

# Scientist who glimpsed god

Clive Cookson meets Paul Davies, physicist with a spiritual view

Professor Paul Davies is a leading member of what he calls "an alternative academy" of scientists and intellectuals, working to lay a spiritual foundation for the new millennium. "We are trying to construct a view of the world which is not necessarily theological - and is not religious in any conventional sense - but is more comforting and congenial for human beings than the bleak reductionism and materialism of most science over the past 300 years."

The role played by Davies, a mathematical physicist with an international reputation, will be recognised formally next week when he receives the £650,000 Templeton Prize for Progress in Religion in a public ceremony at Westminster Abbey - "a ceremony, not a service," he emphasises - followed by a private celebration hosted by the Duke of Edinburgh at Buckingham Palace.

The prize, founded in 1972 by the global investor John Templeton, is the world's most valuable annual award. Previous winners (including Mother Teresa of Calcutta, Billy Graham and Alexander Solzhenitsyn) have used the proceeds to continue their life's work, and Davies intends to do the same.

The money will enable Davies, at the age of 48, to endow his own academic chair for the rest of his working life, without worrying about the teaching and administrative ties that bind most professors. "It will support my research, writing and international lecturing."

He plans to stay in Australia at the University of Adelaide, where he moved in 1990 from the University of Newcastle-upon-Tyne - a highly publicised example of the scientific brain drain from Thatcherite Britain. "The bad days of swinging budget cuts are over, and some of my worst fears in the 1980s about the future of British science have not come to pass," he concedes, "but I still find a mood of sullen depression and insecurity when I return to the UK. Australia is much more open-minded and receptive to new ideas."

The ideas of Davies are inspired by the "awesome beauty, harmony and ingenuity of nature". Of course an awestruck strain of this sort has run through science for hundreds of years - a leitmotif beneath the dominant "bleak materialism". But it is becoming ever stronger, as astronomers and particle physicists, geneticists and biologists produce more evidence of what Davies calls design and purpose in the universe.

"Having spent half a lifetime working at the forefront of fundamental physics, I have found the use of words like 'design, meaning and purpose' irresistible. How can one accept a scheme of things so cleverly arranged, so subtle and felicitous, simply as a package of properties that just happens to be?



Paul Davies, inspired by the 'awesome beauty, harmony and ingenuity of nature'

Fergus White

Of course science cannot prove the existence of a design, or a designer, but it can reveal the sheer depth of ingenuity that goes to make up this marvellous universe, our home."

The loose-knit "alternative academy", which Davies says is promoting such views, includes Roger Penrose, the Oxford mathematician, James Lovelock, originator of the Gaia philosophy, and Charles Jencks, the architect and designer.

"Those of us who work within the mainstream academic community would agree with our more depressed scientific colleagues, such as [the biologist] Richard Dawkins and [the physicist] Steven Weinberg, on the broad facts. We all agree that science is the best way to describe the world, but we may disagree on the interpretation.

"For example, I do not accept Weinberg's bleak view that 'the more the universe seems comprehensible, the more it also seems pointless'. Nor do I accept Dawkins' 'blind watchmaker' thesis that there is nothing progressive about evolution. I think the evidence points to a more comfortable view in which human beings have a modest but essential place in the universe."

Davies has long been interested in the so-called anthropic principle

- the idea that the universe is the way it is because, if it were otherwise, we would not be here to observe it. "It turns out that the existence of life, at least as we know it, is remarkably sensitive to the precise form of the basic laws, so that had the universe been put together even slightly differently, it would have gone unobserved."

The principle has been stated in several different forms over the years, and scientists cannot agree whether it is a confusing piece of circular reasoning or - as Davies believes - an insight into the nature of the universe.

Recently he has been struck by a related but slightly different point. "There is something very special about our ability to describe, through higher mathematics, the workings of the universe that have led to our creation. The fact that the laws permit the emergence of conscious beings who can reflect on the meaning of it all is surely a fact of immense significance."

But, I ask, isn't the anthropic principle just a tautology? Davies replies: "That objection is only valid if you postulate that a large number of other universes exist besides ours - even an infinite number - each with different laws, then it is no surprise that ours has the right conditions for conscious life to emerge.

"What I don't like about the many universes theory is that it seems like another case of an ad hoc or miraculous solution. Invoking an infinite number of other universes just to explain the apparent contrivances of the one we see is pretty drastic. I try to understand why things are the way they are in this universe and not to invent invisible universes to do the job."

(Incidentally, cognoscenti of the different multiple universe models will be interested to know that Davies is more sympathetic to the 'parallel universes' theory that has recently become popular with quantum cosmologists. Grossly oversimplified, this holds that our universe is not just one universe with a single history but an infinite number of parallel universes in which anything that could physically happen does happen. This idea may boggle your mind but Davies is keeping his open - "at least all the parallel universes would obey the same laws".)

Although Davies has used "God" in the titles of two of his 20 books (*God and the New Physics* in 1983 and *The Mind of God* in 1992) he says: "I'd rather get away from using the words 'God' and 'religion'. By God I meant the purposeful foundation of the universe. The truths on which the universe is

founded must be timeless; you cannot have a God inside time or matter. But a timeless God is inevitably abstract. The general public hankers after a temporal God."

The superstitions of 'organised religion have little appeal for Davies, who grew up in a north London family that regarded itself as Anglican but attended church irregularly. As a teenager he studied texts by John Robinson, the bishop who started the "God is Dead" debate of the 1960s, and engaged in intense arguments with local clergy.

Now he says: "We have to grow up and give up the notion of the cosmic magician who waves a wand to create atoms and then life. There's no need to invoke anything supernatural in the origins of the universe or of life. I have never liked the idea of divine tinkering; for me it is much more inspiring to believe that a set of mathematical laws can be so clever as to bring all these things into being."

When I say that, for many, the main comfort of religion is its promise of an afterlife, Davies is - for the only time in our interview - almost lost for words. "The idea of a guardian-angel God is very comforting but I can't find any room in my philosophy for it."

Davies perks up immediately

when I ask about his plans for the future. He mentions three "scientific topics of deep theological significance that I hope to work on in the coming years". First: "we still lack a full understanding of the nature of time". Time has long been one of Davies's main interests and it is the subject of his excellent new book *About Time* (Viking, £18).

His second topic for future research is the fashionable one of consciousness. Like Penrose, Davies wants to investigate "the relationship between the mental world of thoughts and emotions and the physical world of atoms and forces. There is currently some optimism that quantum mechanics, that enigmatic branch of subatomic physics, may entangle mind and matter in the necessary subtle fashion."

Finally, Davies says, "to appreciate fully who we human beings are and what our place may be, we need to know whether or not we are alone. Is life unique to planet Earth or is it a widespread phenomenon?"

In Davies's vision of the universe, there must be extraterrestrial civilisations - and it is worth spending millions of dollars listening for their interstellar radio signals.

Nothing, I imagine, would comfort him more than a message from intelligent life elsewhere.