Attending to Balaam’s Ass
Or Seeing the Divine through Nature’s Eyes

James B. Miller

The author challenges readers to attend to nature to deepen our awareness of the movements of the Creator. The anomalies of life in the natural world continue to offer new insights into theological truth. Diversity of being, connected in time and space, sings of the work of God whose word calls into being.

The Bible is seldom described as being humorous, yet there are humorous stories here and there. One of my favorites is about Balaam and his ass—or donkey, if your sensibilities prefer (Num 22:21-38). In short, Balaam has begun a journey at the request of Balak, the King of Moab, who wants him to curse the people of Israel. Balak has concluded that this newly arrived company of the Exodus is a threat to his kingdom. But YHWH has told Balaam that the people of Israel are blessed and not to be cursed. After several entreaties from Balak’s emissaries, YHWH allows Balaam to go to Balak, but only to say what YHWH has allowed him to say: No curse!

This is where the story gets interesting because, apparently, YHWH is not certain that Balaam will be able to restrain himself when he is in the presence of Balak, not least because of the material inducements that have been offered. So, three times during the journey YHWH places an angel with a deadly flaming sword in front of Balaam. Unfortunately for Balaam, only his ass can see the angel.

The ass’ response is sensible: it tries to avoid the angel. First, it wanders off the path. Then it presses to the side of the narrow passage, scraping Balaam’s

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foot against a wall adjoining the pathway. Finally, it lies down and refuses to budge. In each instance Balaam beats his donkey and is eventually so exasperated that he wishes he had a sword to kill it. It is then that the ass is given the power of speech, Balaam’s eyes are opened to see the angel, and all is revealed.

What is of particular note is that the ass does not refer to the angel at all. Instead it asks Balaam why he did not recognize that there was something extraordinary going on. After all, in the past the donkey’s service to Balaam had always been faithful.

**Attending to Anomalies**

This story offers a hint to the way that science and theology work at their best. In science, it is the exceptional or anomalous behavior of some aspect of nature that provides a clue to a newer, deeper insight into natural processes and structures. The peculiar activity of rocks clouding photographic plates was one of the clues that led to a fundamental revolution in physics and the discovery of the atomic and subatomic domains of the world. Analogously, in the Bible the anomalous failure of the royal theology of the Davidic monarchy (2 Sam 7:5-16), which held that David’s household was established in Jerusalem “forever,” led to two profound theological insights. With the Babylonian invasion, the hereditary monarchy of the descendants of David came to a shattering end. In the face of this deep failure of expectations, the people of Israel were, on the one hand, led to identify with the image of a “Suffering Servant” (Isa 52:13–53:12) and, on the other, to transform an idealization of the Davidic kingship (first expressed over a century earlier at the time of the Assyrian threat [Isa 9:6; Mic 5:2-5]) into the post-Babylonian messianic hope.

In the New Testament we also find such a pattern. The historical failure of Jesus to fulfill the political expectations of the messianic hope (Isa 11:1-9) and to establish an earthly messianic kingdom led Christians to create a theological synthesis, which, on the one hand, integrated the Suffering Servant tradition with that of the Davidic Messiah, and, on the other hand, projected the fulfillment of messianic hope into a Second Messianic Coming.

The anomalies of life, the contrariness of our experience over against our expectations (whether scientific or theological) can lead us to new glimpses of the true, whether of nature or of nature’s God. Furthermore, because theological understanding assumes as a foundation some view of what the world is like, new insights into the nature of the world by means of the sciences can generate theological anomalies that can then lead to theological insights.

This is not a new issue for Christians. In the fifth century St. Augustine indicated the danger of failing to attend to such anomalies when he wrote:
Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn (Augustine, De Genesi, bk. 1, ch. 19, 39).

**Developments in Science**

I want to illustrate this dynamic of theology in the light of science with a brief consideration of the way that Christians have addressed particular developments in science over the past three hundred years; namely, those developments which have led to a historical understanding of nature and its processes, what Stephen Toulmin and June Goodfield have called “the discovery of time.”

Let me begin in the relative present with John Paul II’s statement to the Pontifical Academy of Sciences on October 22, 1996. He wrote:

Today, almost half a century after the publication of the encyclical Humani Generis, new knowledge has led to the recognition of the theory of evolution as more than a hypothesis. It is indeed remarkable that this theory has been progressively accepted by researchers, following a series of discoveries in various fields of knowledge. The convergence, neither sought nor fabricated, of the results of work that was conducted independently is in itself a significant argument in favor of this theory (John Paul II, #4, p. 7).

He then provided an excellent definition of what a scientific theory of this scope is when he asked, rhetorically:

What is the significance of such a theory? To address this question is to enter the field of epistemology. A theory is a metascientific elaboration, distinct from the results of observation but consistent with them. By means of it a series of independent data and facts can be related and interpreted in a unified explanation. A theory’s validity depends on whether or not it can be verified; it is constantly tested against the facts; wherever it can no longer explain the latter, it shows its limitations and unsuitability. It must then be rethought (John Paul II, #4, p. 7).
As late as the sixteenth and seventeenth centuries the commonly held view among Western scholars was that the world (the universe) was relatively young (e.g., 6,000 years old). The diversity of things in the world from rocks and trees to animals and human beings was understood to be the result of minor variations among a limited number of original distinct kinds that had been directly created by God in the beginning. This collection of beings was seen to be organized in a hierarchy. That hierarchy was known as “The Great Chain of Being” with, of course, humans, who alone were “made in the image of God,” at the top. These ideas represented an integration of Aristotle’s natural philosophy (classical science) with a Christian theology, which was itself informed by Aristotelian metaphysics.

However, the mid-seventeenth century witnessed the birth of modern geology. One of the midwives for this birth was Nicholas Steno (1638–86). Based on his observations of strata in the earth he proposed the “principle of original horizontality” (that rock layers form in the horizontal position and any deviations are due to later disturbance) and the “law of superposition” (that layers of rock are arranged in a time sequence, the oldest being on the bottom and the youngest on the top). He also proposed that fossils were chemically transformed remnants of organisms.

Georges-Louis Leclerc, Comte de Buffon (1707–88), proposed that the earth had been formed from the collision of a comet with the sun and so had a hot molten origin. He performed a series of cooling experiments with spheres of various compositions to simulate the composition of the early earth. On the basis of the observed cooling rates, he calculated that the earth, given its current surface temperature, was about 75,000 years old. (Although his calculations did seek to take into account the heat generated from solar radiation, he was unable to take account of the heating due to the radiation of nuclear decay, which is the primary source of terrestrial heat.) He also proposed a more integrated view of relationships among organisms in the organic world, even suggesting that humans and apes were related.

But it was the theoretical development of geology by the Scotsman James Hutton, in his *Theory of the Earth, or an Investigation of the Laws Observable in the Composition, Dissolution and Restoration of Land upon the Globe* (1785),
followed by the work of Englishman Charles Lyell in his *The Principles of Geology* (vol. 1, 1830, and vol. 2, 1832), that established the uniformitarian foundation of modern geological theory. The theoretical rival to this view was catastrophism, the view developed by Baron Georges Cuvier in the late-eighteenth century. Cuvier, perhaps the greatest paleontologist of his day, held that a series of geological “revolutions” or catastrophes had brought about the extinctions exhibited in the paleontological or fossil record. He held that whole new sets of organisms were created to repopulate the Earth following each major catastrophe. Others adopting catastrophism speculated that Noah’s flood was the last of these catastrophes. In contrast the uniformitarians held that the geology of the Earth was due to presently observable natural forces (e.g., sedimentation, volcanic up-thrusting, wind and rain erosion) operating over very long periods of time.

**Darwin and Mendel**

In 1831, Charles Darwin (1809–82) left on his six-year round-the-world voyage as naturalist aboard the survey ship *The HMS Beagle*. He took with him volume 1 of Lyell’s *Principles*, and he received volume 2 while on the voyage. Reading it, he was transformed from a catastrophist to an uniformitarian and began to look at the biological world in a similar historical manner.

Charles was not the first Darwin to have evolutionary ideas. His grandfather, Erasmus Darwin (1731–1802), had offered one of the first theories of common descent in his *Zoonomia, or, The Laws of Organic Life*, published from 1794–96. But he did not have a clear view of how new species were formed. The Frenchman Jean-Baptiste Lamarck (1744–1829) also proposed an evolutionary theory in which organisms acquired new characteristics in the process of their living. These new features were then passed on to their offspring. What was missing in these and other early evolutionary proposals was a credible mechanism by which new species could emerge. Darwin’s reading of Thomas Malthus’ *Essay on the Principle of Population* (1798) suggested such a mechanism. In Darwin’s words:

In October 1838, that is, fifteen months after I had begun my systematic enquiry, I happened to read for amusement Malthus’ *Population*, and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved and unfavourable ones to be destroyed. The result of this would be a new species. *Here then I had at last got hold of a theory by which to work* (emphasis added; Darwin, 1876).
For the next twenty years Darwin worked to develop his theory in which the principle of natural selection inspired by Malthus was the keystone concept. But it was a 1858 letter and essay from a younger colleague, Alfred Russel Wallace (1823–1913), in which Wallace referred to a process of “natural selection” virtually identical to Darwin’s, that finally prompted his publication in 1859 of *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. As Hutton, Lyell, and others before them had given the geosphere, the earth, an ancient and dynamic history, now Darwin did the same for the biosphere, for life on earth.

In 1866, a contemporary of Darwin, Gregor Mendel (1822–84), published a report on plant cross-breeding entitled “Experiments in Plant Hybridization.” Mendel demonstrated with mathematical precision the process of genetic inheritance and variation, a process that Darwin could observe but did not understand. With this relatively obscure publication, the age of genetics dawned but in a mist. It took forty years for Mendel’s work to be rediscovered independently by three scientists.

At first, some thought that genetic processes alone could account for the emergence of new species. Thus, Mendelian genetics was initially viewed as a theoretical rival to Darwinian evolutionary theory. But in the early twentieth century, these two strands of scientific development were integrated to form what is today the Modern Synthetic Theory of Evolution, where genetics explains variation and natural selection explains the reproductive advantage of some variations, which taken together eventually lead to the emergence of new species.

**Cosmology Precedes Theology**

As the Pope noted in his statement to the Pontifical Academy, it is “discoveries in various fields of knowledge” that have led to the adoption of an evolutionary outlook. He was not referring simply to terrestrial sciences like geology, paleontology, biology, and genetics. Physics, astronomy and cosmology, sciences of the very great and the very small have also lent their support to a historical developmental understanding of the universe. In first quarter of the twentieth century there were multiple revolutions in the scientific efforts to determine the age of the universe and its large and extremely small scale structure. Researchers like Wilhelm Conrad Roentgen (1845–1923), Marie Curie (1867–1934), Albert Einstein (1879–1955), Nils Bohr (1885–1962), Erwin Schrödinger (1887–1961), Edwin Hubble (1889–1953), Abbe Georges Lemaitre (1894–1966), Werner Heisenberg (1901–76), and many others opened up the structure of the subatomic world, the galactic structure of the cosmos, and historical dynamics of the origin of the universe in a “big bang.” It may be hard to believe but less than one hundred years ago we did not know that the universe was populated
with a myriad of galaxies like our own “milky way,” let alone that these galaxies were receding from one another as space itself expanded. Today we know not only that the cosmos has been expanding for 13.7 billion years, but that the rate of that expansion is increasing.

Furthermore, we have now observed (not directly, but by virtue of their astronomical effects) more than 130 extrasolar planets (planets circling stars other than the Sun) and are poised to discover life beyond the earth; perhaps on Mars or Europa, one of the moons of Jupiter, or perhaps through a spectroscopic analysis of the atmosphere of one of the extrasolar planets.

The universe that science has come to describe over the past two centuries is not simply a very different world from the one in which the Holy Scriptures were written or the early creeds were formulated. It is a world that the great doctor of the church Thomas Aquinas (1225–74) could not even have imagined. It is a universe of such scope and depth and historical dynamism before which the Puritan divines who helped form the Royal Society of London, founded in 1660, would stand agog. It is a world described not in terms of mathematical certainties but probabilities, one in which very small differences in initial conditions can have incalculable consequences.

What we have come to discover is a world in which:

• everything is in motion;
• everything is connected to everything else;
• every “thing” is its history;
• everything could have been and will be different.

Is this new understanding of the universe extraneous to Christian theology and the expression of that theology in worship? The only way this could be the case would be if an understanding of the world were not constitutive of theological formulation. But we are in the world before we are in the world in a theological sort of way. In that sense, at least, cosmology precedes theology. After reflecting on this issue, that is, the relation of an evolving universe to the doctrine of God as creator, Pierre Teilhard de Chardin wrote these words to a friend in 1947:

When we speak of a “theology of modern science,” it obviously does not mean that by itself science can determine an image of God and a religion. But what it does mean, if I am not mistaken, is that, given a certain development of science, certain representations of God and certain forms of worship are ruled out, as not being homogeneous with the dimensions of the universe known to our experience. This notion of homogeneity is without doubt of central importance in intellectual, moral and mystical life. Even though the various stages of our
interior life cannot be expressed strictly in terms of one another, on the other hand they must agree in scale, in nature and tonality. Otherwise it would be impossible to develop a true spiritual unity in ourselves—and that is perhaps the most legitimate, the most imperative and most definitive of the demands made by man [sic] of today and man [sic] of tomorrow (221).

Yet, this notion of homogeneity, of unity “in intellectual, moral and mystical life” is not the only strategy that might be employed to deal with anomalies between our theological tradition and “the universe known to our experience.” Another strategy is to divide the world into separated domains: the material (or natural) on one side and the spiritual (or supernatural) on the other. This has been the dominant strategy in the West since the seventeenth century. It is reflected in some of the most sophisticated theology of the twentieth century.

**Theology and Science**

When John Paul II affirmed the scientific standing of evolutionary theory in his 1996 statement, he also included a very significant caveat; namely, that an evolutionary account of human evolution could not in principle do justice to the distinctive and essential character of human nature. First, he noted that scientific findings are always interpreted within some broader philosophical framework. He wrote:

> While the formulation of a theory like that of evolution complies with the need for consistency with the observed data, it borrows certain notions from natural philosophy. And, to tell the truth, rather than the theory of evolution, we should speak of several theories of evolution. On the one hand, this plurality has to do with the different explanations advanced for the mechanism of evolution, and on the other, with the various philosophies on which it is based. Hence, the existence of materialist, reductionist and spiritualist interpretations. What is to be decided here is the true role of philosophy and, beyond it, of theology (John Paul II, #4, p. 7).

Then he rejected the idea that what constitutes humanness can be an emergent property of human material existence in the natural process of evolution. He wrote:

> Consequently, theories of evolution which, in accordance with the philosophies inspiring them, consider the spirit as emerging from the forces of living matter or as a mere epiphenomenon of this matter, are incompatible with the truth about man [sic]. Nor are they able to ground the dignity of the person.
With man, then, we find ourselves in the presence of an ontological difference, an ontological leap, one could say. However, does not the posing of such ontological discontinuity run counter to that physical continuity which seems to be the main thread of research into evolution in the field of physics and chemistry? Consideration of the method used in the various branches of knowledge makes it possible to reconcile two points of view which would seem irreconcilable. The sciences of observation describe and measure the multiple manifestations of life with increasing precision and correlate them with the time line. The moment of transition to the spiritual cannot be the object of this kind of observation, which nevertheless can discover at the experimental level a series of very valuable signs indicating what is specific to the human being. But the experience of metaphysical knowledge, of self-awareness and self-reflection, of moral conscience, freedom, or again of aesthetic and religious experience, falls within the competence of philosophical analysis and reflection, while theology brings out its ultimate meaning according to the Creator’s plans (John Paul II, #5–6, p. 7).

The Pope adopts an epistemological dualism not unlike the idea of “nonoverlapping magisteria” that the late paleontologist Stephen Jay Gould proposed in response to the Pope’s 1996 statement on evolution. In an article in Natural History Gould wrote: “The lack of conflict between science and religion arises from a lack of overlap between their respective domains of professional expertise—science in the empirical constitution of the universe and religion in the search for proper ethical value and the spiritual meaning of our lives” (18).

Fairly put, the Pope’s philosophically informed theological position cannot be refuted by any empirical evidence. Nor does contemporary evolutionary theory deny, in principle, such an extranatural interpretation of human origins. On the other hand, since the eighteenth century one of the foundational principles of scientific inquiry has been that all phenomena in nature lend themselves to an explanation in natural terms. What is called by some “methodological naturalism” is, on the one hand, an affirmation that science only concerns itself with natural explanations. But this approach to the acquisition of knowledge also assumes that the structure and processes in nature are such that they are open to adequate explanation in natural terms without recourse to extranatural (some might say supernatural) causes. Of special note, historian of science Ronald Numbers has pointed out that this epistemological view originated within the Christian community (Numbers, 265f). This would suggest that while theological interpretations of human origins are appropriate, theology is superfluous to an explanation of the particular processes of human origins.

What is interesting is that there is in the Christian tradition a classical theological warrant for affirming that God’s action in the world does not require intervention in or disruption of natural processes, but is fully consistent with
and, therefore, indistinguishable from natural processes. Again, we can turn to Augustine and find this view. In one of his critical works against the Manicheans he wrote: “God, the Author and Creator of all natures, does nothing contrary to nature; for whatever is done by Him who appoints all natural order and measure and proportion must be natural in every case” (321).

**Conclusion**

If God’s creative acts are “natural in every case,” then we need not look for causes beyond nature to account for any particular aspect of nature. Why there is any nature at all requires an answer beyond nature. But, to answer the question why there is any particular thing in nature, a human being for example, perhaps we need only to listen more clearly to what nature is saying through her actions. What the “heavens are declaring and the earth showing forth” is a dynamic, innovative emergence of a diversity of being interconnected in time and space. Listening to nature’s witness, we may more clearly discern God’s creative activity, not so much as a monarch who decrees order or a potter who molds chaotic clay into an ordered vessel, but more as a word that calls upon the creation to bring itself forth or the leader of a jazz jam session who without a score evokes new and unexpected harmonies. When we attend to nature, the actions may be those of an ass but the meaning divine.

**References**

Augustine. *De Genesi ad litteram libri duodecim (The Literal Meaning of Genesis).* Bk. 1, ch. 19, 39.

______. *Reply to Faustus the Manichean.* Bk. XXVI, 3.


