

Creation Research Society but also signed a similar statement as a condition of employment at The King's College. He also made Friar admit that a considerable amount had happened in the world of biology since 1929 and 1930 and even since 1953 that impinged on evolutionary theory. The books that Friar had referred to were therefore irrelevant.

During his testimony Friar had propounded his "limited change model." In other words, a small degree of evolutionary change is possible, but this is within the limits of "the originally created kinds." ("Kinds," incidentally, is a term that appears in Genesis, in creationist literature, and in Act 590 but not in the scientific literature.) Ennis therefore directed part of his cross-examination to the question of kinds.

Q. How many originally created kinds were there?

A. Let's say 10,000 plus or minus a few thousand.

Q. Some creationists believe kinds to be synonymous with species, some with genera, some with family and some with order, don't they?

A. (Friar began a long dissembling answer which Ennis cut short by repeating the question.)

A. The scientists with whom I am working . . . well. . . . It tends more toward the family. But it may go to order in some cases.

Q. You have been studying turtles for many years, haven't you?

A. Yes.

Q. Is a turtle an originally created kind?

A. I'm working on that.

Q. Are all turtles within the same created kind?

A. That's what I'm working on.

Friar was not alone among the witnesses in being unable to define "kind" or to say how their organisms of study might fit into the concept.

Ennis brought the cross-examination to an end by asking Friar to read a passage from his book *The Case for Creation*. The passage contained the assertion of a separate ancestry for man and apes, based solely on the scriptures.

Q. You believe that the choice between evolution and creation is a matter of faith, don't you?

A. There's certainly an element of faith in it.

Q. Do you recall in your deposition my asking you the following question and your giving the following answer?

Q. You believe the choice between evolution and creation is a matter of faith, don't you?

A. Basically, yes.

Q. No further questions.

Margaret Helder, a botanist from Canada and vice president of the Creation Research Society, followed Friar to the stand. She described evidence on the nuclear structure and biochemical characteristics of green algae which, she suggested, conflicted with the commonly held notion that these organisms were the ancestors of higher plants. In cross-examination Garry Crawford established that Helder had finished professional teaching in 1974, had published one paper in noncreationist literature since 1971, and that she was totally alone in her ideas. He also asked her to recall stating in her deposition that there was no scientific evidence for special creation. She did.

Next to the witness stand was Donald Chittick, a physical chemist from Oregon and a member of the Creation Science Research Society. He covered a wide range of topics in his testimony, including chemical evidence that coal formed rapidly, geophysical evidence that radiometric dating was invalid, geological evidence for a worldwide flood, and physical chemical evidence that the world is only 10,000 years old.

This last point was based on the assertion that as most radioactive decay involves the release of helium (Chittick presumably meant alpha particles), there ought to be far more helium in the atmosphere than in fact there is, if the world is as old as geologists contend. Chittick apparently did not take into account that most atmospheric helium is lost into space because it is so light a gas. His calculation that the amount of helium in the atmosphere shows the earth to be 10,000 years old is therefore invalid.

Crawford did not touch on this point in cross-examination. Instead he immediately established Chittick's lack of credentials in radiometric dating.

Q. You have had no formal course in radiometric dating for 20 years, have you?

A. Not since then.

Q. You have never published an article on radiometric dating, have you?

A. Yes.

Q. You have had only one article in a refereed journal since 1960, isn't that correct?

A. Correct.

Crawford then turned to part of Chittick's direct testimony in which he had referred to scientific papers on radiometric dating that had appeared to be dogged with terrible difficulties.

Q. In fact, the article you referred to was examining the suitability of certain minerals for dating techniques. The au-

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## Magazine of the People

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Short exchange between counsel for the defense and defense witness Harold Coffin of the Geosciences Research Institute, Loma Linda University, California, at the recent creationism trial in Little Rock:

Q. You've had papers published in scientific journals, haven't you?

A. Yes, I have.

Q. Give me an example.

A. *Science* magazine.

Q. That's a kind of *Readers Digest* of science, isn't it?

A. You could say that.

—Roger Lewin

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## Smithsonian Cuts Up Anthropological Film Unit

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A lengthy bureaucratic struggle at the Smithsonian Institution has resulted in a splitting up of its youthful National Human Studies Film Center, an action that many fear will severely hamper the center's filmmaking activities.

The film center was set up 7 years ago by anthropologist E. Richard Sorenson. Sorenson, in a break from traditional anthropology, has pioneered in the use of film as a scientific tool for examining in detail the behavioral patterns of vanishing Third World cultures. The center has also operated an archive which collects and catalogs old as well as new anthropological films. The center, with about seven full-time employees including four filmmakers, has suffered inadequate funding for most of its existence, but Congress has raised the level in the past few years in response to pleas from anthropologist Margaret Mead, who died in 1978. The fiscal 1981 appropriation was \$477,000.

The center is now being divided up, with the archives being turned over to the new Museum of Man, situated in the Museum of Natural History. Two-thirds of the film center's budget is now to go to the archives, leaving the filming unit with the remaining one-third. It will be left with four employees including Sorenson and two filmmakers trained by him, a Tibetan and an Elithian from the Caroline Islands.