## 14. Cambrian explosion

Popular scientific literature uses the tree of evolution as a proof of evolution. The tree shows that more complex organisms evolved from simple organisms. Is the tree of evolution supported by any scientific evidence?

Fossil evidence shows that during the Cambrian explosion, from about 540 to 520 million years ago, the body plans of all present living animals arrived on Earth. The increase in complexity during this period was just incredible. From single cell organisms to trillion cells organisms.

During this 20 million year period there appeared different classes of animals such as Vertebrates (fish, reptiles, mammals) Arthropoda (insects, arachnids) and Mollusca (snails, octopus', squids). The precursors of these animals did not arrive in sequence from simple to more complex forms, but turned up simultaneously.

The most important features of all animals originated during this period. For example the first vertebrates not only had a backbone and a distinguished head with eyes, but also had a brain with a central nervous system. So we could say that although humans look very different, for example, from reptiles, their basic structures and internal organs are very similar.

All animals developed digestive, reproductive, respiratory and circulatory systems. Even the simplest animals needed new organs such as skin, a skeleton, muscles and neurons. Besides these organs, more advanced animals had eyes, a brain, a spine and various sensors. To build these organs approximately 200 new different types of cells were needed. At present mammals use about 250 different types of cells.

During this period, in comparison with eukaryotic cells, the complexity of organisms increased by several orders of magnitude. Genetic systems changed significantly and new types of genes appeared.

New organisms had tens of thousands of new proteins and their genome considerably increased to approximately 20,000 genes. In spite what the tree of evolution implies, more advanced animals such as mammals do not have a bigger genome than simple animals such as worms and snails.

Without any doubt one of the most important features which enabled the

development of higher organisms was gene switching. The genes for many proteins in cells are not active all the time but must be turned on and off at some point.

In summary during the Cambrian explosion the complexity of life increased by several orders of magnitude. Different genetic properties appeared along with cell differentiation and different organs and systems. Effectively after the Cambrian explosion animals changed their appearance, size and intelligence, but their basic biochemical and internal functions did not change much. During later periods we can observe much smaller design changes resulting in new families or classes of animals. In other words, since the Cambrian explosion, millions of new species have come into existence, but not a single new body plan.

Evolutionists find it very difficult to explain why these body plans developed in such a short period of time. It has been calculated that the Cambrian evolution rates for all types of animals were about 100,000 times faster than present rates. Why this happened is a mystery.