

## COMMENTARY

A discussion and review of "Evolution and the Myth of Creationism; A Basic Guide to the Facts in the Evolution Debate", by Tim M. Berra, Stanford University Press, 1990, pp. 198, \$7.95 paper; \$29.50 cloth.

Creationism, a religious belief which is based on the literal acceptance of the Bible, is a growing faith in the U.S. and possibly in Europe as well; see the related review by G. Hornek on a German language book on creationism on page 51. "Scientific creationists", a subgroup of the creationist movement, are members of the Creation Research Society, a group which requires that its members have an advanced degree (M.S. or Ph.D.) in some area of science and that they sign a statement that the Bible is historically and scientifically correct as written. Consequently, creationists believe that the earth was created in six days, Adam and Eve actually existed, the great flood actually occurred and so forth. As a consequence of their literal beliefs they subscribe to an age of the earth of only a few thousand years, a time period which is calculated from the events described in the Bible.

The principle of evolution and the age of the earth obtained using radioactive dating techniques are not consistent with the beliefs of creationism. Since the teaching of these topics in secondary schools is a direct threat to their simplistic religious beliefs, the "scientific creationists" have mounted a program to discredit the scientific bases of evolution and radioactive dating. They do this by asserting that evolution and the Biblical creation story are both theories so it is only "fair" that both be taught in the public schools. They have successfully used this approach in discussions with members of local school boards where they couch their arguments in terms of "fairness" and "equal time", arguments that many reasonable, but scientifically naive teachers and school board members would agree with. Of even greater importance was their ability in the 1970's to convince the state education boards in Texas and California that creationism should be given "equal time" in high school science text books. Since publishers will not absorb the expense of printing both non-creationist and creationist versions of text books, most of the books used in the U.S. at that time contained "equal time" for creationism. Fortunately, both these state boards reversed their stands and now maintain that books which present the Biblical story of creation cannot be used. Unfortunately, many high school teachers still feel that they should give an "equal time" discussion of the Biblical version of creation in their science courses. In addition, polls show a high percentage of the population feels that creationism merits "equal time" in science courses.

The 4500 million year age of the earth established by radioactive dating techniques is more difficult than the principle of evolution for the Scientific Creationists to discredit. They use the technique of casting doubt on certain measurements (unjustifiably as noted by Berra in Chapter 5) and then infer the other older dates are the result of a conspiracy of scientists to keep the real truth from the public. The motivation for this alleged conspiracy by scientists is not clear.

I heartily endorse Berra's book. It is an excellent primer on "scientific creationism" and the techniques the group uses to deceive the public. All scientists, especially those dealing with the origins and evolution of life should be prepared to refute "scientific creationism". As Berra points out, you cannot count on the courts to recognize the fallacy of "scientific creationism". Although in 1985 the U.S. Supreme Court struck down a Louisiana creationist law, two of the supposedly knowledgeable justices, Rehnquist and Scalia, were in dissent. Scalia wrote in the minority opinion that creation science is a body of scientific knowledge. Obviously, these two justices do not understand the difference between faith and science.

Although I recommend that the scientific community refute "scientific creationism", no one should enter into confrontations assuming that they will be participating in a true scientific debate. It is important to remember that creationists start from the tenet that the Bible is a historically and scientifically correct document so they will use any argument to justify this belief. They will try to cast doubt by focussing on a few specific points which they claim (erroneously) are inconsistent with evolution or the techniques of radioactive dating. They will avoid answering any direct questions concerning their "science" but rather will either change the subject or else use innuendo to suggest that certain scientific principles are incorrect. Another technique is to quote scientists out of context and imply that the person quoted is supportive of the views of "creation science". For example, according to one scientific creationist that I heard speak, Francis Crick's statement (1981) that there wasn't enough time for the origin of life on earth, is supportive of the idea for the "abrupt" appearance of animals and man a few thousand years ago. The best preparation for debating creationists is to listen to one speak or debate before you take them on directly. What they lack in science they make up for by obfuscation.

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### Reference

Crick, F.: 1981, "Life Itself: Its Origin and Nature", Simon and Schuster, N.Y.