The Bible and the Awesomeness of Creation

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Is creation an accident or part of a divine plan? Biblical scholar Joseph Wimmer directs our attention to creation and evolution as giving expression to the “anthropic principle.” He finds support in the Old Testament and proposes a new way of living in the universe which he calls “anthropic spirituality.”

One of the many truly awesome things about creation is the fact that according to science it took almost fifteen billion years to form the stuff of our human bodies. The materials necessary for the formation of humans, notably carbon, oxygen, and nitrogen, were first fashioned in second-generation stars, which themselves came to exist because of the explosions of first-generation stars composed of hydrogen and helium. In line with that reality is the list of a whole set of almost unique parameters at the very beginning of the Big Bang without which humans could never have come to exist anywhere in the universe. That list is based on what has been called the “cosmological anthropic principle.” Some writers think that there is nothing extraordinary about the list; it simply records what did happen to bring us about. It doesn’t prove that we are not just accidental blips on the big screen of universe activity. Others believe that these initial conditions were determined by a divine Creator precisely so that we humans (and quite possibly intelligent beings on other planets) would some day be formed.

This is where philosophy, theology, and the Bible come into play. Does the universe show directionality? If so, toward what? Did it come to exist merely of

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itself, spontaneously, by chance, out of sheer nothingness, or was it created, either directly or indirectly? This is a philosophical question of contingency, and, if it points to the existence of a Creator, then we may turn to the Bible, which contains a number of important texts on creation. But there are also hermeneutical questions about the interpretation of those biblical texts within the religious community. The practical result of these reflections may be termed “anthropic spirituality”; that is, if all the above is true, then how does that impinge on my essential relationships toward God, the universe, others, and self?

**A Scientific Explanation of the Origin of the Universe**

According to the Standard Model, the most commonly held scientific explanation, the universe originated about fifteen billion years ago with a Big Bang, the fantastic explosion of all its matter and energy compressed into the size of a pencil point. Exactly how that began, or even how all the matter and energy of the universe got so compressed is not known, but scientists have been able to track the continuing development and expansion of the universe an infinitesimal moment later, usually expressed as $10^{-43}$ of a second, or a ten-millionth of a trillionth of a trillionth of a trillionth of a second after the initial event. The temperature at that time was $10^{32}$ degrees Kelvin, or a hundred million trillion trillion degrees. Complex changes took place, most of them almost immediately. About one ten thousandth of a second later protons and neutrons, plus antiprotons and antineutrons, were formed, leading to a massive explosion as matter and antimatter annihilated each other, except for a residue of matter. After about a minute the temperature fell enough to allow protons and neutrons to form the nuclei of hydrogen and helium, which, together with photons and electrons, was a highly energetic mixture for about 300,000 years. At that point the temperature of the mixture dropped to 3,000 degrees Kelvin, the photons no longer dislodged the electrons, and the basically stable elements hydrogen and helium were finally formed. The photons traveled at the speed of light in all directions, an event discovered in 1964 as “background cosmic radiation” by researchers Arno Penzias and Robert Wilson of Bell Laboratories in New Jersey.

The process of the formation and dispersion of hydrogen and helium was not totally uniform, and it created certain “wrinkles” which served as “seeds” for the later organization of hydrogen and helium into stars and galaxies, about a billion years after the Big Bang. These “wrinkles” were discovered in 1992 by the massive Cosmic Background Explorer project (COBE) under the leadership of George Smoot, and removed the last major scientific hesitations about accepting the Big Bang theory. The burning of hydrogen and helium in the interior of these first-generation stars brought about the synthesis of heavier nuclei to produce carbon, nitrogen, oxygen, and iron, which are necessary for the production
and maintenance of human life. These stars eventually exploded and cast their heavy elements into the interstellar gas while allowing even heavier elements to be formed. Millions of second-generation stars were then condensed from this element-rich interstellar gas, including our sun at about ten billion years, that is, about five billion years ago. Through complex interactions of the gases surrounding the early sun, the planets were formed, including the earth about 4.6 billion years ago.

**Evolution of Human Life on Earth**

About 3.5 billion years ago the first living cells were formed on earth, with a genetic code that is common to all later life forms. Through the passage of time more and more complex flora and fauna evolved, species died out and new species came to be. At a certain point there were pre-humans, especially chimpanzees about five million years ago. They are our closest “relatives” with about 99.4 percent of similar DNA, followed about four million years ago by our more immediate ancestors, *Australopithecus* (“southern ape”). Then came various stages of *homo* (Latin for “human”), such as *homo erectus* about three million years ago, *homo habilis* (or toolmaker) about two million years ago, and archaic *homo sapiens*, who knew how to manage fire, about 900,000 years ago. A group of *homo sapiens* known as Neanderthal originated in Europe and the Middle East about 130,000 years ago, but there are minimal signs of intermarriage with the modern *homo sapiens* known as Cro-Magnons, our most immediate ancestors who came from Africa to Asia and Europe about 100,000 years ago.

**The Cosmological Anthropic Principle**

In 1986, John D. Barrow and Frank J. Tipler published a book entitled *The Cosmological Anthropic Principle*, in which they gathered a whole set of extraordinarily precise initial conditions that existed at the origin of the universe and which were necessary if human life was to develop here on earth almost fifteen billion years later. They named the principle underlying this list of initial conditions the “cosmological anthropic principle.” The principle has two forms, strong and weak. The strong cosmological anthropic principle asserts that God deliberately caused these initial conditions to be the way they are in order to bring about humanity on earth. The weak cosmological anthropic principle merely points out that if these special initial conditions did not exist, humans could never have evolved. Thus, for example, if the gravitational force in the universe were ever so slightly weaker, then the earth would not have formed; if it were ever so slightly stronger, the universe would have collapsed before life could have arisen. If the
strong nuclear force were slightly greater, no hydrogen could exist and the atoms essential for life would be unstable; if the force were slightly less, no elements heavier than hydrogen would exist, and again human life would be impossible. If the weak nuclear force were slightly greater, too much helium would have been formed in the Big Bang and no heavy elements could have been ejected from stars; if it were slightly less, too little helium would have been formed, leading also to a lack of ejection of heavy elements necessary for life—carbon, oxygen, nitrogen—from stars. If the universe were much smaller than the present one with its thirty-plus billion galaxies, it would have collapsed before advanced life could have arisen.

The reality of this list is not in doubt, but its value is hotly debated. To some it simply shows what randomly happened as a result of which humans came to exist; it does not “prove” that an intelligent Creator set those initial conditions precisely in order to bring us about. Others would argue to the contrary. It seems at least legitimate, theologically, to conclude that if God wanted humans to exist as spirit in the world, then it took very precise initial conditions and fifteen billion years of evolution to bring us into existence, and that God must have had us (and possibly other rational creatures on other planets) in mind from the very beginning.

**God’s Involvement in the Process of Evolution**

Not everyone agrees that God had anything to do with evolution. There are atheistic understandings of evolution, such as those proposed by Daniel Dennett, Richard Dawkins, Steven Jay Gould, and Peter William Atkins, which see neither Creator nor direction or purpose in the universe. Atkins writes, “In the beginning there was nothing. Absolute void. . . . There was no space, nor was there time, for this was before time. . . . By chance there was a fluctuation. . . . From absolute nothing, absolutely without intervention, there came into being rudimentary existence” (Atkins, 149). And Daniel Dennett claims, “Even the human mind is an eventual . . . outcome of an utterly mindless sequence of physical occurrences” (266).

However, these approaches focus too much on the externals of the process of evolution, especially on its randomness, which is only part of the picture, and neglect to take into account fundamental considerations of philosophy. The primary question is that of contingency: Why is there something rather than nothing? Thomas Aquinas had already said that even if matter were eternal, as the Greeks claimed, God would still be their creator, eternally, for how else could one explain their existence? (ST I, q. 46 a. 2). Contemporary authors agree. John Polkinghorne points out that the concept of creation is concerned with ontological origin and not temporal beginning. Whatever the mechanics of the origin of
the universe, God is the source of it and is distinct from it (73). Ian Barbour notes that the error of atheistic evolutionists is a switch from methodological reduction, considering only that which can be tested and proved or disproved by experiment, which is quite appropriate for any science, to an ontological reduction, the declaration that nothing exists beyond that which is subject to scientific verification or falsifiability. The error consists in the move from scientific to philosophical questions. To say that organisms consist of “nothing but atoms” is the assertion of a “metaphysics of materialism,” a broad philosophical claim that matter and energy are the only realities in the universe (Barbour, 165ff.).

**Direction in the Process of Evolution**

Although writers like Daniel Dennett, Richard Dawkins, and Steven Jay Gould claim to find no sense of directionality in the process of evolution, from simple to more complex forms, other interpreters, such as Pierre Teilhard de Chardin, Ian Barbour, John Polkinghorne, Brian Swimme, John Haught, and Pope John Paul II, disagree. Over eighty years ago, Teilhard formulated a simple but basically effective principle of evolutionary development, that of complexity-consciousness. This principle argues that in the course of time life forms on earth could be hierarchically viewed as progressing toward ever more complex nervous systems and concomitant higher degrees of consciousness. Humans would have the highest degree of both complex nervous systems and consciousness, notably reflexive self-consciousness, a trait unique to humans. Does that make humans “higher” than the other life forms? Teilhard would have said yes, not in a fit of self-righteous pride, but as a scientist using the measurement of complexity-consciousness, and as a Christian seeking to harmonize his scientific findings with his understanding of the Bible and of theology. He noted the progressive movement of the earth through time from non-life to life, and eventually to the whole world of plants and animals, with ever increasingly complex nervous systems, arriving at the evolutionary development of the human mind and spirit. As a philosopher and theologian, he concluded that the only adequate explanation of such a process is the work of a divine creative “force” or Omega; namely God, as the source and term of the whole universe, especially at its spiritual human level, which could acknowledge and enter into a relationship through faith and love with the very Person of God.

A variant approach is provided by John Haught, who focuses on information as an explanation for progressive development. Biological processes, which came later, manifest more information than the chemical, which themselves follow rules beyond those of physics. Haught concludes: “God could be thought of as the ultimate source of the novel informational patterns available to evolution” (73).
Pope John Paul II has also spoken about evolutionary directionality. In his 1996 message to the Pontifical Academy of Sciences, he clearly endorsed evolution as “more than an hypothesis,” stating that “the convergence, neither sought nor provoked, of the results of work that was conducted independently is in itself a significant argument in favor of this theory” (415). The pontiff hastened to add that materialist and reductionist theories of evolution were not acceptable, namely those which claim to provide a total explanation of cosmic and terrestrial development in purely natural terms. He did admit that in the evolutionary process “the moment of transition to the spiritual is not the object of . . . observation [of] the sciences . . . [which] describe and measure the multiple manifestations of life with increasing precision and correlate them with the time line” (416). But as proof that there was indeed a transition in evolution to the spiritual level of the human being, which the Pope attributed to God’s “direct” creation of the human soul, he then listed a number of items unique to humans: “The experience of metaphysical knowledge, of self-awareness and self-reflection, of moral conscience, freedom, and again, of aesthetic and religious experience” (416). It was important for John Paul II to speak in terms of “direct” creation of the human soul in order to underscore the uniqueness of each human being as created in the image and likeness of God and so enter into intimate communion with God through knowledge and love, “a relationship which will find its complete fulfillment beyond time, in eternity” (John Paul II, 416).

**The Bible on Creation**

The Church is now more aware than before that the Bible, the Word of God, was nevertheless written in human words, with certain inevitable consequences. The texts of the Bible are ancient and reflect the cultural world in which they were composed. We realize today that the portrayals of Genesis 1–3 are not to be taken literally, but they do contain important truths. From Genesis 1 we learn that God is the Creator of a universe which is “very good,” that humans were created “last,” and that they have “dominion” over the world precisely as “image and likeness” of God, that is, with compassion and concern for all of creation. From Genesis 2 we learn that a human being is a unified integral “living person.” Genesis 2:7 shows the Lord God as a potter, forming an earthling...
(Hebrew *adam*) from the earth (*ademah*), blowing into his nostrils the breath of life, “and so the earthling became a living person” (my translation). The Hebrew word for person, *nephesh*, has a wide range of meaning, including “soul,” but it always focuses on something or someone living and breathing. Indeed, according to Numbers 6:6, a corpse is a dead *nephesh*, clearly not a dead “soul” but rather a dead “person.” The ancient Hebrew idea of a human being as a single, living entity is an insight of great importance still today. It places us squarely and solidly in the world, as deriving from it, but according to the will and action of God. We are of the earth, and also of God. God’s commands in Genesis 2–3 constitute a call to the responsible exercise of freedom in cultivating and caring for the world, in guileless community and mutuality with one another, with humility and obedience to the divine will in our heart, and acceptance of the gift of eternal life.

Proverbs 3:19-20 and other texts of the Hebrew Wisdom Literature acknowledge that God created the world “in wisdom.” From Job 28 we learn that the world is intelligible, created by the wisdom of God, which wisdom is then “found” in the world. Similar ideas are expressed in psalms of praise, especially of the beauty and grandeur of nature: “The heavens declare the glory of God, the vault of heaven proclaims his handiwork” (Ps 19:1); “You knit me together in my mother’s womb . . . a wonder am I, and all your works are wonders” (Ps 139:13-14). But besides the beauty of order, there is also chaos which remains in God’s created world and which demands God’s continuing providential attention. Psalm 104 praises God for creating an ordered world: “He established the earth on its foundations, so that it shall never totter” (104:5), but chaos can return at any time and all creatures need God’s caring presence: “If you hide your face, they are dismayed. . . . When you send forth your spirit, they are created, and you renew the face of the earth” (Ps 104:29-30).

**Anthropic Spirituality**

Anthropic spirituality may be described as the totality of those aspects of our relationship with God, self, and others which derive more directly from the fifteen-billion-year history which is an essential part of our past. We rejoice in awe that God has been “waiting” for us all that time, while recognizing that God takes pleasure in the whole universe as such, which exists on a scale so vast it is difficult to imagine. “God’s ways are not our ways” seems all the more true as we contemplate the grandeur of the whole. There is a richness and value to reality in all its forms, especially the sentient and intelligent. In his book *The Divine*
Milieu, Pierre Teilhard de Chardin urged us to turn directly to God in prayer, but once we are aware of God’s continuing loving presence in our lives, we can then give our full attention to “the most trivial or the most absorbing of occupations,” for “by virtue of the Creation, and still more, of the Incarnation, nothing here below is profane for those who know how to see” (Teilhard, 65). God is not “up there” while we are “down here.” We are immersed in the divine, and are called in love of God and of the world in which we live to grow into mature freedom. There is a new dimension to the love commandment, as enunciated by Elizabeth Johnson, quoting Brian Patrick: “Who is our neighbor? The Samaritan? The outcast, the enemy? Yes, yes, of course. But it is also the whale, the dolphin, and the rain forest. Our neighbor is the entire community of life, the entire universe. We must love it all as our self” (Johnson, 67). Anthropic spirituality teaches us to become responsible citizens not only of the world, but of the whole universe.

References

Aquinas, Thomas. Summa Theologica. I, q. 46, a. 2.


