

Pulp Exegesis

Gerald L. Schroeder,
**The Science of God:
The Convergence of Scientific
and Biblical Wisdom**

Free Press, 1997.

206 pages.

Reviewed by David Hazony

The past few years have seen a spate of books attempting, once again, to resolve the apparent tension between science and faith. Titles such as Patrick Glynn's *God: The Evidence* and Hugh Ross' *Beyond the Cosmos: What Recent Discoveries in Astronomy and Physics Reveal About the Nature of God* have joined magazine articles and television specials in the effort to tackle what is supposed to be among the thorniest, and most profound, questions that man has ever asked. While many of these have earned accolades from an apparently hungry public, most of them operate on assumptions which are not only flawed, but potentially harmful to more serious efforts in both science and religion.

A perfect example can be found in Gerald Schroeder's *The Science of God: The Convergence of Scientific and Biblical Wisdom*. In the first third of the book, Schroeder takes full advantage of scientific advances in fields as diverse as cosmology, paleontology and particle physics to offer an almost plausible scientific rendering of the Creation story. The six days in which the entire universe came into being are no parable or tribal myth, but "actually did contain the billions of years of the cosmos even while the days remained twenty-four-hour days." How so? Schroeder invokes the teachings of relativity: We have all heard how mass and velocity can affect the "rate" at which time goes by for one object with respect to another—how a baby in a spaceship traveling near the speed of light will age two years while his twin on earth lives an entire lifetime. Schroeder's innovation is to declare the entire universe to be the Bible's opening "frame of reference" (there was, after all, no earth or sun to provide another one), in which

the universe's dense mass-energy point at the start of the Big Bang offers an extremely "slow" time-track, so that events which to us appear to have taken billions of years took, from the universe's "own" perspective, a matter of days. Once the time scale is adjusted to allow for the universe's expansion and cooling, Schroeder ends up with a schedule of Creation which allots eight billion earth-years for the first universe-day, four billion for the second, two billion for the third, and so on, adding up to the primordial six-day work week. Not without a certain reliance on smoke and mirrors, many of the most important events in the universe's creation and the evolution of mankind are squeezed into the first chapter of Genesis.

The remainder of *The Science of God* is dedicated to impressing the reader with just how *unlikely* everything is: The galaxies, the earth, one-celled organisms, the Cambrian explosion of life half a billion years ago, are all described in terms of their statistical improbability, a suspicious yet entertaining presentation of numbers and exponents which at times degenerates into rambling. (At one point Schroeder dares the reader to try and repeat the word "billion" a billion billion times, so that he will fully grasp the unlikeliness of it all—"Just to speak aloud those billions would require more time than the universe has

existed, more time than has passed since the beginning of time!")

But it is not Schroeder's showmanship that makes *The Science of God* so irksome. The most serious problem with *The Science of God* is also the tragic flaw of its genre: The premise that one can, or should, try to "reconcile" the teachings of a several-thousand-year-old religious text with those of obscure twentieth-century science.

First, there is the problem of employing science to understand the Bible. The fields of so-called "hard" science are as varied in their methodology and standards as in their subject matter, and while it is to be expected that the vast majority of scientists spend their careers under the paradigmatic umbrellas of the leading theories in their fields, this does not mean that an outsider looking in should necessarily take these theories seriously, inasmuch as they may bear on his beliefs or values. Put simply: As a layman, I am much more likely to alter radically my behavior on the basis of the latest developments in oncology than those in paleontology. The former, while by no means infallible, are based on a wide body of corroborated experimentation, and have been held to the test of practical implementation; the latter, even if highly regarded by the most ingenious of paleontologists, are based on such scant

evidence, guesswork and fundamentally untestable hypotheses, that no serious thinker should entrust his or her religious beliefs to their graces.

When, for example, was the last time you encountered a brontosaurus? A brief visit to the children's section of a local bookstore will reveal that the entire retinue of dinosaurs most of us grew up knowing and loving have recently suffered a new extinction: Gone or forgotten are the stegosaurus, dimetrodons and pterodactyls upon which an entire generation of museums, toys and picture books were built. Like a giant asteroid crashing down upon the earth, radical new works such as Robert T. Bakker's 1986 *The Dinosaur Heresies* have succeeded in shifting the most famous paradigm of paleontology: Dinosaurs, it now turns out, never really were the slow, stupid, cold-blooded reptiles they made themselves out to be. They were nimble, smart, warm-blooded and bird-like, probably looking a lot more like Spielberg's velociraptors than anything else. The trusty, timid brontosaurus is no more, supplanted by the "apatosaurus," a fearsome monster which roamed in packs, was athletic enough to be able to swim, and could vanquish its enemies by rearing up on its hind legs and thrusting the fullness of its thirty-three-ton body onto its adversary, or by whipping him with its fifty-foot-long tail.

What is true for the stability of paleontology is all the more true when looking at the cosmos, whose basic bits of evidence are a lot less handy than fossils. Hypotheses about the origins of the universe frequently employ unproved or unprovable assumptions as basic theoretical building blocks. It is significant that the Big Bang, the basket into which Schroeder places all his exegetical eggs, is itself infamously unstable: As the cosmologist P. James E. Peebles (and a number of his colleagues) pointed out in the March 1998 issue of *Scientific American*, the Big Bang, although not yet at serious risk of being replaced by a competing theory, is beleaguered by basic "unresolved issues" (such as how the galaxies were formed), and will likely undergo fundamental revisions within the coming decades.

None of this is meant to imply that paleontologists or cosmologists are necessarily bad scientists; given the questions they are asking and the kind of data they have to work with, things could hardly be otherwise. What it does show is that anyone who takes the Bible seriously as an eternal source of wisdom should not dream of trying to understand it with the tools employed in Schroeder's book—tools which of necessity are prone to massive revision every few years if the scientists are doing their job right.

Nor has science proven all that useful even when applied directly to the task of biblical interpretation. For centuries, scientists and pseudo-scientists have offered solutions to textual problems in the Bible, without bringing us any closer to an understanding of the Bible's meaning. Whether it be the workings of an often hostile class of documentary hypothesists, or more sympathetic efforts to "correlate" creation, the flood or the parting of the Red Sea with cosmology, paleontology and archaeology, these efforts all miss the point, skirting those far more difficult questions that stir the heart of the religious thinker: What point is the Bible trying to make? What are the spiritual or theological implications of these stories? What are the demands—whether of belief or action—that a proper understanding of the Bible makes of man? In science the religious thinker has never found, indeed can never find, the key to his understanding of the text.

If science is unhelpful in understanding the Bible, then the Bible is simply abysmal as a tool for understanding science. For the implication of *The Science of God*—that in theory at least, the Bible should offer a kind of rejoinder to the grand mystery of nature—is anathema to scientific thinking. Schroeder writes:

The Bible, properly understood, can be a handmaiden of science.... Ussher's and Kepler's calculations of an approximately six-thousand-year-old universe are infinitely closer to our current estimate of time since the Big Bang than was either Aristotle's opinion [of an eternal universe] or that of two-thirds of the leading U.S. astronomers and physicists, who in a 1959 survey agreed with Aristotle. Human logic sided with Aristotle but was in error. The biblical paradigm of a beginning to our universe, a creation, was correct.

How, exactly, can the Bible be a "handmaiden of science"? What would Schroeder have had those scientists in 1959 do, discard their best scientific theory because the Bible suggested otherwise? As opposed to Maimonides, who viewed scientific knowledge as a means for appreciating the glory of Creation, Schroeder and those like him seek in the Bible a solve-all to the most fundamental questions which science poses, and just as they are willing to impose a scientific reading upon the Bible, they frequently tolerate some bending of science (and scientists) to "fit" into the Bible's apparent teachings.

Yet this has been tried before: Was it not the Church's attempt to do precisely what Schroeder is proposing, to "demonstrate a harmony between science and the Bible" by imposing

scriptural “truths” upon the study of the cosmos, that nearly cost Galileo his life and stunted Western science for centuries? The lesson of that tragic period was that in order to advance, science must permit the unfettered competition of theories to explain the results of inquiry and experiment. External considerations, of which the Bible is but one example, may serve as a source for ideas and inspiration, but must never be allowed to force one theory over another, or even to distort the scientist’s approach to the evidence; the Bible can no more offer a shortcut to the “right” answer in science than can science offer a shortcut to the “right” biblical interpretation.

How, then, are we supposed to approach the Creation story? The first step is to clarify our goal: Our interest should be in reading the text, that is, in understanding its actual meaning. Creation is a profound passage—enigmatic, poetic, rhythmic, symbolic. It is a difficult text, tossing about loaded terms such as “unformed and void,” “spirit of God,” “face of the deep,” whose import is far from obvious. Moreover, it constitutes the opening to a book whose primary concern is not natural history, but wisdom—the Tora is comprised of little other than the laws of human living, the stories of exemplary men and women, and the character of a nation and its

God—and therefore its difficult passages should be understood with an eye towards the wisdom they may provide, towards knowledge that lies at the core of man’s concern, rather than the description of cold, scientific facts. This book calls itself the *Tora*, “the teaching,” as if to remove all doubt as to its larger purpose.

In this light is the Creation story to be read, and indeed has been read throughout the ages by biblical commentators. Some, such as the nineteenth-century scholar Samson Raphael Hirsch, found in God’s creation of the universe *ex nihilo* the basis for a belief in free will, upon which all morality depends. Others, such as Shabtai Bass, author of the *Siftei Hachamim* of the eighteenth century, saw Creation as the expression of God’s omnipotence, without which his covenantal promises could not be trusted, and the belief in divine justice would have no foundation. In our own century, Joseph B. Soloveitchik echoed the Talmud’s insistence that Creation is, above all, about human nature, about man as the culmination of God’s creative endeavor, and about man as creator himself, whose creativity lies at the essence of his having been formed “in the image of God.” What unites these efforts—and distinguishes them sharply from both Schroeder’s scientific literalism and the fashions prevalent in the academy—is the earnest

attempt to understand the actual point of the Creation story, and to produce a theory which is compatible at once with the biblical whole in all its stated and unstated intentions, and with a reasonable guess as to what this type of passage *could* mean in this type of context.

Books like *The Science of God* dispense with all that. Having found, at long last, a reading of the text which jibes with cosmology while being fully literal (a day is really a day, from the universe's standpoint, and seven days are really seven days), Schroeder no longer feels obligated to any broader context. His reading is therefore clear, simple and absurd: Are we seriously expected to believe that the author of Genesis would choose to begin the tale of the world's creation with a lesson in late-twentieth-century cosmology? Is not the image of the author (divine or otherwise) composing a Creation story that is perfectly incomprehensible to his audience, chuckling to himself as millennia of biblical scholars try in vain to understand that which is not really understandable, until along come paleontology, particle physics, relativity and Edwin Hubble to reveal the true meaning of the text—is that not as improbable as Schroeder's billions?

Backed into a corner, Schroeder and those like him usually resort to claims of non-exclusive interpretation,

something to the effect of "Come now, I don't mean to imply that this is the *only* meaning of the Genesis story—it's just interesting, useful, beautiful and gives one more basis for faith." Now the bad news: The Bible is not a toy. It is the founding spiritual text of our civilization. Its words are chosen carefully, and with intent. It is to be handled with care, with the respect due any serious text, in the effort to cull from it the actual intentions of its author. Any casual efforts to tack on other meanings, without actually endeavoring to understand it, are not really trying to read it at all. Depending on their agenda, intent and methodology, these efforts are at best midrash, at worst hogwash. If Schroeder and those like him believe that the Creation story really "converges" with modern sciences, then their readings must make sense within a larger understanding of the Bible, within its literary, theological and historical contexts, and with a reasonable understanding of what the biblical author is trying to achieve and why he would choose to do it this way. If not, then books such as *The Science of God* are peddling meaningless coincidences as the basis of faith, and should be discarded, lest we be distracted from the real goals of our inquiry.

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