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Book Review

The Battle of Beginnings: Why Neither Side is Winning the Creation-Evolution Debate
by Del Ratzch, 1996. InterVarsity Press, Downers Grove IL. 248 pp.

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This book is an attempt by a creationist philosopher (1) to help lay Christians gain a better understanding as to why neither side is winning the creation-evolution debate, and (2) to try to shift the focus of the debate to religious-philosophical issues such as intelligent design. Dr. Del Ratzch, a Professor of Philosophy at Calvin College, wrote this book to make Christians aware of the large number of critical arguments that each side makes that are ineffective either because they are philosophically "defective or because no one holds the views against which they are directed" (p. 12).

The Battle of Beginnings contains chapters on such topics as creationist misunderstandings of Darwin's theory, popular evolutionist misunderstandings of creationist theory, creationist and evolutionist mistakes concerning the nature of science, and the ways in which theistic evolution is attacked by both sides. While the text is heavily documented with 26 pages of footnotes and a 24-page bibliography, it does not contain an index. For some reason the author and/or publisher did not consider the numerous philosophical arguments presented in the book to be valuable enough for them to spend the time preparing and publishing an index to help potential readers.

The book is interesting for two reasons. First, the author presents numerous brief negative critiques of many of the arguments that creationists and scientists have employed in debates. Second, this book is an example of the recent strategy by Phillip Johnson and others to redirect the creation-evolution debate to such religious issues as intelligent design. This review will concentrate on Ratszch's discussion of (1) the imperfect nature of science, (2) design arguments and (3) who is entitled to be called a "creationist."

Scientific Inquiry Is Imperfect

Ratzch presents a brief history of how science has evolved as a method/set of methods for investigating nature (pp. 103-119). The traditional view projected the image that science was supposed to be "thoroughly objective," "empirical," and "utterly rational" (p. 105). The philosophical shortcomings of this traditional view have been pointed out by Karl Popper, Thomas Kuhn, and others. Science is no longer seen as automatically leading directly to truth and certainty.

Ratzsch discusses the basic weakness of Karl Popper's testability criterion for falsifying hypotheses in science. He argues that the fact that scientists test bundles of theories

rather than just one theory at a time means that when the results of a test contradict the prediction, a scientist cannot be sure which theory is erroneous. Ratzch seems unaware of or unwilling to discuss/use the scientific test design strategy that enables scientists to avoid being caught in the "naive falsification" trap. The philosopher Philip Kitcher has pointed out that "while hypotheses are always tested in bundles they can be tested in different bundles" (Kitcher, 1982, p. 46). Consequently "naive falsification" is not the fatal philosophical problem that Raztch contends it is.

What is "proper" science? Ratzch attacks the position that "proper science can make no reference, no appeal to or explanatory use of anything beyond the purely natural" (p. 162). He argues that naturalism, the position that scientific understanding "must be based on empirical interaction with reality" (p. 163), is erroneous because scientists employ a number of nonempirical philosophical principles. The position that "purely natural (primarily empirical) methods are the only ones that have demonstrated any success and promise historically" (p. 165) is also attacked by Ratzch who contends that no one has done the historical analyses to support this claim. He then contends that adding up the failures or successes of a strategy for gaining an understanding of nature would be irrelevant because history demonstrates that essentially every theory (naturalistic as well as nonnaturalistic) gets abandoned. While Ratzch rationalizes himself into such a sterile philosophical conclusion, other philosophers have been more successful in bringing about a better understanding of science as a very successful way of testing ideas about nature.

Ratzch should have asked himself the following two questions: Why is science as a way of constructing and testing hypotheses so successful? What are the characteristics of a successful science? The philosopher Philip Kitcher asked and answered these questions in his 1982 book *Abusing Science: The Case Against Creationism.* A successful science has three important characteristics: (1) independent testability—the hypotheses can be tested independently of the particular cases for which they were introduced; (2) unification—the result of the application of a small family of problem-solving strategies to a broad class of cases; and (3) fecundity—the capacity of a theory to open up new and profitable lines of investigation. Evolutionary theory is an example of a successful science.

The Argument From Intelligent Design to a Divine Creator

Ratzsch presents a modern version of the classic natural theological argument from design in nature to the existence of an intelligent deliberate divine designer (pp. 192-195). He draws attention to several indicators/rules for concluding that something is the product of intelligent design such as (1) "improbability," (2) "meaning," and (3) "complexity, pattern and the like." Most fundamental, Ratzsch argues, is that "the production of artifacts always involves going sufficiently 'against the flow' of what nature typically produces" (p. 193). This fatally flawed philosophical argument is based on an inadequate understanding of natural selection. This natural ecological process produces designs by selectively multiplying genetic information that programs the chemical reactions in organisms to go "'against the flow' of what nature typically produces."

The religious argument from design championed by the natural theologians was abandoned more than 100 years ago by biologists. Scientific evidence from comparative anatomy and embryology of living and fossil organisms supports the theory that living organisms are the imperfect products of "descent with modification" rather than the instantaneous special creation of perfect and thus divinely intelligent designs. Biologists refer to these imperfect designs for living and multiplying in specific environments as "adaptations."

Charles Darwin not only proposed but began the process of scientifically testing his theory that adaptations are the outcome of natural and sexual selection. Organisms are adapted for surviving, acquiring resources, and reproduction, that is, converting resources into offspring. There are many reasons why adaptations are imperfect outcomes of evolution such as (1) adaptations involve trade-offs between survival and reproduction, (2) adaptations are the product of remodeling or adding on to an already existing set of adaptations possessed by organisms, and (3) the adaptations are relative to specific local environments which are continuously changing.

Heads I Win, Tails You Lose

Many creationists employ the following religious argument to explain away the problem of "design flaws," as creationists refer to imperfect adaptations. These imperfect adaptations are "design degradations stemming from the Fall" of Adam and Eve which corrupted the original perfect designs (p. 101). While this argument may be an acceptable religious philosophical argument it is not acceptable in science. This waterproof argument (every good design is due to an intelligent creator and every imperfect or morally bad design is due to some evil force) is an excellent example of the swamp of religious doctrines that awaits those who would engage in natural theological arguments in science classes. The philosopher Karl Popper has pointed out that such waterproof hypotheses (hypotheses that are constructed in such a way as to be unfalsifiable) are not scientific. Waterproof hypotheses are more than just nonscientific—they also are not fruitful with respect to the testing and refutation of scientific theories. We cannot afford in science classes to teach religious doctrines that make many individuals feel good while they are doing poorly with respect to understanding science as a way of constructing and testing theories about natural causes and natural consequences of events occurring in nature.

Who Are The "True" Creationists?

According to Ratszch, the only "true" creationists are those individuals who believe the following:

> "Whether or not God could have built evolutionary potentials into the creation, or could have brought about life and all its diversity by evolutionary means, he did not in fact do so. There are thus discontinuities in nature—e.g., non-life/life, reptile/mammal, animal/human—which cannot be crossed by purely natural means, each such discontinuity requiring separate supernatural creative action" (p. 12).

Ratzch obviously has adopted a definition of "creationist" that is based on a particular philosophical interpretation of religious texts contained in Genesis of the Bible. Such a definition excludes "creationists" who are theistic evolutionists, that is, those creationists who believe that God has enabled all of life to evolve via the natural processes that God created. This definition also excludes "creationists" such as American Indians who have their own religious versions of the supernatural deities and supernatural processes involved in creation.

Philosophical battles over who is a "creationist" are beyond the realm of science. However they do provide valuable insights into the nature of the religious political "swamp" that awaits those who would inject arguments from design to a very specific supernatural "cre-

ator" into science education.

Conclusions

The Battle of Beginnings provides an interesting account of the creationist movement and numerous philosophical shortcomings of arguments employed by creationists and evolutionary scientists. However, the book has numerous major shortcomings. Ratzsch does not bother to provide his readers with an up-to-date account of the modern evolutionary theories that he either rejects or hopes are not accurate descriptions of the natural world. Ratzsch also does a poor job of conveying the fact that scientifically-based inquiries have been very successful in bringing about a better understanding of the natural world. These scientific successes have occurred in spite of the philosophical problems associated with the fact that scientists are imperfect human beings who often have incorporated their philosophical prejudices into hypotheses and the fact that it often takes numerous failures of scientific tests before many scientists will abandon particular versions of scientific hypotheses/theories.

Science is a very special successful set of research strategies for constructing and testing hypotheses/theories concerning natural causes and natural consequences of events occurring in nature. Scientists need to help students gain a better understanding of the critical thinking skills involved in science. Scientists employing these critical thinking skills have made numerous advances in the scientific understanding of the nature of genetic variation. Scientific analyses have provided us with a better understanding of the power of natural (including sexual) selection to bring about adaptive changes in genetic information carried by individuals in populations. Scientifically valid observations concerning the fossil record and the comparative biology of living species continue to provide evidence that is consistent with Charles Darwin's theory of "descent with modification" by natural selection.

It would be nice if we scientists could concentrate on just "doing and evaluating science" and let creationist philosophers haggle over who is a creationist and who is not, and battle over how their particular versions of God created living organisms and other philosophical issues. However, we do not have the luxury of totally ignoring what creationist philosophers are doing because too many of them are working very diligently to get their religiously-based doctrines taught in science classes.

Reference

Kitcher, P. *Abusing Science: The Case Against Creationism.* Cambridge, MA: MIT Press, 1982.

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