Creation Week, mature creation, and natural processes?

Creation Unfolding: A new perspective on Ex Nihilo
K.P. Coulson
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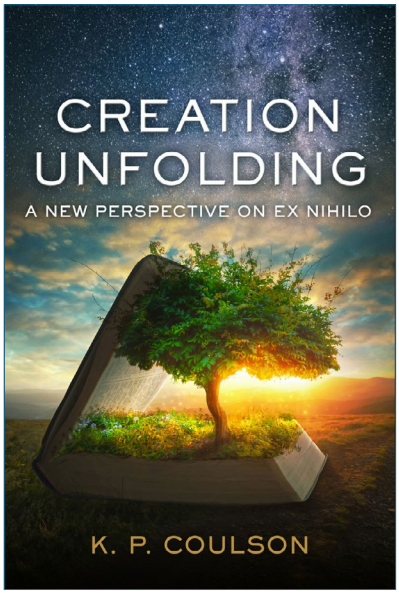

Shaun Doyle

God made the world and everything in it in six consecutive ~24-hour days. The Scriptures are clear and emphatic on this—especially what God wrote with His finger in Exodus 20:8–11. But what exactly happened during Creation Week? Can we use science to show that what God made during Creation Week was made recently? Or do we need to appeal to some sort of 'apparent age' apologetic? Or perhaps we should just be satisfied with calling it a miracle, and leaving it at that?

The question of how science and natural processes interface with the creation miracle raises a lot of important issues in the origins debate. Ken Coulson, a Ph.D. creation geologist (from Loma Linda University, specializing in Cambrian microbialite formations) has written *Creation Unfolding: A New Perspective on Ex Nihilo* to address these questions.

What's the problem with YEC approaches to Creation Week?

In explaining the origin of things in Creation Week, "God spoke, and it happened" is a fair answer, as far as it goes. It was clearly a miracle. However, young-earth creationists typically don't leave the answer there. The world is full of process, which we study through science. How do we interface that with Creation Week?

Coulson sees "some glaring problems within mainstream young-Earth creationism [YEC] that stem from what I believe is an overly suspicious approach to conventional science". YEC websites run by people with little or no scientific or theological expertise have promoted the misguided belief that "a YEC interpretation of nature is *obvious*, and only a fool would fall for the secular view that believes the Earth is 4.6 billion years old." This has incited evangelicals in the church at large to say things like, "there is not a shred of evidence in support of an evolving universe," or "how could anyone believe in millions of years of Earth history?" Put simply: science *proves* the young age of the earth and universe, and it's only the foolish naturalistic bias that blinds the scientific establishment to the obvious.

However, there are processes at play in creation that we know can form much of what we see, *given enough time*. But to do so they would require far more time than Creation Week allows. As Coulson explains:

> "As we shall see, there are many aspects of creation that, without deferring to special revelation, *will only lead* to an evolutionary and/or old-Earth perspective."

For instance, Coulson cites the example that new continental crust is being formed at a certain rate per year through processes we see happening today (figure 1). But if we extrapolate those processes back at the rates we currently observe, they would give an age for the crust much older than the Bible allows for. And yet, geophysicists can successfully predict the composition of the continental crust by assuming it formed through those natural processes. The geophysics of continental crust formation is *successful* science, both as operational science *and* historical science. So, if natural processes suffice to create the continental crust, and the rates of the natural processes through which it forms indicate a million/billion-year age, where is there room for supernatural creation?

When a Christian geologist or geophysicist sees this, how does he respond? How can he integrate what he knows from the Bible, that God created the world in six days, with the success of his scientific discipline in predicting so much about the nature, history, and origin of Earth's interior by the operation of natural processes? This is the question that drives Coulson's book:

> "This book presents a scientific and theological synthesis that both affirms a six calendar-day creation while at the same time providing a solid scientific methodology from which the Christian layperson, educator, and scientist can approach the origin of the universe."

A new mature creation apologetic

Coulson says there is only one way to deal with this:

> "The presence of vast processes in conjunction with short time frames can, therefore, only be understood by appealing to some kind of mature creation apologetic."

But, what sort of "mature creation apologetic"? There have been different forms since they first arose in the 19th century, largely in response to the growing acceptance of deep time geology. Coulson surveys their history, starting with scriptural geologist Granville Penn and the *Omphalos* theory of Philip Gosse. He then highlights the approaches of Henry Morris and Ken Ham, which were much more modest approaches than Gosse. Morris allowed for apparent history in inorganic traces (such as radioisotope abundances and starlight from distant stars) but rejected the application of apparent history after Creation Week or to explain the fossil record, which he (rightly) held to be inconsistent with a 'very good' pre-Fall world. Ham, however, had the 'thinnest' form of mature creation, embracing 'functional maturity'—'apparent history' only so far as needed for the immediate function of the biosphere.

Coulson then identifies what he regards as the main objection to mature creation apologetics: what has been dubbed 'non-essential apparent age'.[1] For instance, SN1987A:

> "Why would God create in-transit starlight representative of a fake supernova that itself becomes manifest only thousands of years later, and then only for a few months before fading into the stellar background? It seems fair to say that SN1987A and its related cosmological phenomena do not seem to be required for the immediate functionality of a mature universe".

Coulson suggests compartmentalizing matters. Consider Adam's skin. Coulson suggests it was rapidly 'aged' in anticipation of the natural laws and conditions that would naturally age human skin to match his functional 'age' (of a 20–30 year old). In that case, it would have freckles, blemishes, and even wrinkles. But it would of course have been the skin of a *perfectly healthy* young man; no scars or defects that would affect the function of the skin. As an analogy, he considers Moses' snake (Exodus 4:3). Was it genetically perfect without defect or signs of aging? Probably not. It was probably a snake the Egyptians would've recognized. In other words, it was made *in anticipation of the conditions it would be exposed to*. Which means it would've looked like an ordinary snake—mature, healthy, *and* with phenomena consistent with a fallen world. But is that deceptive? Coulson thinks not. Rather, it goes back to purpose: what was the snake made *for*? To convince the Egyptians that God was the true Creator. The message was thus something recognizable to the audience.

In fact, Coulson says the removal of such age and growth-process phenomena (e.g. tree rings) has problems of its own:

> "An across-the-board, blanket-like removal of all such age and growth-related phenomena by God during Creation Week would change the very way nature was supposed to look, grow, feel and sound … . Such an anomaly would also make it difficult, if not impossible, for man to complete his God-given mandate to have dominion over the entire Earth. To have dominion over something means to *understand* how it works. If Adam suddenly decided to dump his newly acquired theological training in exchange for a career in paleontology, archaeology or osteology, he would soon find himself up against some contradictory and anachronistic data."

In truth, though, Coulson offers a slightly different approach. He seeks to avoid the language of 'mature creation', 'appearance of age', and 'apparent history'. For him, the problem is that these speak in static terms to describe *dynamic* events. They focus only on the effect and ignore the cause. To do this, Coulson suggests two concepts: *supernatural formative processes* (SFPs) and a *conceptual universe*, which he spends the next four chapters elucidating. With these, he believes he has found a way for mature creation apologetics to interface fruitfully with secular geophysics and astronomy while remaining faithful to the biblical text.

One of the weaknesses of traditional mature creation apologetics is its lack of attention to the *processes* that govern creation. Plus, God appears to have supernaturally formed at least some things through processes during Creation Week, such as the land appearing out of the waters below and the vegetation sprouting on Day 3. But how did God govern those SFPs? Coulson uses examples of post–Creation Week miracles as a template for understanding Creation Week.

For instance, Jesus turned water into wine. If it were submitted to scientific analysis, it would've reflected the typical natural history for producing wine in that time and place. The same would be true for the almonds that budded from Aaron's staff and the snake that formed from Moses' staff. Jesus Himself was unremarkable in appearance—an ordinary-looking human. And, of course, Jesus created bread and fish more than once, which would've reflected the specimens of each recognizable to the locals. In each case, Coulson argues that "God's supernatural creative strategy involved a *commitment to existing natural processes*."

Coulson also points out that, in all these cases, a commitment to science as the only way to know things would lead us to *wrong* conclusions. The physical characteristics of Aaron's almonds, Moses' snake, Jesus' DNA, and the bread, fish, and wine he made would all lead us to *inevitably* conclude that they formed through natural processes. After all, experience teaches us that time-dependent processes are

needed for these things to come into existence. But this would be wrong. When God says He created something supernaturally, we're no longer given the option to interpret its origin in terms of natural processes. If we try, we *will* conclude a false origin.

But Coulson argues this approach can be pushed back into Creation Week as well. For instance, Snelling has suggested that kilometre-thick strata were deposited on Day 3 as the land appeared out of the water.[2] Faulkner has suggested that cratering occurred rapidly for the moon on Day 4.[3]

These clearly must be *accelerated* processes; a rapid *maturing* of the elements under consideration *from an undeveloped or embryonic state*. But Coulson adds to that the notion of the *constancy of relative rates of process*. For instance, if two plants grew at different rates relative to each other, God would've sped them up *so that their rates of growth remained the same relative to each other*. This would create a sort of 'time lapse' effect. Plants would all grow normally *relative to each other*, but the system *as a whole* would be sped up. Indeed, in rapidly *maturing* the plant world like this, some plants may have gone through cycles of life *and death*. That may even be crucial for establishing a *functional* plant ecosystem. We can call this the *time-lapse creation* model (figure 2).

Coulson then applies this to geology. The land *appeared out of the sea* on Day 3. Several creationists have noted this, and posited *catastrophic* explanations for the Precambrian rock relationships akin to Noah's Flood (indeed, even larger!). However, Coulson points out a problem for this interpretation: stromatolites are present all over the world throughout much of the Precambrian record. They are mound-like structures that typically accrete because of the work of photosynthetic bacteria. However, there are many stromatolite horizons in some of the earliest rocks on Earth to form. But that would imply that communities of cyanobacteria grew and died multiple times, and thus, under ordinary circumstances, it would have required substantial time to form. Moreover, a catastrophic upheaval of the land would create conditions inimical to the formation of stromatolites. Coulson explains the import of his solution:

> "This might mean that the Day 3 regression of Earth's oceans was not catastrophic at all. Something is geologically catastrophic when a *single rate*, say erosion due to a flood, is accelerated many times relative to other geologic rates—e.g. deposition of sediment, growth of plants, production of soil. Since *all the rates* were accelerated and remained constant with each other, an observer would witness the development of a genuine, shallow-water environment proceeding at break-neck, yet time-lapsed speed."

However, Coulson says we can't apply SFP theory to arrive at anything empirically consistent with big bang history of the universe. In the Bible, the earth was made on Day 1 and the celestial objects on Day 4. The big bang history says the sun and most of the stars were formed before the earth. To address this issue, Coulson introduces his 'conceptual universe' idea: "a fully functional, conceptual universe, already 'existed' *in the mind of God* prior to Genesis 1:1."

In essence, Coulson posits that God had a whole maturation process for the universe *in His mind* before Genesis 1:1. However, when God manifested the physical product, He didn't manifest the whole maturation process He had in His mind. Instead, He only manifested the *end product* of the maturation process in His mind. SFP theory still applies in this scenario, since God conceived not simply the final product, but the whole maturation *process*. However, Coulson doesn't require the maturing process *in the universe* to have had a physical manifestation, like he suggests for Earth processes on Day 3. As such, events such as SN1897A occurred *in the mind of God* as part of God *mentally* maturing the universe.

But why create the earth before the sun? Of course, God could've done whatever he wanted; the question is in one sense rather moot. But, Coulson explains:

> "Contrary to popular opinion, the pinnacle of God's creation is not the universe, *it is man*. Man is God's creative, crowning glory. In order to underscore this reality, God purposefully placed the planet upon

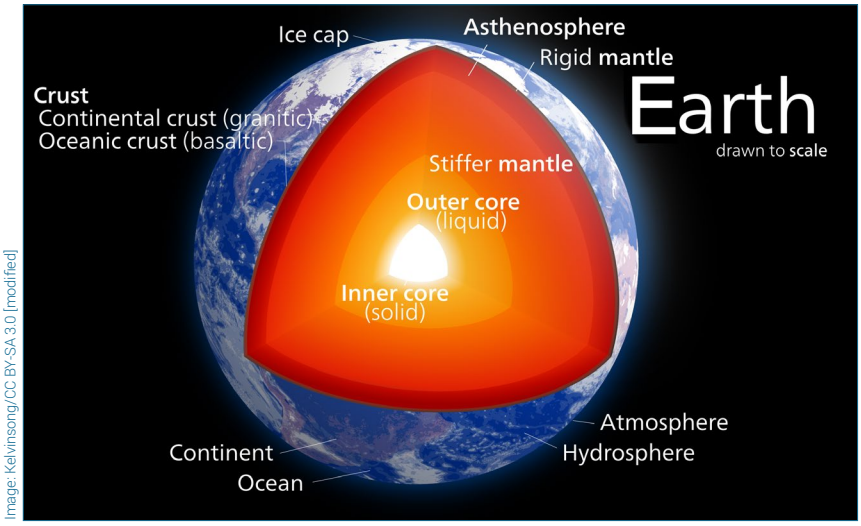

Figure 1. If natural processes successfully describe the evolution of the earth's interior, did God use them in making the earth's interior?

which man would dwell as first in the created order."

Assessment

So, what are we to make of Coulson's mature creation perspective? Coulson's project is an interesting one, and also likely to be quite controversial.

A successful mature creation apologetic?

The crucial question is: does Coulson succeed in overcoming the standard challenges to mature creation apologetics? I think some aspects of his model do this better than others.

Time-lapse creation?

I think the most successful aspect of Coulson's thesis is his 'time-lapse creation' idea. It gives us a reason to affirm the *reality* of large-scale processes during Creation Week, since God basically *accelerated* the maturation *processes* of the various systems He created. On the surface, the only feature of this history that seems 'apparent' is the *age*.

However, there is a major challenge for this perspective. How could *seasonal* plants grow all over the earth when they were exposed only to one daylight period and a single day of weather (of whatever season)? Indeed, without any sun? The same problem affects geological processes in Creation Week, with the possible presence of, for example, tidal rhythmites in Precambrian rocks, as well as the need for photoperiodism to explain the existence and growth of stromatolites. It was one day before the existence of the sun and moon; how could many days, months, and years of biological processes happen without photoperiodism and the existence of the sun and moon? This is basically a special instance of the old 'apparent histories make God a deceiver' objection. After all, much of how the rocks and plants developed in this scenario occurred *as if*, for example, the sun and moon were present, though we know they were not.

I think Coulson's appeal to the budding of Aaron's staff in Numbers 17:8 as a template is a good response. The staff budded, blossomed, and produced almonds *in one night*. However, almonds require not simply more time than one night to grow, but also seasonal variations and photoperiodism (as well as soil, a root system, and nutrients). As such, the almonds rapidly matured *as though* all the needed natural conditions were present. Other examples of biblical miracles (such as Jesus' human body, and the miraculous wine, fish, and bread) would all correspond to this pattern, too.

Applied to the creation of vegetation and the appearance of the land on Day 3 of Creation Week, it would suggest that all the processes involved in the system (including organism growth) were accelerated proportional to each other *and* the organisms grew as though all the needed natural conditions were present.

But how could all this happen in one period of daylight? Coulson has a good answer for this, too: "The periods of day, evening, and morning served to fix the reader's temporal frame of reference, *not to cause the growth of plants* [or cyanobacteria in stromatolite formations]." The growth of plants was an *inside* consideration for the time-lapsed system, not a concern for the absolute temporal frame of reference.

A conceptual universe?

I think Coulson's 'conceptual universe' idea is more problematic. The biggest problem, I think, revolves around giving a *merely conceptual* maturation process the status of 'real'. It seems to me implausible, even if God is the one doing the conceptualizing. It blurs the distinction between conceptualization and creation; a distinction we experience every day. Whatever sort of ontological status we give to thoughts and concepts, there is clearly a fundamental lack of concreteness to them that exists for causal objects such as we see all around us in the physical universe. And this is not to promote materialism, either; God and spiritual agents are just as concrete and causal as the physical world, though *we* lack any physical sense experience of them (in general). However, to the extent that God's conceptualization of any sort of maturing cosmos lacks concreteness, it seems it lacks *genuineness* as a process *history*. As such, the spectre of God as a deceiver is not so easy to avoid.

Moreover, I'm not sure how much Coulson needs to rely on the 'conceptual universe' idea to achieve his aims. I don't think it's needed to make Day 4 work in Coulson's perspective. All God needs to do is cordon off Earth from any effects of a rapid maturation of the cosmos on Day 4, and such a process can be allowed to proceed *in physical history* and not merely in concept. In this case, SN1987a was thus the product of not just the post–Creation Week history, but that and the *real* maturation of the cosmos on Day 4.[4] Indeed, Coulson acknowledges this possibility:

> "It is true, God could have brought an *immature* universe into our existence, causing it to develop in time and space like the 'sprouting' plants and trees of Genesis 1:11–12 or the Earth. … Doing so, however, doesn't change the fact that God has every developmental facet of our universe, including its future state, fully planned out in His mind."

Coulson's response, though, assumes that God merely having the plan in his mind makes it count as 'real'. That, however, is precisely the problem—is it 'real' if the plan is *just* in God's mind?

Apologetics, faith, and ambiguity

Coulson thinks we *can't* prove the universe is young. Indeed, he says God designed things that way: "God's design is not to prove that the earth or the universe is 6,000 to 10,000 years old." Instead, he says that God is clear

enough from creation to justifiably condemn us for ignoring general revelation, but ambiguous enough to allow people the freedom to ignore Him. Mature creation and the mismatch of scientific conclusions and scriptural declarations are instances of God veiling Himself.

This is an interesting approach. There is little problem with God inputting some ambiguity into creation. And God does indeed save through the foolishness of the Cross rather than through the mere application of human intellect. Nonetheless, I don't think this provides much support for Coulson's mature creation apologetic.

First, what of Romans 1:19–20? I think Coulson rightly points out that this doesn't have anything to do with proving the world is young: "Psalm 19, 104 and other such passages are mainly concerned with a broad theological fact—God is powerful, and this power is displayed in the created cosmos." Still, if Romans 1:19–20 has nothing to do with proving the earth is young, can we be sure the pattern God used in general revelation applies to scientific process-age arguments? Perhaps God providentially embedded some supernatural signatures in the rocks, knowing they would only become relevant in modern times, and did so to encourage the faithful and provide a challenge to skeptics.

None of this suggests scientific process-age arguments would ever prove *beyond a shadow of a doubt* that the world is young. But it does attenuate the link between ambiguity in creation and the sort of general mature creation apologetics Coulson advocates. Why? It shows that process-age arguments are also consistent with the balance of ambiguity and clarity God has deployed in general revelation. After all, such process-age arguments have some convincing power, but they are based on large-scale extrapolations, and these, in turn, are based on assumptions. As such, the naturalistic mindset can ignore or sidestep them with auxiliary hypotheses. After all, if they can do it with abiogenesis, they can do it with anomalous process ages in the rocks. At the very least, either approach is justifiable.

Nonetheless, if there is a lot of ambiguity in creation, it may lend more support to the sort of mature creation approach Coulson employs. However, I think Coulson overplays the ambiguity embedded in creation.

Figure 2. Coulson's 'time lapse creation' has God hitting 'fast forward' on natural processes to produce the land and plants on Day 3 of Creation Week.

He says ambiguity is so pervasive that, despite the fact everyone must exercise some sort of faith, "I do believe it is the Christian who must exercise *more* faith" than the materialist. Is this really consistent with saying that general revelation is clear enough in what it reveals about God to hold everyone accountable for ignoring or rejecting God? It doesn't seem so. Plus, I don't think God's ambiguity in creation is that severe. If it were, materialism and atheism would have been broadly popular views throughout history. And yet Isaac Newton, only 300 years ago, quite justifiably said this: "Atheism is so senseless and odious to mankind that it never had many professors."[5] We can acknowledge that it's much easier *today in the West* than it ever has been elsewhere to be an atheist or materialist. But that suggests the issue is not something intrinsic in faith or general revelation, but rests largely in the particulars of our culture and recent history.[6]

Two approaches?

This brings us to two ways to view Creation Week, as Coulson observes. He says it revolves around the question: is there an apparent age for the Earth (and universe)? He outlines the implications of each idea:

> "1. If there is *no* apparent age for the Earth, this would mean that various processes *currently* at work within the earth cannot be extrapolated backwards in time for the purpose of determining a 'beginning'. In this scenario, some of the Earth's *internal* processes can be extrapolated backwards millions or billions of years (partial melting, fractionation, gravitational differentiation, radioisotope decay), others can be extrapolated backwards hundreds of thousands or even thousands of years (the decay of the earth's magnetic field), while others cannot even be correlated at all, since they were clearly supernatural acts (polonium halos). This would mean that

God used other, as yet unknown, mechanisms in conjunction with known processes when forming the planet.

"2. If there *is* an 'apparent age' of the earth, this would mean that various processes at work within the earth *can* be extrapolated backwards in time for the purpose of determining a 'beginning'. In this scenario, *all* the earth's internal processes can be extrapolated backwards into Creation Week because, although these processes were accelerated, they were operating at the same rates, *relative to each other*, as they do in the present (SFP theory)."

Coulson favours the latter approach, and I think he has laid out its strengths relatively well. However, I think he misconstrues the true strength of the 'no apparent age' (NAA) approach.

Coulson says:

"Choosing the first option has the benefit of underscoring a few processes for the purpose of 'proving' that the Earth's *internal* structure was supernaturally created about 6,000 to 10,000 years ago."

For instance, the magnetic field of the earth seems to match the c.-6,000-year timescale of the Bible and is therefore *positive scientific support* for the biblical timescale.

However, if the earth has no apparent age, the existence of processes that roughly match the biblical timescale is *inconsequential* for its reasonableness. Instead, it's what Coulson thinks the proponent of this approach must *admit* that is the true *strength* of this approach:

"This means scientists cannot rely on *current natural* rates for the purpose of understanding anything that was made during Creation Week."

The advantage of this approach is that, if true, it reveals the futility of trying to form a comprehensively cogent naturalistic account for the history of the universe. Since different processes give different process ages, how could such a system have formed naturalistically? The resulting conditions are complex in very specific ways; ways that would be too improbable for it to have formed spontaneously within the history of the observable universe. But such conditions are only ever associated with intelligent activity. In other words, anomalous processes with a system are an argument for *intelligent design* (or supernatural creation).[7]

But does this make the NAA approach better than the AA approach? Not necessarily.

First, what of those supposedly 'discrepant' process ages? Some seem more secure than others. But we run into a serious problem of underdetermination: i.e. the physical data seems open to multiple conflicting, yet empirically equivalent, interpretations. The data by itself is rarely, if ever, enough to justify belief in one interpretation of the evidence over all others. Indeed, perhaps the starkest examples of underdetermination among scientific disciplines concern the historical sciences of the deep past. After all, think about the million-fold or more extrapolations that are required to obtain process ages! Are we sure that nothing happened in between now and when the system started 'ticking' to affect the 'age' the system gives? And what of the radical 'gappiness' of the rock record—it is more gap than record at *multiple different scales!*[8] These issues are a major problem even *after* Creation Week, but they become unavoidable *during* Creation Week.

As such, there *are* scientific reasons to adopt the NAA approach, but they are not so epistemically secure as to rule out the AA approach. The AA approach also has several scientific and theological advantages, as Coulson points out. In other words, there is enough ambiguity in the data *and* the theology for creationists to develop *both* approaches.

I think this is a good thing. It forces us to be tentative about our conclusions in favour of our preferred approach and flexible in our apologetic strategy. For those who feel the weight of the concerns that motivate Coulson, his 'apparent age' approach provides a fruitful way forward. For creationists who are more skeptical of secular science's ability to understand the history of the cosmos, and those who think there are genuine process-age discrepancies, there is a fruitful way forward. Most importantly, though, this flexibility emphasizes that our approach is founded on *Scripture* rather than our scientific extrapolations and theological implications.

Conclusions

Coulson has presented an interesting case for a mature creation apologetic. It is wide-ranging, well thought out, and achieves many of its aims. There are, however, some important weaknesses, neither is it the only viable approach. Indeed, a variety of approaches is justifiable and healthy. Nonetheless, I think Coulson has presented a useful scientific/theological synthesis for understanding Creation Week. I look forward to seeing it developed further.

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