## "Atheist Time"

## The Precambrian Era

The Precambrian Era, dating 4.5-544 million years ago (mya), marks the period of Earth's history from its initial formation to the beginning of life. During this time range, our Earth went through vast changes. The Earth had solidified from the solar disk left over from the Sun's own formation. The Moon formed, setting the stage for later tidal fluctuations. As the Earth cooled, it developed its initial atmosphere that contained no oxygen, yet setting the stage for the development of the first life forms, prokaryotes. From their interaction with the then prevalently carbon dioxide and sulfur rich atmosphere, they slowly altered, developing into the first eukaryotes, and creating yet another profound change in Earth, the production of oxygen. As the atmosphere slowly became enriched in oxygen, complex multicellular organisms evolved.

## The Paleozoic Era

The Cambrian Period and the "Cambrian Explosion" for the large diversity in animals seen over

such a geologically short period in time. Latter seen to have been a slower evolving process than it was once thought to be, the fossils of the Burgess Shale still show a the development of vastly more complex organisms than was seen before. Animals evolved the ability to swim and crawl, developed more acute senses of smell and taste. The sense of sight appeared With a the small beginning of just sensing changes in light, sight became so useful in detecting a swimming predatory moving over head, that vision soon pushed the evolution of many different organisms. Trilobites, ahead of their time, developed vision as advanced as the best insect sight of today.

#### **Ordovician Period**

Dating from 505-440mya, the Ordovician Period saw one land mass, Gondwana, with nothing but a vast ocean lying to the north. Plants began a colonization of the land. The Ordovician Period saw the first arthropods appear on Earth. The first mass extinction marked the end of the Ordovician, when an ice age began about 440mya.

#### Silurian Period

Dating from 440-410mya, the Silurian Period saw the first comeback in life on Earth. Recovering from the first mass extinction, plants once again colonized land. Plants were soon followed by terrestrial animals, such as spiders and centipeds. The quick colonization of land was greatly helped by a stabilization of Earth's climate. Still, with the earlier glaciers melting, new habitat in the form of freshwater appeared, fish soon moving into this new area. Coral appeared, slowly growing higher as the melting glaciers added to the ocean level. With the newer habitats of deep and open oceans jawed fish soon dominated in oceans, growing larger with more room to move.

#### **Devonian Period**

Dating from 410-360mya, the Devonian Period saw a greater diversity on land. Ferns, horsetails, and the first seed plants, gymnosperms, appeared. Amphibians evolved during the Devonian also. Echinoderms and coral were very common by this time. The Devonian ended with another major extinction.

## Carboniferous Period Dating from 360-286mya, the Carboniferous Period began after the second major extinction of

life on Earth. With the Carboniferous, insects evolved wings, and certain amphibians evolved amniotic eggs, allowing for the evolution of reptiles. Temperatures became milder, marking a decline in the number of ferns and large insects.

The Carboniferous Period can be further divided into two epochs, the Mississippian, or Lower Carboniferous, and the Pennsylvanian, or Upper Carboniferous. The Mississippian fossils are found in strata of limestone, while the Pennsylvanian fossils are found in coal-bearing layers of rocks. The Mississippian Epoch dates 360-325mya. The Pennsylvania Epoch dates 325-286mya.

## Mesozoic Era

### Triassic Period

Dating from 245-208mya, the Triassic Period lies at the beginning of the Mesozoic Era, the Age of the Dinosaurs. During this period, gymnosperms became the dominant plant life on land, and the first dinosaurs appeared. Both gymnosperms and herbivorous dinosaurs pushed each other, gymnosperms evolving to escape the threat of being eaten, and the herbivores taking advantage of a new food source that could survive far beyond flowing water.

### Jurassic Period

Dating from 208-146mya, the Jurassic Period saw the dinosaurs become the dominant land animals on Earth. During this time, bony fish dominated the seas, and the first mammal evolved. Herbivorous dinosaurs put more pressure on the dominant land plant, gymnosperms, pushing them to new strategies to survive this predator. During the Jurassic, a group of Theropods developed feathers, possibly as a defense against the cold in a similar manner to fur in mammals. This group of Theropods eventually gave rise to the first birds, who outlived the dinosaurs.

## Cretaceous Period Dating from 146-65

Dating from 146-65mya, the Cretaceous Period saw the development of Angiosperms, the flowering plants. Most gymnosperms forsaken their softer leaves and seeds for harder dermises to reduce the damage done by the herbivorous dinosaurs. This change left a niche opened for a fast growing weed that produced tons of seeds, the first flowers. As the angiosperm evolved, another group of animals linked their future to the flowers, the insects.

### Dating from 65mya - present, the Cenozoic Era began with a truly big bang, a meteor crashing

Cenozoic Era

into the Earth, causing a mass extinction of the large, dominant life forms of the Mesozoic Era, the dinosaur. This event also marked the beginning the Age of Mammals, as mammals slowly invaded those niches left open by the extinct dinosaurs. During this era, birds, angiosperms (flowers), insects, and bony fish proliferated through nearly every habitat on Earth.

# The Paleozoic Era

Quaternary Period

We are in the Quaternary Period, which started 1.8mya. The Quaternary Period saw major changes in Earth's climate, beginning with a major glaciation that did not end until some 10,000 years ago. During this period, man moved more towards an agricultural based society, which led to the development of more complex tools.

4004 BC to the Flood (1661 years after Creation) = 2343

BC)

Creation

God's

Time

After the Flood.

2343 BC

to the

Present