

*"The heavens declare the glory of God" (Psalm 19:1)*

# REASONS TO BELIEVE - SEATTLE AREA CHAPTER

NEWS AND VIEWS

MARCH 2005

## What's Happening?

### Educators Conference

The chapter will have a booth at the NW Christian Educators Conference at Overlake Christian Church, March 11-12. This is a great opportunity to put RTB materials in the hands of local educators. Drop by our booth if you attend the conference.

### Habermas in Seattle

The chapter will be cosponsoring an event at the UW featuring Christian apologist Gary Habermas. He will be speaking on life after death and the resurrection of Christ. This event is tentatively planned for April 12th. More information to come on this.

### Upcoming Chapter Meeting

Our next meeting will be Saturday, April 23rd, at Calvin Presbyterian Church in Shoreline. The business meeting will begin at 8:30 A.M. Tentatively, Thomas Murphy, the anthropologist featured in the DNA vs. Book of Mormon video will speak from 9:00 to 10:30. Please join us.

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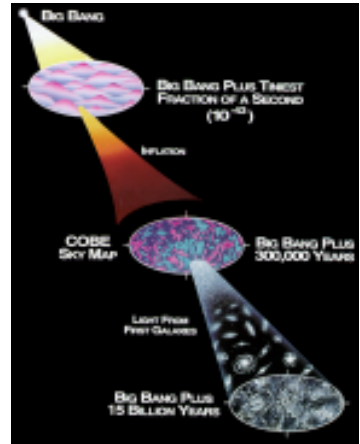
## Big Bang Buttressed

DAMIEN SPILLANE

William Lane Craig, renowned Christian apologist and philosopher of science states:

In the last 35 years, scientists have been stunned to discover that the big bang was not some chaotic, primordial event, but rather a highly ordered event that required an enormous amount of information. In fact, from the very moment of its inception, the universe had to be fine-tuned to an incomprehensible precision for the existence of life like ourselves. And that points in a very compelling way toward the existence of an Intelligent Designer.

The big bang, birthed as it was in the 20<sup>th</sup> century, certainly has endured its fair share of derision. Since its inception, atheists and naturalists have despised it, due no doubt to its strong indications of a personal and transcendent Creator. Ironically, certain religious groups also oppose the big bang because it challenges their sacred young universe dogma. But again and again the big bang theory is tested, and like a true champion, it emerges victorious every time. And, when the big bang wins, so does the Biblical worldview. For the central message of the Bible rests not on the age of the universe, but on the existence of a transcendent Creator who created the universe, meticulously crafting and fine-tuning it for the benefit of humankind.



The following is a brief summary of some of the findings that confirm the big bang theory and an ancient universe.

### COSMIC BACKGROUND RADIATION

In 1965, two Bell Lab scientists, Arno Penzias and Robert Wilson, discovered Earth was sandwiched between giant walls of near perfectly uniform microwave radiation. This cosmic background radiation (CBR) surrounds the Earth and is the fingerprint of

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# Why Science Apologetics Is So Important

MARK RAMBO

Our culture is dominated by a worldview that defines all religious and spiritual issues as personal, subjective, non-testable and non-rational, and limits truth to only that which exists in the natural realm and can be explained by natural mechanisms (i.e., naturalism, materialism, Darwinism). Nancy Pearcey—a Francis A. Schaeffer scholar at the World Journalism Institute—describes this worldview as the “secular/sacred divide.” The influence of this worldview is pervasive not only in science, but also in psychology, sociology, law and the humanities. There is little doubt young believers will be exposed to these ideologies in secular universities, certain departments of Christian colleges, as well as through the media, entertainment and general culture.



This was evident at the 2004 National Science Teachers Association (NSTA) Conference in Seattle. Most of the teachers who visited the Seattle RTB booth rejected supernatural causes, not due to a lack of evidence or because they believed naturalism has superior explanatory power, but on the philosophical grounds that any argument advocating supernatural causes was outside the realm of science. In fact, many felt RTB had no business being at the Conference. This is not to say these teachers had no spiritual beliefs

because the majority did. However, due to their commitment to the naturalistic worldview, they simply rejected the notion that “fingerprints” of their spiritual beliefs could be found in the physical world.

How can we prepare young believers for the deluge of this naturalistic ideology? According to Pearcey, it isn't enough to teach our kids personal devotions and morality: “Young believers also need a ‘brain’ religion-training in worldviews and apologetics to equip them to analyze and critique the competing worldviews they will encounter when they leave home.”<sup>1</sup> Pearcey states that every philosophy or ideology has to answer the same fundamental questions and these can be a good starting point for evaluating worldviews:<sup>2</sup>

- 1) Creation: How did everything start? Where did we come from?
- 2) Fall: What went wrong? What is the source of evil and suffering?
- 3) Redemption: What can we do about it? How can the world be set right again?

From a Christian worldview, creation is a willful act of an infinitely intelligent, powerful, and loving God. As a result, humanity derives its value, dignity and purpose from the Creator. The Creator desires a relationship with us, He has given us a moral code to follow, and He established institutions such as the church and family as support systems. However, man is sinful by nature, and evil and suffering are the result of our disobedience (sin). Therefore, the only way the world can be set right again is through a personal relationship with our Creator.

From a naturalistic/Darwinian worldview, everything must have a natural cause,

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## In the NEWS...

### [Sticker Shock](#)

This Christianity Today article discusses the recent court ruling that struck down a Georgia effort to place warning stickers in science textbooks stating evolution is a theory. Go to [www.christianitytoday.com/ct/2005/003/23.8o.html](http://www.christianitytoday.com/ct/2005/003/23.8o.html).

### [Keeping Love Hot](#)

This BreakPoint article discusses how non-believers should recognize Christians by their love and what we can do to keep that love from growing cold. Go to <http://www.pfm.org/AM/Template.cfm?Section=BreakPoint1&Template=/CM/ContentDisplay.cfm&ContentID=15452>.

### [Creation “Days” Discussion](#)

The John Ankerberg Show is featuring a discussion by Dr. Walt Kaiser and Dr. Hugh Ross titled, “Are the Genesis Creation Days 24 Hours or Long Periods of Time?” Listen to the show or purchase tapes at: [www.ankerberg.com](http://www.ankerberg.com). There are also other good resources on the site.

### [Scientific Reasons to Believe](#)

The Reasons To Believe website features new scientific findings that support the creation model. These findings are reported daily and archived by month. To view the archives, go to: [www.reasons.org/resources/new\\_reasons/index.shtml](http://www.reasons.org/resources/new_reasons/index.shtml).

### [Resources for Parents](#)

The Discovery Institute lists a number of resources for parents or school board members who are interested in improving the teaching of evolution in local schools. Go to: [www.discovery.org/csc](http://www.discovery.org/csc) and click on “key resources...” under science and education policy.

### [Science’s New Heresy Trial](#)

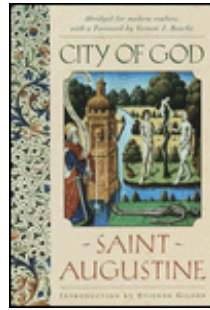
This article in World Magazine Online discusses how Rick Sternberg, the editor of a scientific journal associated with the Smithsonian Institute, has received the wrath of Darwinists for publishing Stephen Meyer’s paper on intelligent design. Go to: [www.worldmag.com/displayarticle.cfm?id=10344](http://www.worldmag.com/displayarticle.cfm?id=10344).

## Book Reviews

### City of God

Saint Augustine  
Doubleday, 1958

Reviewer: Greg Moore



Augustine (354-430), was one of the most prolific authors of antiquity and was responsible for over 113 books and 500 written sermons. Many regard him as the most influential Christian thinker after the Apostle Paul because he did more to develop the various doctrines of Christian theology than anyone else in the first 1,000 years of Church history.

*City of God* is Augustine's masterpiece. It was the very first philosophy of history ever written and introduced the world to a linear view of history. Some have said that no book except the Bible had a greater influence on the Middle Ages. Its influence is clearly stamped upon both great Roman Catholic and Protestant thinkers.

In this book (actually a compilation of 22 books), Augustine answers the pagans who attributed the fall of Rome (410) to the abolition of pagan worship. He begins by addressing the failure of the Roman pagan religion, arguing that paganism bore within itself the seeds of its own destruction. He then moves to the main theme of the book, a review of history as a struggle between good and evil. This he characterizes as a conflict between two great cities: the City of God and the Earthly City (city of the Devil).

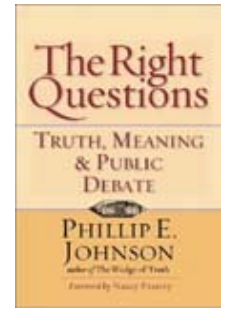
Although *City of God* was written over fifteen hundred years ago, it has much to say to us today because it looks at human history through the "eye glasses" of the Bible. It examines how the two great cities began, first through the actions of the angels, then through the Fall of Adam. Next, it examines how the cities developed throughout Biblical history. Finally, it examines how the two cities will end and the fate of their inhabitants.

I would highly recommend this book. I think it is critically important that we try to understand the thinking of the key church fathers, like Augustine, who shaped Christian theology. *City of God* is long but beautifully written. I should add that there are several versions/translations available. This particular one was first published in 1958.

### The Right Questions

Phillip E. Johnson  
Intervarsity Press, 2008

Reviewer: Seth Cooper



Phillip Johnson first brought the philosophical aspect of the origins controversy to light in the 1990s with *Darwin on Trial*. One reason the book engendered such a hostile reaction from secular scientists is it revealed how their views of life's origins are impacted more by their philosophical biases than the physical evidence. In this book, *The Right Questions*, Johnson continues his exposé of neo-Darwinism's continued dominance in academia through presuppositions and *a priori* commitments to naturalistic explanations of life's origin.

Given the immensely important scientific, social and cultural implications of neo-Darwinian evolution, Johnson believes we are entitled to have good reasons for believing it. We should also be allowed to question it. The problem is the naturalistic philosophy not only limits debate but the types of questions we can ask. Johnson explains his goal is not to persuade people evolution is not true, but to help them ask the right questions.

Is science the only source of knowledge or can theology also provide knowledge? Are the notions that testing and observation tell us the way things are based on prior first principles and philosophical commitments? If they are, why should we accept one set of principals over another? According to Johnson, naturalism has a monopoly to lose and will fight to keep it, but the public has everything to gain from a civil and open debate of these and other questions.

*The Right Questions* is something of a departure from Johnson's previous books in that it is a personal work. Some time ago, Johnson suffered a debilitating stroke. He describes his journey "through the shadow of the valley of death," as an experience that brought home to him the importance of life's ultimate purpose and meaning. It is an excellent resource for anyone who wants to challenge, or break free of, the naturalistic philosophy by learning to ask the right questions.

even if the actual evidence to support such a claim is sparse and questionable. Thus, there is no need for a Creator and such things as morals and family are simply human constructs and the result of evolutionary processes. These things are subject to change and should not to be taken as absolutes. The problem with this view is there is no value or purpose for human life. Nor does it offer a satisfactory explanation or solution to the problem of evil and suffering.

The need for science apologetics for young believers is apparent (especially in dealing with issue of origins). Young believers need to understand why they believe. As C.S. Lewis put it:

“Christianity is not a patent medicine. Christianity claims to give an account of facts – to tell you what the real universe is like. Its account of the universe may be true, or it may not, and once the question is really before you, then your natural inquisitiveness must make you want to know the answer. If Christianity is untrue, then no honest man will want to believe it, however helpful it might be. If it is true, every honest man will want to believe it, even if it gives him no help at all.”

So, what can you do? First, you need to spend some time educating yourself in the area of science apologetics. This can sound intimidating to parents, especially those who are not strong in the sciences. However, with the resources available today, it needn't be. There are many good websites, books and videos to help you in this area. Here are just a few:

- Websites – [www.reasons.org](http://www.reasons.org), [www.discovery.org/csc](http://www.discovery.org/csc), [www.arn.org](http://www.arn.org), [www.evidence.info](http://www.evidence.info), [www.leaderu.com](http://www.leaderu.com).
- Books – *Finger Print of God* by Ross, *The Creator and the Cosmos* by Ross, *Origins of Life* by Rana & Ross, *Of Pandas and People* by Davis, Kenyon & Thaxton, *The Privileged Planet* by Gonzales & Richards, *Guide to How it all Began* by Bickel & Jantz, *Darwin's Black Box* by Behe, *Icons Of Evolution* by Wells, *Why I Am A Christian* by Geisler & Hoffman.
- Videos – *Journey Toward Creation* (RTB), *The Privileged Planet* (Illustra Media), *Unlocking The Mystery Of Life* (Illustra Media), *The Cambrian Explosion* (ARN), *Icons of Evolution* (Illustra Media).

Second, make your kids aware of the large number of evidences that point to a Creator. The good news is the more God has allowed man to investigate the physical realm we live in, the more apparent His “fingerprints” are. The heavens do declare the glory of God! For example:

- Origin of the Universe – The vast majority of astronomers now agree that time, space, matter, and energy had a beginning. Therefore, the universe must have a Causal Agent that existed before and outside the space-time of universe. Of all the holy books of the world's religions, only the Bible speaks of a transcendent Creator.

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## Apologetic TOOLS

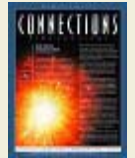
### [Creation Update Webcast](#)

Join Hugh Ross each Tuesday, 11:00 AM to 1:00 PM (PT), for an exciting discussion about how the latest scientific discoveries provide powerful evidence for the God of the Bible. Listen live through the RTB website. You can also listen to and download past episodes from the website.



### [Free Newsletter](#)

RTB's newsletters are full of great articles on science and the Bible. They also provide updates on what's happening at the ministry. To subscribe, go to the RTB website and register. Once registered you can search and print past issues by clicking on the newsletter icon.



### [Message of the Month](#)

Get fresh, faith-building messages each month while providing vital financial support to the RTB ministry.



This year's series is titled, “Adam: Miracle, Myth or Monkey?” Available on CDs. To learn more about the program, contact the chapter for a free tape or CD. Or, go to the RTB website and click on the M.O.M. icon.

### [New Tract-Like Brochures](#)

RTB has introduced four new brochures for evangelism and initiating science and the Bible discussions. Topics include: How Did Life Emerge, What the Big Bang Says about God and Design, Is the Universe Designed for Humanity, and How Long Were the Creation Days. \$3 for a pack of 20 (one kind or 5 of each). Order at 1-800-482-7836.



### [RTB Training Course](#)

Take RTB's Science and Evangelism Correspondence Course and become an official RTB apologist. The course retails for \$350 but is available through the chapter for \$150. Course materials include audiotapes or CDs, two videos (VHS or DVD) and seven books. For more information, contact the Seattle chapter. Scholarships are available from the chapter.



- Fine-Tuning of the Laws of Physics – Human life depends on physical constraints, laws and properties that must fall within an extremely narrow range. The more scientists learn about the requirements for human life, the more they conclude the universe has been “fine-tuned” for human life. The odds of this occurring by chance are so small they can be considered impossible.
- Probability of an Earth-like Planet – The uniqueness of Earth’s size, liquid iron core, its location in the solar system and galaxy, type of star/sun and moon, and many other parameters, have led scientist to conclude Earth is an extremely rare place. Many scientists believe there is a high probability that there are no other Earth-like planets in the entire universe.
- Origin of Life – The evidence indicates there was no primordial soup of pre-biotic material from which life could have arisen naturally. It also indicates the environment of the early earth was hostile to any natural chemical mechanism by which pre-biotic molecules could have self-assembled into primitive life. Presently, there is no agreed-upon mechanism by which life could have evolved.
- Complexity of Life – Research indicates life requires a minimum of about 1,500 proteins to exist independently. Biophysicist Hubert Yockey<sup>3</sup> has calculated the probability of one protein, cytochrome C, developing naturally as 1 chance in  $10^{75}$ . The odds of all of the necessary proteins arising naturally to form even minimal life forms far exceeds  $10^{50}$ , the universal probability bound.<sup>4</sup>
- Genetic Code – Encoded information indicates intelligence beyond the mere presence of information. An intelligent being must develop and employ the code. The cell’s information exists in a coded format that defines the cell’s information system.<sup>5</sup> There is no explanation for how this code could have arisen naturally.
- Lack of Transitional Forms - The widely held assumption is that the fossil record supports evolution. However, the fossil record shows the sudden appearance of major new animal types (phyla) with unique body plans, not a history of gradual changes as primitive organisms evolved into more complex organisms. These sudden appearances support the creation model.
- Irreducible Complexity – This refers to the fact that systems are comprised of numerous components, all which must be present and must interact precisely for the system to function. For example, the cell’s biochemical systems are irreducibly complex.<sup>6</sup> Darwin’s model of slow progressive steps is invalidated by irreducible complexity since the individual components of a system serve no purpose unless all of the components are present.

## RTB Resources

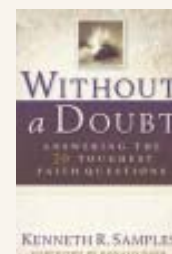
In this new book, *Origins of Life: Biblical and Evolutionary Models Face Off*, Hugh Ross and Fuz Rana reveal how life’s beginnings can be tested. They examine the latest origin-of-life research and explode the myth of a naturalistic origin of life. *Intermediate/Advanced, Hardback, US\$ 12.95.*



The length of time represented by the word “day” in the Genesis creation account is a source of controversy in the Christian church. In this new book, *A Matter of Days*, Hugh Ross explores how this controversy developed and addresses many of the key issues of the debate. *All Readers, Paperback, US\$ 9.95.*



In this new book, *Without a Doubt*, RTB philosopher and theologian Ken Samples gives readers a great apologetics handbook. The question-and-answer format is easy to follow and addresses 20 prominent issues skeptics raise about God, the Bible and Christianity. *All Readers, Paperback, US\$ 9.95.*



Does the Bible teach the earth is 10,000 years old? How does science and the book of Genesis relate? In *The Genesis Question*, Hugh Ross examines these and other issues from an old-earth creationist perspective. A great book to share with Christians and skeptics. *All Readers, Paperback, \$US 9.95.*



Is life in the universe common or rare? What are the odds of finding other Earth-like planets? Take an amazing journey as Hugh Ross examines how the universe has been meticulously fine-tuned for human life using state-of-the-art computer animation. *All Viewers, VHS or DVD, \$US 19.95.*



RTB Webstore - <http://store.reasons.org>

the hot dense plasma that once filled the universe.

After the big bang, there was nothing but a blinding amorphous glow of light for about 380,000 years. There were no galaxies or stars during this era and the universe consisted of a sea of charged particles, neutral particles and photons (light particles). At the 380,000-year mark, the universe cooled enough for electrons to link up with nuclei, and the photons in the plasma were able to escape. This period is known as the point of “recombination” and the photons from this era are present today for cosmologists to study. It is similar to opening a hot oven door. After a while, the heat dissipates into the room, leaving behind a residual temperature increase.

Beginning in 1965, measurements of the CBR strongly indicated an almost perfect “black-body radiator.” The 1990’s saw these results confirmed to an even greater degree. The requirements for such a condition are a very high temperature where a system generates its own heat. The light must also experience a very high degree of interaction within the system before it escapes. Stars fulfill such requirements because the insides of their bodies are opaque to light, due to the fact that they contain high-energy plasma where the photons are trapped inside a cage of charged particles. However, stars do not meet the black-body radiator requirements to the extent the CBR does. When the universe was young, it would have contained nothing but a sea of charged particles and photons, and no light particles could have escaped until the 380,000-year mark. Thus, the universe was a perfect generator of its own radiation. This is why the black-body character of the CBR spectrum was such a powerful confirmation of the big bang theory. *No other phenomena, other than the birth of the universe and its subsequent cooling down, could fulfill such requirements.*

The early plasma also contained some areas that were denser than others. These corresponded with the hot patches in the CBR maps. Like sound waves ripping through the air, the various patches of charged particles would oscillate between high and low density. The size of the patches would depend on what sort of geometry made up the early universe. The geometry, in turn, is dictated by the amount of matter in the universe. Because the universe is governed by the equations of general relativity, the amount of matter will influence its space-time curvature. The value of the omega point at 1.0 represents the threshold between the universe being closed (shaped like a sphere) or open (like a horse saddle, also known as hyperbolic). Another name for the omega point is the critical density. A value of less than 1.0 leaves an open universe, a value greater than 1.0 leaves a closed universe, whereas if the mass density of the universe is equal to 1.0, we have a flat universe.

About 10 years after the ground breaking COBE discoveries (i.e., the Cosmic Background Explorer satellite that first verified the CBR), the Boomerang, DASI and MAXIMA experiments analyzed the

CBR to an even greater degree of precision. While COBE did not possess the capacity to precisely measure the anisotropies (hot to cold patches), the new generation of probes did. The results painted a picture of the early plasma consistent with that expected of a flat geometry universe. The new maps also gave a figure for the baryon content (stuff made up of protons and neutrons) in the universe at 0.05 and the total matter (baryons plus exotic matter such as neutrinos) at 0.3 of critical density. *This was powerful confirmation of the results revealed by other, totally independent methods such as Big Bang Nucleosynthesis theory (BBN).* BBN predicts a baryon density of 0.05 for a universe with the mass ratio of 24 percent helium and 76 percent hydrogen. Measurements of the ratio of helium to hydrogen, as well as deuterium and lithium abundances in some of the oldest stars in the universe reveal a baryon density very close to that found in the CBR.

The maps also suggested the dominance of “dark energy,” a mysterious force that acts to repel the galaxies away from each other (otherwise known as the cosmological constant). This dark energy, however, had already left its mark on previous experiments. In the late 1990’s, measurements of the red shifts of light from distant supernovas were taken over various epochs in the universe’s history. The expectation of astronomers was that the expansion rate of the universe (encoded in the red shifts) would prove to be decelerating over time. However, they were shocked to discover that several billion years after the beginning, the expansion went from deceleration to acceleration. This was suggestive of a dominant dark energy value that contributed significantly to the critical density of the universe. The supernova experiment was very valuable, as it was an exhaustive measure of the expansion of the entire universe, from the beginning to the present. And even with the surprise dark energy thrown into the mix, the experiment results were beginning to merge into a consistent picture. However, the best was yet to come.

On top of this, astronomers used the powerful Keck Telescope in Hawaii to measure the CBR at great distances out into space. Because light takes time to travel, the further we look out into space, the longer the light has taken to reach us, and hence the earlier the view of the universe. For example, if we measure the light from the sun, we are observing a sun that is eight minutes younger than it really is because it takes the light eight minutes to reach the earth. If we measure the light from distant phenomena in space that are 5 billion light years away, then we are observing the universe as it was 5 billion years ago. Where this becomes a test for the big bang theory is that we would expect the temperature of the CBR to be higher the closer it is to the creation event, just as a freshly opened oven will yield a higher temperature at a shorter distance to the oven. What have the studies revealed? *Astronomers*

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have indeed witnessed a greater temperature at earlier epochs in the universe's history. Thus, the cooling down of the universe has been witnessed.

- i) Bennett, Charles, "Wilkinson Microwave Anisotropy Probe," NASA, 2004, <[http:// map.gsfc.nasa.gov/](http://map.gsfc.nasa.gov/)> (October 23, 2004)
- ii) Ross, Hugh, "A Beginner's and Expert's Guide to the Big Bang: Sifting Facts from Fictions," *Facts for Faith*, Vol. 3, 2000, <[www.reasons.org /resources/fff/ 2000issue03/ index.shtml#beginner\\_expert\\_guide \\_big \\_bang](http://www.reasons.org/resources/fff/2000issue03/index.shtml#beginner_expert_guide_big_bang)> (October 26, 2004).

#### WILKINSON MICROWAVE ANISOTROPY PROBE

Orbiting over 930,000 miles from earth, the Wilkinson Microwave Anisotropy Probe (WMAP) boasts the most extensive capacities to date for measuring the radiation left over from the creation event. Here is how the elaborate technology of the new space-based telescope is described by the official website of the WMAP:

The most prominent feature is a pair of back-to-back telescopes that focus the microwave radiation from two spots on the sky roughly 140° apart and feed it to 10 separate differential receivers that sit in an assembly directly underneath the optics. Large "elephant ear" radiators provide cooling for the sensitive amplifiers in the receiver assembly. The bottom half of the spacecraft provides the services necessary to carry out the mission including command and data collection electronics, attitude (pointing) control and determination, power services and a hydrazine propulsion system. The entire observatory is kept in continuous shade by a large deployable sun shield that also supports the solar panels.<sup>1</sup>

For the first time ever, WMAP was able to obtain a detailed analysis of the CBR over the entire sky. The radiation WMAP picked up were the photons that left the early plasma and now, billions of years later, those photons have been stretched by the ever expanding universe where they now abide in the microwave end of the electromagnetic spectrum (longer and hence less energetic). The hot and cold patches were now visible to an extremely high degree of precision.

The WMAP results confirmed the previous Boomerang and MAXIMA balloon experiments, the data suggesting the universe can be described by a flat spatial geometry. The significance of this finding was that it painted a similar picture of the universe as previous experiments. For example, the WMAP results gave us a figure for the baryonic matter in the universe of 0.04 of the critical density, and the total mass density at 0.27. The baryonic figure was consistent with the Big Bang Nucleosynthesis theory (BBN) results and both the baryonic and total mass density figures agreed with previous analysis of the CBR. The dark energy density term was also detected at 0.73. This result resonated with the previous CBR maps and the supernova experiments.

WMAP also gave us a relatively accurate figure for the Hubble constant, based on the CBR anisotropies, at 71 km/sec/mpc. The fundamental tool for Hubble constant measurements up until this point was the Hubble Key Project. With unprecedented accuracy it measured the distance to various cosmic standard candles, in this case Cepheid variables, and in 1999 came up with a Hubble constant of 72 km/sec/mpc—yet another success story for the big bang theory.

- i) "The Hubble Key Project," 2001, <[www.ipac.caltech.edu/ Hokp/HoKeyProj.html](http://www.ipac.caltech.edu/Hokp/HoKeyProj.html)> (October 26, 2004)
- ii) Charles Bennett, "Wilkinson Microwave Anisotropy Probe," NASA, 2004, <<http://map.gsfc.nasa.gov/>> (October 23, 2004).

#### THE SLOAN DIGITAL SKY SURVEY

Large-scale galaxy maps provide another rigorous test for the big bang theory. The Sloan Digital Sky Survey (SDSS) is a recent and ambitious attempt to measure the velocities, distances and positions of nearly a million galaxies. The first data from the SDSS uncovered some telling aspects of the universe.

The large-scale galaxy maps provide a general picture of the mass distribution in the universe. In this way, they serve to complement the sky maps from WMAP: they show the dense areas compared to the not-so-dense areas from our era in the universe, while the CBR measures the density distribution from a very early epoch in the universe's history. Thus, the two tests (i.e., SDSS and WMAP) serve as independent witnesses from two very separate epochs in the universe's history; both, however, are presenting very consistent data. The SDSS gave us a figure of 0.05 baryons, a total mass density of 0.3 and the dark energy density filling in the rest for a flat universe at 0.7. The SDSS also gave a Hubble constant value of 70km/sec/mpc. It seems the galaxy maps have gifted astronomers with a new addition to an already amazingly consistent picture for the birth of the universe. The situation is summed up by SDSS researcher, Max Tegmark: "Different galaxies, different instruments, different people and different analysis—but the results agree."

- i) "Sloan Digital Sky Survey," 2004, ARC, <[www.sdss.org/](http://www.sdss.org/)> (October 23, 2004).

#### AGE OF THE UNIVERSE

Given that the age of the universe is 13.7 billion years old (+/- 0.2 billion) based on WMAP, and the first production of stars occurred about 200 million years after the big bang (also based on WMAP), by simple deduction we would expect that the oldest stars would be about 13.5 billion years in age. So, what are we seeing? Various independent methods based on cool down rates of white dwarfs, radiometric decay and main sequence drop off methods, are all

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confirming that the oldest stars are between 13 and 14 billion years in age. As if this were not impressive enough, the SDSS also yielded an age of 14.1 billion years (+/- 0.9 billion). Results from the Hubble Key Project placed the age of the universe at 12 billion years, however the figure had to be adjusted upward since the earlier epoch (due to the dark energy) in the universe's history was found to be expanding slower than the present.

- i) "Sloan Digital Sky Survey, 2004, ARC, <<http://www.sdss.org/>> (October 23, 2004)
- ii) Bennett, Charles, "Wilkinson Microwave Anisotropy Probe," 2004, NASA, <<http://map.gsfc.nasa.gov/>> (October 23, 2004)
- iii) Wright, Edward, "Age of the Universe," 2004, <<http://www.astro.ucla.edu/~wright/age.html>> (October 23, 2004).

## POLARIZATION

Polarization is another check that astrophysicists can use to probe the period of recombination. The firewall surface of the period of last scattering (the point of recombination) would polarize the photons to parallel with the last scattering surface. Polarized light is where its electric and magnetic fields vibrate, for the most part, in one direction. To understand polarization, think of a pair of children wiggling a jump rope vertically (up and down). Now imagine that they start to wiggle it from side to side (horizontal, in other words). This is a similar concept to the polarization of light waves. Polarization gives cosmologists a more detailed understanding of the amount of "stuff" in the universe and how it was distributed. In September of 2002, the DASI telescope at the South Pole detected the level and distribution of polarization in the CBR. To quote the research paper: "The polarization is detected with high confidence, and its level and spatial distribution are in excellent agreement with the predictions of the standard theory."<sup>2</sup>

- i) Ross, Hugh, "Big Bang Passes Big Test," *Connections*, 2003, Vol. 5, no.2, <[www.reasons.org/resources/connections/2003v5n2/index.shtml#big\\_bang\\_passes\\_big\\_test](http://www.reasons.org/resources/connections/2003v5n2/index.shtml#big_bang_passes_big_test)>.

## CONCLUSION

According to Stephen Hawking, the renowned astrophysicist, "Almost everyone now believes the universe, and time itself, had a beginning at the big bang." In philosophy, one of the ways to determine the truth of a theory is through coherence.<sup>3</sup> If the various lines of evidence are all in agreement, then you can be sure you have an accurate theory. It wouldn't be rational to think the CBR maps would yield the same data on the parameters of the universe as the SDSS galaxy maps and the BBN theories, and yet remain totally void of any accuracy in describing the fundamentals of the universe. Nor would we expect the

age estimates based on the Hubble constant to be in such terrific accord with the various methods of stellar age determination, if the model was totally lacking in scientific validity and soundness. Different tests cannot produce concordant results time and time again by pure chance or 'blind luck'.

In the face of such overwhelming evidence, there are very few cosmologists today who would not grant assent to the hot big bang theory. In spite of this, some Christians continue to claim the big bang theory is not valid and simply the product of the biased researchers.<sup>4</sup> It baffles me how the evidence can be so easily dismissed when the hard, objective data that flows from the instruments cannot be skewed by philosophical presuppositions. The results and the experiment details are laid out for all to see in the research papers, there is no way the data could be "fudged" to agree with previous experiments to such a precise extent (which must also be "fudged"). Remember that we have different experiments focusing on different parts of the universe, conducted in different countries across the world that all support the big bang model.

As Christians, we should be thankful the Creator has provided researchers the means for deciphering the complexities of the universe. The big bang is a powerful weapon in our arsenal against naturalism, for it agrees with the Bible's claim of a sovereign Creator with the capacity to transcend the space-time boundaries of the universe. This puts us in a strategic position to offer the reality of a God who performs transcendent miracles, and from there, the greatest of all miracles: the resurrection.

For more information I recommend *Alpha and Omega: The Search for the Beginning and the End of the Universe* by Charles Seife as an excellent overview of the big bang theory and some of its latest successes. I also recommend Hugh Ross' *The Creator and the Cosmos* and *A Matter of Days* for an overview of how the big bang supports the Christian faith.

*This article was written by Damien Spillane and appeared in ozreasons, the newsletter of the Australian branch of Reasons To Believe. Their website is [www.ozreasons.org](http://www.ozreasons.org).*

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2. Kovac, J.M., et al., "Detection of Polarization in the Cosmic Microwave Background Using DASI," *Nature*, 420, 2002, pp. 772-87.
3. Nash, Ronald, *Life's Ultimate Questions: An Introduction To Philosophy*, (MI, Zondervan, 1999), p. 229.
4. Harnett, John, "Surprise? NASA 'Confirms' the Big Bang," <[www.answersingenesis.org/docs2003/0214nasa\\_bigbang.asp](http://www.answersingenesis.org/docs2003/0214nasa_bigbang.asp)> (February 28, 2005).



- Parameters Designed for Discovery – This is something pointed out in the book, *Privileged Planet*. It appears the same finely-tuned parameters required for human life have also been designed for optimal scientific discovery.<sup>7</sup> The best explanation for this is they were created by a Being who wants to be known.

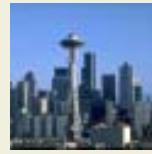
Third, communicate with your kids on a regular basis to find out what they are being taught and what questions it is raising about their faith. Don't assume your kids "know better." Kids are impressionable and can be easily swayed by authority figures. By helping young believers to examine issues/questions through Christian "eyeglasses," they will be better able to see the flaws of the naturalistic/Darwinian worldview.

One of our goals at the Seattle Chapter is to focus on youth. If you or your kids have questions, please feel free to contact us at [seattle@reasons.org](mailto:seattle@reasons.org). We also do free presentations to groups. This might include homeschool groups, school science clubs, or church youth groups. Please contact us if you might be interested in having one of our apologists speak to your group.

*Mark Rambo is a civilian employee of the Navy. He is a trained apologist and coordinates the Seattle Chapter's involvement in local conferences.*

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1. Nancy Pearcey, *Total Truth Liberating Christianity from Its Cultural Captivity* (IL, Crossway Books, 2004), p. 19.
2. Ibid., p. 25.
3. Hubert Yockey *Information Theory and Molecular Biology* (UK, Cambridge University Press, 1992), pp. 246-257.
4. William A. Demski, *The Design Revolution* (IL, Inter Varsity Press, 2004), p. 84. Demski estimates there are  $10^{80}$  elementary particles in the universe, transition from one physical state to another cannot occur faster than  $10^{45}$  times per second, and the universe is about a billion times younger than  $10^{25}$  seconds. Thus, the total number of events throughout cosmic history cannot exceed  $10^{80} \times 10^{45} \times 10^{25} = 10^{150}$ .
5. Fazale Rana and Hugh Ross, *Origins of Life* (CO, Nav Press, 2004), p. 224.
6. Ibid.
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## Seattle Chapter Reasons To Believe

### Who Are We?

The Seattle Chapter of Reasons To Believe is a local extension of the worldwide, interdenominational Reasons to Believe ministry. We exist to support our parent organization and foster local involvement in the ministry. We serve the Puget Sound area and are composed of Christians of different ages and backgrounds.

It is our conviction the same God who created the universe inspired the Bible. Therefore, what God says through His word must agree with the facts of nature. We reject the notion that science and the Bible are at odds and seek to provide a scientifically-sound and Biblically-faithful alternative to Darwinism and young-Earth creationism.

### What Do We Do?

Our mission is to remove the doubts of skeptics and strengthen the faith of believers. We provide scientific, historical and philosophical evidence that supports the Christian worldview and helps remove barriers to a belief in God, the Bible and the Gospel of Jesus Christ. We carry out this mission by:

- Helping people access RTB and other scientifically and biblically sound resources.
- Bringing nationally-known speakers into the area to promote the scientific reliability of the Bible.
- Assembling a team of local apologists to address questions about science, the Bible and related topics.
- Working with teachers and homeschoolers to achieve a balanced approach to the teaching of origins.
- Building alliances with local churches, ministries and groups to maximize the exposure of the RTB ministry.
- Reaching out to unbelievers with gentleness and respect, encouraging them to evaluate their worldviews.

We welcome your involvement and support. For more information, contact us at [seattle@reasons.org](mailto:seattle@reasons.org). Your tax-deductible donations can be sent to: Seattle RTB, PO Box 99683, Seattle, WA 98139-0683.

## Questions? Get Answers.

Whether you are looking for scientific support for your faith or answers to questions about God, the Bible, and science, contact us at [seattle@reasons.org](mailto:seattle@reasons.org). You can also call the RTB hotline seven days a week, 5:00 to 7:00 PM at 626-335-5282.