

FEATURES

Let there be light!

The recent growth of conservative religion in the US has injected new vigour into attacks on the teaching of evolution. **David Dickson** reports from Atlanta, Georgia

MORE than a hundred years after the publication of Charles Darwin's *Origin of Species*, it comes as a surprise to discover that almost half the adult population of the US believes itself to be directly descended from Adam and Eve.

Yet fifty years after a Tennessee courtroom witnessed the public ridiculing of divine creation, creationist beliefs remain as strongly held as ever.

The debating skills of Clarence Darrow in the famous Scopes 'monkey' trial of 1925 may have temporarily taken the wind out of the creationist sails. But today both supporters and critics agree that the creationist movement is growing in both strength and confidence buoyed by a rising tide of conservative ideology that is rapidly becoming a powerful force in American politics.

Many schools throughout the country, for example, are now required to teach creationist beliefs in parallel with evolutionary theory. And in at least six states — including Illinois, Florida, and New York State — legislatures are discussing bills which would make such practices compulsory.

Emotions on the issue run high. Most scientists continue to treat the creationist movement with derision and scorn. "These people are using glib salesmanship to sell an academic snake-oil for the general population" says Dr William Mayer, Director of the Biological Sciences Curriculum Study in Boulder, Colorado.

In the south and mid-west, however, the reaction is different. Here support for an absolute morality has strong appeal, basing itself on a literal interpretation of the Bible.

These regions have been fertile ground for creationist organisations which, in the words of Dr Henry Morris, director of the California-based Institute for Creation Research, seek to "reverse the dangerous drift of our country and its educational system into humanism, socialism, amorality and atheism".

Nowhere has the debate been fiercer than in Atlanta, Georgia. Last month the state legislature narrowly failed to approve a bill requiring that, wherever evolution is taught as part of a biology course in state schools, equal time should be given to creationist theories. Passed by the Senate,



God creates light: a creationist's view of evolution

the bill failed in the House of Representatives in the closing minutes of the last legislative session.

The state Department of Education had argued strongly against the bill, largely on the grounds that details of the curriculum should be left to local school boards. And among other critics the bill attracted the attention of the national 'atheist' organisation which had been responsible for having school prayers declared in violation of the Constitution.

The explicit involvement of the atheists has been a red rag to conservatives such as Judge Braswell Dean, one of the leading supporters of the creationist movement in Atlanta, who has accused the organisation of defending the 'monkey mythology of Darwin'.

To Judge Dean — and other creationists — evolution is an "animal fairy tale", based largely on a "superstitious" trust in chance in its belief that random mutations could have produced the current diversity of animal types. "Scientific creationism is far more scientific and less religious" says

the Judge, who blames the teaching of "humanistic" values in schools for social problems from rising crime rates to abortion, pornography and pollution.

Not all creationists are as strident. But they do share a common belief that the teaching of evolution implies a relativity in social values that undermines both traditional codes of morality in general, and the authority of the Bible in particular.

So far the creationists have had little success in convincing the courts of their case. In most instances the barrier has been the constitutional requirement that the state should not teach religious principles. These were the grounds, for example, on which the courts declared as unconstitutional an 'equal time' bill passed in Tennessee in 1973.

Undaunted by such setbacks, creationists are now trying to get round this problem in two ways. Firstly they argue that, since it is impossible to produce scientific 'proof' of evolution, it is no more than a hypothesis which might otherwise be described as a faith or religion.

Secondly, the creationists seek to convince the legislators that creationism can be legitimately called a scientific theory. And they distinguish what is now called 'scientific' creationism from both 'divine' creationism (responsible for the failure of the Tennessee bill) and even from 'biblical' creationism (ridiculed in the Scopes trial).

To defend this position, scientifically-trained creationists now scan the scientific literature for uncertainties, ambiguities and potential errors in the ideas of conventional evolutionists.

Gaps in fossil records and uncertainties in dating techniques, for example, are used to weaken confidence in what is called the 'evolution model'. And where science has disproved rigid immutability by experiment, creationists will now allow 'adaptive mutations' — but still deny that one species can evolve into another.

Most scientists reply that weaknesses in a rigid interpretation of evolutionary theory do not undermine their general confidence in the principles involved; and they accuse creationists of distorting the scientific method, and cause-effect mechanisms of scientific explanation, into a form which few laboratory workers would recognise.

Creationists see it differently. "Negative evidence against evolution is the same as positive evidence for creation", says Dr Morris.

Whatever the philosophical disagreements, few deny that creationism has found a ready audience outside the scientific community. In particular school curricula remain a major battleground for the creationists and their opponents, largely because these are expected to demonstrate compatibility with community values.

A typical case is Cobb County, a suburb of Georgia. Last December biology courses were removed from high school graduation requirements in an attempt to resolve a conflict originating 18 months earlier when the local school board passed a resolution requiring evolution and creation to be given 'balanced treatment' in school courses.

Heated objections from science teachers and some community leaders led to eventual agreement that a voluntary course on 'comparative theories or origins' would be offered for high school students and that Darwinian evolution would not be included in any school biology course.

The Cobb County dispute is typical of conflicts now being fought out across the country. Most have in common the fact that, as Dr Dorothy Nelkin of Cornell University points out in her book *The Science Text-book Controversy*, the loudest critics of evolution are not from lower-class, uneducated backgrounds, but tend to be middle-class, technically-trained citizens.

Cobb County, an area of rapid post-war growth centred on the communications and aerospace industries, typifies what

Nelkin refers to as the 'paradox' that fundamentalist beliefs tend to flourish in those parts of the country which have recently become centres of high technology industries (for example Southern California and Texas).

Also typical of the Cobb County controversy is that it has taken place against sharp religious differences in the local community. Such differences have traditionally polarised around conflicting ways of interpreting the Bible. Indeed rather than a conflict between religion and science, the current disputes centre around the legitimacy of different forms of knowledge, whether used to support religious or scientific ideas.

In Atlanta, strong support for creationism has come from the more militantly conservative churches belonging to the Southern Baptist Convention, members of the currently dominant group within which is now the largest protestant sect in the US. In contrast, more moderate theologians are among the most persistent critics of biblical literalism, and have been

'Evolution is an animal fairy tale' — Judge Dean

among the most keen to keep creationism out of schools.

Further controversy has focused on the role of the Institute for Creation Research, (ICR) and was ignited when it was discovered that the 1978 resolution passed by the school board was almost identically worded to a model resolution circulated by the institute.

ICR is a division of the Christian Heritage College, a group which split from the more liberal American Scientific Affiliation in the 1950s largely over conflicting views on whether the Bible should be taken literally or metaphorically.

Since then, the institute has become a powerful centre for the teaching and propagation of creationist ideas which like other modern evangelical organisations, it has done with spirited fervour.

Institute members were also influential in setting up in 1963 the Creation Research Society, an organisation consisting of over 600 individuals with postgraduate degrees in scientific or technical subjects concerned with developing a 'scientific' critique of evolutionary theory — and arguing the case for a 'scientific' alternative.

Although denying any orchestration of local creationist movements, Dr Morris admits that an important role of ICR is to provide model resolutions and educational literature to groups prepared to support the contention that "teaching evolutionary theory alone is contrary to academic freedom, civil rights, and the freedom of religion".

Ironically much of the creationists' critique of the values implicit in evolutionary theory are similar to those coming from a very different perspective

which identify Darwin's ideas with the political norms of Victorian capitalism. But despite apparent similarities, the antagonisms are sharp.

Professor Richard Lewontin of Harvard University, for example, describes the recent rise of creationism as reflecting a "wave of anti-scientism", suggesting that its rejuvenation is "because intellectuals are identified as the allies of social movements" that challenge traditional power relations in society.

Conversely Dr Morris points out that many of the more politically radical evolutionists are among those questioning the more dogmatic aspects of Darwinian theory. But he castigates them for doing so "with prejudices tied to Karl Marx rather than Adam Smith".

It is difficult to judge the impact of the creationist movement. Some argue that, by causing publishers and teachers to drag their feet over introducing evolution into the class-room, creationists — in the words of one educator — "have had a tremendous impact on students in denying them access to scientific knowledge".

Others, however, are more prepared to be flexible. They use arguments from the sociology of knowledge to defend the interpretation of science as a belief system; and side with the creationists in their criticism of the more dogmatic assertions of some scientists and textbook writers.

Of greater concern to educationists are the implications of a movement which appears to attack abortion and homosexuality and defend the 'free world' with the same degree of dogmatism that it criticises in others.

Jeremy Rifkin, author of *The Emerging Order*, warns that what is now a religious movement, reacting in part to the 'idolatry' of scientific and technological truths, could turn into the opposite. "Christian doctrine, made an adjunct to right-wing and capitalist policies, could provide the necessary self-imposed order that a fascist movement in America would require to maintain control over the country during a period of long-range economic decline," he writes.

Creationists are used to responding in kind. Dr Morris argues that both fascism and communism have their roots in evolutionary thinking. He attacks the "humanistic and socialistic" biases of textbook publishers who refuse to mention scientific creationism. And he claims that creationist ideas have unfairly come under "bigoted pressure from the liberal news media".

Whatever the words used, the bitterness of the Georgia conflicts indicate that creationist ideology is unlikely to disappear. And it seems only a matter of time before some state requires creationism to be taught wherever Darwinism is invoked and another court is asked to rule on the respective definitions of science and religion. As Dr Mayer says, "It is all part and parcel of the signs of the times". □