

BOOK REVIEWS

Astrophysics and Creation: Perceiving the World Through Science and Participation. By Arnold Benz. New York: Crossroads, 2016. Cloth. 144 p. \$12.95.

Arnold Benz's *Astrophysics and Creation* is a jewel in a vast field of books that attempt to make science and religion understandable. Astrophysics may appear light years away, but appearances can be deceiving, beginning with the Prologue, in which Benz, as a high school student, perceived the night sky not as the inside of a big black ball, but a deep and impenetrable totality. Part 1, Amazing Formation, first shows that open space is not empty. Tiny dust grains of atoms, molecules, and elementary particles hover throughout space with ice mantles that are the origin of the water of earth long before our solar system appeared. Stars and their planets originate in "accretion disks" that form when molecular cloud cores collapse and begin to spin in disk-like patterns of stars and its spinning planets and satellites. Although much is known, many of the details of these transitions are still considered unfathomable. Astrophysics is beginning, however, to understand the Big Bang, which had a temperature of billions of billions of billion degrees, and represents the "event horizon" beyond which we cannot make any scientific statements about what preceded it in time, and Black Holes, where space is "bent" and event horizons make it impossible to view or study what lies beyond it in space. Walt Whitman over a century ago became "tired and sick" listening to a lecture of an astrophysicist and wandered off into the night for his own understanding of the stars, but Benz claims that the conflict of romanticism between science and art is avoidable today. He agrees with Anthony Flew's famous "Parable of the Invisible Gardener," that science cannot discover God, but argues that scientific inquiry cannot reveal some things either, such as the beauty of the garden. Science on the one side, beauty and God on the other side, involve different kinds of quite compatible perceptions.

This becomes clear in Part 2, Dissolution and Horror, which begins with the realization that the universe, like life on earth, has a history that includes inevitable decay. Earth itself is well-protected currently from the deadly intensity of space weather by the terrestrial magnetic field, but Venus and Mars are not. In any event, the sun is cooling and decaying. In 1.2 billion years the earth's temperature will have reached 212 degrees and life will become impossible. Much sooner, the large asteroid Apophis will come within 20,000 miles of earth in 2029, and although a collision is extremely unlikely, it would be disastrous for a continent and have worldwide ramifications. On earth there are also risks environmentally, socially, and personally.

This leads to more comprehensive understandings of reality, illustrated in Blaise Pascal's mystical experience and its decisive effect on his life. Benz calls art as well as religion "participatory perceptions," which lead from chaotic systems into complexity theory, and further into the humanities. "Construing" deepens the level of reality under consideration. The universe's essence becomes basic for the understanding of one's life. "Construing" transforms "clockwork" explanations into time-dependent types of "larger than rational" alternatives such as Kurt Gödel's incompleteness theorems, which demonstrate the limitations of mathematical logic, and ways the poetic arts demonstrate the possibilities to deal competently with non-rationality. Benz holds that the universe is embedded in an all-encompassing, transcendent reality, suggesting a notion of a Creative Principle, better referred to as a Theology of Evolution. Despite his preference for the latter, he uses the former in Part 3, perhaps because his purpose is not a fully developed theological statement. Part 3, Interpretation as Creation, describes Benz's effort to think further than science by recalling both the wonders of the nighttime sky and the horrors of what appears to be a barren universe. Yet it is astounding that living creatures exist on earth. Benz realizes first that every fiber of the human body contains at least three generations of stars, which leads him to speculate briefly on whether life exists elsewhere, knowing that half of the known molecules of molecular clouds and proto-stellar envelopes are organic molecules of more than a dozen atoms. He realizes that 70 species go extinct every day, and that human life itself is threatened. But this leads inevitably to ethics, including the presence or absence of hope as an important issue. To speak of such matters requires metaphoric and symbolic language, including God as described in the Biblical creation stories. Benz finds the focus of the Genesis creation accounts of life as a *gift*, an idea foreign to Greco-Roman culture, which early Christians revived from Hebrew tradition. Similarly, belief in Christ's death and resurrection describe faith in novelty in a similar manner. The emphasis, therefore, as in evolutionary science today, is on novelty rather than sameness, the in-breaking of new order in both life and nature. The idea that what is new in evolutionary terms is a *gift* is not easily assumed by some, but for Benz creation starts with a primal feeling of gratitude.

Benz argument for "participatory perception" recalls Pascal and Whitman. He provides evidence that Christian belief is harmonious with evolutionary science in interesting ways. However, although religion and science may overlap, they still originate from different fields of experience. In the Epilogue, Benz is in Hawaii atop Mauna Kea at the James Clerk Maxwell Telescope, gazing up into the night sky. He is overwhelmed now at the dark universe from which the *gift* of humanity has emerged. In Matthew, the wise men came bearing gifts. Another astrophysicist now bears a book to help readers look up wisely into the night sky.

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Astrophysics and Creation

**Perceiving the Universe
Through Science and Participation**

Arnold Benz

"A sparkling gem lying in a vast field of books of science and religion. Reading it is a religious experience in itself."

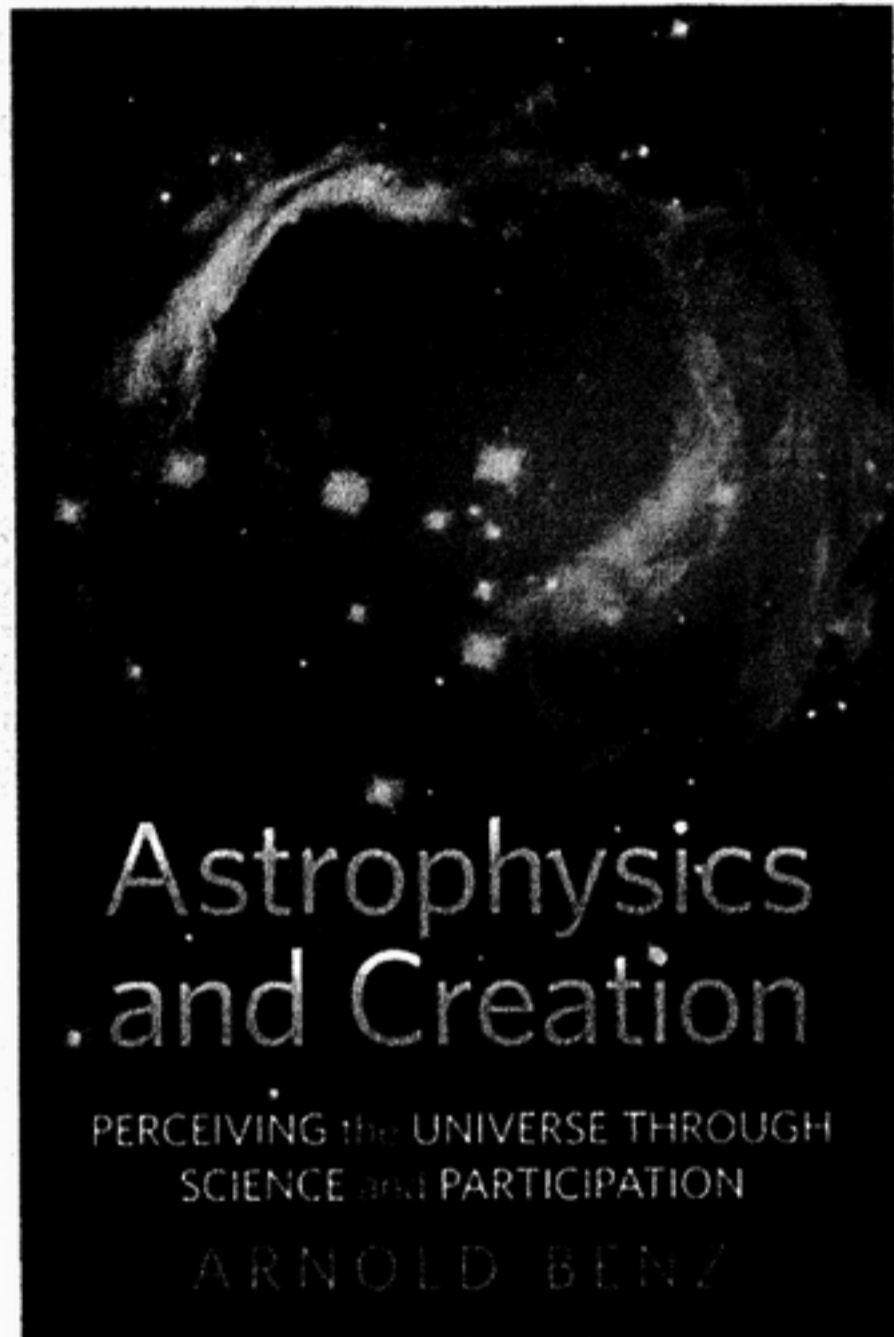
Jesse J. Thomas

Author of *The Youniverse*
Prof. em. SDSU, USA

"Benz, an eminent scientist, describes brilliantly the wonders revealed by modern astronomy about the origin and structure of galaxies, stars and planets. But he also demonstrates with great clarity how other levels of reality lying in a different plane or dimension are an equally important part of human experience and a search for meaning."

Eric R. Priest FRSE FRS

Prof. em. Astrophysics,
Univ. St Andrews, UK



"Scientific inquiry alone cannot answer theological questions. But it can pose them, and may even force them upon us. Arnold Benz is a scientist at the cutting edge of developments in astrophysics and astronomy in Europe and the United States. In this beautiful and at times deeply moving reflection he affirms the human quest for meaning, a quest that can never be satisfied solely within the boundaries of science,..."

Christopher Bryan

author of *The Resurrection of the Messiah*
Prof. em. for NT, Sewanee, USA

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