

LITERATURE REVIEWS

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GEOMAGNETIC INTENSITY DECAY: THE FIT OF THE DATA

SCIENTISTS CONFRONT CREATIONISM. Laurie R. Godfrey, editor. 1983. NY: W.W. Norton. 324 p.

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When asked what was the greatest factor preventing a more widespread appreciation of poetry, Goethe is reported to have responded, "Poets." Any issue of human commitment that has emotional overtones is likely to be handicapped more from zealous advocates than from opponents. Creationism appears to be a good example. At least such a conclusion could be drawn from the book *Scientists Confront Creationism*, edited by Dr. Laurie R. Godfrey of the University of Massachusetts Department of Anthropology. This book is essential reading for any creationist who wishes to, or ought to, understand how the scientific community at large views "Scientific Creationism."

An individual who holds the conservative view of Biblical Creationism that characterizes a large portion of recent creationist literature should expect to encounter in *Scientists Confront Creationism* the strongest inducement to abandon or modify his faith. Many individuals who have derived great comfort from certain supposed scientific support for a Biblically based conviction will be devastated by a careful reading of this book. It is unfortunate that the literature favorable to creationism does not include a comprehensive treatment that is as well written and scholarly. But in recognizing the book's merits, I do not imply that it presents a balanced and altogether accurate treatment. It does not. Many of the chapters strongly indicate that the primary concern of their author was to make creationism appear ludicrous.

An adequate review of this book would require a book-length treatment. Dealing only with the areas of my greatest competence, I will make a few observations on Chapter 3, "The Ages of the Earth and the Universe" by the late George Abell of the University of California, Los Angeles, and Chapter 4, "Ghosts from the Nineteenth Century: Creationist Arguments for a Young Earth" by Stephen G. Brush of the University of Maryland. While they have not given due allowance for the Big Bang Theory as only the best naturalistic hypothetical explanation for the currently available data, or for the possibility that a radioisotope age for a mineral may not specify the real-time age of an associated fossil any better than a radioisotope age for cemetery soil specifies the real-

time age of tombs located therein, the discussions in these chapters are basically sound *from a uniformitarian viewpoint*.

The proponent of Biblical Creationism needs to recognize that the data from the physical sciences do *not* naturally and logically lead to the concept that the existence of the universe or Planet Earth is limited to the order of 10,000 years. These are concepts that must be accepted on the basis of confidence in a particular interpretation of the Hebrew-Christian scriptures, and that may be used as a basis for seeking an interpretation which is different from that which would be suggested most readily by current observations.

In his discussion of lead/lead dating Brush confuses isochron and concordia concepts (p 61), but his conclusions are essentially correct.

In his treatment of the geomagnetic decay model for the age of Earth, Brush states that a linear extrapolation from observatory data requires “more than 100 million years” (p 77) to reach the intensity specified for 20,000 years ago by the Barnes exponential extrapolation. Regression analysis of the 34-item geomagnetic intensity data set collected by D. Russel Humphreys (*Creation Research Society Quarterly* 20:89-94) yields $M = 15.88 - 0.004010 A$ for a linear model, and $M = 20.88 \exp(-A/2049)$ for an exponential model, with M the geomagnetic dipole moment in units of 10^{22} amp-meter², and A the corresponding year A.D. (B.C. years are negative). To achieve the value of M predicted by the exponential model at 20,000 years B.C. (3.56×10^5 units of 10^{22} amp-meter²) requires 90.3 million years B.C. in the linear model, substantiating Brush’s estimate based on regression constants derived from a smaller set of observatory measurements. The prediction of the exponential model for 4000 B.C. is achieved by the linear model at 32,720 B.C. Brush points out that there is not adequate theoretical support for extrapolation with either an exponential or a linear model, and that both models are contradicted by the geomagnetic intensity measurements that have been derived from induced magnetism in samples known to be older than A.D. 1000. [See Ivan Rouse, *Origins* 10(1):18-36; 10(2):66-89]. It is significant that the regression constants cited in this note yield a Standard Error of Estimate 0.0365 for the linear model, and 0.0369 for the exponential model, indicating that a linear model gives a slightly better fit to the observatory data collected since magnetic intensity measurements were first made in A.D. 1829, and should be preferred to the extent that interpolation and extrapolation from experimental data is appropriate.

The other thirteen chapters in *Scientists Confront Creationism* deal with history, sociology, public education, probability, thermodynamics, molecular biology, genetics, paleontology, and anthropology.

A concluding comment I would like to make after reading this book is that both creationists and evolutionists should take greater care to make the essential distinction between “proof” for a viewpoint, and success in interpreting a particular observation or set of observations from that viewpoint. A creationist and an evolutionist each can be successful in interpreting a particular set of data without proving the other’s viewpoint right or wrong.