The Creator and the Cosmos

How the Latest Scientific Discoveries Reveal God

By: Hugh Ross

ysiص مُختصر لمخحتوى الكتاب:

من أهمّ كُتُبّ «هيو روس» على الإطلاق!

في هذا الكتاب يُبيّن «هيو روس» الدلالة الفلسفية والإيمانية لنظرية الانفجار الكبير، ويبدأ بعرض تاريخي
للانتقال من نظرية الكون الأزلي المُستقرّ إلى نظرية الانفجار الكبير الذي يقول ببداية زمنية محدودة للكون.

يُبيّن «هيو روس» بجيء الرابط القوي بين النظرة الفلسفية والنظرية العلمية، ويُوضّح أنَّ العلماء يُحاولون
الدَّفاع عن بعض النظريات العلمية من أجل أهداف فلسفية إيمانية، وليس من أجل الوصول للحق، وهكذا بعد أن
يشرح «هيو روس» كيفية سقوط نظرية الكون الأزلي المُستقرّ وصعود نظرية الانفجار الكبير على الساحة، يُبيّن «هيو
روس» للقارئ الدُّلائل الإيمانية والفلسفية لنظرية الانفجار الكبير، وأنَّها تُشير إلى خالق كائن فوق الوجود المادي
ومُتعالٍ عليه، وأنَّه هو الذي خلق الكون من عدم المطلق.

وبعد عرض هذه الدلالات، يُبيّن «هيو روس» تعاونات العلماء في الهروب منها من خلال ابتكار نظريات
كونية أخرى تنفي حدوث الكون وتقول بآليته، ومع عرض أهم هذه النظريات المخالفة يقوم «هيو روس» بالرد
عليها ونقدها وبيان بطلانها علمياً.

من الجدير بالذكر أن الكتاب مليء بالشواهد من النشرات العلمية لدلالة على صحة نظرية الانفجار الكبير،
وبطلان النظريات الأخرى التي تقول بأزليته الكون، بالإضافة إلى تخصيص فصل كامل لمناقشة آراء «ستيفن هوكينج»
الفيلسوفية عن الكون ونشأته، والرد على ادعاء خلق الكون من لا شيء على طريقة الفراغ الكمي، مع إفراد مساحة جيدة للكلام حول الإشكاليات المثارة بخصوص ميكانيكا الكم، والرد على دعوى الأكوان المتعددة في مقابل الضبط الدقيق، مع إفراد فصل كامل لشرح مثير للاهتمام حول إشكاليات ميكانيكا الكم، بالإضافة إلى فصل كامل ناقش فيها بعض المواضيع الخاصة بنظرية التطور.

يُحاول "هيو روس" في كثير من كتاباته إقناع القارئ المسيحي بأن نظرية الانفجار الكبير في صالح المؤمنيِّ بوجود الله لأنه يقول بحدوث الكون، وفي الوقت نفسه يجد أن الكثير من المسيحيين يرفضون هذه النظرية بسبب أنها تقول بأنَّ الكون عمره يُعدّ بمليارات السنيِّ، وقد ناقش "هيو روس" مسألة عمر الكون من خلال نصوص الكتاب المقدس في كتابه الذي عصرناه سابقاً "مسألة أيام"، أما في هذا الكتاب، فإنه يُقدم في الملحق عرضاً لأهم الأدلة العلمية التي على أساسها تم قبول نظرية الانفجار الكبير، وهذا الملحق من أنفع ما يكون، فإنَّنا نجد أيضاً بعض المسلمين المتخوًّفين من قبول النظرية لأسباب مختلفة، لعل من أهمها سوء فهمهم للنظرية، بالإضافة إلى إشكالية دائرة حول موضوع أن يكون عمر الكون بمليارات السنيِّ! وقد عالج "هيو روس" هاتين المسائلتين في هذا الكتاب وفي كتابه السابق أيضاً "مسألة أيام".

Chapter One: The Awe-Inspiring Night Sky

- Cosmology is the study of the universe as a whole—its structure, origin, and development. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Location 96). Reasons To Believe. Kindle Edition.]

- In the words of historian, economist, and college president Dr. George Roche, “It really does matter, and matter very much, how we think about the cosmos.” Roche’s point is that our concept of the universe shapes our worldview, our philosophy of life, and thus our daily decisions and actions. [George Roche, A World Without Heroes: The Modern Tragedy (Hillsdale, MI: Hillsdale College Press, 1987), 120.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 97-100). Reasons To Believe. Kindle Edition.]
• if the universe is not created or is in some manner accidental, then it has no objective meaning, and consequently, life, including human life, has no meaning. A mechanical chain of events determines everything. Morality and religion may be temporarily useful but are ultimately irrelevant. The Universe (capital U) is ultimate reality. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 100-102). Reasons To Believe. Kindle Edition.]

Chapter Two: My Skeptical Inquiry

• Just to be fair and not to build a case on second-hand resources, I determined to investigate for myself the holy books of the world’s major religions. I figured if God, the Creator, was speaking through any of these books (I presumed He was not), then the communication would be noticeably distinct from what human beings write. I reasoned that if humans invented a religion, their message would contain errors and inconsistencies, but if the Creator communicated, His message would reflect His supernature. It would be consistent like nature is. I chose history and science as good ways to test the revelations on which various religions are based. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 163-167). Reasons To Believe. Kindle Edition.]

• It took me a whole evening just to investigate the first chapter. Instead of another bizarre creation myth, here was a journal-like record of the earth’s initial conditions—correctly described from the standpoint of astrophysics and geophysics—followed by a summary of the sequence of changes through which Earth came to be inhabited by living things and ultimately by humans. The account was simple, elegant, and scientifically accurate. From what I understood to be the stated viewpoint of an observer on Earth’s surface, both the order and the description of creation events perfectly matched the established record of nature. I was amazed. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 174-178). Reasons To Believe. Kindle Edition.]

• I was now convinced that the Bible was supernaturally accurate and thus supernaturally inspired. Its perfection could come only from the Creator Himself. [Hugh Ross, The Creator and the Cosmos: How the Latest
Chapter Three: Big Bang - The Bible Taught It First!

- People in the second group hate the big bang because they mistakenly think it argues for rather than against a godless theory of origins. They associate “big bang” with blind chance. They see it as a random, chaotic, uncaused explosion when it actually represents exactly the opposite. They reject the date it gives for the beginning of the universe, thinking that to acknowledge a few billion years is to discredit the authority of their holy books, whether the Koran, the Book of Mormon, or the Bible. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 295-298). Reasons To Believe. Kindle Edition.]

Chapter Four: The Discovery Of The Twentieth Century


- According to science historian Frederic B. Burnham, the community of scientists was prepared to consider the idea that God created the universe “a more respectable hypothesis today than at any time in the last hundred years.” [David Briggs, “Science, Religion, Are Discovering Commonality in Big Bang Theory,” Los Angeles Times, 2 May 1992, B6–B7.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 354-356). Reasons To Believe. Kindle Edition.]

Chapter Five: Twenty-First Century Discoveries

- In the words of physicist Lawrence Krauss, a self-described atheist, the cosmological constant “would involve the most extreme fine-tuning problem [4]

- Establishing that the expansion of the universe is governed by two factors, mass density and space energy density, points to an astonishing degree of fine-tuning. In fact, for life to be possible in the universe, that is, to obtain the stars and planets necessary for physical life, the value of the mass density must be fine-tuned to better than one part in $10^{60}$ and the value of the space energy density to better than one part in $10^{120}$. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 717-721). Reasons To Believe. Kindle Edition.]


Chapter Six: Einstein’s Challenge

Einstein brushed past their objection, a valid one, by raising the paradox of God’s omnipotence and man’s responsibility for his choices: If this Being is omnipotent, then every occurrence, including every human action, every human thought, and every human feeling and aspiration is also His work; how is it possible to think of holding men responsible for their deeds and thoughts before such an almighty Being? In giving out punishment and rewards He would to a certain extent be passing judgment on Himself. How can this be combined with the goodness and righteousness ascribed to Him? [Albert Einstein, Out of My Later Years (New York: Philosophical Library, 1950), 27.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1093-1098). Reasons To Believe. Kindle Edition.]

**Chapter Seven: Closing Loopholes: Round One**

- The battle was on to protect certain belief systems, especially evolutionism (the belief that inorganic material evolves into simple cells and later into advanced life without any input from a divine Being), and to defeat the notion of a beginning, with its obvious implications. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1145-1146). Reasons To Believe. Kindle Edition.]

- In the clash between the steady state and big bang models, however, we witness the apparent irony that new evidences for the evolution of the universe actually establish that the universe was created in the relatively recent past. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1209-1211). Reasons To Believe. Kindle Edition.]

- In the physical sciences evolution typically is defined as change taking place with respect to time. Such a definition is theologically neutral. No claim is made as to whether the observed changes are naturally driven or supernaturally driven. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1211-1213). Reasons To Believe. Kindle Edition.]
• The theological thrust of the steady state models was that no personal involvement from God was necessary to explain our existence. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1215-1216). Reasons To Believe. Kindle Edition.]

• The prestigious British journal Nature published this statement from physicist John Gribbin: The biggest problem with the Big Bang theory of the origin of the Universe is philosophical—perhaps even theological—what was there before the bang? This problem alone was sufficient to give a great initial impetus to the Steady State theory; but with that theory now sadly in conflict with the observations, the best way round this initial difficulty is provided by a model in which the universe expands from a singularity [that is, a beginning], collapses back again, and repeats the cycle indefinitely. [John Gribbin, “Oscillating Universe Bounces Back,” Nature 259 (1976): 15–16.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1295-1300). Reasons To Believe. Kindle Edition.]

Chapter Eight: Closing Loopholes: Round Two


• however, all the evidence, both observational and theoretical, points in the opposite direction. Even with the consideration of exotic matter, the total mass falls considerably short of what would be needed to force an eventual collapse of the universe. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1327-1328). Reasons To Believe. Kindle Edition.]

• But missing mass is not the only difficulty. Even if the universe did contain enough mass to reverse its expansion and even if a bounce mechanism were discovered or devised theoretically, the number of bounces or oscillations would be limited because of entropy (energy degradation). [Hugh Ross, *The
With every passing year during the past dozen, the observational evidence for a universe that continues to expand forever grew stronger and stronger while the evidence for a universe that subsequently collapses grew weaker and weaker. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1348-1350). Reasons To Believe. Kindle Edition.]


**Chapter Nine: Science Discovers Time Before Time**

- Lerner notes that the laws of nature cannot explain the amazing advance in complexity of living organisms that has taken place on Earth over the past 4 billion years. [193] He acknowledges that this advance stands in violation of the second law of thermodynamics, which says that systems tend to degrade from higher levels of order, complexity, and information to lower levels of order, complexity, and information. [Eric J. Lerner, *The Big Bang Never Happened* (New York: Random House, 1991), 120, 295–318.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1525-1528). Reasons To Believe. Kindle Edition.]

- An observational refutation of Lerner’s hypothesis arises from stellar physics. The kinds of stars that are necessary to make physical life possible in the universe are extremely sensitive to even slight changes in the major laws or constants of physics. Therefore, the existence of stable burning stars of all
different masses at all different distances from us (see chapter 14 for details) establishes the constancy of physics throughout the history of the universe. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1537-1540). Reasons To Believe. Kindle Edition.]

- Non-theists, confronted with problems for which ample research leads to no natural explanations and instead points to the supernatural, utterly reject the possibility of the supernatural and insist on a natural explanation even if it means resorting to absurdity. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1549-1551). Reasons To Believe. Kindle Edition.]

- What counts is the overall trend. As we learn more and more about the universe, Earth, and life, does the evidence for God’s existence and design of the natural realm get stronger or weaker? If the atheist is right and the theist is wrong, then the more we discover about the cosmos, Earth, and life, the evidence for divine transcendence and design will become weaker. On the other hand, if the theist is right and the atheist is wrong, the more we learn about the cosmos, Earth, and life, the evidence for divine transcendence and design will become stronger. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1563-1566). Reasons To Believe. Kindle Edition.]


- According to general relativity, the merger of neutron stars and/or black holes will generate exactly the kind of gamma ray burst that was observed. In fact, if such an event were to take place near our galaxy rather than more than halfway across the universe, it would produce the gravity waves predicted by

- Today it can be said that no theory of physics has ever been tested in so many different contexts and so rigorously as general relativity. The fact that general relativity has withstood all these tests so remarkably well implies that no basis at all remains for doubting the conclusions of the space-time theorem. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1680-1682). Reasons To Believe. Kindle Edition.]

**Chapter Ten: A God Outside Of Time, But Knowable**

- Of all the holy books of the religions of the world, only the Bible unambiguously states that time is finite, that time has a beginning, that God created time, that God is capable of cause and effect operations before the time dimension of the universe existed, and that God did cause many effects before the time component of our universe existed. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1711-1713). Reasons To Believe. Kindle Edition.]


- General relativity and the big bang lead to only one possible conclusion: a Creator matching the description of Jesus Christ. He is our Creator-God. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1769-1770). Reasons To Believe. Kindle Edition.]

- The universe and everything in it is confined to a single, finite dimension of time. Time in that dimension proceeds only and always forward. The flow of time can never be reversed. Nor can it be stopped. Because it has a beginning and can move in only one direction, time is really just half a dimension. The proof of creation lies in the mathematical observation that any entity confined
to such a half-dimension of time must have a starting point or point of origination. That is, that entity must be created. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1773-1776). Reasons To Believe. Kindle Edition.]

- The necessity for God to be created, however, would apply only if God, too, were confined to half a dimension of time. He is not. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1777-1778). Reasons To Believe. Kindle Edition.]


- Milton Rothman stumbles over the question, If God created us, who created God? It’s the time-line problem. Scientific and biblical answers exist, but Rothman seems unaware of them. His real barrier may be his refusal to accept any reality beyond the concrete and tangible. He states that the only acceptable theory is one which “permits questions to be answered in an empirical manner so that we may understand the answers.” [Milton Rothman, “What Went Before?” Free Inquiry (Winter 1992/93), 12.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1840-1844). Reasons To Believe. Kindle Edition.]

- Several Christian theologians to this day speak, like Augustine, of God dwelling in timeless eternity. This leads to the very contradictions that Grünbaum addresses. But the Bible claims (see John 17:4, Ephesians 1:4, Colossians 1:16–17, 2 Timothy 1:9, Titus 1:2, Hebrews 11:3), and science confirms, that God was causing effects before the time dimension for our universe existed. (“Time” by our definition is that realm or dimension in which cause-and-effect phenomena occur.) [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 1851-1855). Reasons To Believe. Kindle Edition.]
Chapter Twelve: A Modern-Day Goliath


• Ockham’s razor is a guiding principle of Western science that the most plausible explanation is that which contains the simplest ideas and fewest assumptions. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2059-2060). Reasons To Believe. Kindle Edition.]

• Physicists, unlike philosophers, use five different definitions of nothing in their models on creation. The accuracy of the declaration that God created the cosmos out of “nothing” depends on which definition of nothing the statement implies. These are the five: (1) lack of matter, (2) lack of matter and energy, (3) lack of matter, energy, and the four large expanding space-time dimensions of the universe, (4) lack of matter, energy, and all ten space-time dimensions of the universe, and (5) lack of any entity, being, existence, dimensionality, activity, or substance whatever. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2062-2066). Reasons To Believe. Kindle Edition.]


• (The Cosmic Blueprint, 1988) he posed this question: “If new organizational levels just pop into existence for no reason, why do we see such an orderly progression in the universe from featureless origin to rich diversity?” He


**Chapter Thirteen: The Divine Watchmaker**

- In summarizing the claims of such radical Darwinists, biochemist Jacques Monod says, “Chance alone is at the source of every innovation, of all

- Richard Dawkins declares, Natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind’s eye. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the blind watchmaker. [Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: W. W. Norton, 1987), 5.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2240-2243). Reasons To Believe. Kindle Edition.]

- Design that has been hidden from view now has been exposed. One of the earliest molecules so mapped was the crystal structure of the F1-ATPase enzyme. The Japanese team that produced the map discovered nature’s own rotary engine—no bigger than ten billionths by ten billionths by eight billionths of a meter. This tiny motor includes the equivalent of an engine block, a drive shaft, and three pistons. It is a variable speed motor that runs at speeds between 0.5 and 4.0 revolutions per second. [Steven M. Block, “Real Engines of Creation,” *Nature* 386 (1997): 217–219; Hiroyuki Noji, Ryohei Yasuda, Masasuke Yoshida, and Kazuhiko Kinosita Jr., “Direct Observation of the Rotation of F1-ATPase,” *Nature* 386 (1997): 299–302.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2263-2267). Reasons To Believe. Kindle Edition.]

- Paul and Anne Ehrlich disclose, “The production of a new animal species in nature has yet to be documented.” Furthermore, “in the vast majority of cases, the rate of change is so slow that it has not even been possible to detect an increase in the amount of differentiation.” [Paul R. Ehrlich and Anne H. Ehrlich, *Extinction: The Causes and Consequences of the Disappearance of*]

Gordon’s conclusion has been established in a recent study by six Japanese biologists who used three-dimensional computed tomography and magnetic resonance imaging to demonstrate that certain bones of the giant panda’s hand form a double pincer-like apparatus that allows the panda to “manipulate objects with great dexterity.” [Hideki Endo et al., “Role of the Giant Panda’s ‘Pseudo-Thumb,’” Nature 397 (1999): 309–310.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2320-2322). Reasons To Believe. Kindle Edition.]

Organisms are so complex that no biologist can claim to understand them completely. Thus, even biologists are in a poor position to judge the quality of the Creator’s work. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2325-2326). Reasons To Believe. Kindle Edition.]

Chapter Fourteen: A “Just Right” Universe

If the electromagnetic force were significantly larger, atoms would hang on to electrons so tightly no sharing of electrons with other atoms would be possible. But if the electromagnetic force were significantly weaker, atoms would not hang on to electrons at all, and again, the sharing of electrons among atoms, which makes molecules possible, would not take place. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2351-2354). Reasons To Believe. Kindle Edition.]

The size and stability of electron orbits about the nuclei of atoms depends on the ratio of the electron mass to the proton mass. Unless this ratio is delicately
balanced, the chemical bondings essential for life chemistry could never take place. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2355-2356). Reasons To Believe. Kindle Edition.]

- In the case of the strong nuclear force—the force governing the degree to which protons and neutrons stick together in atomic nuclei—the balance is easy to see. If this force were too weak, protons and neutrons would not stick together. In that case, only one element would exist in the universe, hydrogen, because the hydrogen atom has only one proton and no neutrons in its nucleus. On the other hand, if the strong nuclear force were of slightly greater strength than what we observe in the cosmos, protons and neutrons would have such an affinity for one another that not one would remain alone. They would all find themselves attached to many other protons and neutrons. In such a universe there would be no hydrogen, only heavy elements. Life chemistry is impossible without hydrogen; it is also impossible if hydrogen is the only element. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2360-2366). Reasons To Believe. Kindle Edition.]


- The strength of the force of gravity determines how hot the nuclear furnaces in the cores of stars will burn. If the gravitational force were any stronger, stars would be so hot they would burn up relatively quickly, too quickly and too erratically for life. Additionally, a planet capable of sustaining life must be supported by a star that is both stable and long burning. However, if the gravitational force were any weaker, stars never would become hot enough to ignite nuclear fusion. In such a universe no elements heavier than


- Unless the number of electrons is equivalent to the number of protons to an accuracy of one part in $10^{37}$ or better, electromagnetic forces in the universe would have so overcome gravitational forces that galaxies, stars, and planets never would have formed. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2429-2431). Reasons To Believe. Kindle Edition.]

- One part in $10^{37}$ is such an incredibly sensitive balance that it is hard to visualize. The following analogy might help: Cover the entire North American continent in dimes all the way up to the moon, a height of about 239,000 miles. (In comparison, the money to pay for the U.S. federal government debt would cover one square mile less than two feet deep with dimes.) Next, pile dimes from here to the moon on a million other continents the same size as North America. Paint one dime red and mix it into the billion piles of dimes. Blindfold a friend and ask him to pick out one dime. The odds that he will pick the red dime are one in $10^{37}$. And this is only one of the parameters that is so delicately balanced to allow life to form. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2432-2437). Reasons To Believe. Kindle Edition.]

- If the universe expanded too rapidly, matter would disperse so efficiently that none of it would clump enough to form galaxies. If no galaxies form, no stars will form. If no stars form, no planets will form. If no planets form, there’s no place for life. On the other hand, if the universe expanded too slowly, matter would clump so effectively that all of it, the whole universe in fact,

- for the universe to produce all the stars and planets necessary to explain the possibility of Earth sustaining physical life, the value of the cosmic mass density must be fine-tuned to better than one part in $10^{60}$ and the value of the space energy density to better than one part in $10^{120}$. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2449-2452). Reasons To Believe. Kindle Edition.]

- In the words of Lawrence Krauss and many other astrophysicists, this one part in $10^{60}$ and $10^{120}$ is by far the most extreme fine-tuning yet discovered in physics. An analogy that does not even come close to describing the precarious nature of this cosmic balance would be a billion pencils all simultaneously positioned upright on their sharpened points on a smooth glass surface with no vertical supports. [Lawrence M. Krauss, “The End of the Age Problem and the Case for a Cosmological Constant Revisited,” Astrophysical Journal 501 (1998): 461.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2452-2456). Reasons To Believe. Kindle Edition.]


- Counter to Einstein’s famous quote that “God does not play dice,” this evidence demonstrates that, given God’s goals, God must play dice, but He has exquisitely designed the dice for the benefit of physical life. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2469-2470). Reasons To Believe. Kindle Edition.]

- Because of Einstein’s equation, $E = mc^2$, even small changes in $c$, the velocity of light, lead to huge changes in $E$, the energy, or $m$, the mass. Thus, a slight change in light’s velocity implies that starlight will either be too strong or
too feeble for life or that stars will produce the wrong elements for life. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2473-2475). Reasons To Believe. Kindle Edition.]

- For many decades astronomers and others have wondered why, given God exists, He would wait so many billions of years to make life. Why did He not do it right away? The answer is that, given the laws and constants of physics God chose to create, it takes about ten to twelve billion years just to fuse enough heavy elements in the nuclear furnaces of several generations of giant stars to make life chemistry possible. Life could not happen any earlier in the universe than it did on Earth. Nor could it happen much later. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2481-2485). Reasons To Believe. Kindle Edition.]

- As the universe ages, stars like the sun—located in the right part of the galaxy for life (see chapter 16) and in a stable nuclear burning phase—become increasingly rare. If the universe were just a few billion years older, such stars would no longer exist. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2485-2487). Reasons To Believe. Kindle Edition.]

- A fourth parameter, another very sensitive one, is the ratio of the electromagnetic force constant to the gravitational force constant. If the electromagnetic force relative to gravity were increased by just one part in 1040, only large stars would form. And, if it were decreased by just one part in 1040, only small stars would form. But for life to be possible in the universe, both large and small stars must exist. The large stars must exist because only in their thermonuclear furnaces are most of the life-essential elements produced. The small stars like the sun must exist because only small stars burn long enough and stably enough to sustain a planet with life. [John P. Cox and R. Thomas Giuli, *Principles of Stellar Structure, Volume II: Applications to Stars* (New York: Gordon and Breach, 1968), 944–1028.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2491-2496). Reasons To Believe. Kindle Edition.]
• The list of finely tuned characteristics for the universe continues to grow. The more accurately and extensively astronomers measure the universe, the more finely tuned they discover it to be. [In my books on this subject the list of known characteristics of the universe that must be fine-tuned for physical life to be possible grew from 15 in 1989, to 16 in 1991, to 25 in 1993, to 26 in 1995, and now to 35.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2502-2504). Reasons To Believe. Kindle Edition.]

The weak nuclear force constant if larger: too much hydrogen converted to helium in big bang, hence too much heavy element material made by star burning; no expulsion of heavy elements from stars if smaller: too little helium produced from big bang, hence too little heavy element material made by star burning; no expulsion of heavy elements from stars [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2517-2521). Reasons To Believe. Kindle Edition.]

The gravitational force constant if larger: stars would be too hot and would burn up too quickly and too unevenly if smaller: stars would remain so cool that nuclear fusion would never ignite, hence no heavy element production [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2521-2524). Reasons To Believe. Kindle Edition.]

The electromagnetic force constant if larger: insufficient chemical bonding; elements more massive than boron would be too unstable for fission if smaller: insufficient chemical bonding; inadequate quantities of either carbon or oxygen [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2524-2527). Reasons To Believe. Kindle Edition.]


The expansion rate of the universe if larger: no galaxy formation if smaller: universe would collapse prior to star formation [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2537-2539). Reasons To Believe. Kindle Edition.]

The velocity of light if faster: stars would be too luminous if slower: stars would not be luminous enough [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2545-2546). Reasons To Believe. Kindle Edition.]
• age of the universe if older: no solar-type stars in a stable burning phase in the right part of the galaxy if younger: solar-type stars in a stable burning phase would not yet have formed [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2547-2549). Reasons To Believe. Kindle Edition.]

• initial uniformity of radiation if smoother: stars, star clusters, and galaxies would not have formed if coarser: universe by now would be mostly black holes and empty space [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2550-2552). Reasons To Believe. Kindle Edition.]

• average distance between galaxies if larger: insufficient gas would be infused into our galaxy to sustain star formation over an adequate time span if smaller: the sun’s orbit would be too radically disturbed [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2557-2560). Reasons To Believe. Kindle Edition.]


• supernovae eruptions if too close: radiation would exterminate life on the planet if too far: not enough heavy element ashes for the formation of rocky planets if too frequent: life on the planet would be exterminated if too infrequent: not enough heavy element ashes for the formation of rocky planets if too late: life on the planet would be exterminated by radiation if too soon: not enough heavy element ashes for the formation of rocky planets [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2586-2593). Reasons To Believe. Kindle Edition.]

• ratio of exotic to ordinary matter if smaller: galaxies would not form if larger: universe would collapse before solar type stars could form [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2599-2601). Reasons To Believe. Kindle Edition.]

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• galaxy clusters if too dense: galaxy collisions and mergers would disrupt star and planet orbits; too much radiation if too sparse: insufficient infusion of gas into galaxies to sustain star formation for a long enough time period [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2602-2605). Reasons To Believe. Kindle Edition.]

• Astronomer George Greenstein, in his book *The Symbiotic Universe*, expressed these thoughts: As we survey all the evidence, the thought insistently arises that some supernatural agency—or, rather, Agency—must be involved. Is it possible that suddenly, without intending to, we have stumbled upon scientific proof of the existence of a Supreme Being? Was it God who stepped in and so providentially crafted the cosmos for our benefit? [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2639-2643). Reasons To Believe. Kindle Edition.]

• Tony Rothman, a theoretical physicist, in a popular-level article on the anthropic principle (the idea that the universe possesses narrowly defined characteristics that permit the possibility of a habitat for humans) concluded his essay with these words: The medieval theologian who gazed at the night sky through the eyes of Aristotle and saw angels moving the spheres in harmony has become the modern cosmologist who gazes at the same sky through the eyes of Einstein and sees the hand of God not in angels but in the constants of nature.... When confronted with the order and beauty of the universe and the strange coincidences of nature, it’s very tempting to take the leap of faith from science into religion. I am sure many physicists want to. I only wish they would admit it. [Tony Rothman, “A ‘What You See Is What You Beget’ Theory,” Discover (May 1987), 99.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2643-2649). Reasons To Believe. Kindle Edition.]

• Physicist Freeman Dyson concluded his treatment of the anthropic principle with, “The problem here is to try to formulate some statement of the ultimate purpose of the universe. In other words, the problem is to read the mind of God.” [Freeman Dyson, *Infinite in All Directions* (New York: Harper and Row, 1988), 298.] [Hugh Ross, *The Creator and the Cosmos: How the*

Years before communism’s fall, Alexander Polyakov, a theoretician and fellow at Moscow’s Landau Institute, declared: We know that nature is described by the best of all possible mathematics because God created it. So there is a chance that the best of all possible mathematics will be created out of physicists’ attempts to describe nature. [Stuart Gannes, *Fortune* 13 October 1986, 57.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2664-2667). Reasons To Believe. Kindle Edition.]

China’s famed astrophysicist Fang Li Zhi and his coauthor, physicist Li Shu Xian, recently wrote, “A question that has always been considered a topic of metaphysics or theology the creation of the universe has now become an area of active research in physics.” [Fang Li Zhi and Li Shu Xian, *Creation of the Universe*, trans. T. Kiang (Singapore: World Scientific, 1989), 173.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2668-2670). Reasons To Believe. Kindle Edition.]


Stephen Hawking himself concedes: It would be very difficult to explain why the universe should have begun in just this way, except as the act of a God who intended to create beings like us. [Stephen Hawking, *A Brief History of
Cosmologist Edward Harrison makes this deduction: Here is the cosmological proof of the existence of God—the design argument of Paley—updated and refurbished. The fine-tuning of the universe provides prima facie evidence of deistic design. Take your choice: blind chance that requires multitudes of universes or design that requires only one. Many scientists, when they admit their views, incline toward the teleological or design argument. [Edward Harrison, Masks of the Universe (New York: Collier Books, Macmillan, 1985), 252, 263.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2680-2683). Reasons To Believe. Kindle Edition.]


Perhaps astrophysicist Robert Jastrow, a self-proclaimed agnostic, best described what has happened to his colleagues as they have measured the cosmos: For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries. [Robert Jastrow, God and the Astronomers (New York: W. W.

- Does the fine-tuning imply purposeful design? So many parameters must be fine-tuned and the degree of fine-tuning is so high, no other conclusion seems possible. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2698-2700). Reasons To Believe. Kindle Edition.]

- Words such as somebody fine-tuned nature, superintellect, monkeyed, overwhelming design, miraculous, hand of God, ultimate purpose, God’s mind, exquisite order, very delicate balance, exceedingly ingenious, supernatural Agency, supernatural plan, tailor-made, Supreme Being, and providentially crafted obviously apply to a Person. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2704-2706). Reasons To Believe. Kindle Edition.]

- One characteristic that stands out dramatically is His interest in and care for living things, particularly the human race. We see this care in the vastness and quality of the resources devoted to life support. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2707-2709). Reasons To Believe. Kindle Edition.]

- When it comes to the finely-tuned characteristics of the universe, non-theists find themselves in a difficult spot. The evidence is too weighty and concrete to brush aside. The evidence is inanimate; so appeals to Darwinist hypotheses cannot be made. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2718-2720). Reasons To Believe. Kindle Edition.]

- Science is rarely religiously neutral. Similarly, religious faith is rarely scientifically neutral. Both science and theology frequently address cause and effect and processes of development in the natural realm. Both science and theology deal with the origin of the universe, the solar system, life, and humankind. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2753-2755). Reasons To Believe. Kindle Edition.]
To dogmatically insist that supernatural answers must never be considered is equivalent to demanding that all human beings follow only one religion, the religion of atheistic materialism. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2756-2757). Reasons To Believe. Kindle Edition.]


Chapter Fifteen: A Layperson’s Guide To Alternate Cosmologies

The layperson must first understand that, no matter how tightly observations constrain the properties of the universe, there always will exist some alternate cosmologies. There always will be some people, who for nonscientific reasons, reject the big bang. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 2831-2833). Reasons To Believe. Kindle Edition.]

Chapter Sixteen: Earth: The Place For Life

The first astronomers to provide evidence of these intricacies were Frank Drake, Carl Sagan, and Iosef Shklovskii. They developed the evidence out of their desire to estimate the number of planets in the universe with favorable environments for the support of life. [Hugh Ross, *The Creator and the*]
By 1966 Shklovskii and Sagan had determined it takes a certain kind of star with a planet located at just the right distance from that star to provide the minimal conditions for life. [Iosef S. Shklovskii and Carl Sagan, Intelligent Life in the Universe (San Francisco, CA: Holden-Day, 1966), 343–350.]

Working with just these two parameters, they estimated that 0.001% of all stars could have a planet capable of supporting advanced life. [Iosef S. Shklovskii and Carl Sagan, Intelligent Life in the Universe (San Francisco, CA: Holden-Day, 1966), 413.]

Our Milky Way Galaxy resides in a loose grouping of galaxies called The Local Group. The Local Group is located on the far outer edge of the Virgo supercluster of galaxies. This location makes our galaxy exceptional. The vast majority of galaxies in the universe find themselves in rich clusters of galaxies. As such, they are subject to frequent collisions and mergers with other galaxies. [Pieter G. van Dokkum et al., “A High Merger Fraction in the Rich Cluster MS 1054-03 at z = 0.83: Direct Evidence for Hierarchical Formation of Massive Galaxies,” Astrophysical Journal Letters 520 (1999): L95–L98.]

Not all galaxies are created equal in terms of their capacity to support life. Popular media often give the impression that all galaxies are spirals like our Milky Way. Actually only 6% of the non-dwarf galaxies are spirals. The other 94% are either elliptical or irregular. [Ron Cowen, “Were Spiral Galaxies Once More Common,” Science News 142 (1992): 390; Alan Dressler et al., “New Images of the Distant, Rich Cluster CL 0939+4713 with WFPC2,” Astrophysical Journal Letters 435 (1994): L23–L26.]

Hugh Ross,


Given the constraints of physics and chemistry, we can reasonably assume that physical life must be carbon-based. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Location 2990). Reasons To Believe. Kindle Edition.]

What makes life possible on Earth is that the sun is located in between two spiral arms at the “corotation distance” relative to the center of our galaxy. Almost all the stars in our galaxy reside either in the central bulge, the spiral arms, or in the globular star clusters. In all three of these locations the star densities are high enough to disrupt the orbits of planets like Earth. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2991-2994). Reasons To Believe. Kindle Edition.]

A new piece of research by two Russian astronomers establishes that the sun is special in another respect. It stays between spiral arms. This is because the sun is one of those especially rare stars that are at the “galactic corotation radius.” Typically, the stars in our galaxy orbit about the center of our galaxy at a rate different from that of the spiral arm pattern. If such stars are located between spiral arms, they will not remain there for very long. With a star revolving around the galaxy’s center at a rate different from the spiral arm
structure, it is just a matter of time before that star is swept inside a spiral arm. Only at the corotation radius could a star remain between two spiral arms. [Yu N. Mishurov and L. A. Zenina, “Yes, the Sun Is Located Near the Corotation Circle,” Astronomy & Astrophysics 341 (1999), 81–85.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 2995-3001). Reasons To Believe. Kindle Edition.]


- The sun’s luminosity, for example, has increased by more than 35% since life was first introduced on Earth. Such a change is more than enough to exterminate life. But life survived on Earth because the increase in solar luminosity was exactly cancelled out each step of the way by a decrease in the efficiency of the greenhouse effect in Earth’s atmosphere. This decrease in greenhouse efficiency arose through the careful introduction of just the right species of life in just the right quantities at just the right times. The slightest “evolutionary accident” would have caused either a runaway freeze-up or runaway boiling (see “Climactic Runaways” section below). Here, the materialists offer no explanation. How could strictly natural Darwinist processes possibly have anticipated the physics of solar burning? [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3030-3036). Reasons To Believe. Kindle Edition.]
As biochemists now concede, for life molecules to operate so that organisms can live requires an environment where water vapor, liquid water, and frozen water are all stable and abundant. This means that a planet cannot be too close to its star or too far away. In the case of planet Earth, given a particular atmosphere, a change in the distance from the sun as small as 2% would rid the planet of all life. [Michael H. Hart, “Habitable Zones about Main Sequence Stars,” Icarus 37 (1979): 351–357.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3037-3040). Reasons To Believe. Kindle Edition.]

For a planet to support life, it is essential for water vapor (molecular weight 18) to be retained while molecules as heavy as methane (molecular weight 16) and ammonia (molecular weight 17) dissipate. Therefore, a change in surface gravity or temperature of just a few percent will make the difference. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3042-3044). Reasons To Believe. Kindle Edition.]

Late in 1993, planetary scientist George Wetherill, of the Carnegie Institution of Washington, D.C., made an exciting discovery about our solar system. In observing computer simulations of our solar system, he found that without a Jupiter-sized planet positioned just where it is, Earth would be struck about a thousand times more frequently than it is already by comets and comet debris. [The editors, “Our Friend Jove,” Discover (July 1993), 15.] [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3090-3093). Reasons To Believe. Kindle Edition.]

Theoretically, Earth should have an atmosphere much heavier and thicker than that of Venus, but in fact it has one about forty times lighter and thinner. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3109-3110). Reasons To Believe. Kindle Edition.]

Only one collision scenario fits all the observed Earth-moon parameters and dynamics: a body at least the size of Mars (nine times the mass of the moon and one-ninth the mass of Earth) and possibly twice as large made a nearly head-on hit and was absorbed, for the most part, into Earth’s core. Such a


• Because the moon is so large relative to our planet, it exerts a significant gravitational pull on Earth. Thanks to this pull, coastal seawaters are cleansed and their nutrients replenished. The moon, again because of its great size and proximity to Earth, stabilized the tilt of Earth’s rotation axis, protecting the planet from life-extinguishing climatic extremes. [William R. Ward, “Comments on the Long-Term Stability of the Earth’s Oliquity,” Icarus 50 [³⁴]


• The only possibility the Bible definitively rules out is another planet in the universe with physical intelligent life that has fallen into a state of spiritual rebellion against God’s authority. The book of Hebrews, chapters 9 and 10, states that Jesus Christ died one time at one place for all sinners. [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 3454-3456). Reasons To Believe. Kindle Edition.

Chapter Seventeen: Building Life

• In early 1992, Christopher Chyba and Carl Sagan published a review paper on the origins of life. Origins is plural for a good reason. Research indicates that life began, was destroyed, and began again many times during that era before it finally took hold. [Christopher Chyba and Carl Sagan, “Endogenous [35]


- Even under the highly favorable conditions of a laboratory, these soups have failed to produce anything remotely resembling life. One problem is that they produce only a random distribution of left- and right-handed prebiotic molecules. (Many prebiotic molecules, notably all but one of the bioactive amino acids, occur in two mirror-image forms that are arbitrarily termed left- and right-handed.) Life chemistry demands that all the nucleotide sugars be right-handed and all the bioactive amino acids that have mirror-image forms (19 out of 20) be left-handed. With all our learning and technology we cannot even come close in the lab to lining up molecules with the correct handedness and assembling them together in the correct sequence to make life. How can we expect life to bring itself together in just a few million years in the chaotic world of nature? [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 3487-3492). Reasons To Believe. Kindle Edition.]

- Atmospheric physicists established more than ten years ago that Earth’s atmosphere has been fully oxidizing (enough free oxygen exists to oxidize all organic substances) for the last 4 billion years. [Charles B. Thaxton, Walter L. Bradley, and Roger L. Olsen, *The Mystery of Life’s Origin: Reassessing Current Theories* (New York: Philosophical Library, 1984), 69–


The problems of primordial soups are big, but bigger yet is the infeasibility of generating, without supernatural input, an enormous increase in complexity. A wide gulf separates an aqueous solution containing a few amino acids from the simplest living cell. Years ago, molecular biophysicist Harold Morowitz calculated the size of this gulf. If one were to take the simplest living cell and break every chemical bond within it, the odds that the cell would reassemble under ideal natural conditions (the best possible chemical environment) would be one chance in 10100,000,000,000. [Robert Shapiro, *Origins: A Skeptic’s Guide to the Creation of Life on Earth* (New York: Summit Books, 1986), 128.] [Hugh Ross, *The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God* (Kindle Locations 3526-3531). Reasons To Believe. Kindle Edition.]

Another attempt to wiggle out is to suggest that the simplest living entity 3.5 billion years ago was far simpler than what exists today. The difficulty here
is that conditions on Earth 3.5 billion years ago were not enough different from conditions today to warrant such an idea. In fact, conditions were so similar that if life were spontaneously generating 3.5 billion years ago, we could expect to see it doing so today. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3552-3555). Reasons To Believe. Kindle Edition.]


- Wherever we look in the realm of nature, we see evidence for God’s design and exquisite care for His creatures. Whether we examine the cosmos on its largest scale or its tiniest, His handiwork is evident. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3664-3665). Reasons To Believe. Kindle Edition.]

Chapter Eighteen: Extra-Dimensional Power

- My initial response is to agree. The Trinity is a mathematical absurdity in the context of a god limited in his operations to just the four dimensions of length, width, height, and time. [Hugh Ross, The Creator and the Cosmos: How the Latest Scientific Discoveries Reveal God (Kindle Locations 3688-3690). Reasons To Believe. Kindle Edition.]


ثلاثون دليلاً على الانفجار العظيم

الحمد لله الذي بنعمته تتم الصالحات

[٣٨]