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The Big Stretch - Part 1

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What if there was a scientific model, based on the work of multiple Nobel prize-winning scientists that explained the formation of galaxies without dark matter or the need for billions of years, the filamentary structure of the cosmos, red shift quantization, and more

What if data indicated:

- The speed of light has decayed over time.
- Planck's constant has increased over time.
- The red shift was quantized.
- Stars seem to form on filaments, like beads on a string, not according to conventional theory.
- Galaxy structure was due more to electromagnetic effects than to gravity.
- Atomic clocks were slowing.¹

And what if there was a scientific model that explained all the above, including:

- The decay of the speed of light
- How light from billions of light years distance can reach earth in only thousands of years
- The red shift, without appeal to the Doppler effect, its quantization, and the measured value of the quantization
- Galaxy structure without dark matter
- The mechanism that gives rise to the Heisenberg uncertainty principle
- The origin of mass, without the Higgs boson
- The cause of measured slowing of atomic clocks
- The constancy of the fine structure constant while other constants change
- A physical mechanism for why electrons do not spiral into the nuclei of atoms
- How planets can form before their stars
- The filamentary structure of the universe
- Why outer planets have lots of helium
- Why inner planets have dense cores
- Why stars seem to be forming along filaments

Amazingly, there is such a model! (For time and space reasons, we will not go into all the details, nor try to reference every point made herein. A Part 2 of this article is planned, however, which will go into more detail. Stay tuned!)

Development and summary of the Ideas

Barry Setterfield first published on the downward trend in measurements of the speed of light in 1981.² In 1987 he co-authored a 90-page report dealing with these data at the request of SRI, Stanford Research Institute.³ Setterfield has been investigating and researching these concepts for over 30 years. His model has developed over this time. The best and most current exposition of his model seems to be his 460+ page book published in 2013.⁴ The website of Setterfield (<http://www.setterfield.org>) also contains much information.

In addition to the speed of light, Setterfield also wrote about other constants that seemed to be changing over time, based on actual measurements. Setterfield identified a physical mechanism that can explain the changes in these constants, based on work begun by Nobel prize winners like Planck and Einstein, culminating in today's Stochastic Electro-Dynamics (SED). This physical mechanism also empowers and accelerates other events and processes, which involve the second area of science of his model.

The 2 major areas of science that supply the major components of this model are SED and plasma cosmology. SED provides a mechanism for the actual measured change in the speed of light, quantization of the red shift, increase of Planck's constant, and so forth. SED also provides acceleration of the electrical currents and

² Answers in Genesis (1981) The velocity of light and the age of the universe, *Creation* 4(1): 38-48
<<https://answersingenesis.org/astronomy/starlight/the-velocity-of-light-and-the-age-of-the-universe/>> Accessed 2016 May 01

³ Setterfield B, Norman T. (1987) The atomic constants, light, and time. <<http://www.setterfield.org/report/report.html>> Accessed 2016 May 01

⁴ Setterfield BJ, Setterfield HJ (2013) Cosmology and the Zero Point Energy, *Natural Philosophy Alliance Monograph Series* <<http://worldnpa.org/cosmology-and-the-zero-point-energy/>> Accessed 2016 May 01

¹ Setterfield HD, 2002 July, Upheaval in physics: History of the light-speed debate, Personal Update News Journal, Koinonia House <<http://www.khouse.org/articles/2002/423/>> Accessed 2016 May 01

related electromagnetic phenomena powering plasma cosmology.

Plasma cosmology in turn explains how planets can form before their stars, the filamentary structure of the universe, the nature of the inner planet's rocky cores and the nature of the outer planets' large percentage of helium, and more.

Stochastic Electro-Dynamics

SED is a theory of physics that traces its development back to Max Planck, the Nobel laureate and original founder of quantum physics. Planck wrote a paper in 1901, which introduced Planck's constant, h .⁵ Other scientists continued the work, although Planck himself was not satisfied with that paper. After 10 years of research, Planck followed it up with another paper in 1911.⁶

However, the die seemed to have been cast, in that the 1901 paper seems to have been the springboard for further research and development of ideas in quantum physics. Another Nobel prize winner, de Broglie, wrote a book in 1962 that marked a milestone in the development of SED and suggested a change in direction toward that suggested by the 1911 paper by Planck.⁷ SED has since seen further work by other scientists.

Plasma cosmology

Plasma cosmology can be simply described as incorporating electromagnetic effects, in particular those of plasmas, into cosmology.

This has seemed a no-brainer to me, in that

- Electromagnetic forces are trillions of times stronger than gravity/gravitation.
- The vast majority of the matter of the universe is plasma.

Professor Emeritus Donald Scott of the University of Massachusetts has pointed out that if our star was the size of a speck of dust, the nearest star would be over 4 miles distant. All the other stars of our galaxy would be even further away.⁸ How can gravitation hold such a wide-spread collection of tiny dust particles together? It certainly seems difficult to imagine on first considering the notion. (This is where dark matter typically comes to the rescue.) However, if we include electromagnetic

⁵ Planck M (1901) On the law of the energy distribution in the normal spectrum. *Ann Phy* 4:553 <[http://ffn.ub.es/luisnavarro/nuevo_maletin/Planck%20\(1901\),%20Energy%20distribution.pdf](http://ffn.ub.es/luisnavarro/nuevo_maletin/Planck%20(1901),%20Energy%20distribution.pdf)> Accessed 02 May 2016

⁶ Planck M (1911) *Verhandlungen der Deutschen Physikalischen Gesellschaft* 13:138

⁷ Broglie L de (1962) *New Perspectives in Physics*, translated by A. J. Pomerans, Basic Books, Inc., New York <<https://archive.org/details/newperspectivesi00brog/>> Accessed 2016 May 01

⁸ Scott D (2006) *The Electric Sky*, Mikamar Publishing, 1st edition, Portland

phenomena into our considerations, then cosmology makes much more sense. Problems such as explaining the filamentary structure of the universe, filamentary "stellar nurseries," and other problems disappear.

Tying the two together

Stochastic electro-dynamics can help us understand the slowing of the speed of light, which in turn can explain why the universe is not so old as it appears.

Measurements support the model—not just speed of light measurements. Some constants should, according to this model, increase over time, while others should decrease. What is particularly fascinating is that multiple measurements of several different constants support the theoretically predicted changes in those constants.

This model predicts, in addition to the change of the speed of light, changes in electromagnetic phenomena, would have been much faster in the early universe. In particular, the speedup applies to real-world analogues of phenomena observed in the experimental work of plasma scientists like Anthony Peratt, who created computer simulations of electrical plasma that showed what appeared to be miniature galaxies forming and performed experiments with real plasma that showed the same results.

Now, if we scale these phenomena up to the level of the size of real galaxies and factor in the acceleration of these electromagnetic effects (due to the same underlying fundamental mechanism that impacts the speed of light), the result according to this model is that the entire universe could have been created in much less than the conventionally accepted age of the universe. The universe, per SED coupled with plasma cosmology, could be only thousands—not billions—of years old!

The big stretch

There is something in common about the Big Bang idea and the Bible: they both involve a stretching out of space or the matter of space. Twelve times, Setterfield tells us, the Bible says God stretched out the heavens. If space was stretched, then there would have been an energy increase,^{9,10} which is a key factor in this model. This energy would have started out at a low level and would have increased over time. (Part 2 of this article planned will go into more details.)

The increasing energy would have shifted light toward the blue end of the spectrum as time moved forward,

⁹ Gibson CH (2001) Turbulence and mixing in the early universe. *International Conference Mechanical Engineering*, <<http://arxiv.org/pdf/astro-ph/0110012v3.pdf>>

¹⁰ Setterfield B (2007) Reviewing the zero point energy. *J Vectorial Relativity* <http://www.setterfield.org/ReviewZPE/Reviewing_ZPE.html> Accessed 2016 May 011

and looking back to older stars that emitted their light long ago, we would expect to see red shifts.

Other evidence for this model

The curve fitting the measured speed of light versus time has an exponential shape, as does the curve for Planck's constant versus time! Exponentially shaped curves are often found in nature, which suggests that the measured effects are real. What is more amazing is that the model correctly predicts the direction of both curves. Even more amazing is that the light speed and Planck's constant changes cancel each other out! This is very improbable and argues strongly that the data are not random. The model also correctly predicts the fine structure constant will not change.

This model also predicts that atomic clocks would have slowed in conjunction with the changes in the speed of light; observation of this has been reported:

Tom Van Flandern, with a Ph.D. from Yale in astronomy, specializing in celestial mechanics, and for twenty years (1963-1983) Research Astronomer and Chief of the Celestial Mechanics Branch at the U.S. Naval Observatory in Washington D.C., released the results of some tests showing that the rate of ticking of the atomic clock was measurably slowing down when compared with the "dynamical clock."¹¹

There is more evidence supporting Setterfield's model that for space reasons is not given here.

Criticisms regarding this model

There has been some discussion about this model and its validity. A few of the issues raised will be mentioned here. For space reasons, this will be limited (many criticisms seem to have been based on older papers than on his more recent work and his 2013 book).

The statistical treatment of the data has been questioned,¹¹ but it has also been claimed that the decay of the speed of light is well supported by the data.¹² Other publications also take a more positive view of the SRI report.

Measurement error is one obvious suggestion. A measured trend downward in light speed well beyond measurement error has been seen consistently in over 160 measurements spanning more than 300 years. The direction of error should be random.

¹¹ Aadsm GA (1988) Has the speed of light decayed? *Acts & Facts*. 17 (5) <<http://www.icr.org/article/has-speed-light-decayed/>> Accessed 2016 May 01

¹² Bowden M (1998) Reports of the death of speed of light decay are premature. *Creation Ex Nihilo Technical Journal*. 12 (1) <<http://www.ldolphin.org/bowden/centj.html>> Accessed 2016 May 01

One argument has been made that SED is not conventional physics. SED traces its roots per Setterfield back to the father of quantum physics himself, Planck. Also others, including Einstein, further researched and developed this model. Another Nobel laureate, de Broglie, wrote in 1962 a book that suggested "conventional" physics was on the wrong track and spearheaded development of SED. Suffice it to say, this is arguably real physics, especially when we consider other physics describing hypothetical parallel universes consisting of (or "embedded in") additional unseen dimensions!

Also, plasma cosmology has been described as not conventional science. The same reasoning applies here as in the point above; plasma cosmology is based on foundations laid by multiple Nobel laureates. One of them, Alfven, predicted the filamentary structure of the universe, which was only observed and confirmed years later to the amazement of astronomers.

Lastly, these arguments about conventional physics can be replied by simply stating that truth in science is not determined by vote, nor by popularity! One of those Nobel prize-winning physicists commented that new ideas gain acceptance in physics only after the proponents of the old ideas have died:¹³

A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it. - Max Planck, Nobel laureate and father of Quantum Physics

Einstein did work related to SED, and Nobelist Alfven postulated foundational concepts of plasma cosmology—perhaps they knew what they were talking about, and this area might be worth our consideration too.

Relevance to Religion

The potential implications of this model seem obvious. If it is true, then scientific problems with a young universe become nonexistent.

Summary

This model, though not the only model dealing with the age of the universe, is intriguing and worth consideration and further investigation for several reasons:

- It is built on work by multiple Nobel prize-winning physicists.
- It explains or claims to explain such a large number of questions that remain unanswered by conventional models.

¹³ Josephson B (2004 Nov 14) Covert censorship by the physics preprint archive. <<http://www.spaceandmotion.com/physics-censorship-nobel-prize-laureate.htm>> Accessed 2016 May 01

- The 1987 90-page report by Setterfield and Norman was commissioned by SRI, Stanford Research Institute, a noncreationist organization.
- The model (especially the more recent developments) seems to not be very widely known.

Also the author of this model seems to think that most critiques of the model are based on old, outdated versions of his research. The current up-to-date presentation of his research seems to be his 460+ page book published in 2013.

In closing, this model's amazing explanatory power and the amount of supporting evidence warrant the serious consideration of this model. ❌

COMING EVENTS

Thursday, May 12, 7:00 pm, Providence Baptist Church, 6339 Glenwood Ave., Raleigh, Room 207

At the next TASC meeting Everett Coates will present another section of the DVD, "Evolution's Achilles' Heels" produced by Creation Ministries International. This section reveals the devastating fatal flaws hidden in the fossil record, the supposedly unassailable evolutionary icon upon which Darwin himself stated that his theory would stand or fall (spoiler alert: it falls!). This will be followed by a Q&A session about the information in the DVD.