

The Search for Intelligent Design in the Universe

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GENESIS 1:14, 16, 19

And God said, Let there be luminaries in the expanse of the heavens, to distinguish between the day and the night; and let them be for signs, and for seasons, and for days, and for years.

And God made two great luminaries, the greater luminary to rule by day, and the lesser luminary to rule by night; and the stars.

And the evening and the morning were the fourth day

Heavenly Secrets §37

It is said that the luminaries shall be "for signs, and for seasons, and for days, and for years." In these words are contained more arcana than can at present be unfolded, although in the literal sense nothing of the kind appears.

- Emanuel Swedenborg

In March of 2006 the team behind the Wilkinson Microwave Anisotropy Probe released their analysis of three years of data from this satellite. The data was in stunning agreement with the predictions of a scientific theory known as "cosmic inflation". One of the tenets of cosmic inflation is that in a blink of the eye, the universe expanded by a factor of 1 followed by 35 zeros. If you heard that the universe has been expanding since the "big bang" — this is the *bang*.

Quantum Mechanics tells us that even "empty" space is bubbling with activity. Elementary particles pop into existence by borrowing energy from the future, and then evaporate, paying back the energy debt before the cosmos takes notice. Inflation occurred so rapidly these fluctuations were frozen as if by a strobe light and stretched across the universe — where they became the seeds around which galaxies coalesced.

Without quantum fluctuations and inflation there would be no stars, no planets — no *life*.

Cosmic Inflation ties the tiniest and most ephemeral of all phenomena inextricably to the grandest and most durable of celestial objects. And to our very existence. It is arguably the most important discovery of Physics in two generations.

If you missed this, do not be embarrassed. The San Jose Mercury News, self proclaimed "Newspaper of Silicon Valley", devoted a mere one column inch, on an inside page, to this discovery.

Compare this to the amount of ink consumed, and the amount of energy expended in our courts and legislatures, over the teaching of "Intelligent Design" in our classrooms.

It astounds me that according to some polls, 47% of Americans believe the earth was created about 6000 years ago. Perhaps it shouldn't surprise me. As recently as my grandmother's 21st birthday, most scientists believed the Milky Way was the entire universe and the sun was firmly at its center. This was 300 years after the Copernican Revolution supposedly ousted the earth from its anthropocentric throne and fully 2600 years after Sanskrit writings postulated the earth circled the sun. This concept of humans being uniquely created at the center of the universe seems to be frozen into our consciousness.

Much has been written on the merits, or lack thereof, of Intelligent Design as a Scientific Theory. As interesting as these discussions may be, I think they are missing the point. Intelligent Design and Creationism are bad *theology*.

The current strain of biblical literalists would have us believe that Darwin hammered the first wedge into the edifice of Genesis 1 and 2 and if we don't resist the ensuing crack with all our might, the faith will crumble.

Yet we know 100 years before Darwin published "On the Origin of Species", Emmanuel Swedenborg explained in his book "Heavenly Secrets" that there is an inner meaning to the Genesis creation story. It is the story of the transformation of a human from a materialistic to a spiritual being. More than 1400 years before Darwin, Saint Augustine wrote no fewer than 5 books analyzing the meaning of Genesis and concludes "I have not brashly taken my stand on one side against rival interpretations which might possibly be better." And these luminaries are not alone among persons of faith who have written similarly.

Taken literally and stripped of its inner meaning, the Genesis creation story reduces God to some sort of cosmic model railroad hobbyist. You can imagine him pushing back from the dinner table and telling Mrs. God "well, it's Wednesday. I'm going out to the garage to put some vegetation, plants yielding seed and fruit trees on my Earth". Mrs. God retorts "Earth, Earth, Earth. That's all you talk about these days!" God: You should be happy I have a hobby which keeps me home! Would you rather I were hanging out with Thor, Zeus, and the guys?"

The dangers inherent in requiring a literal interpretation of the bible is made, perhaps more respectfully, by Swedenborg in *True Christian Religion* #257. He points out the frequent reference in the Bible to the rising and setting of the sun when we know it is the earth, not the sun, which moves. He then cautions "But if a person convinces himself of the sun's motion by the reasonings of the natural mind, and more so if he does so from the Word, because it speaks of the sun rising and setting, he weakens the truth and destroys it; and afterwards he is hardly able to see it."

So how do we see Truth? Revealed truth is obtained by studying sacred texts, mystical experiences and listening to the angels which are always speaking to us. Scientific truth is obtained through the experiences of our senses and the application of Reason. Some apologists claim that each method is valid in its own domain, but they have nothing to

say to each other. Creationists assert we must abandon reason when it conflicts with their literal interpretation of revealed truth. I claim that *both* Revealed Truth and scientific truth are essential to full spiritual growth.

Science will not provide us with moral law; that is the province of revealed truth. However the scientific method *is* well designed to root out errors and fallacies over time. Given human imperfection, it is all too easy to misunderstand revealed truth, and once you are convinced you have “heard the voice of God”, there is no easy way of correction. Following the course of reason to the exclusion of revealed truth or revealed truth to the exclusion of reason has led to great evils, such as eugenics in one case and crusades in the other.

Since God created the physical world, granted us the perception of it and the power to reason about it, if you think science is providing you with one truth and religion is providing you with a contradictory truth, then it is most likely you are misunderstanding *both*. Resolving the contradiction will likely provide you with deeper understanding of both scientific and revealed truth. This is a path to spiritual growth.

Obtaining a deeper understanding through the resolution of seemingly contradictory evidence is certainly true within science itself. The debate in cosmology in my grandmother’s day had to do with the nature of nebulae – things that looked like glowing clouds through the telescopes of the day. Some scientists presented compelling evidence that the Milky Way was enormous in size, and concluded the nebula must be inside the galaxy. Others presented compelling evidence that the nebulae were outside the galaxy, and therefore the Milky Way had to be small. This is no trivial matter since, as you remember, at that time the Milky Way was believed to be the *entire universe*. Proposing there were objects outside our galaxy put these scientists in the same position as Copernicus when he proposed the earth revolved around the sun.

In trying to reconcile these seemingly irreconcilable positions, it was discovered that the truth is the Milky Way *is* huge AND the nebulae are outside. In fact the nebula turned out to be galaxies in their own right, as big as or bigger than the Milky Way. They only appear small because their distance from us is so huge, the size of the Milky Way pales into insignificance.

Apparently, every so often we get so egotistical God must send us a new fact to remind us we are NOT the center of the universe!

Some people believe teaching evolution will result in the overthrow of moral values. It is interesting to try to reconcile revealed truth with the scientific truth of evolution and see what we can learn about this. In his book “Wonderful Life”, Steven Jay Gould describes the explosion in variety of animal “body plans” that appeared at the beginning of the Cambrian period, some 540 MYA. Only a very few of these survive to this day. There is nothing obviously “more fit” about the body plans that survived compared to the ones that didn’t. It seems totally random.

Most of the body plans that survived have bilateral symmetry: the condition that our left side is approximately a mirror image of our right side. Several studies have shown that the greater the symmetry of a person the more beautiful we perceive that person to be.

Now what if it had been the non-symmetric life forms that had survived and the symmetric ones were wiped out? What if they evolved into creatures of similar intelligence to us? We would consider them unspeakably grotesque. We would find them revolting. Even the worst Hollywood monsters have bilateral symmetry.

But what does revealed truth tells us with absolute certainty? *That God would love that creature.* If God loves a creature so frightening to our vision, how can we invoke God's name to justify killing people because they have a differently shaped nose or a different skin color than our own?

In providing this example, I'm not claiming any veracity to my conclusions. In fact, since Swedenborg tells us that through our efforts on earth we are creating our Heaven, I suspect that it is the struggle itself, rather than the conclusions, that are most important to our spiritual growth. Saint Augustine writes that in his studies of Genesis he has been "interpreting words that have been written obscurely for the purpose of stimulating our thoughts" and even Swedenborg admits "In these words are contained more arcana than can at present be unfolded". Struggling to achieve understanding does not require one to be a scientist, it is available to everyone to the extent God has granted them the power of reason. And if minds as great and inspired as Saint Augustine and Swedenborg could not always achieve resolution to these questions, clearly we are not required to do so.

From my own "search for intelligent design in the universe" (and in the same spirit that we continue to say "the sun rises and sets"), here is my nomination for the best evidence that God exists: In 1893 at the age of 25, Henrietta Swan Leavitt began work at the Harvard College Observatory. She was one of several women who were called "computers." They had the mind numbing task of measuring the location and brightness of thousands upon thousands of stars recorded on photographic plates. "Thinking" was not expected of her, yet by 1908 she had discovered that a class of stars whose brightness varies periodically called Cepheid variables have a period of fluctuation proportional to their intrinsic brightness. Measuring their period gives their intrinsic brightness. Since the further away these stars are, the dimmer they will appear, comparing their intrinsic to apparent brightness gives their distance.

The Celestial Sphere had cracked! For the first time in history we could measure the distance to the stars!

This discovery opened the floodgates to new knowledge. We soon learned that the Milky Way was enormous, but was only one of thousands on thousands of galaxies separated by unimaginable distances. We learned that all these galaxies appear to be racing away from each other because the universe itself is expanding, that this expansion started with a "big

bang” and the big bang was initiated by cosmic inflation which wrote microscopic quantum fluctuations across the sky.

Now there is nothing especially miraculous about the existence of Cepheid variables. Certainly nothing that requires divine intervention. But what is miraculous to me is that they are scattered “in the expanse of the Heavens as signs”. It is a miracle that the daughter of a Congregational minister with no expectations beyond a life of drudgery was granted the power to decipher the meaning of those signs. And as a result we are granted a privilege; a view of the universe that demands an awesome, fuller appreciation of the transcendence of a God that created space – and time itself. A God that knew his physical laws acting over 14 billion years would create creatures “in his image”. And because that process is contingent on random events, we are forced to expand our definition of what “in his image” means in ways that lays shame to our selfish, egotistical behavior.

And finally we discover a God capable of knowing each and every individual living on a tiny planet, circling a minor star, near the outer rim, of an average galaxy. And loving each one as if they were the center of the universe.

Dr. Douglas Stinson was raised in New Hampshire and attended New College, the experimental liberal arts school in Sarasota, Florida. There he met his wife, Joy Barnitz, who introduced him to Swedenborg. He went on to obtain his Ph.D. in Physics from the University of Illinois, Champaign-Urbana. Since then he has performed and managed research and product development for Kodak, Seagate, Hewlett-Packard, and the obligatory Silicon Valley start-up that went belly-up during the dot com bust. He currently is responsible for developing surgical lasers at American Medical Systems. Doug is an avid photographer, newsletter editor, emergency communicator, and, while working on a community's master plan, coined the phrase "environmental infrastructure".