Robert Gutierrez

Astronomy: Solar System

9/8/14

**You are here in Time**

Reading the cosmic calendar I began to recognize how things happened in perspective to a year. To look in such time frame was something I had not done before. It helped visualize the time distances in a very chronological order.

I was intrigued to read that the universe began about 14 billion years ago. A number that been tossed around before but when looking at the cosmic calendar, I saw that it was a big time gap. I found it very interesting to see how everything else came into place such as the sun and other planets when the original three elements were hydrogen, helium, and lithium. I recognized that the rest of the elements were created by fusion from explosion from stars, however it opened a portal of questions. On how strong of an explosion these stars produce in order to create these nuclear fusions.

Looking at birth of solar system represented as September 3 in the cosmic calendar I looked back and noticed that big time gap between January all the way to September and saw that 9 months had passed. Which is equivalent to 4 and a half billion years ago. The Sun happened to form in the center, while the rest of the planets formed in a disk revolving around the sun.

Later on in the calendar we begin to see Life on Earth. According to the calendar and research it is unclear when life came to existence in planet Earth. However, the few fossils that have been abled to be collected show indication of life from a few hundred million years ago. Dinosaurs roamed around about 225 million years ago, represented as December 26 in the cosmic calendar. Earths formation kept going for at least another three billion years producing more complex plants and animal life.

Human History came after, towards the very end of the calendar. Our existence is so small that could be represented as the last 15 seconds of December 31st. One-person lifespan can be represented as only two tenths of a second in the cosmic calendar. Something that seems so minimal, however when looking at human history it seems as if goes million years back.

This cosmic Calendar really helped visualize the big gaps of billions and millions of years ago. These concepts are easy to take note of; however visualizing 14 billion years ago can be hard at times, because it truly is a long time ago. Also to compare human existence to a few seconds is very shocking to see that our history compare to earth is really not that long.

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Summery of Reading

Reviewing the book *The cosmic Perspective The solar system*, I learned various things that I had either forgotten or not known. This reading contained rich information over planets, asteroids, comets, flybys, and orbiters.

Some of the things that I learned about the planets in particular was that Venus is flipped up side down, and spins clock wise oppose to counter clock wise, which is what the rest of the planets in our solar system do. Aside from this all the planets revolve around the sun and are for the most part in the same plane. Another interesting fact to me was that there were two types of planets. There were Terrestrial and Jovian planets. The difference between the two is that *terrestrial* planets are rocky, and contain metals in the middle called *core*. These *Terrestrial* planets also are relatively small and dense when compared to their counterpart *Jovian* planets. *Jovian* planets are mostly made up elements that are classified as gasses and tend to be bigger in size yet significantly less dense.

Another section of the reading also talked about Asteroids and Comets. Asteroids are rocky and significantly smaller than planets, they are usually found revolving around the sun, between Mars and Jupiter, or in the Asteroid belt. Asteroids can thought as debris in our solar system. There are asteroids have been 60 miles in diameter, which is quite significant. Aside from Asteroids we have another section of debris called *comets*, which are not composed of rocks. Comets are mostly composed of ice, and contain sometimes contain other elements such as carbon dioxide, methane, and ammonia. They are usually found in the outskirts of our solar system closer to Pluto in a place called *Oort cloud.*

The reading also contained information on how we gather this type of information. Which introduced us to *Flybys* and *Orbiters*. Flybys are a type of spacecraft that tracks a certain planet in outer space but does not land on it. It simply follows it with ever entering a planets orbit. In contrast an *Orbiter* does get drawn in into a planets orbit and uses less fuel opposed to a flyby because it takes advantage of the planets gravity and gets pulled in. Aside from using less fuel, it is more common for an Orbiter to have more sophisticated hardware, such as radars of other computing technology used to study the planet.

**Questions**

**How similar/different are comets to meteoroids?**

**What classifies a moon opposed to just being an asteroid?**