

## Divine expansion vs evolutionary inflation

In the commentary on Day 4 (Ch. 8), we will discuss the ‘distant starlight’ problem: how light can have travelled billions of light-years if the universe is only 6,000 years old. A light-year is the distance light will travel at current speed through a vacuum (300,000 km/sec) in a year, or about 9.5 trillion km. But here I will simply point out that evolutionists/big bang cosmogonists have their own distant starlight problem: *far more light-years than years*, even assuming the big bang timescale of >13 Ga. This is called the *horizon problem*.<sup>1</sup>

When astronomers look at the universe, one striking feature is its uniformity of background temperature throughout. This is shown by the *cosmic microwave background* (CMB) radiation, which is a very uniform coldness of about 3 K (degrees above absolute zero).<sup>2</sup> This is a huge problem for evolutionists. For the background:

The big bang alleges that ‘nothing exploded and became everything’. Because of quantum randomness, there would have initially been a wide variation in temperature. To arrive at the current uniformity, somehow energy must have been transferred from the hot parts to the cold parts. The fastest this can happen is the speed of light (heat transfer by radiation).

The big bang postulates that the universe was a plasma after the beginning, comprising charged particles, as well as photons or light particles. Since the photons are electromagnetic radiation, they would strongly interact with the electrically charged particles; this plasma would be opaque to light. But supposedly 300 ka after the big bang, the temperature dropped below 3000 K, cool enough for electrons and protons to form neutral atoms. Then the photons would be ‘decoupled’ from the plasma. This is supposed to be the origin of the CMB.

The ‘horizon’ is thus the distance light could have travelled in 300 ka, i.e. 300,000 light-years (in normal parlance, you can’t see past the horizon, hence this word is used to mean the maximum distance of light travel). However, when the universe was 300 ka, according to big bang cosmogony, the universe’s background temperature was already uniform over a range 10 times greater. In modern times, there is not enough time for light to traverse one side of the visible universe to another, since the observable universe has a radius of 46 billion light-years—again, *far too many light-years per year!*

### **Evolutionary ‘solutions’**

Some big bang cosmogonists have tried to solve this problem by proposing that the speed of light was much faster in the past—even by 60 orders of magnitude.<sup>3</sup> Probably the most prominent

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1. Lisle, J., [Light travel-time: a problem for the big bang](#), *Creation* **25**(4):48–49, 2003;.
  2. Fixsen, D.J., The Temperature of the Cosmic Microwave Background, arXiv:0911.1955v2 [astro-ph.CO], 10 November 2009: “The FIRAS data are independently recalibrated using the WMAP data to obtain a CMB temperature of  $2.7260 \pm 0.0013$ . Measurements of the temperature of the cosmic microwave background are reviewed. The determination from the measurements from the literature is cosmic microwave background temperature of  $2.72548 \pm 0.00057$  K.”
  3. ‘Order of magnitude’ means a factor of 10, that is, Dr Magueijo proposes that light was about  $10^{60}$  times faster than it is today. Today it’s 300,000 km/sec, which is extremely fast already. But Magueijo proposes that it was faster still, some trillion trillion trillion

is the Portuguese cosmologist João Magueijo (1967– ), professor of Theoretical Physics at Imperial College London.<sup>4</sup> Yet when some creationists such as Barry Setterfield proposed a similar c-decay model a few decades ago, it was a scientific heresy! (My CMI colleagues and I are aware of the unsolved problems in such models and do not advocate them, but we note the double standards of some attacks on them.<sup>5</sup>)

However, the most popular solution is ‘inflation’, a superluminal (faster-than-light) expansion of spacetime itself. This was first proposed by Alan Guth (b. 1947).<sup>6</sup> Guth, then a particle physicist at the Stanford Linear Accelerator Center in California, proposed that  $10^{-35}$  seconds after the big bang, the universe expanded by a factor of  $10^{25}$  in  $10^{-30}$  seconds. That is, an expansion of 25 orders of magnitude. This is mind-boggling—it is like going from smaller than a pea to the size of our galaxy. But Guth’s proposal starts with the universe tinier than a subatomic particle. So the different regions of space were so close that they could come to the same temperature before inflation occurred.

It’s important to note that it’s space itself that is expanding, so it doesn’t violate relativity, which prohibits only mass/energy from moving *through* space faster than light. It’s also notable that Guth’s original hypothesis was proven false,<sup>7</sup> and modern inflationary cosmologies have since modified his original proposal. Also, there is no satisfactory *physical mechanism* for starting inflation, as opposed to playing with mathematical equations. Nor is there a mechanism for halting the inflation, which is known as the ‘graceful exit problem’.<sup>8</sup>

So it’s no wonder that the misotheistic publication *New Scientist*<sup>9</sup> admitted in 2009:

This ‘horizon problem’ is a big headache for cosmologists, so big that they have come up with some pretty wild solutions. ‘Inflation’, for example. You can solve the horizon problem

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trillion trillion times faster, in fact (in the unfortunately obsolete older UK usage, 1060 is a ‘decillion’; in the dominant American nomenclature, a ‘novemdecillion’).

4. Albrecht, A. and Magueijo, J., Time varying speed of light as a solution to cosmological puzzles, *Physical Review D (Particles, Fields, Gravitation, and Cosmology)* **59**(4):043516-1–043516-13, 1999; Magueijo, J., *Faster Than The Speed of Light: The Story of a Scientific Speculation*, Basic Books, 2003.
5. Wieland, C., [Speed of light slowing down after all? Famous physicist makes headlines](#), *J. Creation* **16**(3):7–10, 2002.
6. Guth, A.H., Inflationary universe: A possible solution to the horizon and flatness problems, *Physical Review D* **23**(2):347–356, 15 January 1981.
7. Coles, P., Lucchin, F., *Cosmology: The Origin and Evolution of Cosmic Structure*, John Wiley & Sons Ltd, Chichester, p. 151, 1996.
8. Kraniotis, G.V., String Cosmology, *Int. J. Modern Physics A* **15**(12):1707–1756, 2000.
9. The anti-God bias of *New Scientist* is documented in Sarfati, J., Refutation of *New Scientist’s* Evolution: 24 myths and misconceptions, [creation.com/24myths](http://creation.com/24myths), 21 January 2009.

by having the universe expand ultra-fast for a time, just after the big bang, blowing up by a factor of  $10^{50}$  in  $10^{-33}$  seconds. But is that just wishful thinking?<sup>10</sup>

### **Creationist solution**

The uniformity of background temperature is further evidence for the *biotic message theory*, as proposed by Walter ReMine.<sup>11</sup> That is, the evidence from nature points to a *single* designer, rather than multiple designers (compare Romans 1:20). Further, that while there is a unity, this is in a pattern along with discontinuities that *thwart evolutionary explanations*. Also, in most cultures around the world, such a *pattern of commonality would bring honour to a Designer*, and would also indicate the Designer's authority over and mastery of His designs.<sup>12</sup>

Genesis reveals a single Creator of the universe, and Colossians 1:17 reveals that He holds the universe together. God created both space and time (see Ch. 4 on Genesis 1:1), so is not limited by either. It follows that He is not limited by the speed of light either, since speed = distance (space) time. *Thus the uniform background temperature in such a huge universe beyond the reach of normal light-travel times points to a Creator and Upholder of the Universe who is not limited by light-travel problems.*

So it's a reasonable model that during Day 2, when God stretched out the expanse and heavens, He did so superluminally (faster than light). Thus the biblical creation model provides a cause for the 'inflation'—God stretched out the heavens; while secular inflationists must postulate some unknown mechanism for this inflation. This model links the above list of 17 'God stretched/expanded' verses to the logical place: the expansion of the *rāqīa*. Like secular inflation models, this model postulates that the *superluminal* expansion has ceased. All we see now is the *residual* sub-light-speed expansion usually postulated to cause the observed red shifts.

Some eminent creationist physicists, such as Dr Russell Humphreys<sup>13</sup> and Dr John Hartnett,<sup>14,15</sup> have proposed that this expansion continued into Day 4, the creation of the luminaries. Now this is not a direct teaching of Scripture, but they provide plausible explanations.

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10. Brooks, M., 13 things that do not make sense, *New Scientist* 2491, 19 March 2005, updated 14 April 2009.
  11. ReMine, W.J., *The Biotic Message: Evolution Versus Message Theory*, Saint Paul Science, Saint Paul, Minnesota, USA, 1993; see review: Batten, D., *J. Creation* **11**(3):292–298, 1997.
  12. Holding, J.P., 'Not to Be Used Again': [Homologous Structures and the Presumption of Originality as a Critical Value](#), *J. Creation* **21**(1):13–14, 2007.
  13. Humphreys, D.R., *Starlight and Time*, Appendix B, 1994.
  14. Hartnett, John G., [Starlight, Time, and the New Physics](#), ch. 6, 2010.
  15. But then, Dr Hartnett has later apparently had second thoughts, which just goes to show the difference between the direct teachings of Scripture and the models we build to try to elucidate Scripture. See his paper [Does the Bible really describe expansion of the universe?](#) *J. Creation* **25**(2):125–127, 2011.

## Cain and Abel: very different (4:2b–5a)

4:2b–5a—Now Abel was a keeper of sheep, and Cain a worker of the ground. In the course of time Cain brought to the LORD an offering of the fruit of the ground, and Abel also brought of the firstborn of his flock and of their fat portions. And the LORD had regard for Abel and his offering, but for Cain and his offering he had no regard.

Later in Genesis 5:4, we see that Adam and Eve had other sons and daughters. Josephus' *Antiquities of the Jews*, right after introducing Cain and Abel, noted that Adam and Eve “had also daughters.”<sup>16</sup> A footnote to the Whiston translation of Josephus states, “The number of Adam’s children, as says the old tradition, was 33 sons and 23 daughters.” But for now, the narrative focuses on the first two children ever born. This passage is also the first of a number of biblical occurrences where God overturns the normal *primogeniture*, or importance of the firstborn son, (Hebrew *b<sup>2</sup>kôr* בכור). Here, Abel’s occupation is listed first in the narrative, a hint that God will reverse the usual order.<sup>17</sup>

Cain becomes “a worker of the ground.” There is nothing wrong with this; he was following in his father’s footsteps. But “Abel was a keeper of sheep”. Luther argued that his name meaning ‘vanity’ led to being assigned inferior work, compared to the work of his father and eldest brother.<sup>18</sup> Indeed, in later biblical times, the shepherd was a lowly occupation. But nothing *in Genesis* suggests inferiority at *this* very early stage of human history.

The animals Abel kept were the Hebrew kind *tsō’n* (צאן), which includes both sheep and goats.<sup>19</sup> In fact, these species, now distinct, can still hybridize to produce a ‘geep’. Note that the animals were *not* kept for meat, since Genesis 1:29 was still in force. Even now, the *tsō’n* kind are used for milk, especially goat’s milk. Sheep are also valuable for their wool, for warm clothes. They may also have been killed for sheepskins for clothes and insulation.

### Two different sacrifices

Sheep and goats are also both common sacrificial animals. It is likely that Adam and Eve, who saw the first animal sacrifice to make their clothes, taught them the need for blood sacrifice to cover sin (see ‘Clothes of skin’, Ch. 13).

So the narrative turns to the sacrifices. The phrase “In the course of time” in Hebrew is *miqqets yāmîm* (מקץ ימים), literally meaning ‘in the end of days.’ Fruchtenbaum says that it means, ‘at a specific appointed time.’ He explains:

So already, this early in human history, there was a fixed time in which the offerings were to be offered. It was clearly a regularly prescribed time. This being so, this means that this was not the first time sacrifices were offered or even the first time that *Cain* offered a sacrifice. Previously, since Abel was the shepherd and *Cain* was the farmer, in order to have a blood-sacrifice, *Cain* would have had to purchase a sheep or goat from his brother. However,

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16. Josephus, *Antiquities* 1(2).

17. McKeown, J., *Genesis*, Two Horizons Old Testament Commentary series, p. 39, 2008.

18. Luther, M., *Genesis*, tr. Mueller, J.T., pp. 91ff., 1958.

19. Lightner, J.K., [Identification of species within the sheep-goat kind \(Tsoan \[sic\] monobaramin\)](#), *J. Creation* 20(3):61–65, 2006.

this time, he chose not to do it that way, but *Cain brought the fruit of the ground, an offering*.<sup>20</sup>

Actually, this practice could have been occurring for over a century, as can be inferred from later passages. In 4:25–26, Eve bears Seth and explicitly regards him as a replacement for Abel, and 5:3 reveals that this occurred when Adam and Eve were 130. So Cain and Abel, maybe as elders of the first generation to be born, were both offering the correct animal sacrifices for some time. And the place they were offered could have been the gate of the Garden of Eden, where there was the visible manifestation of God in the Shekinah Glory (see ‘Expulsion’, Ch. 13). Leupold explains the word ‘offering’:

These constitute an ‘offering to Yahweh.’ *Minchah* may be merely a ‘gift’ or ‘tribute’. But when brought to Yahweh, it constitutes an actual offering.<sup>21</sup>

But in this passage, we see that Cain was the *patron saint of liberal religious ecumenism*. This is the belief that all ways lead to God; that man can choose his own path. But in reality, man must come to God on *His* terms. Nowadays, this is only through conscious belief in the substitutionary death and resurrection of Jesus (John 14:6, Acts 4:12, 1 Corinthians 15:1–4). Cain decided that a bloodless offering would be good enough for God—and just some ordinary produce from the ground, not even the ‘first fruits’ or best produce. No wonder Jude 11 denounces practitioners of false religion as having “walked in the way of Cain.”

The contrast between the two brothers is more striking in the Hebrew than in the translation. First, the sentence begins with the subject ‘Abel’, unlike the usual Hebrew order where the verb comes first, so the understanding is ‘Now Abel, on his part . . . .’ Then Abel’s sacrifice is very different. Not only does it involve blood, but also the *very best* animals of the flock—the first-born lambs, and the *very best parts* of these animals—the fat portions, which is what ‘fat’ (*cheleb* חֶלֶב) means here. Leupold explains:

The ‘and’ before this word [*cheleb*] is used, as often (cf. Exod. 24:12), in the sense of ‘namely’ (*waw* explicative [also called *waw* disjunctive—see ‘Problems with the classical gap theory’, Ch. 4 ]).<sup>22</sup>

Leupold actually doesn’t agree that blood was an issue at this stage of history. But it does seem from the text that the sacrifice itself was at least part of the issue: “the LORD had regard for Abel and his offering.” This is also supported in the NT, which affirms this event as real history. Hebrews 11 lists Abel as the first in the ‘Faith Hall of Fame’, and affirms that *the right kind of sacrifice* was the important manifestation of the right heart:

By faith Abel offered to God a *more acceptable sacrifice* than Cain, through which he was commended as righteous, God commending him by accepting his gifts. And through his faith, though he died, he still speaks. (Hebrews 11:4, emphasis added)

Fruchtenbaum discusses these passages and further explains why blood *was* the issue:

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20. Fruchtenbaum, A.G., *The Book of Genesis*, p. 117, 2009; emphasis in original.

21. Leupold, H.C., *Exposition of Genesis 1:195*, 1942.

22. Leupold, H.C., *Exposition of Genesis 1:195–196*, 1942.

Although God later did accept grain offerings, even the grain offerings of the Mosaic Law always came into contact with blood. . . . The mention of the fat shows that the issue was the sacrifice of blood. Popular relational theology tries to claim that the whole thing was an issue of attitude, that Cain had the wrong attitude and Abel had the right attitude. However, there is simply no indication of that in the text, and the thrust of Scripture is that the problem was a lack of blood, as shown in Hebrews, “By faith Abel offered unto God a more excellent sacrifice than Cain” (Heb. 11:4 [ASV]) . . . . The clear emphasis here is on blood, not merely attitude. Both Cain and Abel were sinners; both were born after the Fall and outside the Garden of Eden; both had the same parents, the same upbringing, and the same knowledge. However, Cain’s offering was not of faith, while Abel’s offering was an act of faith in response to revelation and knowledge.<sup>23,24</sup>

That is, Abel’s saving faith was demonstrated outwardly by his bringing the right sort of offering: blood to cover sins. Conversely, Cain did not have the proper faith or belief, which manifested itself in the improper offering. So God accepted Abel’s sacrifice but not Cain’s plant offering. Leupold explains the Hebrew:

The meaning of the verb *sha’ah* is ‘to gaze’, but when it is used with ‘*el*’ in a connection such as this, it means ‘regard with favour’.<sup>25</sup>

We are not told how this favour was manifested. It could be something similar to Elijah’s sacrifice on Mt Carmel in his victorious contest with the prophets of Baal: “Then the fire of the Lord fell and burned up the sacrifice” (1 Kings 18:38). Even earlier, God had accepted sacrifices this way (Judges 6:21; 13:19–20). If Cain and Abel were sacrificing near the gate of Eden where the Shekinah Glory was manifested as the ‘revolving swordlike flame’, then this flame could have shot out to consume the offering.

An old Greek translation even rendered ‘had regard for’ (*sha’ah*) as *henepyrisen* (ἐνεπύρισεν) as ‘He kindled’. But this is going too far, since the verb has the double object ‘Abel and his offering’, and Abel certainly wasn’t kindled.

At least there are other biblical references to God consuming acceptable sacrifices by fire. A much worse picture has the smoke from Abel’s altar going up straight, while the smoke from Cain’s altar is crooked or stalled. But this has misled people into thinking that it was a chance weather event, e.g. a wind gust, that ruined the sacrifice for Cain. This distracts from the correct reason, which was the difference in the sacrifices themselves.<sup>26</sup>

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23. Fruchtenbaum, A.G., *The Book of Genesis*, pp. 117–118, 2009.

24. Kevin May, an Australian electrical engineer, linguist, and missionary to tribal people in Indonesia, explained the same principles to his translator into the sophisticated tribal language Nimboran. The historical reality of Genesis was most meaningful to the tribespeople—see [Is Genesis myth or reality](#), *Creation* 17(3):22–23, 1995.

25. Leupold, H.C., *Exposition of Genesis* 1:196, 1942.

26. Kevin May (Ref. 24) reports that his Nimboran translator Tomas had this wrong impression, and sure enough, it was in his son’s picture Bible. But Tomas was very happy with the correct explanation, which showed the justice of the Gospel.

But whichever way God accepted Abel's sacrifice and rejected Cain's, Cain certainly knew it!  
His reaction is covered next.