



**“Cosmic Connectedness: A Common Ground  
for Religion and Science”**

**Tom Tyler  
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Precisely 400 years ago, in 1609, Galileo Galilei created the first telescope, aimed it at a dark sky, and forever changed our view of the universe. Peering into previously unseen realms of outer space, he stretched and expanded our vision into the unimaginable.

Exactly 200 years later (and 200 years ago), in 1809, two extraordinary individuals whose impacts have reverberated through the centuries were born on the very same day – February 12 – Abraham Lincoln and Charles Darwin. While it can be said that Lincoln freed the slaves and reclaimed for all men freedom from oppression, it can be also be said that Darwin freed our minds and championed intellectual liberty in an age of doctrine and dogma. His masterwork, *The Origin of Species*, was published in 1859 – almost 150 years ago to the day.

Few scientific revelations have done as much to alter our worldview as the discovery of our place in the grand story of the universe and the profound implications of the theory of evolution. In the four centuries since Galileo first looked deeply into the heavens and in the century-and-a-half since Darwin first articulated his discovery of natural selection, an extraordinary body of scientific knowledge has emerged that has brought us into provocative and often divisive discussions about the modern roles of science and religion.

And so now, this February, here at Eden we are joining many churches in celebrating “Faith and Science” month. Today I’d like to explore two central questions that emerge in this context: “Can science and religion be reconciled with each other? Is there a common ground that can be embraced by both religion and science?”

Our growing recognition that we are evolving creatures who live in an evolving universe has deeply altered our understanding of ourselves and our cosmos. Where religion is concerned this new understanding has for many traditions been a hard pill to swallow. When Galileo's astronomical observations led him to champion Copernicus' revolutionary idea that the sun (not the earth) was the center of our solar system, he was denounced by the Catholic Church, forced to recant his "heresy", and spent the latter years of his life under house arrest by order of the Inquisition. Darwin was similarly vilified by the Church of England, rebuked as an atheist who had no right to challenge the Biblical accounts of Genesis. Consider a news story from just this past week in which an anti-evolution lawsuit has just found its way to the U.S. Supreme Court. A Christian schoolteacher is suing UC Berkeley over content on its "Understanding Evolution" website, objecting to a single page out of an 840-page document. That page, entitled "Misconception: Evolution and Religion are Incompatible", shows a drawing of a smiling scientist holding a skull shaking hands with a smiling cleric holding a book with a cross on it. Claiming that evolution contradicts and is indeed incompatible with religious doctrine, this teacher speaks for many (approximately one-third of the American population, according to a recent Gallup poll) who find evolutionary science antithetical to their faith.

It seems that, to many, the very notion of evolution is inherently at odds with a spirit-based worldview. But is this age-old science and religion debate really as intractable as it seems? Can modern cosmology, evolutionary science, and religious faith ultimately find common ground? And, moreover, is it even possible that cosmology and evolution might not only be reconciled with religion but that together they might in fact become the shared foundation of a rich new spiritual vision?

As Joseph Campbell, the late great American mythologist, put it: "Everything begins with a story."

In every human society, people grapple with these ultimate questions: Where did we come from? Why are we here? Where are we going? The answers to these questions create our story – the "big picture" – and gives meaning to our existence and everyday life. It helps us understand the mysteries of life and death. It is the soil out of which all our assumptions, beliefs, customs, traditions, and institutions grow.

And this "big picture story" can determine the way we perceive things, how we interpret the events of our lives, how we arrive at what we come to know as truth. This story – our understanding of what is timeless, ultimate, and true – often finds formal expression as religious belief. Written down, this understanding can become our scripture – our "sacred story".

In the past several decades a new sacred story is emerging that has the promise to bring science and religion together in a previously unimaginable way. In this

“sacred evolutionary story”, the universe can be seen as one interconnected, unfolding, creative process that has led to the emergence of a dazzling variety of forms and creatures, including, quite recently, human beings. A narrative for this new “universe story” was first articulated in the early 1960s and one of its most eloquent spokesperson’s was Carl Sagan, whose book (and subsequent TV series) *Cosmos* first popularized this grand new vision of our origins.

He tells the story best (and I’ll paraphrase him here):

(Hold onto your seats – we’re about to do a thirteen-billion seven-hundred-million-year cosmic flashback in about three minutes – here goes!):

“Some fourteen billion years ago, something happened – the Big Bang – the event that began our universe. Why it happened is the greatest mystery we know. That it happened is reasonably clear. All the matter and energy now in the universe was released from an infinitesimal point in a titanic cosmic explosion – and the universe began an expansion which has never ceased. For unknown ages after this explosive outpouring, the Cosmos was without form. There was then only hydrogen, the simplest of atoms, but no stars, no galaxies, no planets, no life. Deep, impenetrable darkness was everywhere, hydrogen atoms in the void. Here and there denser accumulations of gas were imperceptibly growing, globes of matter were condensing – hydrogen raindrops more massive than suns. Within these globes of gas was first kindled the nuclear fire latent in matter. A first generation of stars was born, flooding the Cosmos with light. There were in those times not yet any planets to receive the light, no living creatures to admire the radiance of the heavens. Deep in the stellar furnaces the alchemy of nuclear fusion created heavy elements, the atomic building materials of future planets and life forms. Massive stars soon exhausted their stores of nuclear fuel. Rocked by colossal explosions, they returned most of their substance back into the thin gas from which they had once condensed. Here in the dark lush clouds between the stars, new raindrops made of many elements were forming, and later generations of stars were born. Nearby, smaller raindrops grew, bodies far too little to ignite the nuclear fire, droplets in the interstellar mist on their way to forming the planets. Among them was a small world of stone and iron, the early Earth.

Congeeing and warming, the young Earth released gases and water that had been trapped within, forming the primitive atmosphere and the first oceans. Light from our star, the Sun, bathed and warmed the primeval Earth, drove storms, generating lightning and thunder. Volcanoes overflowed with lava. These processes disrupted molecules in the primordial atmosphere; the fragments fell back together again into more and more complex forms, all dissolving into the early oceans. After a time, a molecule arose that was able to make crude copies of itself out of the other molecules in the sea. As more time passed, more elaborate and more accurate self-replicating molecules arose. Those combinations best suited to further replication were favored by the sieve of

natural selection. Those that copied better produced more copies. Some of these self-replicating organic molecules further organized into stable configurations. Gradually, imperceptibly, life had begun.

Single-celled plants evolved, and life began to generate its own food, transforming the atmosphere with oxygen. Individual microbes exchanged and combined bits of their genetic material, and sex was invented. Once free-living forms banded together to make a complex cell with specialized functions. Chemical receptors evolved, and the Cosmos could taste and smell. One-celled organisms evolved into multicellular colonies, elaborating their parts into specialized organ systems. Eyes and ears evolved, and the Cosmos could see and hear. Plants and animals discovered that the land could support life. Organisms of every description crawled, buzzed, scuttled, lumbered, glided, flapped, shimmied, climbed and soared. Colossal beasts thundered through steaming jungles. And small creatures emerged, born live instead of in hard-shelled containers, with a fluid like the early oceans coursing through their veins. They survived by swiftness and cunning. And then, only a moment ago, some small arboreal animals scampered down from the trees. They became upright, freed their hands, and taught themselves the use of tools, domesticated other animals, plants, and fire, and devised language. At an ever-accelerating pace, this creature invented writing, cities, art, and science, and sent spaceships to the planets and to the stars.

These are some of the things that hydrogen atoms do, given fourteen-billion years of cosmic evolution. It has the sound of epic myth, and rightly so. It is the grandest story ever heard or ever told – a telling of cosmic evolution as revealed by the science of our time.” (Whew!)

This new story, based on the revelations of modern science, offers a comprehensive narrative of the “big picture” that addresses those same time-honored, fundamental questions: Where did we come from? Why are we here? Where are we going? The sweep of this new story is so vast that it embraces all other stories, including religious ones. As Thomas Berry, a Catholic priest and scholar, puts it: “The universe is the primary revelation of the divine, the primary scripture, the primary locus of the divine-human communion.”

Consider for a moment the stone you now hold in your hand. To a geologist, the stone is a matrix of minerals and crystals, bearing witness to part of the Earth’s story, an artifact that speaks of some time and place and the constellation of forces that formed it. To a theologian, the beauty and perfection of the stone speak of a greater power and a divine intention beyond all measurement. To a geologist (as Thomas Berry refers to himself), the stone speaks of both – the measurable and the immeasurable, the seen and the unseen, the immanent and the transcendent – the secular and the sacred.

Consider for a moment your own body. The iron in your blood, the calcium in your bones, the carbon in your cells, the oxygen in your lungs – where did it all come from? All of it came from the heart of a giant star that forged them in its core, shattered itself in a gargantuan supernova explosion, had its debris cloud reincarnated in the condensation of a new solar system, and cooled into the crust of the planet onto which we have all been born. The Earth and everything that's in it and on it – all star stuff! Each of us is made of stardust, risen to consciousness, celebrating the extraordinary story that has brought us to this very moment. The universe is not so much “out there” as it is “in here” – embodied in each of us. As Carl Sagan wrote in the last lines of his book: “We are the local embodiment of a Cosmos grown to self-awareness. We have begun to contemplate our origins: star stuff pondering the stars; organized assemblages of ten-billion-billion-billion atoms considering the evolution of atoms; tracing the long journey by which our consciousness arose.”

This grand, sacred, cosmic story is quintessentially universal. We put it in our language, the stars put it in theirs, the birds put it in theirs, the trees put it in theirs, the wind and water and rocks put it in theirs. We can read the story of the universe in ourselves, in the stars, in the birds, in the trees, in the wind and water and rocks. The story has its imprint everywhere and that is why it is so important that we know the story. If we do not know the story, in a sense we do not know ourselves.

And, finally, several other important questions emerge as we seek to find ways to embrace both religion and science:

What of the idea that there is a greater intelligence or consciousness or power “behind” this great story? Although we really have no way of knowing a sure answer to this question, we do know with certainty that intelligence and consciousness are both emergent within the evolutionary process itself. We are clear evidence of that fact, and we assume that there may well be many other beings on other worlds that have evolved their own unique forms of intelligence and consciousness-- and are seeking to understand their own place in the universe.

And what of the question often raised by skeptics and believers alike: Is what we observe of reality random chance or is it somehow directed or determined? The great evolutionary story suggests that such a question poses a false dichotomy – an unfair choice – and that chance, accidents, mutations, directionality, constraints, and physical laws are all interwoven into the saga – but that ultimately, and undeniably, the process is exquisitely creative. From gases to galaxies to stars to planets, from subatomic particles to atoms to molecules to cells to organisms to consciousness, it's inescapable that creativity is evident not just at the beginning of time, but throughout the entire unfolding process of cosmogenesis.

I think that most of us have a deep intuitive sense that we are part of a larger creative process, that we are imbued with some deep, ineffable power and purpose. Perhaps that intuition . . . that gut feeling . . . that sense of faith and belief is rooted in that part in each of us that is that spark of the divine – that creative impulse – that gave birth to the whole universe and is still creating, emerging, growing, and evolving in each of us.

And what of God – whatever name you wish to use – Creator/The Almighty/The Great Spirit/Yahweh/Allah/Higher Power/Ground of Being? Could it be that the very word Universe – literally, “out of the many, one” – could be another sacred name for the whole, seen and unseen, measurable and immeasurable, knowable and mysterious? Might we then see God and the Universe as two sides of the same coin – the ultimate reality, one that includes and transcends all else?

And what of us? Are we not, then, the universe become conscious of itself – desiring to be taken into the depths of its own beauty and wonder? Indeed, we are called into communion with the great majesty of all creation. Each day we are called upon to do what humans do best: Be amazed! Be filled with reverence! Fall in love! Celebrate! Be entranced by the wonder of the universe, the uniqueness of each being, the beauty of creation, its new revelation each day, and the divine presence with all!

In that spirit of communion and celebration, let’s take a few moments of quiet and reflection as we enjoy these images of the glory and majesty of this fourteen-billion-year epic of creation and evolution. As we do so, find in your own experiences a time when you have felt deeply connected to the wonder and grandeur of the Earth and the Cosmos.