

**Review and Learnings: *The Young Sun*, Creation Ministries International, 2008 (2010 ed.)**

Runtime (min): 45

**Great Teaching on the Greater Light**

A fast-moving documentary on the most important planetary body in our solar system outside earth. The presentation is plain from the start regarding its convictions, that the sun is a specially created body by God on day four of the universe as stated by Holy Scripture (Genesis 1.16).

The accepted stellar evolutionary model of any star's origin is shown to rest on faith alone. A gas cloud supposedly collapsed under gravity, triggered either by a compression force (a supernova shock front), or refrigeration/convective heat transfer (by thin dust particles). Both ideas rely on a star having already existed!

Under the solar nebular disk model, once our sun 'evolved', terrestrial planets are said to have formed from a swirling cloud of dust clumps ('planetesimals'). A transition from small [1cm] to large [1km] objects is believed by faith.

The well-known Faint Young Sun Paradox is also discussed with the following miracles invoked to solve it: a greenhouse gas atmosphere (inc. CH<sub>4</sub>, NH<sub>3</sub> and CO<sub>2</sub>) on earth to avoid it freezing; dissipation and replacement of this atmosphere with our current one over billions of years; resulting heat reduction precisely compensated by heat increase from the strengthening sun!

Authoritative narration and commentary is provided by scientists Drs. Danny Faulkner, Ron Samec and Jason Lisle who are clearly unimpressed by current secular evolutionary models.

Visuals and graphics are excellent and interspersed well across the presentation. The viewer will be amazed at the unique properties of our sun amongst stars and the faith evolutionists have believing its creation

without a supernatural creator.

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It should be kept in mind the sun was designed a *complementary* body with the earth. It is at precisely the right distance. Any further and the poles would freeze, encroaching over the whole surface. Any closer and the heat would boil off water on land and atmospheric vapour, preventing plant life evolution and making the surface like Mars. Without plants oxygen would not be available therefore making evolution impossible.

Our solar system location inside the Milky Way is also fortuitous – being away from the centre it is subject to less harmful high-energy galactic radiation and supernovae. Too far, however, and there wouldn't be any heavier elements.

Physical metrics of the sun, earth and moon enable the *unique* phenomenon of a solar eclipse:

\*Distance (sun, earth) =  $1.5 \times 10^8$  km

\*Distance (earth, moon) = Distance (sun, earth) \* 1/400

\*Diameter (Sun) = 400 \* Diameter (Moon)

From the earth therefore the moon appears to be about the same size!<sup>1</sup>.

Basic facts about this object are discussed:

\*As a show of our 'power' a coin's diameter at arm's length can cover the sun!

\*Classification is a main-sequence star-age and size are the determinant rating factors used.

\*Belongs in the 99<sup>th</sup> (cumulative) percentile of objects in the universe in terms of mass.

\*Radius =  $6.96 \times 10^5$  km [ $r(\text{Earth}) = 6.37 \times 10^4$  km] making it 100 times larger than earth.

\*Planetary geophysics: visible outer layer (corona) measuring  $\sim 2 \times 10^6$  °K, surface (photosphere) only 6 600 °K, and the core where nuclear fusion of H<sub>2</sub> is occurring generating temperatures estimated at  $1.57 \times 10^7$  K. The hydrogen is compressed under gravity, producing He and huge amounts of energy.

\*Its solar flare-arch phenomena (prominences) can extend 1M mi out into

space. Electrons, protons and neutrinos<sup>2</sup> make up the ejecta.

\*Has massive gravitational pull (G-Mass), therefore the sun affects both Pluto ( $4.5 \times 10^9$  miles away), as well as the largest planet Jupiter.<sup>3</sup>

\*Causes beautiful comet trails by vapourising their ice, e.g. comet 73P in 2003<sup>4</sup>. Significant example was the Shoemaker-Levy 9 impact with Jupiter on July, 1994.

\*Energy output in one second is  $> \sum$  earth energy (natural and man-made) generated since the beginning of time!

\*Light (photons and cosmic rays) take  $\sim 8$ min to reach the earth. Cosmic rays are filtered out by earth's designed atmosphere.

\*Photons (which escape filtration) are the foundation of the food chain enabling photosynthesis by solar-powered machines (i.e. plants).

The remainder of the presentation focuses on three big questions regarding the sun's origin and its alleged  $4.6 \times 10^9$  year age.

### Solar System Formation

Assuming a star has formed, it is surrounded by a rotating gas and dust cloud of  $\sim 1$  light-year in radius. This cloud needs to rotate for millions of years to give time for dust particles to clump together forming 'planetesimals'. Somehow these planetesimals defy Newtonian physics and gravity causes them to become planets.

### Star Formation

This is dependent upon the size of a gas cloud. If it can be shrunk below a critical point fusion will be triggered. In reality,  $F(\text{kinetic})$  of atoms  $> F(\text{gravity})$  meaning gas clouds are "stable against collapse". Some other mechanism is required to overcome the inherent kinetic energy of the colliding gas particles.

Observation of the Eagle Nebula (its tips) provided some help as they could be subject to compression forces (e.g. proximal supernova), squashing it against the rear. Stars are observed inside the nebula, however nobody can tell as it is a slow process over millions of years.

The fatal problem is a supernova is a massive star explosion-how did the first star form?

Another ingenious hypothesis is the convective cooling theory via dust particles. It is known these will absorb then radiate away heat from surrounding higher-temperature gases. Thin dust particles<sup>5</sup> are cooler than H<sub>2</sub> molecules, so by the second law of thermodynamics they absorb heat. This is really a refrigeration system.

From the 1834 Emile Clapeyron Ideal Gas Law:

Pressure (P) \* Volume (V)=Number of moles (n)\* Gas constant<sup>6</sup> (R) \* Temperature (T)

If T on the RHS falls, given a constant pressure (i.e., force from gravity) volume must reduce. Volume could then decrease enough for gravity to overcome kinetic energy triggering fusion.

The fatal problem is dust particles are formed from the fusion process inside of stars. Again, how did the first star form?

### Faint Young Sun Paradox

Observing other stars in the present of for comparison, it is in the middle of its life cycle, and 40% brighter than when it formed 4.5 Ga ago. When life evolved 3 Ga ago it would be 25% dimmer.

The problem is an evolutionary age is not consistent with increasing luminescence from nuclear fusion-it is far too faint.<sup>8</sup> Further, during the beginning of life a young sun would be incredibly violent with solar flare eruptions wiping out any 'life' on earth every few weeks.

Also, a young sun (i.e. 3 Ga ago) would emit far less heat meaning the average temperature on earth would have dropped ~17°C, from 15 today down to ~-2°C. Life could not 'evolve' on a frozen planet. One rescue attempt are *dual* miracles, greenhouse gas dissipation (CH<sub>4</sub> and NH<sub>3</sub>) and increasing solar temperatures (the latter substituting for the heat-effect of the former). Sunlight breaks down NH<sub>3</sub> so its concentration is in inverse proportion to the sun's rays.<sup>9</sup>

Finally, the sun may not actually be a star but a unique body. It is non-

normal, there are no known proxy stars, or “solar-analogs”<sup>7</sup>:

\*It contains a lot of lithium not matching other stars (no one knows what this means though!).

\*It is very stable.

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<sup>1</sup>As Genesis 1.16 says both were great lights, implying similar status or power, however the sun (as today) was the greater of the two (in brightness).

<sup>2</sup>A neutrino has zero electrical charge and zero rest mass.

<sup>3</sup>As gravity pulls towards an object's centre of mass.

<sup>4</sup>Comet ice has twice as much <sup>2</sup>H (deuterium-a rare but stable hydrogen isotope containing a neutron) as earth's water.

[http://www.esa.int/Our\\_Activities/Space\\_Science/Herschel/Did\\_Earth\\_s\\_oceans\\_come\\_from\\_comets](http://www.esa.int/Our_Activities/Space_Science/Herschel/Did_Earth_s_oceans_come_from_comets) , 20131208

<sup>5</sup>'Dust' particles include carbon, sulfur and iron elements.

<sup>6</sup>A combination of Boyle's, Charle's, Avogadro's and Gay-Lussac's laws, equal to 8.314462175J/mol\*K.

<sup>7</sup>Other sun-like bodies in the known universe.

<sup>8</sup>As the core shrinks and gains weight due to He production more energy is emitted.

<sup>9</sup>The hypothesis was thought of by the late evolutionist Carl Sagan.