

OUR EARTH AND UNIVERSE --- WHERE WE LIVE (by Charles Horejsi)

Most of what we know about the universe has been discovered in just the last 50 years.

Our universe began to form about 13.7 billion years ago (the Big Bang). Our planet Earth began to form about 4.5 billion years ago? How big is a billion? Consider that there are 60 seconds in a minute and 3,600 seconds in an hour. There are one million seconds in 12 days. There are one billion seconds in about 33 years.

Our Earth rotates around a medium size star that we name the Sun. Our sun is 93 million miles from earth. Our moon was most likely formed when a giant asteroid hit the earth and broke off a portion of the earth. Eventually, these pieces of earth were pulled together by gravity and also pulled into a rotating orbit by the gravitational force of the earth.

Our sun is but one of the billions of stars in a galaxy that we name the Milky Way. The Milky Way galaxy (apparently an average size galaxy) is so vast that it would take 100 thousand years (traveling at the speed of light) to cross it. The speed of light is 186,000 miles per second. The nearest star to our Sun is four light years away (the distance light can travel in one year) or about 25 thousand billion miles away.

The Milky Way is just one of billions of galaxies in the universe. Each galaxy contains billions of stars. Every galaxy is moving away from every other one at high velocity. With our telescopes we can see only some of the galaxies and only a very small part of the universe. Most of what exists in the universe is invisible and known to exist because astronomers can measure its gravitational effect or its pull on other bodies. This invisible matter is called "dark matter" and it makes up 96% of all that matter that exists in the Universe. At the center of our galaxy (and probably all other galaxies) is a "black hole" that has such a powerful gravitational pull that it pulls all "nearby" matter and light into the hole. Since a black hole emits no light particles, it cannot be seen but can be detected by measuring the pull of gravity.

Bacteria are one of the least complex forms of life. A defining characteristic of life is its ability to reproduce itself. We say that a stone is not alive because it cannot reproduce. On our earth, bacteria make up about 90 % (by weight) of the living creatures.

Human-like beings (genus *Homo*) came into existence about 2.5 million years ago. Either 5 or 8 species of *Homo* have been identified. Modern humans, (our particular species = *Homo sapiens*) emerged about 195,000 years ago. About 98% of our DNA matches exactly the DNA of chimpanzees.

How does such information shape or challenge your image or understanding of God?