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Creation vs. Evolution
Major Written Assignment
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The Cambrian Explosion

The Cambrian Explosion is the best evidence from science that disproves the Theory of Evolution. It is so pronounced in the fossil record that Scientific American calls it “life’s big bang.” What is interesting is that most school textbooks barely mention this phenomenon. They either pass over it briefly or relegate it to a paragraph within a chapter. In the book “Evolution Exposed”, author Roger Patterson points out that of the three major science text books used in high school today there are only 6 total pages dedicated to this major event in geological history. Two of those pages are only found in the teacher’s editions. There are many very reputable scientists at major accredited universities worldwide that say the evidence from this period is an insurmountable challenge to evolution. To me, it is simply proof that evolution is no more than a myth of popular culture.

Background

The Cambrian Explosion is the name for a geological era in which nearly all of the phyla of complex life appear in the fossil record. The rock layer for this era is one of the earliest dated rock layers. The period has been dated between 530 and 565 million years ago, so the commonly accepted date for the start of the period is 545 million years ago. Prior to this period, in the pre-Cambrian period, there were only simple life forms like worms and jellyfish in the fossil record. Nothing that had an exoskeleton or spine is noted in the fossil record prior to the Cambrian period. Yet nearly every known type of phyla today existed during the Cambrian period.

The entire period covered 5 to 10 million years. In geological time this is an instant. “Stephen Jay Gould writes: ‘ . . . an elegant study, published in 1993, clearly restricts this period of phyletic flowering to a mere five million years.’” (Buckna, 1999). This is not near enough

time for evolution to produce the complex life forms that were found in this rock layer. In Lee Strobel's book "The Case for a Creator", Jonathan Wells, Ph.D., describes this short period of time in a very interesting way. He says, "Imagine yourself on one goal line of a football field. That line represents the first fossil, a microscopic, single-celled organism. Now start marching down the field. You pass the twenty-yard line, the forty yard line, you pass midfield, and you're approaching the other goal line. All you've seen this entire time are these microscopic, single-celled organisms. You come to the sixteen-yard line of the far end of the field, and now you see these sponges and maybe some jellyfish and worms. Then – boom! – in the space of a single stride, all these other forms of animals suddenly appear." (Strobel, 2004, p. 44). Another anonymous scientist used the football field analogy and I can summarize his statement this way. He said that if the entire time the earth has been in existence can be covered in the length of a football field, the Cambrian period is approximately 4 inches long.

There are many arguments that this period completely eliminates the possibility of evolution. There are also arguments that defend evolution in spite of this evidence. The empirical evidence that is there suggests that the fossil record disproves Darwin's Theory of Evolution. So the majority of this paper will try to focus on the secular scientist's explanation for this empirical data. But first I will attempt to show how the evidence eliminates the possibility of evolution.

Debunking Evolution

Evolutionary theory states that everything evolved from a common ancestor that climbed out of the primordial soup. This ancient ancestor gradually evolved. Its evolutionary progress branched out into different paths and these different paths led to the creation of increasingly

complex and divergent organic forms. The paths continued to branch out resulting in the great diversity of life we have today. Now, if this is true, what would anyone expect to see in the fossil record? Of course you would expect to see simple organisms in the lowest layers and a gradual increase in diversity and complexity of life as you progress to more recent layers in the geologic time scale. But what do we really find in the fossil record? We find the exact opposite. Not something ambiguous like everything found in each layer. This scenario could easily be explained as not having fossils from the very beginning of evolution. What is found is the exact opposite of what is predicted by evolution. If a score of 1 means the fossil record shows evolution as predicted, and a score of 0 means the fossil record shows no evolution; the fossil record would get a score of negative 1 (-1) because the fossil record shows the exact opposite of what evolution predicts.

The Cambrian layer has virtually every phylum known to man. All major body plans and many varieties of each all coexist in this layer. What that means is there was no branching out of a tree like neo-Darwinism would expect. There was no sequencing or order. All the different varieties of the same phyla co-existed during the Cambrian explosion. This layer is on top of a layer that has virtually nothing as far as fossilized specimens. The older layers, below the Cambrian, only produced a few creatures in the fossil record that are all soft-bodied organisms. Nothing complex existed prior to the Cambrian explosion in the fossil record. To up the ante and make this problem even more troublesome for evolutionists; the layers above the Cambrian, which give us the more recent fossil record, show a gradual decrease with each successive layer. The most recent layers show a 98% decrease in the types of animals. That means all but 2% of the known phylum of animals has become extinct. Evolution should have not only kept these

phyla alive, but improved upon them to the point of new, more advanced animals in the phyla now being alive.

A reasonable and honest person must conclude from the evidence that the fossil record is diametrically opposite what would be predicted by evolutionary theory. It is what science calls the “Empirical Principle.” The physical evidence shows an sudden explosion of complex animal life. Not the gradual growth that evolution would predict. Then there is a steady loss of the different types of animal life. Again this is not what evolution would predict. It is noteworthy that these conclusions are derived from a geologic time framework that is put forth by scientists own interpretation of geologic evidence. In fact, the belief that the strata represent different geologic ages is just that, a belief. Nevertheless, it is a belief held among scientists world-wide.

Darwin and his contemporaries were aware of this problem with the fossil record some 150 years ago, but they believed that the fossil record had been insufficiently sampled up to that time. Their “belief” was that paleontological research in the future would more adequately sample the fossil record and show it to be more in line with evolutionary theory. This proof is very compelling proof that evolution did not happen. This begs the question, how much proof do evolutionary scientists need anyway?

Scientific Arguments

There are scientific arguments that try to explain away the fossilized record. There are also scientific arguments that try to explain why the fossil record shows what it does. The basic argument that tries to explain away what is found in the fossil record is the pre-Cambrian fossils were too small or did not contain enough hard body parts like teeth or skeletons. This is an attempt to explain why the transitional forms are not found in the fossil record. The argument is

discredited by the finding of many soft bodied fossils in the Cambrian layer. There were also many microscopic soft-bodied organisms found within the pre-Cambrian fossil records.

Scientific Explanations

Punctuated Equilibrium

“Punctuated Equilibrium” refers to a concept in evolutionary biology that is both controversial and widely misunderstood. Both punctuated equilibrium and its alternatives have significant drawbacks, either in plausibility or evidence. Punctuated equilibrium seeks to reconcile the idea of natural evolution with the missing links in the fossil record. The debate within science over the validity of punctuated equilibrium demonstrates many of the problems with evolutionary theory in general.

Stephen Gould and Niles Eldredge published a paper in 1972 on punctuated equilibrium. They believed that the gaps in the fossil record could be explained by gaps in evolution itself. They contended that most species, particularly those who reproduce sexually, did not change much over time, but occasionally experienced major changes in brief periods of time. “Classic” Darwinian evolution is presumed to take place very gradually, with a steady and slow change of organisms over time. Punctuated equilibrium replaces this slow change with long periods lacking any change at all, mixed with relatively short periods of rapid change.

Another way of looking at this is to say that, according to punctuated equilibrium, species are normally not evolving, and when they do evolve, it is relatively quick and dramatic. At times, this has become a source of controversy within the scientific community. Depending on whom you ask, punctuated equilibrium is either a refutation of gradual evolution, or just a

specific form of it. This is one of the major disagreements over the theory – whether it replaces or enhances the classical notion of naturalistic evolution.

Despite a better agreement with available evidence, there are many scientific problems with punctuated equilibrium itself. The mechanism for punctuated equilibrium is assumed to be small groups of a particular organism separated in some way from the main population. This would accelerate the transmission of mutated genes through the population, and much more quickly produce a new species. Multiple studies have found that inbreeding such as this produces extremely negative effects, which run counter to the idea of rapid advancement. The fossil record also calls into question the plausibility of this notion.

Species Selection

Another, much less supported idea is “species selection.” Classic neo-Darwinism assumes competition among animals within the same species. “Species selection refers to the fact that traits may be unusually common or rare among species because different groups have different rates of two processes: speciation and extinction. We expect many species within a group if it has had a high rate of speciation (producing many species) or if it has had a low rate of extinction (so most of the species that have been produced still exist.) We expect few species within a group if it has had a low rate of speciation (so few species have been produced) or if it has had a high rate of extinction (so few of the species that have been produced still exist.) (University of Tennessee Martin, 2005). Scientists use species selection to postulate that there was a period of competition between different species that produced a huge rise of a particular species. This could then account for the explosion of advanced life forms in the Cambrian layers. The problem with this theory is that there is no proof. Also, there has been no evidence of this in other layers of strata.

Environmental

Another theory posits that the Cambrian geological period was a period of rapidly increasing atmospheric oxygen. This theory assumes that prior to the Cambrian period the oxygen level in the atmosphere was inadequate to support the larger “trilobite” animals. The problem with this theory is there is no way to test this hypothesis. It is completely unknown what the oxygen level in the pre-Cambrian period was, or what the level was in the Cambrian period.

Some scientists contend that a major player in the advancement of life during the Cambrian period was the “snowball earths” that were occurring prior to the Cambrian period and stopped occurring after the start of the Cambrian period. “Snowball earths” refer to geological periods in which the earth was very cold. 635 million years ago (90 million years prior to the Cambrian period) saw the Marionan glacial period. 580 million years ago (approximately 35 million years prior to the Cambrian period) saw a more localized Gaskiers glacial period. The Marionian period was so extensive that it is believed that glaciers may have reached the equator causing the massive accumulation of greenhouse gases in the atmosphere. This accumulation of greenhouse gases would have started a warming period on the earth that eventually accommodated the larger animals that appeared during the Cambrian explosion.

The main problem with this theory is the Marionan period was too early and the warming should have occurred much earlier than the Cambrian period. It is doubtful that the warming alone would have been responsible for the Cambrian explosion.

A third environmental element is the carbon isotopic anomaly that separates the pre-Cambrian and Cambrian period. This indicates a major environmental disturbance. This disturbance is similar to the one that caused the extinction of the dinosaurs. This theory does not

account for the disparity in types of animals from the pre-Cambrian to Cambrian period. The dinosaur to mammal period saw a similar anomaly with little disparity in the types of animals. A fourth environmental factor is called “True Polar wander.” This is the term for the rapid movement of the continents. This movement was geological and not ecological. However, the movement would have caused huge amounts of methane gas to be released in the atmosphere causing a greenhouse effect and increase in air temperature. This effect, combined with the carbon isotopic anomaly, could have produced a massive change in the environment. There is no clear explanation of how this could cause the disparity found in the fossil record though.

Developmental

The debate persists today about whether the evolutionary "explosion" of the Cambrian was as sudden and spontaneous as it appears in the fossil record. The discovery of new pre-Cambrian and Cambrian fossils help, as these transitional forms support the hypothesis that diversification was well underway before the Cambrian began. More recently, the sequencing of the genomes of thousands of life forms is revealing just how many and what genes and the proteins they encode have been conserved from the Precambrian. The explosion of external form in the fossil record is what we see, but more gradual adaptation was taking place at the molecular level.

The apparent explosion could have been caused by the combinatorial genome (HOX gene). “These genes are typically involved in controlling aspects of morphogenesis that involve assigning identities to various segment along the cranio-caudal body axis.” (Filler, 2007). In layman terms this means the genes that are involved in producing bilateral arms, legs, etc. It has been called the “toolbox” of morphological development. It is believed that the HOX gene was in place long before the Cambrian explosion. The gene then became active at the onset of the

Cambrian explosion. Basically it was a long fuse that ‘exploded’ at the start of the Cambrian period.

Micro RNAs (miRNAs) are another attempt by scientists to explain the Cambrian explosion. Recent studies suggest that miRNAs can inhibit and change messenger RNA (mRNA) and could be instrumental in the canalization of development. In other words they assist in focusing rapid development. This information is very new and has not been properly studied but shows the possibility of being part of the solution for the Cambrian conundrum for science.

Ecological

Many of the animals in the early Cambrian period were small indicating a push to get away from the predators in the sea. Also the fossil record of algae indicates a defense system was developed that protected it from animals. This is only speculative but like the other explanations above, could be part of the explanation.

Finally, scientists believe it is likely that evolutionary lineages originated in rocks older than the first ones we see in fossil records. Again this is only speculative and there is no empirical evidence available.

Problems

The problems with all of these scientific explanations are many. First, environmental explanations are not sufficient to explain the emergence of animal disparity, the animal phyla. Second, both developmental and ecological explanations seem important in explaining the origin of animal body plans, so what is the relationship between the two? Third, most explanations do not explicitly explain why there should be an increase in diversity through the radiation; usually, an increase in diversity seems to simply follow from the arguments for the origin of disparity.

Fourth, only environmental explanations have any direct bearing on the time of onset of the explosion. These only speak to the emergence of the conditions conducive to the onset of the radiation, but are unable to address how long after those conditions are met whether or when the radiation might proceed.

Summary

However fast or slow evolution was there is still a lack of transitional forms. This has been an issue since Darwin first postulated the evolution theory and remains to this day. Darwin believed that the fossil record was simply incomplete and eventually these transitional forms would be found. However, in the 150 years of fossil recovery there have been no legitimate transitional forms discovered. The actual findings have made the problem of explaining the Cambrian explosion worse. Contrary to the tree of life depicted in the school books, the fossil record depicts exactly the opposite story.

The record shows that there is evidence of supernatural intervention within the fossil record of life forms. This is what a person who is looking at the biblical record would expect. “The Cambrian explosion does fit RTB’s biblical model, which proposes that the Creator worked efficiently and effectively to prepare a home for humanity.” (Ross, 2006, p. 140). The historical record in the rock layers of earth show a Creator who meticulously prepared earth for advanced life to flourish. Even secular scientists who logically look at the record conclude that the fossil records do not show evolution as a person would expect. Richard Dawkins, one of the most outspoken critics of creation and intelligent designs states; “And we find many of them [Cambrian fossils] already in an advanced state of evolution, the very first time they appear. It is as though they were just planted there, without any evolutionary history. Needless to say, this

appearance of sudden planting has delighted creationists.” (Dawkins, 1987, p. 229). The only legitimate scientific conclusion from the fossil record is that there was supernatural intervention.

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