The heavens declare: when science and faith meet

Can a scientist be a Christian and can a Christian love Science? In this feature, FOCUS explores the views of some of the speakers at the Conference on Science and Christianity (COSAC) run by The Institute for the Study of Christianity in an Age of Science and Technology (ISCAST)–Christians in Science, held in Brisbane. ISCAST is a not-for-profit organisation led by Executive Director and Anglican minister, the Reverend Dr Chris Mulherin, and made up of a network of people including students and academics who explore the interface of science, technology and Christian faith. COSAC brought together more than 160 people including 44 students and more than 40 presenters including keynote speaker Dr Jennifer Wiseman.

In the television show Young Sheldon, the title character, an eight year old boy, declares science to be superior to Christianity.

Endowed with a special intellectual gift and science prowess, but almost devoid of social graces, Sheldon argues with his local Pastor, a church man who is fundamentally opposed to Evolution. Supporting his view that science and faith can go hand in hand, the Pastor rattles off the names of great scientists who were also Christians, including Charles Darwin. A puzzled Sheldon counters by asking the Pastor "So Darwin's right about God but wrong about Evolution?" The Pastor beams "Now you got it!" leaving young Sheldon confused and annoyed.

The often fraught relationship between what is sometimes regarded as the conflicting world views of science and faith was at the centre of the conference which was held alongside the World Science Festival in Brisbane.

An ongoing dialogue

Conference organiser, and the Executive Director of the think tank Christians in Science and Technology, The Reverend Dr Chris Mulherin says it is important that science and Christianity are not seen as mutually exclusive and that the dialogue between them remains open and free.

"In these increasingly anxious and embattled times, the temptation for Christians is often to take one of two paths: the way of accommodation or the way of separation," Dr Mulherin said.

"To accommodate is a comfortable option as the church gives up orthodox faith for a secular-Christian syncretism and in the end risks losing the transcendent essence of the historic faith. The other temptation is that of separation: a divorce on the grounds of irreconcilable differences. However, to accommodate is to risk losing our soul; to separate is to risk losing our mind."

Chris continued by warning of the danger of fundamentalism, which falls into the temptation to say: "I know the truth, and those who disagree with me are either mad or bad or blind." This danger, he said, "equally applies to atheists as it does to some of our co-religionists".

The conference also heard from Sydney based astrophysicist Luke Barnes who attributed the misunderstanding between science and faith to bad philosophy.

"A lot of atheists seem to have the idea that the thing that turned society against Christianity was science, and it's not. It's philosophy, but bad philosophy. As C.S. Lewis once said: "Good philosophy must exist, if for no other reason, because bad philosophy needs to be answered." The critics of Christianity, who for me get to the heart of the matter, even if they're scientists, are the ones who have a respect for philosophy. The ones who don't respect philosophy—Krauss, Dawkins, Atkins and the like—end up flailing way wide of the mark. So I think a good philosophical foundation is crucial, obviously in a way that builds together a Christian worldview. Knowing something about the philosophy of science … when you've thought through these sorts of issues you're on a really solid bedrock," he said. For more on Luke Barnes read Ben Swift's article on page 23.

> seminaries have asked for help incorporating more science courses into their curricula

The heavens declare

Keynote speaker, astronomer Dr Jennifer Wiseman is a worshipping Christian and sees no problem accepting science and Christianity.

Her journey began as a child walking with her parents at night, where she would gaze at the dark rural Ozark sky seeking out and naming nebula, planets, stars and other heavenly objects. Her dream was to become an astronomer and discover new planets. She did indeed become an astronomer and in 1987 came close to realising her other dream when she discovered periodic comet 114P/Wiseman-Skiff, named after her, of course.

Dr Wiseman used to head the Laboratory for Exoplanets and Stellar Astrophysics at NASA's Goddard Space Flight Centre in the USA and is currently a senior astrophysicist there.

In Brisbane she could gaze up at a very different night sky to that of her home in Washington DC, increasingly clouded by light pollution. Perhaps alluding to the Western trend of being forced to take philosophical sides for or against Christianity or science, Dr Wiseman rues the haze of debate that clouds our view of the universe and God.

"I can't remember the last time I saw more than a few dozen stars above my current home," she said. I am not alone. Today approximately two-thirds of the world's population lives in or near a metropolitan area where stars are often barely visible in the night sky, despite the fact that over 5,600 stars are potentially visible to the naked eye!

Dr Jennifer Wiseman

"Light pollution obscures our window into the cosmos, a view that was a constant source of inspiration for human beings for millennia."

Dr Wiseman, who enjoys giving talks on science to schools, youth and church groups, and civic organizations, said she has noticed interest in the public on seeing how the excitement and the wonder of what is being discovered, especially in astronomy, can fit in with other concerns and interests, including religious belief. She says there is now a thirst for a healthy dialogue, where members of religious groups want to hear about the excitement of science and try to think about how it informs their faith and inspires a sense of wonder. As an example, she said, leaders of seminaries have asked for help incorporating more science courses and information into their curricula for clergy in training.

While human-sourced pollution has come to hide other worlds, another conference speaker Fergus McGinley, suggested to delegates that an over-reliance on a facts-only 'scientism' was diminishing humankind's perception of itself, its spiritual essence and its place in creation.

"Somehow they believe modern science has proved that the soul doesn't exist. Scientific materialism" or "naturalism", it's called: only matter exists, there's no such thing as soul, or mind, or spirit, or God, or anything like that. The soul, they think, is yesterday's idea, a figure of pseudo-science and superstition, no longer meaningful or relevant in this enlightened scientific age," Mr McGinley said.

> I started reading a lot more, particularly books by scientists who were Christians

Does science have all the answers?

Dr Wiseman was brought up to accept a literal interpretation of Genesis.

"We did not have any reason to interpret it any other way," she said. "But that was always taught with humility. Our pastors said things like, 'Don't be too presumptuous about these things; God may not have revealed all the details of how he created in these few verses in Scripture.' We understood that we needed to be open to the fact that with God a day could be like a thousand years, and he may have used great ages of time and great care in creation."

"It was that foundation of humility that prepared me to reconcile what I was learning in my college classrooms with scripture. My scientific education did not cause me to doubt what the Bible says regarding God's authoritative involvement in creation, but I started reading a lot more, particularly books by scientists who were Christians about how they reconciled their understanding of Scripture with what they had learned scientifically about the details of nature."

"Some of these scientists also came to our Christian fellowship groups on campus, and it was a terrific help to me as a student to see these models of excellent scientists who were followers of Jesus Christ. I saw their reverence for scripture and God along with their love for studying the natural world fitting together in a beautiful mosaic," Dr Wiseman said, but admits to having ongoing questions of God, for example:

"What was God doing in all those ages before these familiar parts of our world existed? Was God just waiting for humans to come around? Why didn't he create all of this instantly and just get to the point?"

John Austin

That's the spirit … let's keep talking

What is spirit? Everyone has an opinion but no one defines it. Conference speaker and Uniting Church Minister Reverend Dr Robert Brennan scopes the current debate.

Academic articles refer to spirit as emotion, or feeling or even a culture. It is like a number of other important questions about things which seem unanswerable but which do not stop people working with them. Others include "What is life, consciousness or dark matter?"

There are suggestions that spirit may be about measurable emotional or neurochemical states. Most proposals fall far short of Christian understanding of spirit or that of many religious systems.

The Christian conviction is that Spirit is real and that we should be able to make some form of public truth claims about whatever it is.

In his opening address to the conference, Chris Mulherin talked about the need to be engaged in the science and Christianity dialogue while avoiding the paths of accommodation or separation from dialogue. On this important question there seems to be disengagement.

Testability

The common assumption is that God's existence can only be accepted by faith and cannot be proven by rational or scientific argument. This is like one of Douglas Adams' humorous proofs against God's existence taken up seriously by philosopher Michele Friend. Adams describes a fictive Babel fish which when inserted in the ear helps anyone understand anyone else. (This would have been useful in both physics and theology classes)

Now it [the Babel fish] is such a bizarrely improbable coincidence that something so mind-bogglingly useful could have evolved purely by chance that some thinkers have chosen to see it as a final and clinching proof of the non-existence of God.

"The argument goes something like this: 'I refuse to prove that I exist,' says God, 'for proof denies faith, and without faith, I am nothing.' 'But, says Man, the Babel fish is a dead giveaway, isn't it? It could not have evolved by chance. It proves you exist, and, by your own arguments, you don't. QED.' 'Oh dear,' says God, 'I hadn't thought of that,' and vanishes in a puff of logic. 'Oh, that was easy,' says Man, and for an encore goes on to prove that black is white and gets himself killed on the next zebra crossing."

Though the 'faith only' idea widely is assumed, this ignores the many historical Natural Philosophers who believed that the nature of the spirit could be demonstrated. Isaac Newton was one. He speculated privately that spirit was the aether, was a real fluid and was the substance of vacuum. He even designed a failed experiment to measure its viscosity.
While it is unlikely that anyone will produce a beaker of pure spirit, the detectability or measurability of spirit is worth exploring. The challenge is to find new ways to ask the question. Newton thought he had an answer but was asking the wrong questions.

Being cautious about theory

An import idea like "What is Spirit," needs to be translatable into a variety of scientific world views. Not for proof but so that a robust dialogue can occur, including mutual criticism and mutual provoking of ideas.

I have argued elsewhere for a better description of the relational interaction between God's Spirit and human spirit. This is that God creates human spirit and then recreates and renews the human spirit through Christ's reception of the Holy Spirit into his humanity. It is this reception and shaping of the Holy Spirit in Christ's humanity, which becomes the template of the nature of the human spirit.

This still doesn't answer, "What is spirit?" as this idea does not depend on a world view so needs translation into the terms used in particular scientific and other worldviews. If our chosen description of spirit fails surely the problem is with the description not with the reality? When there is a problem with the description, we need to re-examine the description and its assumptions. We also need to accept that we may need to dig further back and more thoroughly than we could imagine.

It is challenging, but worth the effort.

So what is spirit?

We still cannot give a definitive description. Nonetheless, whatever, physical, psychological, information theoretical description we may use or develop in the future, Christian theology will and must develop ways to engage in speaking about spirit in language that makes sense in the world and culture around us. It must then challenge and utilise those descriptions without being bound to them.

Rev'd Dr Brennan has postgraduate qualifications in industrial Physics and Theology. He is Training Manager at the Indigenous ministry training college Wontulp-Bi-Buya in Cairns.

His first book on the nature of divine agency is 'Describing the Hand of God.'

Luke Barnes, a finely tuned universe and the limits of science

Freelance writer Ben Swift interviews Astrophysicist Luke Barnes about how the universe seems finely tuned for life.

According to the ancient writer of Ecclesiastes, writes Ben Swift, there is nothing new under the sun. While this may be true of the human condition and our need for Christ, there is an ever-growing body of knowledge regarding what can be understood about God's creation. These astonishing discoveries extend from the microscopic to the vastness of the cosmos itself: institutions such as Griffith University in Queensland talk of printing human tissue using titanium and 3D printers, and others are working to uncover some of the mysteries of the history of the universe and indeed how life came to be.

Luke Barnes is a Sydney astrophysicist at the front line of thinking about the relevance of scientific knowledge to Christian faith. He recently co-authored a book titled A Fortunate Universe: Life in a Finely Tuned Cosmos (Cambridge University Press, 2016). Ben Swift interviewed Luke at the Conference on Science and Christianity in Brisbane (run by ISCAST - Christians in Science and Technology).

*In **A Fortunate Universe** you suggest that humans live within a remarkable set of circumstances which allow for life to come into being. How then would small changes to the structure of the universe alter life as we know it?*

Luke Barnes: There are some really entertaining ways to ruin the universe. When you're a physicist you make a physical model of something which is a mathematical model, and we have those for various things in the universe. They depend on fundamental things like how much an electron weighs, how strong electromagnetism is, what the universe as a whole is like and what it's made of. We can find mathematically what might have happened if those numbers had been different. And a lot of those are disasters in very entertaining ways.

In our universe there's structure all the way up. You start with the fundamental particles; those are the Lego bricks. And then you can make protons and neutrons, nuclei, atoms, chemicals, molecules, cells and all the beautiful stuff around us. If you change some of the properties of these particles in very small, seemingly innocuous ways, that structure doesn't happen; you can make protons and neutrons that don't stick to each other and none of the rest of that story happens. It's like a Lego set where nothing will stick to anything else and you can't make anything. It's the same from the top down. You can make a universe that expands too fast and everything's too far away from everything else.

So the fine tuning of the universe – that Earth is located in 'the Goldilocks zone' ("not too hot…and not too cold") - means that people like us can be around to do science?

LB: The places in the universe that are right for life are also places in which you can see a lot of the universe and do a lot of science. That's an interesting coincidence.

Do you think that the more scientists discover about the nature of the cosmos, the more they're aware of how little we really know?

LB: There's the stuff we know about from particle accelerators, like the ordinary matter that we're made of and what all of the stuff that we can see in the universe is made of, and then there are very good reasons from cosmology, looking at the way things are moving gravitationally, to think that 95 per cent of the universe is not made of that stuff. But there's something else. There are actually two other things. About 25 per cent of it is called dark matter, which is some sort of particle we don't know about. And 70 per cent is dark energy. Clearly we're not done! There are massive mysteries along these lines.

If it's true that through science and mathematics we are able to develop theories to explain what we already know about; what about the development of theories to predict things that have not yet been discovered? Do you have any predictions on what the future holds for discoveries in science that may impact Christian thinking?

LB: One of the great things about being an astronomer is that there's a very natural thing to do next, which is to build a bigger telescope and then you'll get to see the universe in more detail. In the immediate future there are various ways of testing what dark energy is and how exactly it is affecting the universe by doing huge surveys of more galaxies than we've ever done before. That's one way we're going to start nailing down what its properties are.

Scientist Sir Peter Medawar once suggested that there are questions that science cannot answer and that no conceivable advance in science would empower it to answer. What do you think?

LB: I totally agree. The best proof of that is a naturalistic scientist or a philosopher of science who has really thought about naturalism, and they agree: if you ask a question such as, "Why is there something rather than nothing?" some will say that's a question without an answer. Science isn't going to answer it. The competition between the world-views isn't "Is my explanation better than your explanation?" but rather, "Is my explanation better than no explanation at all?". That's a much lower hurdle to jump!

Martin Rees, who wrote a really good book on fine tuning called *Just Six Numbers*, quotes Wittgenstein who says, "Whereof one cannot speak, thereof one must be silent". If you really clearly have that dichotomy [between questions science might answer and those it will never answer], then it's a question of, "Can I convince myself that I don't really want these questions to have an answer?" or "Can I understand the


Astrophysicist Luke Barnes

answer from theism?".

So if the answers might come from theism, what pearls of wisdom could you offer to those new to the field of thinking rationally about Christian faith?

LB: A lot of atheists seem to have the idea that the thing that turned society against Christianity was science, and it's not. It's philosophy, but bad philosophy. As CS Lewis once said, "Good philosophy must exist, if for no other reason, because bad philosophy needs to be answered". The critics of Christianity, who for me get the heart of the matter, even if they're scientists, are the ones who have a respect for philosophy. The ones who don't respect philosophy – Krauss, Dawkins, Atkins and the like – end up flailing way wide of the mark. So I think a good philosophical foundation is crucial, obviously in a way that builds together a Christian worldview. Knowing something about the philosophy of science…and thinking through these sorts of issues puts you on a really solid bedrock.

When it comes to the area of defending the Christian faith, how do you understand the role of the Holy Spirit?

LB: At the end of the day, the Holy Spirit, in what is a very crude analogy, scores the goals. Our job as defenders of the Christian faith is to kick the ball as hard as we can in the right direction. We're not going to kick it in. Present the truth as best you can, try to make your life live out that truth, answer honest questions as best you can. Keep in mind that Jesus often challenged questions. Present the goodness of Christianity, the beauty of Christianity as best you can prayerfully and then it really is the Holy Spirit's job to score the goals.

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Albert Einstein once remarked, "The most incomprehensible thing about the universe is that it is comprehensible". The discoveries of scientists such as Luke Barnes highlight the fingerprints that God has left on the entire cosmos; science and theology should not be thought of as enemies but rather as complementary in our quest to understand our place in God's intricate and wonderful creation.

Courtesy of The Melbourne Anglican