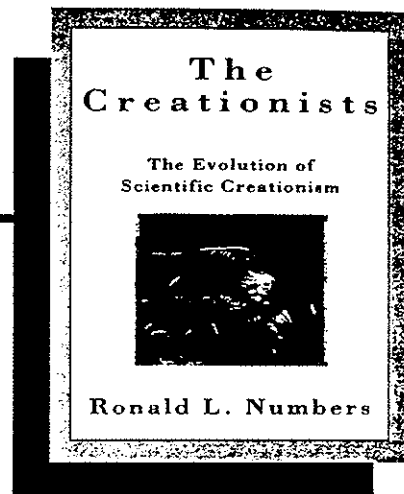


BOOKS IN REVIEW



SNAKE HANDLERS AND FLOOD GEOLOGISTS

A review essay of *THE CREATIONISTS: The Evolution of Scientific Creationism*, by Ronald L. Numbers. Alfred A. Knopf, New York, 1992. (pp. 458)

By Donald R. Prothero

"Alice laughed, 'There's no use trying,' she said, 'one can't believe impossible things.'

'I daresay you haven't had much practice,' said the Queen. 'When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast.'"

—Lewis Carroll, *Through the Looking Glass*

"I believe it because it is absurd." —Tertullian

To a practicing scientist, a visit to the world of the creationists feels somewhat like Alice stepping through the looking glass. Ordinary people and objects look the same as they do in the real world, except that everything is backward and all the rules are reversed. This is the overwhelming impression the reader gets of the creationists from Ronald Numbers' detailed account of the history of that movement. Page after page, the reader is alternately amused and appalled by their fanaticism, their political conniving, and especially by their illogic when confronting issues that affect their literalistic view of the Bible.

Regardless of religious belief, most people make the pragmatic assump-

tion that logic, experience, common sense, and the everyday rules of physics apply to most situations they encounter, especially when they are new or unfamiliar. Otherwise, we could not count on the sun rising, or our toaster working properly. For religious fanatics, however, their particular dogma comes first, no matter how much it suspends logic or flies in the face of reality. As Tertullian said, it is a matter of pride that they can believe the impossible—a test of their faith that they can force their mind into nonsensical contortions. In extreme cases, such fanaticism can be harmful. We all recoil in horror at accounts of self-mutilation by religious fanatics, or of the snake handlers who believe that their faith

protects them from the rattlesnakes they are caressing.

One gets the same feeling reading the logical convolutions of modern creationism—if it were a snake, they would all be dead by now. Creationist literature is replete with examples of the impossible or illogical. But rather than question their dogma, they take pride in its impossibility and build an entire looking-glass world upon it. They remind one of Lewis Carroll's White Queen, capable of believing "as many as six impossible things before breakfast." Yet if you take certain parts of their dogma at face value, they are akin to snake handlers. Fortunately for the creationists, their beliefs do not kill them—at least directly.

A good example of the detrimental practical implications of creationism is the strange world of "flood geology" (which, like "scientific creationism," or "creation research," is an oxymoron—there is no real geology in "flood geology"). If we took flood geology seriously, our entire culture would grind to a halt, because there would be no oil, coal, or other natural resources that require an understanding of the earth to be found. Indeed, we would find ourselves in the pre-industrial world from which their creationist beliefs come.

Numbers spends much of his book on this Achilles' heel in the creationist movement, since flood geology frequently divided the creationists into factions over the last century. As he points out (p. 273), there have been a number of skeptical biologists who managed to hold creationist beliefs despite their training, but virtually no geologist who had legitimate training and field experience took literal six-day creationism seriously. The reasons are abundantly clear—even the most convoluted and tortured scenario cannot begin to explain the real rock record. As early as the 1830's (long before Darwin), prominent but devout geologists, such as the Reverend William Buckland, rejected flood geology for scientific reasons, and no *bona fide* geologist has found any reason to take it seriously since then. Numbers shows how the fundamentalist creationist movement began in the late 1800's, but initially did not challenge the geologists' interpretation of the fossil record or geologic time. Instead, most early creationists were less literalistic, allowing the "days" in Genesis to span much longer increments of time (the "day-age" theory) or considering much of geological history outside the Genesis record (the "gap theory"). If they doubted the geologists' interpretations of the age of the earth or the fossil record, they did so dogmatically without further investigation or attempts to explain it in anything but supernatural terms. Instead, they focused their attentions on the flaws in evolutionary biology, which was suffering from much skepticism at the turn of the century.

By the Scopes trial in 1925, howev-

er, there were very few reputable biologists who could be called as witnesses against evolution, and no geologists whatsoever. Into this gap stepped George Macready Price, who single-handedly revived notions that practicing geologists had abandoned a century earlier. Price had no formal training in geology (indeed, he took only a few courses in a local college), and never actually did any real research, either in the field or the lab. His entire conception of geology was derived from simplistic textbook examples. Price was inspired by the Seventh-Day Adventist prophet Ellen G. White, who attempted to explain all the geologic record as deposits of Noah's flood, with the various fossils representing floating corpses that were buried as flood water receded. Price adopted this idea and published it again and again with modifications, convinced that it could explain the strata of the earth. However, in proposing such a model, Price and other flood geologists reveal their complete unfamiliarity with actual outcrops. The classic textbook diagram of the sequence of life as recorded in the rocks is a cartoonish oversimplification of a very complex story. It is a composite of numerous partial sequences, so not even the impressive stack of rocks in the Grand Canyon resembles the textbook cartoon. When each of these individual cases is examined in detail, the entire case for the "flood model" simply vanishes. Any creationist who took the time to look would find that out quickly enough.

As Numbers shows, they have done so repeatedly. In 1938, one of Price's disciples, Harold W. Clark, "at the invitation of one of his students visited the oil fields of Oklahoma and northern Texas and saw with his own eyes why geologists believed as they did. Observations of deep drilling and conversations with practical geologists gave him a 'real shock' that permanently erased any residual confidence in Price's vision of a topsy-turvy fossil record." Clark wrote to Price:

The rocks *do* lie in a much more definite sequence than we have ever allowed. The statements made in the New Geology [Price's term for flood geology] do not harmo-

nize with the conditions in the field . . . All over the Middle West the rocks lie in great sheets extending over hundreds of miles, in regular order. Thousands of well cores prove this. In East Texas alone are 25,000 deep wells. Probably well over 100,000 wells in the Midwest give data that has been studied and correlated. The science has become a very exact one, and millions of dollars are spent in drilling, with the paleontological findings of the company geologists taken as the basis for the work. The sequence of the microscopic fossils in the strata is very remarkably uniform . . . The same sequence is found in America, Europe, and anywhere that detailed studies have been made. This oil geology has opened up the depths of the earth in a way that we never dreamed of twenty years ago (p. 125).

Such defections did not discourage Price; nor did the fact that most creationists before his death in 1963 did not take his ideas seriously. By the late 1940s most creationists were relatively unconcerned about the geological implications of Genesis, and comfortable with the fossil record and billions of years of earth history. This trend reached its culmination in J. Laurence Kulp, a distinguished geologist who did first-rate work on radiocarbon dating of the earth, and demonstrated its great antiquity. Although he started as a devout fundamentalist, Kulp gradually drifted away from these beliefs in college and graduate school as he became more aware of the facts of science. In 1948 he demolished the arguments of flood geology within the creationist community, since he was a devout member of their group, but he also had legitimate scientific credentials and first-hand experience in geology. As Numbers (p. 165) says, "To Kulp, the fossil record presented the Christian with only two choices, only one of which was acceptable: either the Creator had deceptively given the earth the appearance of great age, or the history of life on earth had really spanned vast amounts of time."

The influence of Kulp did steer cre-

ationists away from the absurdities of flood geology for a time, but their strong literalistic streak could not be suppressed for long. In the 1950's, John C. Whitcomb was attempting to revive a new version of Price's flood geology. When Douglas Block, a devout and sympathetic friend with geological training, reviewed the manuscript, he "found Price's recycled arguments almost more than he could stomach. 'It would seem,' wrote the upset geologist, 'that somewhere along the line there would have been a genuinely well-trained geologist who would have seen the implications of flood-geology, and, if tenable, would have worked them into a reasonable system that was positive rather than negative in character.' He assured Whitcomb that he and his colleagues at Wheaton [College] were not ignoring Price. In fact, they required every geology student to read at least one of his books, and they repeatedly tested his ideas in seminars and in the field. By the time Block finished Whitcomb's manuscript, he had grown so agitated he offered to drive down to instruct Whitcomb on the basics of historical geology" (p. 190). (For a more complete discussion of the fallacies of flood geology, I highly recommend Arthur Strahler's *Science and Earth History, the Evolution/Creation Controversy*, Prometheus Books, 1987).

Nevertheless, in 1961 Whitcomb and Henry Morris published *The Genesis Flood*, which is the "Bible" of modern flood geologists. Although much of its argument is recycled from Price, it has a few new twists that came from Henry Morris' training in hydrodynamics. For example, Morris argued that the apparent sequence of fossils might be due to "heavier" fish and invertebrates settling out of the floodwaters first, and the lighter and more advanced vertebrate carcasses settling out later; alternatively, the mammals were found in higher strata than the dinosaurs because they were more intelligent and could find higher ground. The absurdity of this argument is apparent to even beginning students once they have seen a few real outcrops, but again the flood geologists are attempting to explain

the cartoonish diagrams in the beginning textbooks, not the real geological record.

Given the abundant documentation of the absurdity of flood geology that Numbers provides, it is a bit disturbing that he is not more critical of it himself. As he points out in his preface, he started out as a fundamentalist but then drifted away, so he apparently does not believe the more absurd aspects of creationism. In his attempt to be fair to both sides and not offend his primary sources, however, he does not call a spade a spade when it is warranted. For example, another disturbing aspect of the creationists is their lack of integrity when waging their war against "infidels." Numbers documents (p. 258 ff.) how creationists repeatedly use inflated or fraudulent credentials, quote out of context and falsify documents, change and reverse their arguments to suit their audience, and resort to many other deceptive practices that would not be tolerated of legitimate scientists. Yet Numbers does not condemn these supposedly "Christian" men for such un-Christian lying and cheating in order to advance their aims. It is one thing to be sympathetic and give your subjects a fair hearing, but when the historian documents so

many examples of their lack of integrity, it is disappointing that he refrains from explicitly criticizing what he obviously finds abhorrent.

Creationism and flood geology have come and gone over the last century, with their resurgence typically occurring during periods of conservatism, and their submergence during politically progressive periods. The strengths and the weaknesses of their arguments have not changed in over a century—only the zeal of their advocates and converts. Sadly, flood geology has gained ground in recent years, and that fact alone speaks volumes for the abysmal level of our culture's scientific and logical literacy. Numbers seems resigned to the forces of fundamentalism winning more battles in our supposedly "scientific world." In his final sentence (p. 339), he writes, "the folk science of flood geology [has been] raised to heights of popularity only dreamed of by George Macready Price. Its shocking success, limited though it may have been, shattered facile beliefs about the inevitability of secularization and scientific progress and called into question long-cherished convictions about the relationship between science and religion." ■

