

# MOTIVATIONS for belief

Physicist, theologian and author **John Polkinghorne** explains why for him science and religion are two cousinly halves of the same reality. Interview by Kay Parriss



## JOHN POLKINGHORNE Biography of a bottom up thinker

It is 30 years since John Polkinghorne made the decision to abandon his post as professor of mathematical physics at Cambridge University and embark upon training for ministry in the Church. He was at the height of his career as a world class theoretical physicist and had been elected as a fellow of the Royal Society.

He came to the decision gradually and jointly, he says, through discussions with his wife Ruth, a fellow mathematician who sadly died in 2006. By that stage the quark model relating to elementary particles of matter, to which he had contributed significant work, was already established. "More speculative ideas like string theory were coming along that were different and not so congenial to me," he says. "They used a form of mathematics I didn't know so much about."

Following his ordination he devoted himself to local church ministry for five years before returning to Cambridge as dean of chapel at Trinity Hall. He went on to become president of Queen's College, where he continues as fellow. He was knighted in 1997, and in 2002 awarded the Templeton prize for his contribution to research at the interface between science and religion.

He has been a member of the BMA Medical Ethics Committee, the General Synod of the Church of England, the C of E's Doctrine Commission and the Human Genetics Commission. Dr Polkinghorne is a founding member of the Society of Ordained Scientists and also of the International Society for Science and Religion. He has written 32 books, mostly concerning science and religion, and continues to follow a busy schedule of speaking engagements around the world.

His most recent book, *Questions of Truth*, presents a selection of his responses, along with those of his friend and colleague Nicholas Beale, to the questions posted to his website over many years, by his readers in many different countries.

He continues to apply the scientist's habit of "bottom up thinking" to his consideration of religious questions: "We don't tend to ask: is it reasonable? – as if we knew beforehand the shape that reason had to take. But what we do ask is: what makes you think that might be the case?"

The idea of a multiverse is not something that should be considered the default position, one that's more natural than belief in a creator. I think they are on a par with each other in that respect.

**So do you come down on the side of thinking there is more likely to be just one universe?**

I think I do. Whether that is just a reflection of the finiteness of my mind I don't know. But I don't want to set limits on God's creative generosity. I feel the same about extra terrestrial life. There may be little green men that God looks after in whatever ways are appropriate for them. But my inclination is certainly to think just in terms of this universe.

**What's God's ongoing role in the physical universe?**

I believe God interacts with the unfolding history of the universe. You could have a deistic God who just set it all spinning and stands back. I don't think that's the right picture, and it certainly isn't the picture that science forces you to adopt.

Twentieth century science, particularly following the discovery of quantum theory showed that whatever the world is, it's not mechanical – it's something more subtle and, I believe, more supple.

Science does not establish the causal closure of the world on its own reductionist terms. So we have no reason to deny that there are causes at work in the world; there are not simply exchanges of energy between bits and pieces.

I think we have experience of those causes ourselves. We are agents, we can act in the world and play our part in bringing about its future, so it seems to me it would be extraordinary to suppose the creator of the world couldn't also interact.

But God has another role in relation to the universe. If we simply tell the horizontal story of science, the unfolding of present process, in the end the universe itself is going to die. Eventually, a very long time scale, but eventually it is going to become so cold life will disappear from it everywhere.

Yet I believe God has purposes for creation. I believe we have a destiny beyond our deaths. I believe the universe will have a destiny beyond our deaths and in fact I believe the two destinies go together. So God has a role not only in providentially interacting with history now, but also being the ground of a hope of a continuing history beyond the decay of this world. ►

**'I would say that scientifically we have no adequate reason to believe in the existence of a universe other than the one of our direct observation'**

**You've often spoken about the parallels between science and religion. Can you give one or two examples?**

I think the key parallel is that both are concerned with the search for truth. A lot of people think religion is just comfortable opinion that sees you through life whistling in the dark. I don't think for a minute that's right, and it wouldn't work if it were right.

Questions of truth are as essential to religion as they are to science. And I think in both of them, the way we find truth is through the search for motivated belief. Of course the motivations are different.

Science is concerned with the physical world. We transcend the physical world. We can put it to the test – that's the great secret weapon that physics has. But you can't put God to the test in that sort of way. The basis of the encounter is not testing but trusting.

So there are differences. But I do see two halves having a cousinly relationship with each other.

**What if anything do you think preceded the Big Bang?**

I don't think anything preceded the Big Bang. I think that at the Big Bang not only space and matter came into being but time too. And even where we have these highly speculative theories that somehow or another our universe has emerged out of quantum fluctuations in a vacuum, well that only takes the argument back one stage further. You have to say where did the quantum vacuum come from?

But the essential theological meaning of creation is not about how things began but why they exist. I believe God is as much a creator today as he was 13.7 billion years ago.

**Do you agree that if there is just one universe it's easier to get your head around the possibility of a creator than if there is a multiverse?**

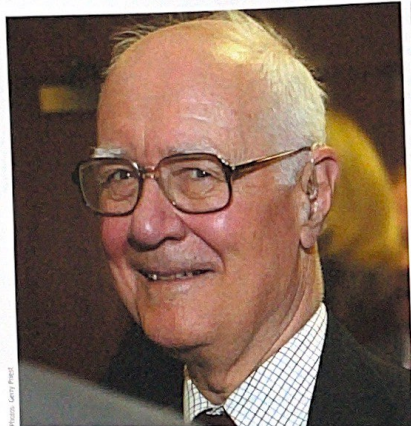
I think it's a sort of theological rule that if we get our heads around God in relation to one thing, well then if there are a very large number of those things it doesn't make any difference.

But secondly I would say that scientifically we have no adequate reason to believe in the existence of a universe other than the one of our direct observation. Therefore the idea there is this vast multiverse – that's a metaphysical guess, it goes beyond science. Just as the belief in God as a creator is a metaphysical guess in that sense.

**In a world with so many problems, why do you feel it is important for us to wrestle with the question of God's existence?**

It's a great deal to do with the question of whether life is meaningful, or whether it's just one thing after another. I think belief in the existence of God implies that despite all the difficulties, the strangeness and the bitterness of the world we live in, it is nevertheless meaningful. And also it means that we live with a hope, that if there truly is a faithful God to whom we can commit ourselves, then we have a hope that whatever we try to do, however successful or unsuccessful in various ways it may be, it is not lost effort.

Nothing good is ever lost in my view, and I think that does strengthen us in battling with the problems of the world, the small problems of our individual lives and perhaps in our thinking about the big problems of human life in general.





► If God is all powerful, why couldn't God have fine tuned things even better, so that mineral deposits rise without the same process allowing tectonic plates to reap havoc, as in a tsunami?

Science helps us to understand how the world works and we see that you can't rear things apart – that everything has a shadow side to it.

It is a deep scientific insight that regimes, regions where real novelty emerges are always at the edge of chaos. They always have in them order and also disorder and that's necessary for existence and evolution, because if a system is too rigid then novelty can't happen, but if it's too disordered everything just falls apart. It's a very delicate balance between the two that represents potentiality and the emergence of novelty.

Of course it's impossible for me or anyone to say you couldn't have desired a world where the balance of good and ill is better than it is. But to me it is a very deep Christian insight that the God in whom I trust is not simply a compassionate spectator in all this, but in Christ and particularly the cross of Christ, God really has been a fellow participant. In the darkness of Calvary, the one who paradoxically cries "My God, my God, why have you forsaken me?" is God living a human life in Jesus Christ.

That's an extraordinarily deep insight. It seems to me – so deep that it meets the deep problem of suffering at the right sort of level. It's very much part of what makes it possible for me to be a religious person.

**When you look at dementia or any kind of mental disorder, how can we square it with the notion of individual free will, or a consciousness beyond the mechanical?**

It's important we don't hesitate to recognise that we are important. And that means two things. I mean first of all that every mental spiritual experience we may have will have a physical counterpart. If I listen to a great piece of music, various endorphins in my brain will be liberated. I don't think that means my response to the timeless beauty of music is simply a shift in biochemical balance in my brain, but it is accompanied by it. So everything is going to have a physical counterpart even if it's not reducible to that.

But feelings, emotions like seeing red, are quite different from mechanical patterns of activity. Of course they are related and that's why dementia for example affects our appreciation of these things, but it seems to me there are two different categories of experience.

I think there is always a great temptation to get off the bits of experience you find it difficult to understand, and bring it down to size to something that's manageable, but I think we have to resist that. Even if it means that a lot of the time we have to leave a mystery. We don't solve the mystery by denying the experience that gives rise to the mystery.

**'There is this extraordinary creative but destructive interaction which is present in nature'**

**Still a person with a mental disability or a personality disorder is not making free choices in the same way as a person without those difficulties, are they?**

My eldest grandchild has Down's Syndrome. She copes pretty well, she's 21 now. Obviously we're sad that Catherine is limited in various ways. On the one hand I believe God's eventual purpose for all of us is to release us from our various forms of bondage. In some sense Catherine will be released from the bondage of her Down's Syndrome. But equally of course what Catherine is, is partly constituted by her Down's Syndrome.

Now how God strikes that balance I don't know! I mean we are not all going to be turned into perfect homogenous clones. We are all going to retain our individualities and those do include not only our potentialities but also our limitations. I don't know how that happens, I have to leave that to God really.

**How can love and beauty be at the heart of creation if the gazelle has to be ripped apart for the leopard to survive?**

It's been said that the jaguar's fang shapes the gazelle's beauty of movement. There is this extraordinary creative but destructive interaction which is present in nature. We're back to the question of could you have the creation without having the destruction. I think such scientific insights as we have suggest it isn't easy to have one without the other. That's the best I can do.

**What is your interpretation of the atonement? Did Christ die so that our sins could be forgiven and if so what does that mean?**

I struggle with it. One aspect of the cross that's important to me, as I said earlier, is God's sharing in our suffering. I think it's always been the Christian testimony that in some sense Christ died for us, and for our sins. It is in his sacrifice of submitting to the darkness and dereliction of Calvary that our redemption has been brought about.

But it's striking that though that's been the Church's uniform testimony of the Church, the Church has never had an official doctrine of exactly the

mechanism for it.

So you've had all sorts of different doctrines. You've had penal substitution, which I find crude and morally unsatisfactory; you have the somewhat more sophisticated Anselmian idea of propitiating the affronted dignity of the feudal lord of the universe – that doesn't work for me either I'm afraid. On the other hand you have the idea that it's just all a very powerful and moving exemplary thing. Well I think that's not enough.

I served for about five years on the Doctrine Commission of the Church of England and during that time we wrote a book together called the Mystery of Salvation. I think it had about six different theories on the atonement written by different members of the commission – I didn't actually contribute.

So it's very difficult, but in a small way it seems to me it's connected with the fact that we know forgiveness is a costly thing. It isn't a question of saying it doesn't matter, it does matter. But the beginning of forgiveness is the acknowledgement that a terrible wrong has happened. Somehow that costliness is connected with the suffering of the son, but I don't know how.

The contemporary theologian who has influenced me the most has been Jürgen Moltmann. I was absolutely bowled over by his book *The Crucified God*. He sees the cross very much as a Trinitarian engagement. The father suffers the loss of the son; the son suffers separation from the father. The spirit is the most difficult part of the Trinity to think about, but it's somehow caught up in this tension.

**Does it matter whether there was a physical resurrection or a spiritual one, or that we don't know what really happened?**

It does matter to me, yes. I believe Jesus rises in his humanity and it is intrinsic to human beings to be embodied. I don't believe the Christian hope is a sort of spiritual survival. We're not apprentice angels, we're human beings, so it's important to me that Jesus rose in a glorified but embodied form – of course not necessarily in the flesh and blood of this world – because I believe his resurrection is the seed from which our resurrections eventually are going to grow.

The resurrection resolves the ambiguity of Jesus's life. Otherwise things fall apart. It's deserted, it's a shameful death and if that's where the story of Jesus ended then I think it ended in failure; he was just another first century messianic pretender and most of us would never have heard of him.

**Surely that wouldn't be the case if there had been some kind of spiritual resurrection?**

No I agree. There are two essential Christian convictions it seems to me that we trace back to the earliest times – one is that Jesus lived and the second is that Jesus is Lord. But somehow those things have to be worked out. For me I think Jesus's continuing humanity is important, that his embodiment is

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important to human nature. But I know lots of committed Christian believers who think in terms of spiritual resurrection.

**Think of the history of humanity up until now – billions upon billions of humans to be embodied again. Does that present a problem to the embodied resurrection point of view?**

No I don't think so. I think the human soul is not a spiritual detachable component, it's the real me. But I think in some way the soul might have, in an extraordinary, elaborate sense, doors into the information bearing patterns of the body, which of course dissolve at death. But God remembers it all and God will re-embody it when I am resurrected. That will be the continuity between life in this world and life in the world to come.

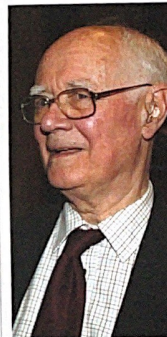
**You've said there can't be objective certainty in all of this but that you have enough evidence to find your beliefs well motivated. Have you arrived at a point where you feel certain even if you can't be certain? Well I feel commitment. If you read my stuff you will have picked up that the philosopher of science I like best is Michael Polanyi who writes about "committing myself to what I believe to be true in science, knowing it might be false." I think that is the human condition in pretty well all knowledge.**

Of course we know that two plus two equals four, but serious thinking, deep things are not known beyond peradventure. But I think we can get sufficiently well motivated belief for it to make sense to commit ourselves to it and indeed to bet our lives on it, and that's what I think faith is. Faith isn't receiving a mysterious, unquestionable communication from heaven that gives you the answers to everything. But it is committing yourself to what you believe to be true and that's how I take my stand in the Christian community.

**Despite the recurrence of doubts?**

Yes. Some people have an untroubled faith and that's great for them – I think most people don't and I'm not one of those who do. But I know which side I've got to be on.

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