

By Wayne Halm

I recently read an article that estimated the Universe to be 12 to 15 billion years old. Maybe that's true, and maybe it's not -or- maybe it irrelevant.

That 12 to 15 billion year estimate was derived from measurements of the red shift in the light coming from incredibly distant objects. Light that has been traveling 6 trillion miles a year for billions of years through cold space, gravity fields, gamma rays, ultra violet radiation, infra red radiation, cosmic radiation, and perhaps in the vicinity of "dark matter". I wouldn't be surprised if it arrived a little scratched, scooped, dented, and dirty. But that's all right, I don't have a problem with the 12 to 15 billion years estimate for the age of the Universe.

### **The Problem**

I have a problem with the implication that everything in the Universe is the same age.

A story is told that the Universe we know came into existence in a "Big Bang" sometime in the distant past. All of the particles that our scientist know and love so well popped into existence during this Big Bang.

According to the story everything was created at more or less the same time and has simply been arranged and rearranged ever since. For the duration of this article I will go along with the notion that everything was created at the same time - but that does not mean that everything is the same age.

### **The Explanation**

Age depends on the amount of time that has passed. The arranging and rearranging of particles takes time, the amount of arranging and rearranging that has happened depends on the amount of time that has passed. Stars, Galaxies, Trees, You, Me - all objects - are all arrangements of groups of particles.

Einstein said something to the effect that the rate of time passage an object experiences depends on the speed of the object. This has been verified. Obviously everything in the Universe is not traveling at the same speed, so different things are experiencing different rates of time passage.

The age of an object depends not so much on the amount of "earth time" since the beginning as it does on the speed of the object. Speed not relative to the earth, but speed relative to "Absolute Still" is the important thing (see the "Variable Time" Article for a description of Absolute Still).

### **Conclusion**

Some parts of the Universe are simply older than others.

Groups of particles that have been traveling at higher speeds since the beginning haven't had as much time for arranging and rearranging as their slower moving relatives - they are younger, fresher, perhaps more primitive. They are simply closer to the beginning.

Groups of particles that have been traveling slower since the beginning have been bombarded with more liberal doses of time. They have simply had more time for arranging and rearranging. If arranging and rearranging results in some form of advancement, it should be found among these groups of particles.

### **How Big is this Age Difference?**

That depends on the speeds attained relative to Absolute Still and the shape of the Speed/Time Curve (see "The Shape of Time" Article). The difference could be near nothing or any value up to approaching infinity. The 15 billion earth years since the beginning could amount to only 30 years in a fast moving group (not much time for even arranging), while the same 15 billion earth years could relate to 300 billion year in a

## The Age of the Universe

slow moving group (time enough for mega numbers of rearrangements).

### **Wonderful !!! So What?**

So once the potentially vast age differences are considered, the images from the multi-billion dollar space telescope may make more sense.

So once the age differences between sub atomic particles is factored in, the investigations made with multi-billion dollar cyclotrons may start producing more results.

### **Galaxies and now Sub Atomic Particles too?**

Yes, time affects everything.

Galaxies are structures of particles, one of the products of the arranging and rearranging that's been going on. Fascinating stuff!!

But the sub atomic affects of age differences suggest some basic characteristics of matter and may provide a way out of the anti-matter problem.

### **Now Anti-matter too?**

Of course - time is fair - it affects everything.

This is second hand, even though my particles were there I really wasn't paying attention at the time, but this is what I've been told.

During the Big Bang both matter and anti-matter were created in roughly equal amounts. Matter having negatively charged electrons whizzing around clumps of positively charged protons - and anti-matter having positively charged electrons whizzing around clumps of negatively charged protons. Both are happy and relatively stable among their own kind, but when they get together they annihilate each other in a burst of energy.

That's the story the way it was told to me. The obvious problem with the story is that we are here and the anti-matter people aren't. Looking around the Universe we see lots of matter and very little if any anti-

matter. Why is there anything left? What happened to all of the anti-matter? In the great matter anti-matter war what gave matter the upper hand? That is the anti-matter problem.

Applying the concept of variable time to the problem something very interesting is revealed. Protons are older than electrons.

### **Protons are Older than Electrons?**

Yes, protons are older than electrons. While the energetic little electrons are whizzing around the fat little protons are just sitting in the center. The electrons are moving faster, they are aging slower, they are younger now.

### **So how did the "Old Protons" do away with all the Anti-Matter?**

In the Matter Universe all of the negatively charged electrons are younger than all of the positively charged protons. In the anti-matter Universe all of the positively charged electrons are younger than all of the negatively charged protons. But there is no Anti-Matter Universe and we are still here. All else being equal, this suggest that negative charges don't age as well as positive charges. Over time all of the negatively charged protons grew old and used up their negative charges and became Neutrons. Of course that leaves all of those positively charged electrons zooming around somewhere like so much background radiation.

###