of a crime. The logic used in law can be analyzed without reference to the specific evidence of a particular case.

Written rules are necessary to analyze the logical thought of any scholarly process. In addition, written rules allow one scholar to correct another scholar when he/she deviates from sound academic standards. Written rules allow scholars to hold each other accountable. In summary, written rules allow the logic of an argument to be challenged or scholars can be held to a previously accepted logical system. The absence of written rules for the interpretation of fossils does represent a serious flaw in evolutionary reasoning.

A POINT OF CLARIFICATION

In reference to empirical phenomena (such as the existence of written rules) it is impossible to prove with certainty a universal, and hence impossible to prove a universal negative; and thus one cannot say with certainty that written rules do not exist. So we must proceed with caution. If rules are inaccessible, it is impossible to prove that they are illogical. So double caution is advised.

EVOLUTIONARY RULES

Evolutionists do present and use some rules in part of their study of prehistory. In 1669 Nicolaus Steno, who is credited as being the father of geology, formulated rules by which the history of sedimentary rocks can be determined. These principles are part of virtually every earth science textbook.

Further insight can be gained from a short discussion of the rules themselves. These rules, called principles, are:

1. Principle of Original Horizontality.
2. Principle of Superposition.
3. Principle of Original Continuity.

The first principle asserts that when sedimentary layers were formed, they were horizontal; the second asserts that the youngest layer was deposited above older layers; the third asserts that when a sedimentary layer was formed it did so in a continuous sheet. These principles can be used by scholars to determine how a particular sedimentary rock was formed. For example, if some sedimentary rocks were found to be perpendicular to the surfaces of the earth, the Principle of Original Horizontality would be used to argue that the rocks had somehow moved. These rules have stood up under logical scrutiny and have been found to be useful in the interpretation of data.

THE ORIGIN OF SPECIES FROM SEDIMENTARY ROCKS

Often these same rocks contain fossils. In an attempt to determine the origin of millions of extant and extinct species, evolutionists study the fossils in these same rocks. To understand the logical problem, we must first remember that Steno didn't attempt to look at sedimentary rocks to determine the origin of the gravel they contain nor the water which deposited it. The use of Steno's rules is limited to determining the prehistory of the rocks, not the origin or the formation of the sediment.

Steno's logic is still respected because he limited his conclusions to the data found in the rocks. Steno didn't attempt to determine the origin and development of the living organisms he found fossilized in the rocks. Modern evolutionists are not nearly so careful; they extend their study of fossils to the origin of the design in millions of extinct and extant organisms.

EVOLUTIONISTS MUST PROVE LARGE CHANGES

Evolutionists propose that prehistory involves major changes in the structure of animals. Man, it is argued, originated from fish ancestors, and the fish in turn descended from microorganisms. These events were not observed or recorded. These events cannot be duplicated, tested, or falsified. Nevertheless, they are accepted by those who reject God and Scripture. To make a scholarly case for their scenario, they must show that we are the result of major changes over the course of millions of years. Thus to prove macro-evolution, they must prove that some fossil which is drastically different from us is indeed our ancestor. Small changes are of no interest, because small changes in the appearance of individuals in a species have been observed and accepted by all. These changes in characteristics such as height are known as micro-evolution. To make their case that macro-evolution is an observational science, evolutionists must prove that animals of drastically different species are related.

A LOGICAL FALLACY

One logical fallacy states that if event A preceded event B, then event A caused event B. Evolutionists would be committing this fallacy if they claimed that fossils believed to be ancient are our ancestors merely because they preceded us. The observed difference between an ancient fossils and a modern species is not proof that changes have indeed taken place.

Steno didn't make this error in logic. He simply said that the formation of the lower layers preceded the higher layers. He didn't suggest that the lower layers caused the higher layers.

Evolutionists claim that the Cambrian rocks are indeed lower; we will discuss this assertion later. Further, by claiming that the fossils found in the Cambrian rocks are indeed the ancestors of modern species, they imply that the ancient fossil caused the modern species. If one of these fossil species were found alive, no one would be tempted to propose that it was an ancestor of say, man. It should not be claimed that they are ancestors of modern species simply because the Cambrian fossils lived and died before modern individuals.

If evolutionists will give the rules of how they know that the Cambrian fossils are ancestors of modern species--for reasons other than the fact that they preceded us--then this criticism and argument must be withdrawn. If, however, they don't produce the rules and rationale, they must withdraw the claim that Cambrian fossils are ancestors of modern species and the allegation that they have evidence for change.

One question that can be raised is, Do evolutionists state that ancient fossils are indeed ancestors of modern species? The answer is yes, they must. To make the claim that changes have taken place they must allege that some fossil ancestor quite different from its modern descendant exists. However, to make the claim that a fossil is our ancestor they must first give us the rules that they use to prove that a particular fossil was an ancestor. If they don't have an independent proof that the fossils are our ancestors, then they must believe

that these fossils are our ancestors solely because these fossils preceded us.

THE PROOF OF ANCESTORS

When Charles Darwin wrote the *The Origin of Species*, he knew that the fossil record didn't contain a multitude of intermediate fossils. He proposed gradualism because the sudden origin of a new species would have suggested supernaturalism to the scientists of the time. Darwin's gradualism was not the result of a literal reading of the fossil record; but rather, his belief in gradualism resulted from his philosophy. He did say that his theory predicted that scientists would someday be able to find the intermediates and fill the gaps.

Over the last hundred-plus years, the search for the missing links has not been encouraging to those who supported Darwin's views. Evolutionists have stated that we would need from 50 to 100 times more fossil intermediates to "fill" the gaps. This full disclosure in 1980 did produce a shift in the thinking about the mode and rate of evolution. Generally evolutionary theory now specifies "punctuated equilibria" rather than gradualism.

The admission that the intermediate fossils are missing from the fossil record causes still another problem for evolutionists. The illusion that major forms of life were connected by intermediates made an understandable argument that modern animals were the descendants of extinct species. The data do not allow this argument; therefore, evolutionists must develop another proof that modern species have evolved from dissimilar primitive ancestors.

MONKEY, AND A BIRD IN A TREE

We can only infer the logic evolutionists use to prove that we are the result of significant evolutionary change. It seems that ancestors are those fossils which look like ancestors, and, of course, to look like an ancestor a fossil must be consistent with evolutionary theory. To look like a proper ancestor of man in Ordovician rocks, evolutionary theory would allege that the organism would be a fish. Since we have not yet proven that the fish is an ancestor, it is ridiculous to claim that the differences between man and the "fish ancestor" is proof that we are the result of immense evolutionary change.

We can illustrate the point that to be considered an ancestor a fossil must fit evolutionary theory with an example. If a monkey and a bird were found fossilized in a tree in sedimentary rocks of the "right age" and on the "right continent," which of the three organisms would be cited to be the most likely ancestor of man? Of course, the monkey would be chosen. It most closely fits evolutionary theory. Now if we claim that the fossil hominid is evidence that we evolved from a monkey, our logic would be flawed.

We can understand the logical problem if we remember that some primitive cultures believe that they evolved from birds. These people would use the fossil bird as evidence that they had evolved. Our logic is flawed when our theory is used to pick the fossil that we later claim is the proof of the theory. You can guess the choice if we believed that we evolved from trees; we would claim that the tree was our ancestor and argue that the fossil tree is proof that we evolved from trees.

THE ANCESTOR-COUSIN PUZZLE

The ancestor-cousin puzzle will further illustrate this point. The earth contains 250,000 extinct fossil species. To the evolutionists each fossil species is either an ancestor or a non-ancestor to some modern species. We can call the non-ancestors cousins. The problem facing evolutionists is that ancestors have no particular characteristics to distinguish an ancestor from a cousin. For example, fossils which are similar to modern species can be ignored if the evolutionary relationship is not right. Similarities which link the "wrong" fossil with the wrong descendant are claimed to be analogies and are the result of convergent or parallel evolution. While similarities which fit evolutionary theory are called homologies. There seems to be no real reason to believe that even the fish that looks right is our ancestor.

Often various fossils are taken from different strata and put into a series with some living species on the end. These individuals are chosen such that the series appears to change from the oldest species to the modern species in a series of steps alleging connecting the older species to the modern one. Then it is claimed that the fossils in the sequence are related and are ancestors to the modern organism at the end of the sequence. This sequence is taken to be evidence that the individuals represent a series of ancestors and their modern descendant. This proof is based on the assumption that evolutionary theory is true and that this particular sequence is correct. Tomorrow, a new fossil may lead to a new sequence and a new set of ancestors will be alleged. The critical point is that a sequence of "best fit"

fossils does not prove that the individuals in the sequence are related or that they are ancestors to the modern animals at the end of the sequence.

THE PALUXY RIVER

It is believed that dinosaurs became extinct 70 million years ago and man evolved and emerged 5 million ago. Recently a creationist argument noted that dinosaur and human tracks were found together in Cretaceous limestone near the Paluxy River in Texas. Later with some embarrassment, creationists felt that it was necessary to withdraw this argument. Historical scientists should learn from the mistake made by the promotion of the Paluxy River data. Thus we may propose two statements which will help historical scientists to do better scholarship. These are:

1. Unless historical scientists work with consistent rules, the data they use may give a variety of conclusions.
2. Unless data have been observed in more than one time and in more than one place, historical scientists should be extremely careful in drawing conclusions.

Nearly a decade ago an evolutionist saw the movie, "Footprints in Stone," which described this challenge to evolutionary theory. As soon as the lights were turned on, he indicated that it didn't disprove evolution because the dinosaurs might not have become extinct after all. Evolutionists are able to change their story and accommodate new data without discrediting the central evolutionary beliefs.

Would evolutionists be able to change an extinction date without discarding evolutionary theory? Yes. In another case, a fossil fish called the coelacanth was believed to be an ancestor of amphibians and man. The fish was supposed to have become extinct 70 million years ago; however, living specimens were found alive in 1938. Evolutionist didn't discredit evolutionary theory. They simply changed that part of their story which said that the coelacanth became extinct.

As we discussed before, finding a new fossil may cause a new fossil series to be proposed. Man may get a new set of ancestors; but the new data will not be used as disproof of the basic belief that man evolved from fish.

The second statement would lead to better scholarship as well. The conclusion that man and dinosaurs lived contemporaneously was based on data found in only one place. The embarrassment of the creationists wouldn't have happened if they had waited until similar data had been found in many places.

We can further see the validity of this rule if we discuss three species of hominids which have been claimed to be human ancestors: Nebraska Man, Piltdown Man, and Neanderthal Man. Each of these species was promoted prematurely. Nebraska Man was promoted on the basis of one tooth. If promotion of a new species had waited until after scientists had a number of complete skeletons it would have been easy to tell that it was the tooth of a pig. Good science requires that data used in scientific conclusions be repeatable.

Similarly, the Piltdown Man is now understood to be a hoax. Part of the jaw and some of the teeth which would have made it clear that it was an ape had been removed. If many different scientists had studied many skeletons, the fact that all of the same teeth had been either filed or removed would have been obvious, and Piltdown Man would never have received worldwide acceptance. The fraud would have been detected sooner.

The first Neanderthal skeletons were hunched over and bent from either rickets or syphilis. Specimens found later stood straight and there was good evidence that these individuals were human beings. Thoughtful scholars should withhold judgement about a new species until there has been a thorough study of a number of complete specimens.

This rule seems entirely proper, and it would forestall the acceptance of many specimens about human evolution. For example, a recent member of the human family tree was based on "Lucy." "Lucy" is a single specimen less than half complete. Worse yet there has been much speculation about fossil ancestors for which there are only pieces of the skull and only a few teeth. This rule would require that such data be used with extreme caution.

THE GEOLOGIC COLUMN

What would an evolutionist say to the above challenges? Many readers may be surprised at the general agreement that these arguments would receive. However, there is one argument that many evolutionists would find hard to give up. It is the geologic column. There is a general belief that the world's sedimentary rocks show a general evolutionary trend from bottom to

top.

It is believed that the lower, older rocks contain simple marine life, and the higher, younger rocks contain modern birds and mammals. Thus they allege that general evolutionary trends are supported by the fossils found in the rocks.

The concept does seem convincing; however, there is one flaw. The geologic column does not exist. It exists in the minds of many historical scientists and is a composite of many different sedimentary layers found all over the world. The acceptance of the geologic column is no stronger than the methods used to put the column together.

For example, we can imagine two sequences of three layers each. For this example evolutionists believe that each layer represents ten million years and each sequence represents 30 million years. Further, it is believed that the top layer in one sequence is from the same era as the bottom layer of the other. If the two sequences could be put together, scientists could study the progress of evolution over 50 million years. However, logic doesn't allow the combination of the two. What proof or argument supports the claim that the two layers are the same age and that the two sequences of rocks can be put together?

The minerals, color, texture, or any other characteristic of the rocks could not be a "time marker," because similar rocks could have formed in any age. The "time marker" is based on the belief that some organisms emerged at different times and subsequently became extinct, say, 10 million years later. With that assumption any time a particular rock contains one of these specific organisms, it is assumed that the rock was formed during the particular time that the organism was living. Two sedimentary rocks found anywhere in the world with one of these same fossils is assumed to be of the same age.

These fossils which are assumed to be indicators of age are called "index fossils." The assumptions needed to put the world's sedimentary rocks together are unfortunate for those who are using the geologic column to support evolution. The assumption that organisms came into existence at different times is clearly different from the creation account of prehistory. Making the assumption that evolution was the origin of the emergence of various forms of life means that evolution was assumed at the outset, and thus it would be begging the question to presume that the geologic column is evidence that evolution is true.

ARE THERE SIGNIFICANT PORTIONS OF THE GEOLOGIC COLUMN FOUND IN ONE PLACE?

Many people feel they must allege that indeed the geologic column does exist, nearly complete, in many places. One such place is a series of strata in the Bad Lands area of South Dakota. This series of sedimentary rocks suggest that much of what has been said about the geologic column is in error.

However, the sequences such as this one in South Dakota usually have some layers missing. In fact out of the 400 million years represented in South Dakota, 150 million years are missing. The literal reading of the strata with the missing layers would suggest that evolutionary theories about time and evolution are in error. This is not the usual response. The missing layers are assumed to have either eroded away or for some reason there were no sedimentary deposits at this place for 150 million years. As in most evolutionary reasoning there is always some argument to explain missing or discordant data.

It must be emphasized that these sequences need to be studied and a special report made on their validity. However, it must be pointed out that the mammals found in the higher layers cannot be proven to be the descendants of the life forms in the lower layers. Without the proof that the animals in the lower layer are the ancestors of the ones near the top, evolutionary changes have not been proven. The geologic column can make very little contribution to evolutionary theory unless this relationship can be proven.

SUMMARY

It has been the purpose of this paper to show that there are logical problems in concluding that evolution is true by the evaluation of the fossil record. While the hard sciences have rules to determine scientific laws and theories, the historical sciences lack a firm logical system to decipher past events. The arbitrary means by which they arrive at conclusions makes the subsequent theory suspect.

In the 1669 Nicolaus Steno, referred to as the father of geology, proposed three rules by which he and others could determine the prehistory of sedimentary rocks. The logic of these rules has stood the test of time; for example, we still agree that the bottom layers were deposited before the higher layers. Modern evolutionists have not formalized their studies by writing the rules for the prehistorical interpretation of fossils. Thus they are unable to

prove that a particular fossil is indeed the ancestor of a modern species, and thus they are unable to demonstrate that we are the result of significant change as proposed by evolutionists.

One key problem is that any fossil thought to be an ancestor of a modern species can't be distinguished from its evolutionary cousins. In addition, the basic rules of science would require that before a fossil species is declared to have existed, many examples of its fossils should first be identified and studied. Rules of logic need to be developed in such a way that when a statement is made it can be falsified by some specific experiment.

