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## THE BIG QUESTIONS

LIFE DEATH REALITY FREE WILL  
AND THE THEORY OF EVERYTHING

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## PREDICTIONS

BRILLIANT MINDS FORECAST THE NEXT 50 YEARS

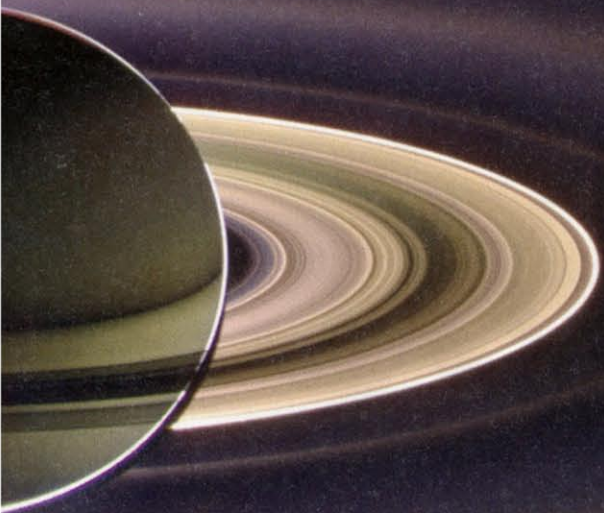
 **THE LAST 50 YEARS**  
32 PAGES OF CLASSIC STORIES

This week **Beyond belief**

# IN PLACE OF GOD

Can secular science ever oust religious belief – and should it even try?

An icon for a secular church: the view of Earth from beyond Saturn (we are the dot above and to the left of the rings)



**"We can find comfort in knowing that everyone who has ever lived on the Earth will some day adorn the heavens"**

MICHAEL BROOKS, LA JOLLA

IT HAD all the fervour of a revivalist meeting. True, there were no hallelujahs, gospel songs or swooning, but there was plenty of preaching, mostly to the converted, and much spontaneous applause for exhortations to follow the path of righteousness. And right there at the forefront of everyone's thoughts was God.

Yet this was no religious gathering – quite the opposite. Some of the leading practitioners of modern science, many of them vocal atheists, were gathered last week in La Jolla, California, for a symposium entitled "Beyond belief: Science, religion, reason and survival" hosted by the Science Network, a science-promoting coalition of scientists and media professionals convening at the Salk Institute for Biological Studies. They were there to address three questions. Should science

do away with religion? What would science put in religion's place? And can we be good without God?

First up to address the initial question was cosmologist Steven Weinberg of the University of Texas, Austin. His answer was an unequivocal yes. "The world needs to wake up from the long nightmare of religion," Weinberg told the congregation. "Anything we scientists can do to weaken the hold of religion should be done, and may in fact be our greatest contribution to civilisation."

Those uncompromising words won Weinberg a rapturous response. Yet not long afterwards he was being excoriated for not being tough enough on religion, and admitting he would miss it once it was gone. Religion was, Weinberg had said, like "a crazy old aunt" who tells lies and stirs up mischief. "She was beautiful once," he suggested. "She's been with us a long

time. When she's gone we may miss her." Science, he admitted, could not offer the "big truths" that religion claims to provide; all it can manage is a set of little truths about the universe.

Richard Dawkins of the University of Oxford would have none of it. Weinberg, he said, was being inexplicably conciliatory, "scraping the barrel" to have something nice to say about religion. "I am utterly fed up with the respect we have been brainwashed into bestowing upon religion," Dawkins told the assembly.

He was soon joined by Carolyn Porco of the Space Science Institute in Boulder, Colorado, who had been charged with providing an answer for the second question: if not God, then what? Science, she said, could do at least as well as religion. "If anyone has a replacement for God, then scientists do." Porco said. "At the heart of scientific inquiry is a spiritual quest, to come ▶

# This week **Beyond belief**

to know the natural world by understanding it... Being a scientist and staring immensity and eternity in the face every day is about as meaningful and awe-inspiring as it gets."

Astronomers in particular, she suggested, regularly confront the big questions of wonder. "The answers to these questions have produced the greatest story ever told and there isn't a religion that can offer anything better." Religious people, she claimed, use God to feel connected to something grander than they are, and find meaning and purpose through that connection. So why not show them their place in the universe and give them a sense of connectedness to the cosmos? The answers to why we are here, if they exist at all, will be found in astronomy and evolution, she said.

## A secular icon

Science provides an aesthetic view of the cosmos that could replace that provided by religion – a view that could even be celebrated by its own iconography, Porco added. Images of the natural world and cosmos, such as the Cassini photograph of Earth taken from beyond Saturn, Apollo 8's historic Earthrise or the Hubble Deep Field image, could offer a similar solace to religious artwork or icons.

The big challenge, according to Porco, will be dealing with awareness of our own mortality. The God-concept brings a sense of immortality, something science can't offer. Instead, she suggested highlighting the fact that our atoms came from stardust and would return to the cosmos – as mass or energy – after we die. "We should teach people to find comfort in that thought. We can find comfort in knowing that everyone who has ever lived on the Earth will some day adorn the heavens."

Like many of the others at the meeting, Porco was preaching to the choir, and there was no more animated or passionate preacher than Neil deGrasse Tyson, director of the Hayden Planetarium in New York. Tyson spoke with an evangelist's zeal, and he had the heretics in his sights. Referring to a recent poll of US National Academy of Sciences members which showed 85 per cent do not believe in a personal God, he suggested that the remaining 15 per cent were a problem that needs to be addressed. "How come the



From the left: Weinberg, Krauss, Shermer, Harris and deGrasse Tyson

## Should science do away with religion?

"It is just as futile to get someone to give up using their ears, or love other children as much as their own... Religion fills very basic human needs."

**Mel Konner, ecologist, Emory University, Atlanta, Georgia**

"Religion is leading us to the edge of something terrible... Half of the American population is eagerly anticipating the end of the world. This kind of thinking provides people with no basis to make the hard decisions we have to make."

**Sam Harris, author of *The End of Faith***

"Religion allows billions of people to live a life that makes sense – they can put up with the difficulties of life, hunger and disease. I don't want to take that away from them."

**Francisco Ayala, biologist and philosopher, University of California, Irvine**

"No doubt there are many people who do need religion, and far be it from me to pull the rug from under their feet."

**Richard Dawkins, biologist, University of Oxford**

"Science can't provide a sense of magic about the world, or a community of fellow-believers. There's a religious mentality that yearns for that."

**Steven Weinberg, physicist, University of Texas, Austin**

"Science's success does not mean it encompasses the entirety of human intellectual experience."

**Lawrence Krauss, physicist and astronomer, Case Western Reserve University, Ohio**

number isn't zero?" he asked. "That should be the subject of everybody's investigation. That's something that we can't just sweep under the rug."

This single statistic, he said, gave the lie to claims that patiently creating a scientifically literate public would get rid of religion. "How can [the public] do better than the scientists themselves? That's unrealistic."

DeGrasse Tyson clearly found it hard to swallow the idea that a scientist could be satisfied by revelation rather than investigation. "I don't want the religious person in the lab telling me that God is responsible for what it is they cannot discover," he said. "It's like saying no one else will ever discover how something works."

For others, the idea that it is somehow unacceptable for scientists to maintain a religious belief was going too far. "They're doing science, they're not a problem," said Lawrence Krauss, a physicist based at Case Western Reserve University in Cleveland, Ohio. Scientists are not a special class of humanity, he pointed out, so it is hardly surprising that a small number of academy members are also believers. "It would be amazing if that figure were zero," he said. "Scientists are people, and we all make up inventions so we can rationalise about who we are."

Krauss says he found the meeting at La Jolla a peculiar experience. He is a

veteran of campaigns against religious incursion into science, and testified against the scientific credentials of “intelligent design” in the Dover school board trial in Pennsylvania last year. “I’m not usually the person who defends faith,” he told *New Scientist*.

Krauss wasn’t the only participant who seemed to think some of the more militant speakers were a tad over the top. Joan Roughgarden, a professor of geophysics and biology at Stanford University, California, described some of the statements being made as an “exaggerated and highly rose-coloured picture of the capabilities of science” while presenting a caricature of people of faith. Attempts by militant atheists to represent science as a substitute for religion would be a huge mistake, she said, and might even set back science’s cause. “They are entitled as atheists to generate more activism within the atheist community,” she told *New Scientist*. “But scientists are portraying themselves as the enlightened white knights while people of faith are portrayed as idiots who can’t tell the difference between a [communion] wafer and a piece of meat.” People of faith are being antagonised, and this is “a lose-lose proposition”, she said.

She also suggested that science, like religion, had dogma and prophets of its own, citing as an example the “locker-room bravado” of many biologists in promoting the received wisdom regarding sexual selection. What’s more, she said, science’s ethics were open to being manipulated – notably by biotechnology companies – leading her to seriously doubt that a workable morality could be developed by the rationalist scientific community.

### Biology rules

This was not a view shared by Patricia Churchland of the University of California, San Diego, who was charged with answering the question “can we be good without God?”. Values, Churchland said, are set by what we care about, and as social animals we care about mates, kin and insider-outsider relationships. Every human social value and moral, she said, can be traced back to group dynamics and biochemistry; there is no need for a scriptural mandate. Thus the answer to the third question of the meeting became an overwhelming yes.

With three positive verdicts in the

## If not God then what?

“It is the job of science to present a fully positive account of how we can be happy in this world and reconciled to our circumstances.”

**Sam Harris, author of *The End of Faith***

“Let me offer the universe to people. We are in the universe and the universe is in us. I don’t know any deeper spiritual feeling that those thoughts.”

**Neil deGrasse Tyson, astrophysicist, Hayden Planetarium, New York**

“Let’s teach our children about the story of the universe and its incredible richness and beauty. It is so much more glorious and awesome and even comforting than anything offered by any scripture or God-concept that I know of.”

**Carolyn Porco, planetary scientist, Space Science Institute, Boulder, Colorado**

“I’m not one of those who would rhapsodically say all we need to do is understand the world, look at pictures of the Eagle nebula and it’ll fill us with such joy we won’t miss religion. We will miss religion.”

**Steven Weinberg, cosmologist, University of Texas, Austin**

bag, the mood was clear: science can take on religion and win. “We’ve got to come out,” urged chemist Harry Kroto of Florida State University, Tallahassee. Dawkins also used the same phrase, and compared the secular scientists’ position to that of gay men in the late 1960s. If everyone was willing to stand up and be counted, they could change things, he said. “Yes I’m preaching to the choir,” Dawkins admitted. “But it’s a big choir and it’s an enthusiastic choir.”

Kroto certainly declared himself ready to fight the good fight. “We’re in a McCarthy era against people who don’t accept Christianity,” he said. “We’ve got to do something about it.” His answer is to launch a coordinated global effort at education, media outreach and campaigning on behalf of science. Such an effort worked against apartheid, he said, and the internet now provided a platform that could take science education programmes into every home without being subject to the ideological and commercial whims of network broadcasters. He has schools run by religious groups firmly in his sights too. “We must try to work against faith schooling,” he said.

For all the evangelical fervour, some

attendees suggested that a little more humility might be in order. “This is Alice in Wonderland, it’s just a neo-Christian cult,” Scott Atran of the CNRS in Paris told *New Scientist*. “The arguments being put forward here are extraordinarily blind and simplistic. The Soviets taught kids in schools about science – religiously – and it didn’t work out too well. I just don’t think scientists, when they step out of science, have any better insight than the ordinary schmuck on the street. It makes me embarrassed to be an atheist.”

Krauss was similarly critical. “The presumption here was that any effort to respect the existence of faith is a bad thing,” he told *New Scientist*.

“Philosophically I’m in complete agreement, but it’s not a scientific statement, and I’ve seen how offensive it is when scientists say ‘I can tell you what you have to think’. They make people more afraid of science. It’s inappropriate, and it’s certainly not effective.”

Dawkins, though, is ready to mobilise. The meeting, he says, achieved “probably a little” – but every little helps. “There’s a certain sort of negativity you get from people who say ‘I don’t like religion but you can’t do anything about it’. That’s a real counsel of defeatism. We should roll our sleeves up and get on with it.” ●

**Additional reporting by Helen Phillips**

Visit *New Scientist*’s Science vs Religion podcast to hear more on this debate:  
[www.newscientist.com/podcast.ns](http://www.newscientist.com/podcast.ns)

## Can we be good without God?

“The axiom that values come from reason or religion is wrong... There are better ways of ensuring moral motivation than scaring the crap out of people.”

**Patricia Churchland, philosopher, University of California, San Diego**

“What about the hundreds of millions of dollars raised just for Katrina by religions? Religions did way more than the government did, and there were no scientific groups rushing to help the victims of Katrina – that’s not what science does.”

**Michael Shermer, editor-in-chief, *Skeptic* magazine**

“It doesn’t take away from love that we understand the biochemical basis of love.”

**Sam Harris, author of *The End of Faith***