MUSEUM GUIDE

A BIBLE-BASED HANDBOOK TO NATURAL HISTORY MUSEUMS

HORSE EVOLUTION?

One of the more famous so-called "evidences" for molecules-to-man evolution is the horse series. Some creationist believe that, following the Flood, today's horses may have rapidly diversified within the horse kind that was represented on the Ark. However, this diversification within a "kind" does not provide evidence for particles-to-people evolution. Instead, it follows from the Bible-based teaching that animals reproduce according to their kind.

Drs. Cavanaugh, Wood, and Wise analyzed 19 fossil horse species. Their statistical analysis revealed that significant similarity exists among the fossils. They concluded that all nineteen species (including *Hyracotherium, Epihippus, Orohippus, Anchitherium, Megahippus, Hypohippus, Merychipuus, Pliohippus,* and *Protohippus*) belong to the same "horse kind." They interpret this as a record of post-Flood diversification within the kind. (D. Cavanaugh, T. Wood (Ph.D., biochemistry), K. Wise (Ph.D., paleontology), "Fossil Equidae: A Monobaraminic, Stratomorphic Series," *Proceedings of the Fifth International Conference on Creationism,* Creation Science Fellowship, 2003, pp. 143–153)

- Horses today range in size from the small miniature horse to the large Clydesdale. Additionally, some horses today are born with more than one toe. Horses further vary in their number of ribs, from 17–19 pairs.
- Some have suggested that horse splint bones are evolutionary leftovers. However, scientists have recently found that the splint bones play an important role in strengthening the leg and foot bones, providing an attachment point for muscles, and protecting the suspensory ligament. (J. Sarfati, "Useless horse body parts? No way!" *Creation* **24**:3, June 2000, pp. 24–25.)

Red-eyed tree frogs are found in the rainforests of Costa Rica and Central America.

REPTILE AND AMPHIBIAN EXHIBITS

Fossil and genetic evidence support the biblically-based notion that amphibians, such as these newts, have always been amphibians, and reptiles have always been reptiles

AMPHIBIAN: THE TRANSITION FROM FISH TO REPTILE?

Amphibian characteristics are claimed to be intermediate between fish and reptiles. However, there are several major hurdles that need to be overcome in order for this supposed evolutionary transformation to happen: skin needs to change, amniotic egg needs to develop, lungs need to advance and change.

Amphibian skin contains many different glands that are not present in the reptile skin, and the reptilian scales develop from folds in the skin. So not only would amphibians need to develop the genetic information for glands (not found in fish), reptiles would also need to develop the genetic information for scales. Again, a process that increases the information content of the genome has not been observed scientifically.

Amphibians absorb and release gases through their skin as part of their respiration. Their thin, permeable skin would need to develop into the thick, waterproof skin of reptiles; so another developmental pathway would have to appear. The amphibian skin would need to lose the ability to exchange gases, and a complex lung system would need to develop in order for the "emerging" reptiles to accommodate life on dry land.

Amphibians must lay their eggs in wet environments to prevent them from drying out. Reptile eggs have a leathery covering that prevents loss of water but still allows gases to be exchanged with the environment. There is no record of the molecular and developmental changes that would have had to occur to make this transition.

Fossil and genetic evidence support the biblically-based fact that amphibians have always been amphibians and reptiles have always been reptiles—both groups were created by the Creator to inhabit the earth.

Many now-fossilized amphibians may have lived in a now-extinct floating forest ecosystem before the Flood. These unique ecosystems may have been destroyed and buried during the Flood to form thick coal seams we find in the rock record today. (K. Wise, "The Pre-Flood Floating Forest," *Proceedings of the Fifth International Conference on Creationism*, Creation Science Fellowship, 2003, pp. 371–381)

Fish did not evolve into amphibians; God created them differently!

THE DEVONIAN: DID FISH BECOME AMPHIBIANS?

Evolutionists suggest that it was during the so-called "Devonian" period that fish evolved into amphibians. The museum may even have a picture of the famous fish that crawled out onto the land.

However, another interpretation better explains the creatures found in this fossilized formation. Rather than viewing the fossils in a step-by-step evolutionary fashion, think of them as a group of animals that were buried together in the Flood, 4,300 years ago.

Paleontologist Dr. Kurt Wise believes that a massive (sub-continent to continent size) pre-Flood floating forest was buried in stages during the beginning of the Flood, and that this explains the Devonian animals (the "Devonian" was a location in the floating forest, not a place in time).

"Living among the flora of the floating forest was an associated fauna. This fauna would have ranged from fish which lived in the pools in the forest floor, to amphibians which inhabited the aquatic/terrestrial interface, to insects and small animals which lived in the terrestrial environment of the understory and canopy. The permanent destruction of the floating forest biome would explain why virtually all Paleozoic 'land' animals are extinct. It would also provide a reasonable explanation for the stratigraphic position, the environment, and the morphology of the animals which appear to be fully functional morphological intermediates between fish and amphibians (e.g., *Ichthyostega*)." (K. Wise, "The Pre-Flood Floating Forest," Proceedings of the Fifth International Conference on Creationism, Creation Science Fellowship, 2003, p. 376)

In the next three quotes, creationist geologist Paul Garner elaborates.

> The Devonian tetrapods are thought to have lived a predatory lifestyle in weed-infested shallow water. They were therefore equipped with characteristics appropriate to that habitat (e.g., crocodile-like morphology with dorsally placed eyes, limbs and tails made for swimming, internal gills, lateral line systems). Some of these features are also found in fishes that shared their environment.

Were these creatures "transitional forms"?

> The mosaic pattern makes it difficult to identify organisms or groups of organisms that possess the

Dr. Andrew Snelling explains unconformities this way:

> Where erosion can clearly be seen to have occurred at these breaks between rock strata ..., creationists maintain that the erosion was very rapid, facilitated in many cases by erosion occurring in soft, "non-hardened" rock. Consequently, rather than having a land surface exposed for enormous periods of time after an ocean retreated, the same Flood processes responsible for depositing the sedimentary layers were also capable of eroding significant thicknesses of both loose sediment and consolidated rock. ("The case of the "missing" geologic time," *Creation* **14**:3,1992, pp. 30–35, online at www.answersingenesis.org/creation/v14/i3/time.asp.)

Dinosaur fossils, such as this one, are several thousand years old, at most.

FOSSIL EXHIBITS

Fossils of strange creatures, such as this trilobite, are remnants of creatures that lived before the Flood.

IS THERE AN ORDER TO THE FOSSIL RECORD?

In most museums, you'll find an illustration of the fossil record, showing pre-Cambrian fossil layers at the bottom and Cenozoic layers toward the top. According to evolutionary history, these layers represent snapshots of the evolutionary process over millions of years.

However, creationists have a different interpretation. Based on what the Bible says, some creationists expect the fossil record to be divided into two broad categories. One category, a mix of plants and animals, would include many strange creatures from a world that was destroyed by the Flood. Above it would be a familiar mix of plants and animals from the world after the Flood.

But what could explain the progression of layers laid down *during* the Flood? (first category mentioned above)

One possibility is that the order reflects the sequence that the Flood buried different environments, beginning at the ocean floor. Genesis indicates that the Flood began with a violent breakup of the ocean floor. If so, it makes sense that sea creatures were buried before land animals.

Within this model, as the floodwaters rose over the coast, they swept away organisms on the shore, then farther and farther inland, with each new surge destroying another ecosystem. In this way, organisms could be buried based on the geographic and ecological order in which the floodwaters overwhelmed them.

Within this model, the upper portion of the fossil record, which contains a more familiar mix of organisms, is from the world *after* the Flood. Harvard-trained paleontologist Dr. Kurt Wise states:

> When the upper portion of the fossil record was first described, it was described by percent of fossils in a given layer that were modern species. At the bottom, few species modern, and then increasing in modern-ness as you go up.

This sequence is consistent with what the Bible says. After the Flood, each kind of organism quickly diversified and spread across the surface of the earth. Many of these creatures appear to have been buried during a series of smaller catastrophes in the unstable world following the Flood.

There was much volcanic activity during the initial stages of the Flood.
This probably continued throughout the duration of the Deluge.

DIFFERENT TIME PERIODS OR ECOSYSTEMS?

The usual story behind the fossil record is that each layer represents a period in time during which certain animals lived and died. Again, creationists offer a different interpretation of the evidence. The following model, developed by Dr. Kurt Wise, presents one idea about how the fossil layers may have been deposited. (Note: although we use the given names for the various layers of the geologic column, we reject the long timescales associated with those names.)

4004 BC: The **Pre-Cambrian** strata represent earth's "basement rocks" that God formed during the initial creation period. The initial continent was distributed as is pictured by the Rodinia concept. Much of this initial continent was covered by shallow seas. Located along the edge of the continent, were hot water reefs. Massive floating forests existed. Further inland were the habitats of the original created kinds of animals and humans.

2349 BC: The Flood begins. The **Paleozoic** invertebrate animals that lived in the shallow seas were among the first to be covered with sediment. The sand dunes along Rodinia's beaches and coastal animals were carried out to sea and redeposited by floodwaters as the **Permo-Triassic** sands of the world.

The **Ediacaran** through **Cretaceous** layers largely represent how the Flood picked off, in sequence, the hot spring reefs (**Vendian/Cambrian** layers), the shallow seas (**Ordovician/Silurian** layers), the floating forest (**Sigillaria/Devonian/Mississippian/Pennsylvanian layers**), and finally the dinosaurs (**Triassic/Jurassic/Cretaceous** layers). Land animals were among the last to be buried.

2300—2000 BC: The *Paleogene* and *Neogene (Tertiary and Quaternary)* were produced in the first couple centuries following the Flood.

For more information, see K. Wise, "The Hydrothermal Biome: a Pre-Flood Environment," *Proceedings of the Fifth International Conference on Creationism.* Creation Science Fellowhip, 2003, pp. 359–370.

Although there is some disagreement among creationist geologists about the sequence of events given here, most accept this model of fossil layer formation. They agree that, rather than representing time periods separated by millions of years, the rock and fossil layers are more accurately described as buried ecosystems.

This dinosaur fossil is not millions of years old!

HOW OLD ARE THE FOSSILS?

In museum fossil exhibits, you'll often see statements such as, "This fossil is 65 million years old." How are these ages determined?

Fossils themselves are not usually directly dated. They are not found with tags that indicate their age. Instead, rock layers that contain supposed datable igneous (volcanic and plutonic) rocks above or below a fossil are used to estimate the age of the fossil. The age of the fossil is based on the range of ages assigned to the layers above and below it. However, as we've seen elsewhere ("How old are the rocks?"), many assumptions are involved in dating rock layers using radioisotope methods. Research has shown that the millions or billions of years results are not reliable.

"Index fossils" are also used to assign ages to some rock layers. This method assumes that the distribution of index fossils and the correlation of strata are well understood on a global scale. Where do the ages of index fossils come from? Again, the ages are based on many assumptions about past events and have been shown to be unreliable.

So how old are the fossils? Most are the remains of the global Flood 4,300 years ago. Some are from the Ice Age, while others are from localized post-Flood catastrophes.

Creationist geologists and paleontologists continue to debate which fossil layers are from the Flood and which formed later. They are working on presenting a cohesive model of the fossil record. However, we can say for certain that the fossils are at *most* thousands of years old—not millions.