

## **BOOK REVIEW**

### **Evolution Stands Faith Up: Reflections on Evolution's Wars**

**Authors:** Guillermo Paz-y-Miño-C (Department of Biology, University of Massachusetts Dartmouth, Massachusetts, USA)

This is a delightful collection of essays about, as the author puts it, “evolution and its wars against superstition.” Professor Paz-Y-Miño does not try to teach evolutionary thinking in this book, or explain Darwin’s ideas in any way. But he is a firm believer in evolutionary processes, and you can easily feel his frustration at the victory of inherent belief over evidence-based thinking in our society. He would like to see decisions made on the basis of facts, not unsupported opinion. Indeed, he abhors and fears irrational thinking, especially “the views of those who see evil in truth and menace in the realities discovered by science.” He marvels at the intricacy and diversity of life, and how it came about through natural selection over hundreds and hundreds of millions of years, and is clearly frustrated by the unwillingness of so many to see the beauty and majesty in this view of the world and all that it explains. He is clearly an educator at heart, and a proponent of “curiosity-driven research, critical thinking inside and outside the classroom, and the passion for exploring the truth just because we wanted to seek it.” It makes me want to take one of his courses. He dreams of a world in which science becomes the backbone of political candidates, and voters are literate enough to thoughtfully assess what they are saying, and is rightly concerned by the decline in U.S. educational standards and expectations, particularly with regard to the teaching of science and mathematics, and especially our failure to teach scientific thinking skills to our students.

The book is an easy read, at under 100 pages. From essay to essay, each of which is only a few pages long, the author breezes past an amazing variety of topics, from the decline in American educational standards and student performance, to what we know about human origins, to the decline in society’s respect for science and its role in guiding political decisions, to the wish that science would guide debates among political candidates on environmental and other issues of key importance, to pressing conservation issues in the Galapagos, to the reluctance of the American voter to elect an atheist to public office, to the relationship between prayer healing and the scientific basis for the benefits of our natural Relaxation Response, to the incompatibility between the idea of Noah’s ark and the well-documented consequences of inbreeding. His thoughts about our educational system particularly hit home with me. Children at all levels should be learning how to ask good questions, how to design rigorous experiments, and how to evaluate and present information, learning what science actually is and how it is done rather than only memorizing facts and learning lab and computer techniques. As Professor Paz-Y-Miño clearly understands, there is a strong creative element in doing science that few students, unfortunately, get to see.

As he continues to make his plea for public recognition of the value of basic research, his writing is often lovely and poetic, as in his passage about the Mother Church of Christian Science in Boston, which “still breathes...through a majestic golden pipe organ, which gives the impression of resounding even in silence.” The author clearly reads widely; interspersed throughout the book we see quotes from, and allusions to, Darwin, de Tocqueville, various Nobel laureates, C.S. Lewis, George Santayana, Melville, C.S. Lewis, Goldilocks, Mary Baker Eddy, Giordana Bruno, Galileo, Noah’s ark, Christopher Columbus, Vasco da Gama, the Incas, the Ecuadorian painter Oswaldo Guayasamin, Jared Diamond, Lucy the Australopithecus, Stalin, the 1925 Scopes Trial in Tennessee, and Democritus of Abdera, who coined the term “atom” more

than 2,000 years ago. And he takes us to so many places, including Mauna Kea in Hawaii, the Boston Museum of Science, Noah's Ark, The New Bedford Whaling Museum, and conferences in Lisbon, Switzerland, and Denver Colorado.

The final essay in the volume is about National Darwin Day (Feb 12), something I had not heard about before but that was apparently proposed in 2013 by representative Rush Holt from NJ to honor Darwin's birth, and as a way of "celebrating the achievements of reason, science, and the advancement of human knowledge." Some of the responses to Mr Holt's bill—reported verbatim in *Evolution Stands Faith Up*--are remarkable, and not in an encouraging way. Many people do indeed celebrate Darwin Day around the world (<http://darwinday.org/>), but it unfortunately has yet to become a national holiday in the U.S. As the authors says, "It is impossible to honor knowledge when a nation's admiration for it vanishes..."

Review provided by Jan A. Pechenik