



Finding Gould's God



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The scientific community suffered a great loss on May 20, 2002, with the death of Stephen Jay Gould. For anyone interested in evolution and natural history, or in the relationship between science and religion for that matter, the name Stephen Jay Gould is a household word. For twenty-seven years, his monthly columns and numerous books have entertained and informed a vast and appreciative audience. He will be sorely missed. Gould was a professor of zoology and geology at Harvard University, a prolific and influential writer on the subject of evolution, and a devoted disciple and admirer of Charles Darwin, having referred to him on more than one occasion as his hero. He was also a self-proclaimed agnostic.

Brown University biologist Kenneth Miller published a book entitled *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution*. Given Gould's admiration and respect for Charles Darwin, one might ask that if Miller indeed has found Darwin's God (as the title of his book suggests), has he not found Gould's God as well? Perhaps. Let us begin by comparing the religious views of Darwin and Gould, and then, if similarities can be found, consider the integrated view of evolution and theology proffered by Miller and others.

Charles Darwin

Charles Darwin has come to be one of the most controversial scientists in history, which is quite interesting in light of his compassionate and unassuming personality. Far from the poster boy for atheism that many

groups have marketed him as, Darwin's life reads as the moving story of an honest and vulnerable human being in a state of perpetual soul searching. It depicts a man slipping from theism, to deism, to agnosticism, a fall driven as much by his scientific ideology as by his inability to reconcile human suffering with a benevolent God.

Darwin entered his adult life as a theist. In 1831, he graduated from Cambridge Divinity School with modest aspirations of life as a country parson. He boarded the H.M.S. Beagle a literal believer in the Genesis account of creation. During this voyage, many of his yet unchallenged scientific and religious beliefs came into question.

While much has been made of Darwin's naturalistic exploits aboard the Beagle, one should not overlook the significance of his more humanistic encounters, particularly the missionary work attempted in Tierra del Fuego. On board the ship were three Fuegians kidnapped by the English during a previous expedition to South America. The young hostages had been brought back to Europe where they were raised in the safe confines of Anglican society. The goal was to return them to their homeland along with a Christian missionary who was to teach the native people the ways of a civilized life. Having befriended one of the "transformed" Fuegians on board, Darwin was shocked by his encounter with the Fuegian people in their native environment. Horrified, too, was the missionary, who in an abrupt shift of priorities, refused to let the Beagle sail off without him. Later the whole experience would affirm Darwin's speculation that humans, too, are the products of an evolutionary process.

Upon returning to England, Darwin began to mull over the stacks of notebooks he had compiled, and his theory of evolution by natural selection slowly took form. His slip from theism to deism stemmed from his own interpretation of the theory and from

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the general scientific climate of the time. Newtonian physics was assumed by many to reflect the craftsmanship of the great “clockmaker” who had built a wonderfully complex universe, wound it up and let it go, never to intervene on its behalf again. One sees a glimpse of Darwin’s deistic perspective in the closing paragraph of *The Origin of Species*. Darwin wrote:

There is grandeur in the this view of life, with its several powers having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being evolved.¹

Ultimately, however, deism and Christianity would prove unsatisfactory to Darwin, who found its answers to the difficult questions of human suffering too simplistic, if not cruel. In a letter to Asa Gray, Darwin commented on a growing pessimism spawned by his theory:

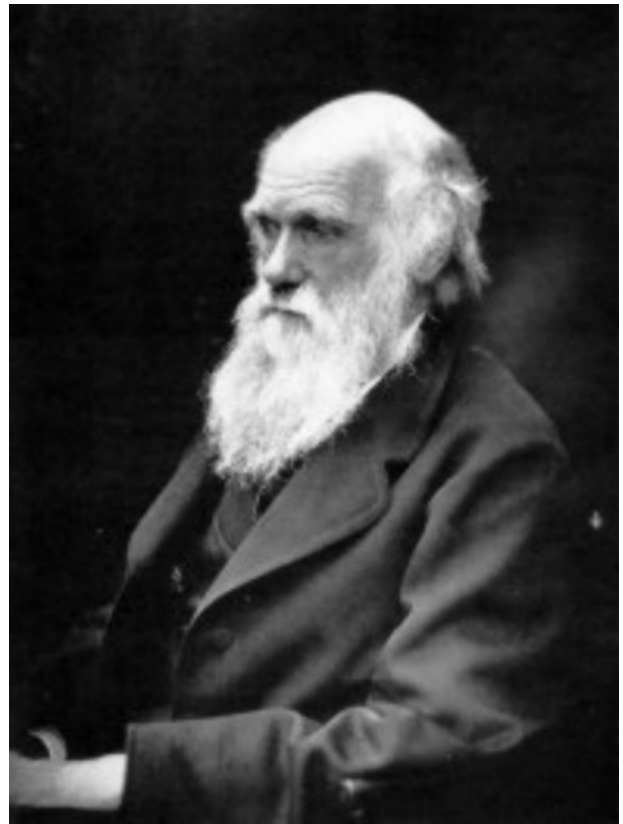
... with respect to the theological view of the question. This is always painful to me. I am bewildered. I had no intention to write atheistically. But I own that I cannot see as plainly as others do, and as I should wish to do, evidence of design and beneficence on all sides of us. There seems to me too much misery in the world.²

Darwin himself was no stranger to suffering, enduring chronic stomach disorders, migraines, and boils most of his adult life. He felt persistent guilt at the thought of having passed his “wretched” stomach on to his children and was particularly devastated by the premature death of his 10-year-old daughter Annie, an event from which the shreds of Darwin’s faith never recovered.

Emma Darwin, a devoutly religious woman, worried about her husband’s salvation from the first day of their marriage. She constantly urged him to read the closing section of John 13, where Christ informs the doubting Thomas that he is “the way, the truth, and the life.” In one of her many letters to Charles, she implored him to give up his habit of “believing nothing until it is proved.” An anguished Darwin responded: “When I am dead, know how many times I have kissed and cried over this.”

Late in life, when asked about his religious views, Darwin alleged that the question of God’s existence was beyond the comprehension and resolve of the human intellect. Following the precedent and terminology of his friend Thomas Huxley, Darwin confessed:

In my most extreme fluctuations I have never been an Atheist in the sense of denying the existence of God. I think that generally (& more & more as I grow older), but not always, that an agnostic would be the most correct description of my state of mind.³



Charles Darwin

But reading between the lines, one gets the impression that Darwin never truly relinquished a belief in God. He supported tent ministries in his home town up until his death and contributed financially to an Anglican outpost in Tierra Del Fuego; the natives that had once shocked him with their savagery were eventually clothed and converted.⁴ Darwin understood the value of religion in society. It was his fear, rather, that a shared belief in a supernatural creator was simply a neurological projection, a “beneficial variation” born of natural selection in the same manner as any other trait that confers an advantage for survival. His faith fell victim to his own theory.

Stephen Jay Gould

It is readily apparent that Stephen Jay Gould shared much in common with his admitted hero and mentor, Charles Darwin. In his book *Rocks of Ages*, Gould openly professes: “I am not a believer. I am an agnostic in the wise sense of T. H. Huxley, who coined the word in identifying such open-minded skepticism as the only rational position because truly, one cannot know.”⁵ Yet anyone who has read Gould’s work knows that religion is a recurring topic woven into many of his essays as analogy, metaphor, and anecdote. In an age in which so many prominent scientists adamantly refuse to mention science and religion in the same breath, Gould was just as likely to use a verse of



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Scripture to help clarify a scientific idea. Indeed, he cites religion as being of extreme interest to him, ranking it only behind evolution, paleontology, and baseball.⁶

Gould is to be admired for his genuine commitment to having pursued truth wherever it led him. His *The Mismeasure of Man* is a fascinating and informative study of scientific racism.⁷ He explores how the prevailing cultural attitudes of an empowered group have historically served to bias the scientific study of humans and human intelligence. Despite later accusations of racism, Darwin himself was an avid abolitionist. He said: "If the misery of our poor be caused not by the laws of nature, but by our institutions, great is our sin."⁸

Born of Jewish ancestry, Gould certainly must have questioned the amount of suffering in the world, and like Darwin, Gould was not immune himself. Diagnosed with cancer as his career was blossoming, Gould bravely endured chemotherapy treatments, while continuing to teach and meet monthly deadlines for his column in *Natural History*. Gould rarely mentioned his disease, but his essay "The Median Isn't the Message" continues to inspire countless individuals entrenched in their own battles with cancer.⁹

Gould, like Darwin, apparently spent time pondering the plight of the doubting Thomas. In *Rocks of Ages*, he devotes an entire chapter to the disciple in an attempt to convey the fundamental difference between faith and science. He has obvious trouble with Jesus' chastisement of Thomas: "Blessed are they that have *not* seen and yet have believed." Gould retorts: "I cannot think of a statement more foreign to the norms of science."¹⁰

Still, Gould recognized the value of religion in society, and through his agnostic creed, he left a door open for God. But like Darwin before him, he seemed convinced that religion is simply a manifestation of natural selection in a materialistic universe. It would seem then that materialism lies at the core of the conflict between evolution and theology, which brings us to Miller's book, *Finding Darwin's God*.

Evolution and Theology

Much of the popular debate over evolutionary theory has been waged by opponents at opposite ends of the spectrum, namely by atheistic materialists and by creation scientists. Kenneth Miller falls well within these two extremes. His book presents an ample refutation of creation science and contemporary intelligent design theory, yet, curiously, his book is also an argument for the existence of God. Many of the ideas in Miller's book are not new. Other scientists and theologians who have successfully integrated scientific and religious faith in a similar manner join him.

One key to reconciling evolution with theistic belief lies in the understanding of the word "chance." Continuing Darwin's letter to Asa Gray quoted previously, it reads:

On the other hand, I cannot anyhow be contended to view this wonderful universe, and especially the nature of man, and to conclude that everything is the result of brute force. I am inclined to look at everything as resulting from designed laws, with the details, whether good or bad, left to the working out of what we may call chance. Not that this notion at all satisfies me. I feel most deeply that the whole subject is too profound for the human intellect. A dog might as well speculate on the mind of Newton.¹¹

Gould notes: "Darwin does not mean chance in the vernacular senses of 'random,' 'without meaning,' or 'incapable of explanation.' By stating the proviso 'what we may call chance,' he implies a view of life for which he had no word, but which historians now call contingency."¹² Yet it is, in fact, this notion of "chance" as manifested in quantum uncertainty and chronological time that allows evolutionary theory to flourish within the context of both Western religion and modern science.

Miller points out: "One hundred and fifty years ago it might have been impossible not to couple Darwin with a grim and pointless determinism. I believe this is why Darwin in his later years tried and failed to find God, at least a God consistent with his theories."¹³ Darwinism *would* mean the end of God in a Newtonian world of simple cause and effect

phenomena. But relativity and quantum theory have transcended the Newtonian picture of deterministic particles moving along in space with something much more supple and comprehensive.

Consider electrons for a moment. They orbit the nuclei of atoms in what are simplistically portrayed as concentric circles. In actuality, the paths must be thought of as probabilistic clouds since both the exact location and momentum of an electron cannot be known at any particular instant. The physicist knows this enigma as Heisenberg's Uncertainty Principle. Ultimately, however, it is the positions and momentums of these quantum particles that dictate higher order events from simple chemical reactions to complex weather patterns, to super novae, and everything in between. Such sensitivity to initial conditions is part of what is better known as Chaos theory.

One begins to see that the quantum world is both unpredictable and unmechanical. Yet, when considering even a tiny piece of matter, in which the behaviors of lots of quantum particles must be added together, these variations and uncertainties tend to cancel each other out, producing a highly reliable pattern of overall behavior. This is of utmost importance, because it is this reliable pattern of behavior that allows science to be so fruitful—it is the foundation of materialism. Force, in fact, is the product of an object's mass and acceleration. The pressure of a gas is inversely proportional to its volume at constant temperature. As early as 1945, Erwin Schrödinger surmised that living things, insofar as being complex aggregates of countless quantum particles, must be of sufficiently large size relative to atoms in order to insulate themselves from atomic-level events. Only then can their physiologies be based on predictable natural laws.¹⁴

The uncertainty principle tells us that there is specific information about the physical nature of matter that simply cannot be known. This essentially places every piece of matter in the universe under God's *potential* control, or under the control of randomness and chance, depending upon one's world view. It is not a return to the "God of the Gaps" theology, for it is not a principle of scientific ignorance, but of indeterminacy. What ultimately directs the intrinsic unpredictability of chaotic systems is information, not energetic causation.

Addressing Deeper Concerns

Certainly, as Miller notes, quantum mechanics does not *prove* the existence of God. "If it did, we should expect missionaries to win souls by explaining two-slit diffraction experiments and by showing the derivation of Planck's constant."¹⁵ Nor was Gould likely to have hopped quickly on the quantum mechanics bandwagon. Belief in God requires insight into the more difficult questions of human experience. Anyone familiar with the writings of evolu-



Stephen Jay Gould

tionist Richard Dawkins knows that evil and suffering are a significant part of his atheistic argument. Unfortunately, this is where Miller's book falls short. But others have plowed this ground before. Some helpful and spiritually compelling insight has come from Anglican priest and particle physicist John Polkinghorne.¹⁶

According to Polkinghorne, there are essentially two types of evil in the world: moral evil and physical evil. Moral evil, such as that manifested in the form of concentration camps, theft, and murder, exists because our Creator has bestowed upon us a free will. "We are moral beings, with all the possibilities for immorality that this implies, not perfectly programmed automata."¹⁷ God is not always pleased with our actions, but realizes the consequences of his taking back control over them.

Physical evil, such as a devastating hurricane or a serious illness, is more difficult to rationalize. Surely God has some control over this. Did we not just establish that every quantum particle in the universe is under his *potential* control? Why does he not constantly perform miracles to protect us from the pitfalls of the physical world? The answer is because God is faithful, faithful to the orderly creation he has made. God does not will evil or suffering,



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but rather allows it in a world that has been granted the freedom to be *other* than God.¹⁸ Important to Christian theology is a clear distinction between the Creator and the created order. For God to love the world, he must give up some control of it.¹⁹ He does not *have to*, but he does because of love. The logic of love requires the freedom of the beloved.

Christianity, in particular, speaks to the issue of suffering at the deepest level. Unlike other world religions, Christianity tells us that God understands our suffering because he too has suffered and suffers with us now. He does more than simply look down upon us with pity. He stands beside us in our darkness.²⁰ Only when God is acknowledged to be vulnerable through his love for his creation, does it become possible to speak of the mystery of a suffering God.

Concluding Thoughts

Gould knew that science, by its own design, was not equipped to address metaphysical questions concerning meaning and purpose. He knew this was the realm of religion. But it seems he was unwilling to take a leap of spiritual faith, choosing instead the path of secular humanism. To be honest, I thought that someday Gould would embrace Christianity. His faith had already seemed closer to that of a mustard sapling than a mustard seed. Perhaps he did. I speak only for his writings, not for his heart.

Belief in God is, and will always remain a leap of faith, as it should be. But it is a leap that can be taken with science firmly in hand. Faith does not mean believing the impossible. Rather, it is a motivated belief in that which cannot be known with complete assurance. Indeed, a leap of faith is required of the scientist—a commitment to the metaphysical belief that the world is intelligible and open to our rational exploration. This particular leap, however, is much easier to take. It can be objectively tested and repeatedly affirmed. More important, it does not demand the same level of response. Responding to a belief that atoms are made up of subatomic particles is not a difficult task. Responding to the belief that the universe was created with meaning and

purpose by a loving God is something we struggle with on a daily basis.

Certainly Christ struggled. We can only imagine what he must have been experiencing when he put his own fate into the hands of his Father in the garden. If Jesus was fully human as well as fully divine, then a leap of faith was required of him as well. We are the beneficiaries. Let us remember his leap and contemplate our own as we strive to mold our lives after him. ❀

Notes

¹Charles Darwin, *On the Origin of Species* (London: John Murray, 1859), 459.

²F. Darwin, ed., *The Life and Letters of Charles Darwin* (London: Murray, 1888).

³A. Desmond and J. Moore, *Darwin: The Life of a Tormented Evolutionist* (New York: Warner, 1992), 636.

⁴*Ibid.*, 574.

⁵S. J. Gould, *Rocks of Ages: Science and Religion in the Fullness of Life* (New York: Ballantine, 1999), 8–9.

⁶*Ibid.*, 9.

⁷S. J. Gould, *The Mismeasure of Man* (New York: W.W. Norton, 1996).

⁸C. Darwin, *Voyage of the Beagle* (New York: Collier, 1839), 502.

⁹S. J. Gould, "The Median Isn't the Message," *Discover* (June 1985).

¹⁰Gould, *Rocks of Ages*, 16.

¹¹F. Darwin, ed., *The Life and Letters of Charles Darwin*.

¹²Gould, *Rocks of Ages*, 198–9.

¹³K. Miller, *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution* (New York: Cliff Street Books, 1999), 289.

¹⁴E. Schrödinger, *What is Life?* (Cambridge: University Press, 1967), 10.

¹⁵Miller, *Finding Darwin's God*, 219.

¹⁶See his books, *Belief in God in an Age of Science* (New Haven, CT: Yale University Press, 1998); *Reason and Reality* (Harrisburg, PA: Trinity Press International, 1991); *One World: The Interaction of Science and Theology* (Princeton, NJ: Princeton University Press, 1986).

¹⁷J. Polkinghorne, *Quarks, Chaos, and Christianity: Questions to Science and Religion* (New York: Crossroad, 1994), 44.

¹⁸*Ibid.*, 47.

¹⁹*Ibid.*, 45.

²⁰*Ibid.*, 48.

Upcoming ASA Conferences

July 25–28, 2003: Colorado Christian University, Lakewood, CO

July 23–26, 2004: Trinity Western University, Langley, BC Canada

Aug. 5–8, 2005: Messiah College, Grantham, PA

July 28–31, 2006: Calvin College, Grand Rapids, MI