

**Science and Faith at the Crossroads of Creation: The Biblical Creation Story as it Might be Told to the Society of Evolutionary Biologists**  
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By popular demand (albeit my own) I'm to tell the story of creation and new creation as though a missionary speaking at a plenary session of the Society of Evolutionary Biologists. I've provided you, the listener, with a "role play fact sheet" so you can put yourself into the mind-frame of my intended audience. As a pastor, of course, it's not my role to convince you of any particular view in the realm of science. My concern here is with getting the good news out of the Bible Belt and into the Biology Belt. The purpose of this role play is to sympathetically place yourself within the perspective of those who are shaped by one of the primary narratives in the story of mainstream science. Forgive me if my tone in this piece is lecturely, but this is a society of academics, and as members of this society your views are as follows:

*Science is the most powerful story you've ever encountered, the source of much good in the world, and much wonder as you study it. You're also good at it, and it's a wonderful feeling to be good at something. You especially enjoy the thrill of discovery: stumbling into what wasn't previously known before.*

*You have a general distrust of religion which you see as the source of much evil in the world. In your view, the more strongly religious a person is the more intolerant and even dangerous they seem to become. When you run into people who are distrustful of science, you discover it is often for religious reasons. The more a person talks of "a personal relationship with Jesus" the more likely they are to doubt the value of what you do for a living. You're intrigued by the prospect of a personal experience of God, but the associated "posture of protest" toward mainstream science makes you feel that people who think like you do aren't likely to end up as friends of such a deity. Whether God exists or not is beyond you. You hope so, but don't have much hope of finding out with the current data.*

*Here's what you believe based on the evidence of science concerning the emergence and diversity of life. All life is related in a great tree of life, with a common root. Life began on earth mysteriously about four billion years ago. Whether it was seeded by life begun on another planet or emerged from scratch here you don't know, but you're dying to find out. Life is marked by the remarkable new ability to make copies of itself: to replicate, according to kind. In the early stages life's development, it took relatively simple forms, like bacteria. Over vast periods of time, it became more diverse, including increasingly complex forms along with the simple forms.*

*How did this process unfold? It all boils down to information, copied and passed from generation to generation through the genetic code imbedded in the "DNA"*

*of genes. Mostly the copies of DNA are very accurate, to an incredible degree in fact. But occasionally (roughly once in a million data bits) there are changes in the copy compared to the original. This slight variation in the copy compared to the original is called a mutation. In fact, on average each person's DNA contains about 60 such variations compared to the information passed on by their parents. Most variations are inconsequential, and simply exist without hurting the body in which the code is imbedded. Very rarely, the variation hinders the body, or even keeps it from surviving. And even more rarely still, it's a slight improvement, allowing the body in which it's imbedded to adapt more effectively to the surrounding environment. Because populations of a species become more like the individuals within it who breed the most, the rare improvements in DNA tend to get passed along at a higher rate.*

*The process that allows for slight variations in the copies of the DNA can't be predicted by science. From the perspective of science, they "just happen." Therefore the copy variations are called "random." If it weren't for the possibility that some variations could be useful to the body as it adapts to its environment, species would be in even bigger trouble than they are, because over long periods of time, environments change and what worked for the old environment doesn't work in the new. Evolutionary biologists call this adaptation. There's no doubt that from its very humble and mysterious beginnings life has been wonderfully adapted to a changing environment, and as human beings, we are exhibit A in that adaptive process.*

*The entire process is called "evolution." It's unrelentingly conservative; as long as something works, it continues, whether or not life gets bored with it working; but it's also unrelentingly progressive because over vast stretches of time, it allows life to adapt to new environmental challenges.*

*As an evolutionary biologist you view evolution as a thing of immense scale and beauty. It helps you make sense of the world around you and is the source even of what some might call religious wonder: that in the beginning something (an information shift?) gave birth to energy which gave birth to matter which over billions of years and against incredible odds gave birth to organic life which over more vast stretches of time produced a form of life which is aware of itself, and has the capacity to look back and understand something of how this billion years old universe unfolded.*

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Thank you for the time you given me today to share the biblical story of creation and new creation with you. I'm amazed by the humility of the Society of Evolutionary Biologists, that in these days of culture war a pastor would be invited to speak at one of your plenary sessions.

I'd like to match the humility of your invitation with a little humble pie of my own. I wish to apologize for the way we Christians--too many of us--have responded to your findings about the development of life on planet earth. I have to admit that

many of us have failed to love you by not listening to your story as well as we would want you to listen to ours. This is in direct violation of our founder's Golden Rule: do unto others as you would have them do unto you.

The sad fact is, many of us have tried to share our story with you by attacking yours. This is not an authentic part of our tradition. When Charles Darwin first published Origin of Species, many of his peers didn't buy his theory. But Asa Gray, a botanist from Harvard and a devout follower of Jesus, came to be convinced that Darwin's theory had merit. Gray became Darwin's advocate while maintaining his devout faith. Gray had a long correspondence with Darwin, who struggled over the question of God's existence because of the suffering he experienced in his own family. (Many others, including the biblical author of the book of Job, struggled over how a good God could allow such awful suffering. It seems so unfair.)

I'm also encouraged by B.B. Warfield, a conservative biblical scholar and devout follower of Jesus in the 19th century who founded a movement called "biblical inerrancy." Warfield also believed that faith in Jesus and love for his book was compatible with the findings of Charles Darwin. There have been many others, including Francis Collins, head of the Genome Project, who sees no incompatibility between the theory of evolution and an ardent faith and devotion to Jesus and his book, the Bible.

But most of all, I'm inspired by the example of an early disciple of Jesus named Paul, who showed us how to tell our story without attacking the story of others. (Paul was to Jesus what Thomas Huxley was to Charles Darwin: a first generation popularizer of his views.) What follows is the account (with my commentary) of Paul's interactions with the Athenians. It's an example of how the followers of Jesus are supposed to their good news with others. After this I will attempt to share, in the Spirit of St. Paul, the common ground that exists between the scientific and biblical views.

**While Paul was waiting for them in Athens, he was greatly distressed to see that the city was full of idols. So he reasoned in the synagogue with the Jews and the God-fearing Greeks, as well as in the marketplace day by day with those who happened to be there. A group of Epicurean and Stoic philosophers began to dispute with him. Some of them asked, "What is this babbler trying to say?" Others remarked, "He seems to be advocating foreign gods." They said this because Paul was preaching the good news about Jesus and the resurrection. Then they took him and brought him to a meeting of the Areopagus, where they said to him, "May we know what this new teaching is that you are presenting? You are bringing some strange ideas to our ears, and we want to know what they mean." (All the Athenians and the foreigners who lived there spent their time doing nothing but talking about and listening to the latest ideas.)** (Acts. 17: 16-21)

The gospel was "a new teaching" and so it was often misunderstood by well meaning people. Even today it is new, being as it is, rooted in a kingdom not of this world and thus beyond the powerful lens of the scientific method. Anything beyond our current lenses is new. In the grand scheme of things, evolutionary science is also a new teaching, so we have that in common. We both know what it's like to have our stories misunderstood by well meaning people. Let's hope for better days in this regard as we learn to listen better to one another.

**Paul then stood up in the meeting of the Areopagus and said: "Men of Athens! I see that in every way you are very religious. For as I walked around and looked carefully at your objects of worship, I even found an altar with this inscription: TO AN UNKNOWN GOD. Now what you worship as something unknown I am going to proclaim to you. (Acts. 17: 22-23)**

Being a "person of the book," Paul valued education. Athens was a university town, known for its love of learning. In fact it was their love for "new teachings" that made them curious about Paul's new teaching in the first place. Paul approached the Athenians respectfully. He complimented them for their sincere quest for truth. He refers to the Athenian gods irenically, as "objects of worship." (As a Jewish man, his nation under harsh pagan rule, a man temperamentally wired to enjoy a good argument, he might have gone into a tirade against the pagan gods, but he chose not to because it's hard to perceive the gospel as good news when people are yelling it at you.)

Like Jesus before him, Paul was looking for common ground with those on the outside of faith looking in. All communication begins with common ground, and the news that Paul brought was of a God eager to communicate with those of us who feel themselves to be exiled, missing, away from, or lost from God.

**"The God who made the world and everything in it is the Lord of heaven and earth and does not live in temples built by hands. And he is not served by human hands, as if he needed anything, because he himself gives all men life and breath and everything else. From one man he made every nation of men, that they should inhabit the whole earth; and he determined the times set for them and the exact places where they should live. God did this so that men would seek him and perhaps reach out for him and find him, though he is not far from each one of us. 'For in him we live and move and have our being.' As some of your own poets have said, 'We are his offspring.' "Therefore since we are God's offspring, we should not think that the divine being is like gold or silver or stone—an image made by man's design and skill. In the past God overlooked such ignorance, but now he commands all people everywhere to repent. For he has set a day when he will judge the world with justice by the man he has appointed. He has given proof of this to all men by raising him from the dead." When they heard about the resurrection of the dead, some of them sneered, but others said, "We want to hear you again on this subject." (Acts 17: 24-32)**

Paul finds another point of agreement with his listeners: the Stoic philosophers who were so popular in Athens, agreed with him that God does not live in temples made by hands. Paul even quotes one of them: "For in him we live and move and have our being." He also quotes one of their poets, "We are his offspring." These were not Bible quotes, but they've found their way into sacred Scripture through Paul.

All this to say, please accept my apologies on behalf of Christians who have failed to approach you as we would want to be approached. It's our religious duty to listen to your stories as Paul listened to the Stoic and Epicurean philosophers well enough to quote them sympathetically (rather than to score points at their expense) and visited the Athenian sacred shrines to understand their worldview better. It's our duty as Christians to look for the common ground between the story of science and the story of the biblical God. We can't expect you scientists to do that hard work for us, because it's our responsibility as followers of Jesus to make his gospel accessible to you. Many of my co-religionists, especially in the United States, have taken a negative and sometimes even belligerent approach to the findings of mainstream science, making it pretty difficult for you to understand how what you believe to be true about the world could be consistent with our story of God in search of humanity. Let me try to redress that now.

Evolutionary biology, as I understand it, tells us that all life is related by common ancestry. We see this in the human genome, which includes entire stretches of code that are found in common ancestors of other species. I'm told that the human RNA in each cell was originally that of a primitive bacteria. So common ancestry is fundamental to evolutionary thought. This is a profoundly biblical perspective. Our inspired creation text, not written in the age of science and thus not meant to be read as science, nevertheless holds much in common with your findings. All life is related and can be traced to a common ancestor, a common source, who is, in the ultimate sense, God. The idea that we share biological ancestry as well is consistent with our ultimate shared ancestry in God. "In the beginning God..." (Genesis 1:1) All creation is profoundly related by a creative process rooted in God himself and unfolding through a common process. Science tells us how integral common ancestry is, but the foundational perspective of common ancestry is in these ancient accounts of creation as well. In biblical thought it could be expressed in this way: we come from something and we come from someone.

Evolutionary biology tells us information is the key to life. Without the information imbedded in the DNA packed into every cell of every living thing, life could not exist. The creation texts of the Bible also feature information as a key to the creative process, which begins in this way: "Then God said..." (Genesis 1:3) God created through information. In fact, Christians believe the divine Son, who came as Jesus of Nazareth in space-time, has always been involved in the creative

process through information, because he is "the Word." ("Word" being the fundamental expression of information in the biblical lexicon.)

"Then God said, let there light..." (Genesis 1:3) That's the sequence of the story of science: information (at least some shift that initiated the radical expansion of the singularity in the "Big Bang") then energy, then energy organizes into matter, and matter organizes into life and life adapts and becomes more diverse and more complex.....just as our ancient story tells us. Of course the whole scientific worldview was unknown to the original authors of Scripture, but the parallels nevertheless are quite impressive, and even more so when one compares the scientific view with the creation myths of Babylon and Egypt, to which the biblical accounts were prophetic corrections. Science conclusively demonstrates that the more complex the life form, the later it appears in general. And that we humans are very late arrivals in the universe, just as in Genesis we arrive on the last day of creation.

And we humans! While profoundly related to all forms of life, and to matter (which in the biblical view is good) and energy, from which matter organized, yet we are uniquely adapted to the universe--perhaps not for long term survival, but certainly for appreciating and understanding the universe. We are, so far as we know, the only species aware of ourselves in the universe. We seem to be the only species aware of its vast extent, 13.5 billion years old (give or take) and still expanding. We are the only species able to ask, "God, are you there?"

Speaking as a believer, can you imagine God's delight when we came along under his mysterious oversight, beneath his mysterious hand working through the simple elegance of evolutionary process? (And let us never forget that our understanding of evolution is still evolving.)

As the ancients said: "In him we live and move and have our being" for all things are in him, through him, and for him. This God is too intimately involved and too infinitely beyond the realm of nature to pin down through a means of our own making, which is what science is. This is a God of necessity who sets boundaries we cannot cross and a God of freedom who shapes as a father or mother (and not a puppet maker) would, incorporating our freedom (and through redemption even our mistakes) and the freedom of the physical realm itself, into his purpose. These, of course, are not statements that science is designed to verify, but they are at the heart of Christian faith.

In the biblical creation account, God said, "Oh this is very good!" at the arrival of homo sapiens (man, the wise) and he paused in his creative work, because these are those at long last, in his image, with eternity imbedded in their hearts, who have a capacity to blink back at God and say, "Hello!"

And how like Him we are! Able, as we are, to become co-creators with him, through the mysterious and powerful capacity of information sharing---through

complex language, and symbolic thought by which we create rough drafts of reality in our minds that we work to implement, and which can be shared across the species, so we can pool our resources .....and things like science can proceed and we can begin to fathom a mechanism as simple, as ingenious, as evolution.

We are also the first species, so far as we know, to be held accountable for our actions, because we have a moral awareness, a sense of justice. And we have failed from the beginning to live up to what we know to be most true. It began, our story tells us, with a breach of trust, nearly simultaneous with our uniquely human awareness. Instead of loving the God who was waiting 13.5 billion years for our arrival, we violated trust, reaching for knowledge we weren't ready for. (This is all in the story of the garden of Eden and the humans taking the one thing they weren't allowed, the fruit from the tree of the knowledge of good and evil.)

The great physicist Oppenheimer, who worked on the Manhattan project, lived to regret our grasping for the knowledge of nuclear technology, fearing we didn't have the moral bandwidth to handle it well. Every scientist of nearly every powerful new technology knows the dilemma well. (So it's a story, this biblical one, that pertains.)

We are also the first species able to charge God with injustice. We are the first to feel how unfair life in the universe can be.

And you biologists know this better than most. Of all the baby turtles born on a beach, perhaps five percent survive to eat their first meal. This creation has more losers than winners. Human loss is bad enough, but add the suffering of all sentient creatures and it is beyond staggering. For every cat living safe and sound in a cat lover's home, there are a hundred roaming the streets, ravaged by disease, lucky to find a gently euthanized end at the Humane Society.

Those who refuse to believe in a loving and purposeful God site this reason more than any other. It wasn't evolution that turned Darwin from a mild believer in God to a mild unbeliever. It was the problem of suffering.

None of us as has a single direct ancestor who didn't survive long enough to successfully breed. (The biblical term is "overcomers.") But Anne Darwin, the daughter of Charles Darwin, died at the age of ten, and did not become an "overcomer" in the biological sense. And this loss was piled on top of other losses--his dear mother, when he was only eight, and two other children.

The story of evolution has nothing to say in the face of such loss. As one of your own poets has said, "A man said to the universe: Sir! I exist! That may be, the universe replied, but it creates in me no sense of obligation." --Stephen Crane  
The story of evolution in the face of suffering can only say, "So what?"

That may seem like enough understanding to live your life and to adapt to your environment. But we have a unique experience of our environment. We have a unique conceptual grasp of the universe. We cannot help but wonder if the universe itself is winking at us. We cannot help noticing a shimmering transcendence "of the gay great happening illimitably earth." The story of science as true and powerful as it is, is not enough to adapt as we long to adapt to the haunting beauty of life and our instinct to love, our craving for eternity, our sense of wonder, and our capacity to rail against injustice.

From the God of the Bible, we receive no full explanation of suffering. A response, but no full explanation (and the two should never be confused.) Yes, humans have brought a good bit of it on by their own poor choices: that much is clear. But our story also tells us evil was an operative mystery long before we hit the scene and long before we got into the habit of mistrusting God, feeling alienated from ourselves and each other and our world and it's maker. (This mystery of pre-existent evil first appears as a snake in the garden of Eden.)

Instead of an explanation, what we have is an amazing story, based on amazing events in history, centered on one of our own species, Jesus of Nazareth, who was, we believe, with God in the beginning, the Word, through whom he spoke--and speaks still, perhaps, through all life's information--and the Wisdom with God in the beginning who danced with God and delighted as the creation unfolded before them.

This same Jesus came fully into the biological realm and the human experience and lived an extraordinary life of love and power--paying special attention to the losers, the outsiders, the exiles, the castaways, whether down and outers or up and outers.

This Jesus died an awful death, involving great suffering, and such suffering as only a human could suffer, and only one who knew intimacy with God as Father, because in his suffering he felt God's abandonment.

And perhaps what you evolutionary biologists can help us to see is that he came not just for human suffering, but for the suffering, for the groping toward success at the cost of much failure of the whole creation. St. Paul, who wasn't informed by the findings of science concerning the unity of life through common biological ancestry, nevertheless intuited the connection between human suffering and the suffering of the whole creation.

**I consider that our present sufferings are not worth comparing with the glory that will be revealed in us. The creation waits in eager expectation for the sons of God to be revealed. For the creation was subjected to frustration, not by its own choice, but by the will of the one who subjected it, in hope that the creation itself will be liberated from its bondage to decay and brought into the glorious freedom of the children of God. We know that the whole creation has been groaning as in the pains of childbirth right up**

**to the present time. Not only so, but we ourselves, who have the first fruits of the Spirit, groan inwardly as we wait eagerly for our adoption as sons, the redemption of our bodies. (Romans 8: 18-23)**

As you know better than most, there's a heavy cost to evolutionary process--an enormous amount of missing the mark, of trying and failing, of copying variations that don't help a body adapt to it's environment. In fact, the whole created order is a great mass of beauty and wonder and goodness, but laced through with unbearable suffering, at least for sentient creatures.

This weight was felt in a very personal way by Charles Darwin himself whose beloved daughter (three of his children, in fact) died before accomplishing Darwinian success, without leaving a trace of their own DNA behind for successive generations. We can understand how he lost hope in any future, or in any purpose, or in any design, or in any ultimate victory for love.

For that, a lens beyond science is necessary. The lens called faith. The lens that sees in Jesus of Nazareth, God himself bearing the groaning of the entire created order.

"Behold the lamb of God, who takes away the sins of the world." Perhaps you've heard this before, as the response of faith to Jesus of Nazareth. But keep in mind that "the world" in the original language means "the cosmos" and "sins" is a word beyond moral failure from the archers vocabulary, "missing the mark."

Jesus too died without having achieved Darwinian success. He left no natural descendants. He wasn't one of the biological overcomers. Through the lens of faith, Jesus wasn't simply bearing the unbearable weight of suffering, the price of evolutionary process made even more costly by the price of human sin, but, perhaps, taking it away. The cross on which he died being a tear in the fabric of space-time, a tear in the veil between what is and what is to come. (The entire biblical narrative is fascinated with the intersection between two orders--time and eternity, heaven and earth, this age and the coming age.)

The cross can be viewed both as great presence and a great absence, like a star collapsing upon itself, and the intense gravity of that collapse forming a black hole in space-time. (One can't help being reminded of the cruciform black hole at the center of the whirlpool galaxy, M51.) A black hole is not a bad comparison because beyond the event horizon of a black hole things seem to disappear from this realm. The cross is, perhaps, not unlike that, the place in this world where God takes away all the sins, all the mark missing of this created order of things.

Because, again to echo the words of St. Paul, the weakness of God confounds the best of human strength; and the foolishness of God confounds the best of human wisdom. How could it be otherwise if God, in fact, exists?

"And on the third day he rose again." Christians believe that the resurrection happened in human history. And not simply that "his spirit lived on," (such a thing would be nothing to write home about, much less to lose one's life over, as many of the first generation Christians did, and many even to this day) but his dead body was transformed into what we might think of as the phase-changed and transformed nature of the new creation. A sign of what is to become of this creation when it has run its course and the next "big bang" resounds throughout a new creation.

The physicists who once ruled out the miraculous can do so no longer. Physical reality is too mysterious and fantastic to rule the mysterious and fantastic out. It's not a closed system, but an open one, with particles flying into and out of existence and no one able to predict what's going to happen next at the quantum level.

The empty tomb of Jesus of Nazareth remains a sign of hope. Hope that the awful weight of creation is not a weight that we or creation itself must bear alone, a weight in fact that God bears with us, and ultimately bears for us: that there is a place of such a great presence and such a great absence where the cost of evolutionary process and the cost of human failure is paid, is taken away--the cross of Calvary, rooted as it is, in this age and in the age to come.

Which brings us, at long last, to our place in all this, our ecological niche in the vast universe. That niche, I submit, is not dominance per se, not control through knowledge (as helpful and useful as that control is, and much of it provided through the means of science.) Rather, or ultimately might be a better way of putting it, our niche is willing surrender through knowledge, what is also called worship.

**Praise the Lord. Praise the Lord from the heavens, praise him in the heights above. Praise him, all his angels, praise him, all his heavenly hosts. Praise him, sun and moon, praise him, all you shining stars. Praise him, you highest heavens and you waters above the skies. Let them praise the name of the Lord, for he commanded and they were created. He set them in place for ever and ever; he gave a decree that will never pass away. Praise the Lord from the earth, you great sea creatures and all ocean depths, lightning and hail, snow and clouds, stormy winds that do his bidding, you mountains and all hills, fruit trees and all cedars, wild animals and all cattle, small creatures and flying birds, kings of the earth and all nations, you princes and all rulers on earth, young men and maidens, old men and children. Let them praise the name of the Lord, for his name alone is exalted; his splendor is above the earth and the heavens. He has raised up for his people a horn, the praise of all his saints, of Israel, the people close to his heart. Praise the Lord. (Psalm 148)**

We human beings have a significant role to play in this creation, because so far as we know, at least in this neck of the cosmic fabric of space-time, we are the royal priesthood of creation.

The heavens,  
the sun and moon and stars,  
and the earth,  
the mountains and hills,  
the fruit trees and cedars,  
the wild animals and cattle,

all are called to praise....but without us, they have no voice!

We are the ones who give the voiceless creation a voice!  
Through us, the dumb creation speaks,  
wild energy is tamed and channeled,  
inert matter becomes responsive,  
and through us, the God of creation,  
whose creative embrace is the longest kiss,  
is able to receive a kiss in return from the work of his hands...

We can't seem to help ourselves, can we?  
At least ee cummings could not:

i thank You God for most this amazing  
day: for the leaping greenly spirits of trees  
and a blue true dream of sky; and for everything  
which is natural which is infinite which is yes

(i who have died am alive again today,  
and this is the sun's birthday; this is the birth  
day of life and love and wings: and of the gay  
great happening illimitably earth)

how should tasting touching hearing seeing  
breathing any--lifted from the no  
of all nothing--human merely being  
doubt unimaginable You?

(now the ears of my ears awake and  
now the eyes of my eyes are opened)

--ee cummings