Groundwork for Creation Cosmology
Part I: Scripture

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Abstract

Today's rich cosmological data sets require integration into a Biblical framework. The light-travel time issue is the most obvious difficulty involved, but it is by no means the only one. This article seeks to lay the groundwork for such integration by considering three Scripture passages: Hebrews 11:1–3; 2 Peter 3:5–7; and Romans 8:18–23. It notes that an accurate understanding of origins requires explicit inclusion of supraprovidential (i.e., miraculous) action, but that we should limit such action to what the Genesis record specifically warrants. It further suggests that in cosmology we can restrict this supraprovidential action to the Creation Week; that is, miraculous events connected with the Deluge did not affect the Universe as a whole. Finally, it suggests that there is no warrant for assuming that the physical effects of the Fall included changes in the actual laws of physics themselves.

Key Words: cosmology, entropy, exegesis, faith, the Fall, miracles

Introduction

Cosmology and light-travel time—two issues with significant overlap—are areas of weakness in young-Earth creationism (YEC). The YEC literature has extensively explored potential solutions to the latter (see references in Repp, 2022), and the author hopes to evaluate these solutions in a future series of articles.

However, even apart from light-travel time, a significant amount of cosmological data still requires integration into a YEC framework. These data include the cosmic microwave background (CMB), the CMB anisotropy spectrum, the baryonic acoustic oscillation, the environmental dependence of galaxy properties, and main sequence turnoffs in star clusters (all noted by Upton, 2011). They also include jets from active galactic nuclei, which can be ~10^6 light-years long (noted by Taylor, 2005). None of these observations seem to fit naturally into a young-Earth/Universe position. Nor is this list at all exhaustive; the natural timescale for many astronomical processes is, due to the vast distances involved, orders of magnitude greater than 10^4 years.

To construct a Biblical framework for this data, it is helpful first to lay some groundwork; the author intends to attempt this in a series of three papers. This article (the first) examines three relevant passages (not including

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Genesis 1, which future papers will discuss in detail). The second will attempt to justify several working assumptions. The third will list some of the relevant observational data. The hope is that the three articles together will provide a foundation for building a comprehensive creationary understanding of cosmology.

All Scripture quotations in this article are from the English Standard Version (ESV).

Opening Considerations

As believers, we recognize the Bible teaches that the entirety of Scripture is God-breathed (*plenary inspiration*—2 Timothy 3:16–17), that this inspiration extends even to the individual words of the original (*verbal inspiration*—Matthew 5:18; Proverbs 30:5), and that Scripture is therefore *inerrant* (Psalm 119:96, 138). The Chicago Statement on Biblical Inerrancy expresses this teaching of Scripture as follows:

> We affirm that the whole of Scripture and all its parts, down to the very words of the original, were given by divine inspiration….
>
> We affirm that Scripture in its entirety is inerrant, being free from all falsehood, fraud or deceit.
>
> We deny that Biblical infallibility and inerrancy are limited to spiritual, religious or redemptive themes, exclusive of assertions in the fields of history and science. We further deny that scientific hypotheses about earth history may properly be used to overturn the teaching of Scripture on creation and the flood. (Articles VI, XII)

Scripture also teaches its own *perspicuity*: despite the fact that it contains "some things that are hard to understand, which the ignorant and unstable twist" (2 Peter 3:16), it is nevertheless true that what God designed to communicate is understandable, so that Scripture is indeed *revelation* (Deuteronomy 29:29; 30:10–14; Psalm 119:105, 130; Acts 17:11). The Westminster Confession of Faith usefully summarizes the teaching of Scripture on this point:

> All things in Scripture are not alike plain in themselves, nor alike clear unto all; yet those things which are necessary to be known, believed, and observed, for salvation, are so clearly propounded and opened in some place of Scripture or other, that not only the learned, but the unlearned, in a due use of the ordinary means, may attain unto a sufficient understanding of them. (I.7)

However, at least since the time of the Christ, Scripture has been misused in service of false conclusions—either with deliberate intent to deceive (as when Satan tempted Christ, Matthew 4:6) or with various degrees of misunderstanding (as the Judaizers, Acts 15:1, 5).[1] Today such conclusions include the empirically falsified theories of geocentrism (e.g., "Geocentricity," 2020) and Flat-Earthism (e.g., "Biblical Flat Earth." n.d.). To safeguard against such, it is absolutely vital to employ a consistent grammatical-historical hermeneutic. Such a hermeneutic pays proper attention to genre, context, and figures of speech; it incorporates all available linguistic and archeological data; and it carefully compares Scripture with Scripture.

Under the umbrella of this hermeneutic, two considerations are helpful when relating Scripture to cosmology. First, we must beware of unwittingly adding to God's words. Given that some things in Scripture are "hard to understand" (i.e., "all things in Scripture are not alike plain in themselves"), and since God's inspiration extends to the very choice of words, we safeguard ourselves by not going beyond what those words specifically teach: "Every word of God is flawless; he is a shield to those who take refuge in him. Do not add to his words, or he will rebuke you and prove you a liar" (Proverbs 30:5–6). God has chosen precisely what to reveal, so that if a word or statement is unclear—even after comparing Scripture with Scripture—we must be content to leave it as such.

In particular, we must recognize cases in which Scripture gives us accurate phenomenological descriptions of nature, but without specifying details of the underlying processes and structures.

James Holding, a creationist, emphasizes this aspect of Scripture[2] in responding to the charge that the word "firmament" (Genesis 1:6) implies the existence of a solid dome above the Earth. We must, he says,

> realize that the inspired author of Genesis was allowed to use the only terms available to him in his language to describe natural phenomena, but was *not* allowed to offer anything more than the vaguest, most minimal descriptions of those phenomena, thereby leaving nearly everything unsaid about their exact nature. Genesis 1 was perfectly designed to allow that interpretation which accorded with actual fact, for it "says nothing more than that God created the sky or its constituent elements" while remaining "*completely silent*" about what those elements were. (1999, p. 45, emphasis in the original)[3]

As Younker and Richardson (2015) detail, the basic meaning of רָקִיעַ (*rāqîa'*)—the word in question—is "*expanse*," as Holding (1999) demonstrates,

1 In 2 Peter 3:16, the "twisting" of Scripture results from lack of understanding by the "ignorant and unstable."

2 Holding uses the term "equivocal" to describe the ambiguous language, but without the negative connotations often carried by that word.

3 Holding lists Aalders (1981, p. 61) as the source of the quoted statements.

there is nothing in the context of the Genesis usage to imply *solidity* of this expanse. Unfortunately, it seems that the translators into Greek read their own cosmological ideas into this word, yielding στερέομα (*steréoma*), which propagated into Latin as *firmamentum* and into English as *firmament*.

What is to keep us from making a similar mistake? Simply this: given that we believe in verbal inspiration, we must be careful not to press the wording of Scripture beyond what it actually implies. We have here a case in which Scripture provides an accurate description of a natural phenomenon, but it uses language that does not reveal the precise underlying nature of that phenomenon.[4] Furthermore, if the language does not do so, then it follows that God did not intend in these passages to reveal the precise nature of the expanse; rather, His purpose was to reveal (among other things) that He created it by His Word on the second day—and this fact is, of course, completely clear (perspicuous) in the text.

Thus, while Scripture is always consistent with scientific truth, we should not necessarily expect it to provide shortcuts letting us circumvent the process of scientific investigation. In the case under discussion, Scripture tells us that God created an expansive sky, but the exact nature of that expansive sky is revealed only through careful observation. Holding provides one reason for this state of affairs:

> The modern critic demands accommodation from God at the cost of confusion for all who lived before…. The most efficient option for the inspired text, therefore, was to make no explicit statements about subjects such as cosmology, which is exactly what we find in the Bible. (Holding, 2013, ellipsis added)

Another reason is surely the fact that God does not do our work for us; quite the contrary—it is His part to set up problems which give us the privilege (and joy) of discovery (cf. Proverbs 25:2). Scripture focuses on revealing what we, in our finitude and fallenness, would *not* discover on our own. Therefore, in describing natural phenomena, God not infrequently uses language which admits multiple understandings:

> terms left precisely undefined, served until such time as our own understanding was sufficient to comprehend the wonders of God's creation. It is singularly unfortunate that men of ancient times and even up unto the present day have imposed their own concepts of what is true upon the Word of God. (Holding, 1999, pp. 50–51)

As an example, creationists disagree on whether Biblical references to the stretching out of the heavens actually describe the expansion of the Universe. However, what is indisputable is that no one *predicted* the expansion of the Universe on Scriptural grounds. Scripture is *consistent* with Hubble expansion, but any actual reference to the expansion appears (if at all) only in hindsight. What Scripture *does* clearly teach is the phenomenological fact that the heavens are expansive, as well as the theological implication—namely, God's absolute sovereignty and transcendence.[5] But many potential cosmologies—whether expanding or static—are consistent with a visually expansive sky, and thus these Scriptural references do not decisively discriminate among them. The question of whether or not the Universe is expanding is one to be settled by observation.

Given, then, the existence of such language, we should beware of drawing overly hasty cosmological conclusions, especially from statements incidental to the main point of the passage. And we should of course completely repudiate "Bible-code" type readings which attempt to mine irrelevant passages for cosmological information; besides bypassing the task of investigation God has set before us, doing so is simply bad hermeneutics.[6]

Second, we should note that the language Scripture uses to describe the natural world is often figurative. For instance, Job 38:4 mentions "the foundation of the earth," and 1 Samuel 2:8 refers to "the pillars of the earth;" both metaphors evoke a visual image of the Earth resting on some external support. However, Job 26:7 declares that God "hangs the earth on nothing," implying suspension (rather than support) through some non-material means. In this case the language is non-specific *by* being figurative: both expressions cannot at once be literally true, yet clearly Job is not being inconsistent: these expressions are pictorial means of stating, on the one hand, that God is responsible for the stability of

4 Note that, as Holding (1999) also states, "Seely confuses adaptation to human finitude with accommodation to human error—the former does not entail the latter" (p. 45). The fact that certain Scriptural statements are non-specific does not imply that they are erroneous.

5 Thus it would be incorrect to say that the "true meaning" lay hidden until the 20th century (or some time yet future). The true meaning is precisely what God intended to reveal through the language He chose—in this case, expansiveness, sovereignty, etc.—and that meaning was readily accessible to the original audience.

6 A reviewer expressed concern that the above analysis could serve as a "back door to compromise." But the safeguard against such compromise is precisely the careful exegesis advocated at the start of this section. Since Scripture is verbally inspired, a careful analysis of its wording will enable us to discern both where it speaks and where it is silent. Where it is silent, we too must be silent, and where it speaks we must not back down.

the Earth and, on the other, that He employs no visible means in doing so. To determine which (if either) of these figures captures actual geophysical information, we must do the hard work of scientific investigation.[7]

We find another example in Judges 5:20: "From heaven the stars fought, from their courses they fought against Sisera." Attempting to draw cosmological conclusions from this statement could lead us to infer that stars exert some sort of astrological influence—a conclusion which Scripture elsewhere repudiates (e.g., Deuteronomy 18:9–11). Instead we recognize the presence of figurative language expressing the fact that the very forces of nature (perhaps a flash flood produced by a storm, v. 21) fought for Israel that day.[8] As Matthew Henry states, "Those whom God is an enemy to, the whole creation is at war with" (1708/1999, p. 117). And though this passage is poetry, which excels in the use of figurative language, figures of speech are common in narrative as well.

Such examples serve as reminders not to press Scripture beyond its wording in context, given that its primary purpose is, first, to provide us with the correct worldview in which to understand our observations, and second, to give us information we could not discover for ourselves (such as the timing and sequence of creation). We are thus encouraged to dig into Scripture, for it means what it says. But we must be careful not to go *beyond* what it says, and we should not expect it to provide shortcuts circumventing the process of scientific work.

With these facts in mind, we now consider three specific passages, namely, Hebrews 11:1–3; 2 Peter 3:5–7; and Romans 8:18–23.

Hebrews 11:1–3: Faith

This passage reads as follows:

> [1]Now faith is the assurance of things hoped for, the conviction of things not seen. [2]For by it the people of old received their commendation. [3]By faith we understand that the universe was created by the word of God, so that what is seen was not made out of things that are visible.

The first verse describes faith as "assurance" and "conviction," suggesting that this faith is not a blind leap in the dark.[9] Romans 1:20 speaks even more directly, stating that the evidence God provides leaves us without excuse (*anapologētous*, literally "apologetic-less"). Thus, we have sufficient grounds for our faith in the testimony of God's Word; examination of the whole of Scripture reveals that it points to both *a priori* grounds (e.g., its self-attesting nature and presuppositional necessity) and *a posteriori* grounds (e.g., the testimony of the created order and historical miracles).

But though the evidence is *sufficient* to leave us without excuse, it does not *force* belief upon us, given that the subject matter is "things hoped for… not seen." For this reason, the second verse states that the Old Testament believers were commended for their faith. Thus our response—whether faith (assurance, conviction) or unbelief ("suppress[ing] the truth," Romans 1:18)—determines whether or not we are commended.

The third verse applies this truth to the creation of the Universe, declaring that "things that are visible" (using the source of our word *phenomena*) are insufficient for deducing how "what is seen" came about. In other words, without faith in the testimony of Scripture we will inevitably reach false conclusions about origins. In particular, since creation occurred by God's command, there will be many aspects of the Creation Week which are inexplicable in terms of present-day processes.

Care in terminology is helpful here: it is tempting to speak of "natural processes" vs. "divine action," but this language lends itself to punctuated deism—because natural processes themselves reflect continuous divine action (John 5:17; Colossians 1:17; Hebrews 1:3). It is perhaps better to speak of *providential* action (God's ongoing sustaining of the Universe, which manifests itself in natural laws) and *supraprovidential* action (such as the creative action from which God rested on the seventh day).

Thus, this passage teaches, first, that to reach accurate conclusions about creation we must have enough confidence in God's Word to trust its plain statements—even when uncorroborated by direct observational evidence. Those who exhibit such trust receive commendation; those who do not will reach false conclusions. Second, in describing creation we must explicitly include supraprovidential acts. Some of these acts will be analo-

7 A reviewer noted that the first set of metaphors might refer to the mantle at the bases of the continents (with "earth" meaning "land")—and that may well be the case. However, these bases would still not be literal pillars (i.e., the language is figurative), and, more to the point, it is "the hard work of scientific investigation" which has elucidated the nature of these bases. In these passages, Scripture communicates precisely what it was designed to communicate, but not more.

8 Or it might refer to angelic intervention.

9 Louw and Nida (1996), citing this verse, define ἔλεγχος (here rendered "conviction") as "evidence, normally based on argument or discussion …'evidence that what we cannot see really exists'" (p. 672); likewise BDAG (again citing this verse), "the act of presenting evidence for the truth of someth[ing], proof, proving" (Bauer et al., 2000, p. 315). Neither is consistent with faith as a blind leap.

gous to providential processes (e.g., trees growing up out of the ground in Genesis 2:9), but they will presumably exhibit causal discontinuity as well (e.g., the aforementioned trees lacked parent trees). And while providential processes were also operative during Creation Week, they are insufficient for an accurate account of God's creative work. Third, since these supraprovidential actions occurred through God's spoken word, we presumably can look to Genesis for a record of them (though that record need not be exhaustive).

2 Peter 3:5–7: A List of Supraprovidential Episodes

This passage reads as follows:

> 5For they deliberately overlook this fact, that the heavens existed long ago, and the earth was formed out of water and through water by the word of God, 6and that by means of these the world that then existed was deluged with water and perished. 7But by the same word the heavens and earth that now exist are stored up for fire, being kept until the day of judgment and destruction of the ungodly.

In context, Peter is addressing the mockery of certain scoffers; they dismiss the possibility of Christ's return because it has not yet happened and in fact shows no sign of happening. Instead, they argue that "all things are continuing as they were from the beginning of creation" (vv. 3–4). In essence they use the observable regularity of nature (providential processes) to argue against the prospect of future supraprovidential intervention.

In response, Peter recounts two past supraprovidential episodes, noting that the scoffers "deliberately overlook" (v. 5) these data to draw their conclusions. Verse 5 describes Creation, the first such episode, and specifies water as the material out of which and through which the Earth was formed. The mention of water clearly alludes to Genesis 1. Creationists disagree on whether the initial use of "water" in Genesis ("face of the waters," 1:2) refers to actual H_2O; most argue that it does (e.g., Humphreys, 1994), whereas others consider it a figure of speech for fluid in general (e.g., DeRemer et al., 2007). However, the reference to water in this passage (2 Peter 3:5) specifically applies to "the earth" (not "the heavens"), and thus the specific allusion is more likely to Genesis 1:9–10, which focuses on the shaping of the earth itself. The main point of verse 5 in any case is that the creation of the world was a supraprovidential episode accomplished by the word of God.

Verse 6 specifies a second such episode, the Deluge. The agents of the Flood ("these," plural) seem to be both water and the word of God, since each of these antecedents is singular. And unlike the first episode (and the third in v. 7), the scope here does not explicitly include the heavens; rather, the Flood affected "the world"[10] which "was deluged with water" and thus perished. This silence presumably does not preclude cratering and other solar system effects (accelerated radiometric decay?), but it seems we have in this passage no warrant to expect cosmic results from the Flood judgment on our planet.

Verse 7 turns from the past to the future, describing a third episode—"the day of judgment and destruction of the ungodly." We note that "the same word" responsible for Creation and the Flood is now "storing up" and "keeping" the present heavens and Earth for judgment; thus the Word which created is also that which conserves, as Christ upholds the Universe (Hebrews 1:3). We should then not be surprised to find a unity between creation (supraprovidential) and providence, although that unity is Personal rather than mechanistic.

Thus this passage delineates three supraprovidential episodes which were (or shall be) at least planetary in scale,[11] which occurred (or shall occur) via the Word of God, and which those who operate with naturalistic presuppositions deliberately overlook. It follows that secular science will inevitably mishandle origins (and the Flood) by failing to account for God's supraprovidential work. However, the passage seems to give no indication that the Flood impacted astrohistory as it did geohistory—or at the very least we can say that the text is consistent with a Deluge event affecting only the surface of the Earth, or only the inner Solar System, etc.

Furthermore, we note that the Fall is absent from this list, although the significance of that absence is not clear, since the passage does not claim to be exhaustive. A reviewer suggested that the omission might be due to the fact that the Fall did not involve water (as did both Creation and Deluge). However, the third episode involves fire, not water—and since this eschatological episode is central to Peter's appeal in this chapter (see vv. 4, 8–14), it seems unlikely that the presence of water was a determining factor for inclusion/exclusion. Perhaps we can at least conclude that the direct physical effects of the Fall did not exceed those of the Flood, since otherwise it would

10 Although the Greek word is *kosmos*, its semantic range differs significantly from that of the English cognate "cosmos." In the New Testament it refers most often to unregenerate human society. The ESV uniformly renders it as "world," with the exception of 1 Peter 3:3, where it is translated "adorning" (corresponding to another English cognate, "cosmetics").

11 The other miraculous events recorded in Scripture seem to have been much more localized.

have been most fitting to mention it in this context.

Furthermore, this conclusion is consistent with Genesis 3, which describes the Curse in biological rather than physical terms. This is not at all to deny that the Fall had physical effects—it most certainly did. The question is the mechanism by which those effects occurred—whether God directly changed the system of physical laws (analogous to the biological changes imposed in Genesis 3), or whether the physical effects occurred more indirectly. If our deduction is correct that the Flood had no cosmological effect, and if our further deduction is correct that the Fall's direct physical impacts did not exceed those of the Flood, then we would have little if any Biblical warrant for proposing major, cosmic changes to the actual laws of physics (e.g., a reduction in the speed of light) as a result of the Fall. This, however, brings up the issue of thermodynamics; the universal entropy increase described by the Second Law of Thermodynamics seems closely linked to the Fall, and the next section of this article explores this issue.

Romans 8:18–23: Entropy and Hope

This passage reads as follows:

> [18]For I consider that the sufferings of this present time are not worth comparing with the glory that is to be revealed to us. [19]For the creation waits with eager longing for the revealing of the sons of God. [20]For the creation was subjected to futility, not willingly, but because of him who subjected it, in hope [21]that the creation itself will be set free from its bondage to corruption and obtain the freedom of the glory of the children of God. [22]For we know that the whole creation has been groaning together in the pains of childbirth until now. [23]And not only the creation, but we ourselves, who have the firstfruits of the Spirit, groan inwardly as we wait eagerly for adoption as sons, the redemption of our bodies.

Verse 19 tells us that creation (the *whole* creation, v. 22, not just the Earth) is eagerly longing for the "revealing of the sons of God;" this revealing (in context of verses 18, 21, and 23) refers to the eschatological glorification of believers. The reason creation thus eagerly awaits is the fact that it "was subjected to futility." It seems clear that the thermodynamic fact of continually increasing entropy—a fact grounded in both observation and statistics—is a mathematical formulation of this futility. Left to itself, the Universe is destined for a heat death of maximal entropy, that is, ultimate futility.

However, this subjection occurred "not willingly." Since inanimate creation has no literal will, the phrase seems to imply a fundamental incongruity with the nature of creation. It is incongruent with the nature of creation in that the most basic physical laws are *conservation* laws, implying that the innate nature of creation is to endure; the Second Law is in this regard a striking exception. Note also the analogy between the experience of creation (vv. 19–20) and the experience of believers (v. 23): believers groan because they "have the firstfruits of the Spirit," whereas the status quo—including our entire struggle against sin (vv. 1–17)—is incongruent with believers' nature and destiny as spiritually regenerate persons. "Beloved, we are God's children now, and what we will be has not yet appeared" (1 John 3:2). In the same way, it seems, creation groans because its current subjection to futility is alien to its nature. We might also note that verse 21 seems to use stronger language than verses 19–20: "bondage" rather than "subjection," and "corruption" rather than "futility."

In any case, a clue to the identity of the one "who subjected it" appears in the statement that this one did so "in hope." We cannot say that Adam sinned "in hope;" therefore, the one "who subjected it" must be God Himself. He is the One who subjected the whole creation to futility, but He did so looking to a future when "the glory of the children of God" would bring freedom to "the whole creation." Thus this passage teaches that, via the glorification of the children of God, the creation will (in the eschaton) be released from its subjection to futility.

What then is the relationship between Creation, the Second Law, and the Fall? It seems almost self-evident that the Second Law was operative in the original creation. By this law the Sun radiates light and heat, oxygen diffuses into blood cells, digested food passes into our bloodstream, etc. Statistical mechanics shows that the Second Law reflects the simple fact that disorderly configurations vastly outnumber the orderly, so that a transition from order to disorder is virtually certain. But if the Second Law operated from the beginning, how could creation's subjection to futility be contrary to its nature and purpose? And would God call "very good" (Genesis 1:31) a Universe doomed to a heat death?

Here we must enter the realm of speculation. One possibility is that there existed an entropy-reversing law which was revoked at the Fall. But this proposal faces multiple difficulties. First, man had dominion over the biosphere (Genesis 1:28), not the Universe; thus it is unclear why the Fall would alter the laws of physics throughout the entire cosmos. The Curse of Genesis 3, in being limited to the biosphere, is appropriately restricted to man's domain.[12] Second, superluminal propagation of causality

12 Again, this is not to deny indirect but far-reaching physical effects as a result of man's sin.

is physically problematic due to special relativity. This is *not* to suggest that God is bound by His own laws but simply to recognize a fundamental aspect of time itself, namely, that if causality propagates faster than light, there will exist reference frames in which the effect precedes the cause. Thus, if an entropy-reversing law had been revoked throughout the Universe at the Fall, there would be reference frames in which the revocation would occur *before* the Fall (before the effect's cause)—which would be counterintuitive at the very least. Third, as noted before, it seems unlikely that such a far-reaching, fundamental, cosmic change would *not* be mentioned in 2 Peter 3. Fourth and most seriously, if the subjection to futility indeed refers to the Second Law, then this passage indicates that the Second Law (existent in the original creation) was imposed *in hope*. Hope refers to the future, not to the present. (As verse 24 declares, "Hope that is seen is not hope.") An existing counter-law would not be hope but sight. Thus it seems that the mechanism for entropy reversal, while contained in the original creation (which was "very good"), would not have been operative until sometime in the future.

Hence, at this point we have (tentatively) deduced the following: in this passage it is God (not man) who subjected the creation to futility; this subjection (and thus the Second Law) was in place even before the Fall; God imposed this law in consideration of a future liberation; and the agency of this liberation was contained in the original creation but not yet operative.

On this side of the Fall, of course, we know what *shall* liberate creation, namely, the revealing of the sons of God in their glory (vv. 18–21), i.e., the glorification of believers. But perhaps we can also speculate further about what would have happened had man not fallen. We know that Christ is the Last Adam—glorified because of His obedience to death, with redeemed humanity to be glorified in Him (Hebrews 2:9–10; Revelation 3:21). Is it too far-fetched to conjecture that an obedient Adam would eventually have been glorified—and in him all humanity—to become agents of entropy-reversal throughout the Universe?

What if the provision for entropy-reversal *was* the human race? If this is the case, it would constitute an additional reason that God did not pronounce Creation "very good" until the final piece (mankind) was in place. The original hope of creation would still have been "the glory of the children of God." The Fall of man would have taken the temporary subjection to futility and turned it into a downright bondage to corruption, since Adam (the first human "son of God," Luke 3:38), had become subject to death as well: "You are dust, and to dust you shall return" (Genesis 3:19). It would also explain why 2 Peter 3 omits the Fall from its list of supraprovidential episodes, since no change in the laws of physics would have occurred; instead, the one who (with his descendants) was designed to be the renewer of nature would have disqualified himself from that role. It would also explain why, no matter how far into the distant Universe[13] we peer, we see no hint of entropy-reducing natural laws. Reversal of entropy is not to be found in the past but in the future. It is only now in these last days (Hebrews 1:2) that the Last Adam has appeared as a life-giving Spirit, whose image believers shall bear (1 Corinthians 15:45–49; 1 John 3:1–3).

Admittedly, the previous paragraphs contain much speculation; the author believes it to be well-grounded and plausible speculation, but it remains firmly in the realm of conjecture. What we *do* know from these verses is that redeemed humanity (in the Last Adam) will in some way be God's eschatological instrument for entropy reversal.[14] Additionally, we conclude against the existence of any lawlike entropy-reversal mechanism before the Fall, and thus we should not presume any such mechanism when building cosmological models.

Conclusion

What, then, may we conclude from these three passages? First, and most emphatically, this: if we consider only observable phenomena apart from Scripture, we will inevitably reach false conclusions about the origin of the Universe. Thus, in describing the week of Creation (whether verbally or mathematically), we must explicitly include supraprovidential activity while taking into full account the observed phenomena.

Several ancillary considerations now arise. On the one hand, we should not expect to find obvious "smoking guns" of God's creative action, because the same Word which describes creation also teaches that we grasp this truth not by observation but by faith.[15] Yet this presents a quandary: if observation is insufficient to constrain our understanding of Creation Week, how do we avoid losing ourselves in untrammeled speculation? Surely the solution lies in the fact that Biblical faith is always grounded in God's revelation, and thus we can presumably trust that Genesis provides enough

13 And thus, the author believes, back into Creation Week.

14 And this reversal will be permanent and/or continual: we have no reason to envision multiple "rewindings" of creation.

15 This fact should temper hopes of finding unambiguous indicators of cosmological youth. The Universe, one might say, is a "finished product," with no exposed plumbing or unfinished walls.

information for accurately understanding the observational data within a Biblical framework. It follows that, in modeling this supraprovidential activity we should beware of overstepping the clues provided in the opening chapters of Genesis.

Second, it is likely that Creation Week was the *only* supraprovidential episode affecting the entire cosmos. In particular, Scripture seems to give no warrant for extending the Flood episode beyond the near-Earth regions of space,[16] nor does it seem to give us grounds to postulate cosmic changes in the laws of physics at the Fall. In particular, it is virtually certain that the Second Law of Thermodynamics was in place during Creation Week, and it is likely that there was no "counter-Second Law" revoked at the Fall. From the beginning, entropy-reversal was a *future* hope, not an ongoing process. Whatever might have happened in an alternate unfallen history, Scripture teaches that in the actual world it is the redeemed and glorified children of God who, in Christ, will one day release creation from its bondage to corruption.

In any case, through our observations God has revealed a variety of cosmological data, and these data demand integration into a Biblical framework. The passages above provide confidence that He has also revealed, in His Word, the additional data necessary for an accurate (though not exhaustive) understanding of origins—including the origins of these observed phenomena. The challenge is to slight neither Scriptural nor observational data. Unfortunately, our error-prone finitude, exacerbated by the noetic effects of sin, yields many opportunities to err in either direction. Nevertheless, since our Lord has revealed both types of data, it is our responsibility to proceed in the attempt—humbly recognizing our limitations, yet confidently trusting that in time He will glorify Himself by leading us to an increasingly accurate understanding of these matters.

16 Cosmologically speaking, the Solar System would certainly be near-Earth.

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