

Teaching Science and Theology to Children

Notes from Christians in Science Discussion Day, Friday 19 March 2021

Presentations in links below.

People Present & on zoom:

Nicola Hoggard Creegan, Christians in Science NZ director.

Jody Kilpatrick, Pastor at Ponsonby Baptist.

Elke Keeling – Educator and Curriculum Developer

Danny Baldwin: in children's ministry at Ponsonby Baptist

Annette Osborne : Scripture Union Directo.

Diana Langdon: National Anglican Children & Family ministries – STRANZ

Gendi Burwell: Anglican vicar in Albany Greenhithe.

Emma Belcher – Theology student and NZCIS worker

Hans Weichselbaum –Engineer/philosopher

Andrew Saunders: NZCIS Board, Chaplain at Maclaurin, Auckland University.

Jeff Tallon: Physicist

Joining in via zoom:

Jennifer Lewis (from Boston USA): PhD student at BU, in practical theology.

Pritika Goulstone (from Wellington): health scientist

Stephen Goulstone: Pastor in Island Bay, Wellington.

Rachel Hurren (from Christchurch)

Silvia Purdie (from Christchurch): A Rocha & Eco Church.

Jacob (Jake) William Martin Postdoc Research Fellow at Curtin University, Perth

Introductions

Personal comments to start the day included:

- Science has never phased my sense of faith until I married a Pentecostal woman.
- With my own children I am really interested in their journey with science and faith. I don't have any sense of conflict between science and faith, but already my children are expressing this sense of conflict and I don't know where that comes from.
- I have frustration that we don't hit the mark in children's ministry when science gets left out. People with both a science and theology background are able to integrate them, especially those who do science first. Historically, science and theology are not as separated as they are now.

- Making sense of science theologically has always fascinated me.
- I am working to bridge knowledge in a way that is connecting with children. Presenting science in a way that is appropriate for kids. What does it look like in a lived out reality?
- There is lot about 'christianness' what freaks me out. Sees young people feeling they have to choose between science and faith.
- My daughter has started to ask me questions. My background is science and I have a masters in theodicy. Putting together pain and suffering with faith was a massive challenge. I find it so valuable to have studied science first. I see how theology has not been done well in regards to science. I want to speak into that space. Science is so wonderful, and so is theology, and they go well together!
- I studied science, particularly chemistry, in Europe, and was blissfully unaware of any problems between science and theology. Only later in life did I discover that some Christians consider scientists to be atheists. As a scientist we do not ask ourselves, 'what is science doing?', so I become interested in philosophy. It is becoming more and more polarized.
- Science is my huge passion in life, the most wonderful career! I engaged a lot with secondary schools and have grandchildren. What a world they face. I do not hold to the idea of non-overlapping areas. I hold to the idea that science and faith are interconnected.
- I am interested in neuroscience and spirituality. Starting to ask questions about philosophy behind theology and scientific methodology; the spirituality involved in scientific research – scientific practice. Experiences of awe and 'limit places'.
- In my discussions with my young daughter I have been aware of wanting to communicate with her.
- How can we as a gathered community foster spiritual autonomy?
- For me there is question of the compatability of faith and science. As a pastor I try to be sensitive to people's perspectives but not to perpetuate lies or myth. I am looking for more ways to communicate faith in ways that don't deny science or create trauma for people.
- I have a passion for helping people understand why they believe what they believe. Take the time to think about it. My 8-year-old is in love with science, learning about origin of life science, the history of the world.

Presentation 1

Nicola Hoggard Creegan

Presentation 2

Jody Kilpatrick

How do we help children navigate perceptions of conflict between faith and science?

- Front-footing the conflict
- Teaching kids explicitly that the language of faith is not shameful, and accepting that others don't always agree.
- Multiple Lenses, ways of thinking all valid.
- Single or perfect answers are fundamentalist and inadequate – preparing them to accept mystery
- Kids' minds snap like a trap on binary ideas.

- Impact on children of being ridiculed for faith, damaging for faith.

Discussion on child development

- Science only knows so much, there are limits on science. When children are only being formed by science they are not open to faith. Good science is aware of its own limitations. Science is more rigorous than theology, more assertive.
- Too much science and that's all, creates a 'detached' view of reality. Danger of people becoming cynical.
- Children very black and white – need to communicate that life might possibly be more complicated than that!
- Affirm telling our own stories. Personal experience and journey has so much more power to communicate. Give Christian parents space to share these experiences and concerns. These questions are in play for the majority of the Christian community. This exploratory process takes time. How do we create space for these discussions? How do we allow the time to get below the surface reactions to dig in to these questions?
- Stories introduce us to complexity.
- Our faith is based on story; biological history is not just about the here and now. Both science and faith is deeply anchored in narrative. Everything is complicated and nuances. On the other hand I hold that some things are black and white. The challenge for me is that balance: this I hold to be true! This I will stick up for. Communicate to kids that they will always face this question, on every topic through all of life! You are not going to solve the tension.
- The same applies to literal vs. metaphoric. Jesus spoke in metaphor, and the Old Testament also. But there is also literal there. We need discernment of what is literal and what is metaphoric.
- The beauty of language. Need for poetry.
- Science is evidence based but nothing is ever really proven. Theology is also an accumulation of evidence; cannot prove conclusively. Human experience feeds into that.
- If faith is malleable, robust and tough then it can survive. Fragile faith shatters with binary 'yes-or-no'.
- In teaching children I always give two sides – give a broad sweep of interpretation, include what our church believes; here is the meaning we have. The meaning is important, not the literal interpretation.
- Arguments between truth claims is always going to be a problem. We are teaching the meaning behind it.
- Other cultures have less polarity.
- The experience of shame is very powerful. Feeling you are 'wrong'.
- Adults often role model shaming, binary attitudes.
- What are the generational differences? Young people living in an increasingly augmented, global world, multi-cultural.
- Shaming occurs in science as well. Any breakthrough has been met with derision, to protect orthodoxy. Truth is not established by a vote!
- Do we kill ideas with shaming or create space for it to be heard?
- All change comes from the outside. A few on the outside, not those on the inside who are trying to protect their power.

Presentation 3

Jennifer Lewis

Teaching children faith and science: A survey of approaches

Poem: Creation Dance by Joy Cowley (*Psalms Down Under*)

Art is one of the ways to integrate and open up space.

‘What am I doing when I am teaching?’

Teaching is primarily an accompaniment. Exploring big questions together. There are many layers to our existence.

Faith is a risky endeavor, and so is science. Neither are a totality.

Children have an intrinsic spirituality, curiosity, and are sense and meaning-making. They ask questions about why. They search for explanations which are more than evidence based. They want to make meaning of their lives. The fear can come later in life when we have to leave behind things we have held to for a long time. Our walls can come up and we shove things out.

I approach faith as an orientation to life characterized by openness to God and the sacred beyond us, within us, among us and our world. It is always unfolding. A process which involves dark periods and difficult questions. The church needs to accompany them. It is a response to the sacredness of the world. God walking with us. Faith changes throughout our lives. Faith is not lost when it is unstable.

Science shares that same basic orientation of faith in the order of the cosmos. It does not answer all questions.

If we can cultivate in children a culture of openness, to stand in tension and paradox, we have a better way of preparing them for the complexity they will encounter. We want children to not be put off by the discomfort of raising more questions we don't have the answers to.

Metaphors for Christian Education

- Guide, companion, exploring the one house of heaven and earth
- Facilitator of revelatory experiencing and communion with God and earth
- Listening to God and earth together

Practical, ‘Organic’ Approach

Start with the questions kids ask, their pressing issues, what is current for them? (‘KYA’ – Know Your Audience)

Children’s developmental concerns.

Christian Education helps parents address what is ‘live’ for children at the moment.

Create conversations between:

- religious symbols and stories
- earth symbols and stories

- religious and scientific ways of exploring questions

Integrative approach, developed by the “**Deep Time**” network

This has a lot of scope for teachers. Context-reflection-action (Ignatian). Helping learning connect different aspects.

Five principles, that attempt to develop a moral compass in a changing world:

1. Context. Orient to a vast, evolving universe
2. Matrix. Understand our embeddedness in the Earth
3. Transformation. Experience inner growth and engagement
4. Action. Participate in evolution to create a vibrant world
5. Continuum. Link deep time learning across all stages of life.

The Montessori Method has a Narrative approach

- Cosmic vision, a way of seeing and understanding the world as a complex interdependent unity
- Cosmic plan: there is a cosmic order at the level of nature that depends on many cosmic agents. Everything is an agent, each with a particular task to fulfill. Children learn their place, their cosmic work.
- Cosmic education – becoming aware of the different kinds of cosmic work carried out by the various agents, the interdependencies and interrelationships. Each person can become conscious active participants
- Cosmic Work: anything in the universe works to contribute to the greater good, most often unknowingly.

Examples of resources include ‘God who has no hands’ and ‘The story of life’, ‘Born with a bang’. Books and videos.

Religious Work Approach: The Good Shepherd ‘Curric’

(a Catholic model)

- **Educator:** Religious leaders must come to view education as “an aid to Life itself”. Experience life most fully. Teachers much cultivate the spirit of a scientist, listening together with children and honouring their creative impulses
- **Atrium:** A spiritual & physical environment in which children and adults can together respond to God
- **Materials** give tangible expression to religious realities, from Bible & liturgy – also nature
- **Work:** Children work with passion, and exhibit qualities akin to explorers and scientists. Their work actively participate in a cosmic mission
- **Prayer** – a means of God’s self-revelation to us and our response to God. We need to foster conditions of reverence and silence.

(Christian) Contemplative Eco-Pedagogy

Contemplative orientation

- “Looking loving long at the real” (Walter Burghardt)

- Science as a medium of and a path to prayer. Can we show how to use science as a spiritual practice?
- Contemplative postures, e.g. humility, curiosity, attentiveness, generosity, delight. Foster these postures to teach our children about both faith and science.

Eco-theological Frame

- Cosmic vision of the universe in God. Oikos, household, the Earth as God's body.
- Example of the theology of creation

Pedagogy: the Monastery of the Earth

Practices: Ecclesial practices, spiritual practices, life practices (sacramental cosmic work)

Contexts & topics: start with the land, place and ask religious questions.

Mediums of poetry & art, stories & narratives, parables, experiences with bodies, nature.

Faith and Science: Contemplating the world in God.

Faith moves us to convictions of how to live in the world. Open up more questions than we can answer.

Scientific explorations in context of faith as gateways to boundary questions, limit experiences, negations, illuminations and community.

'Boundary Questions' are 'why?' questions without fixed answers

'Limit Experiences'. Both science and faith can lead toward one another in these places ... ecstasy & illumination, negation and un-knowing, amazement and mystery, awe, wonder & reverence, praise & gratitude, peace and hope.

Accompany our children into the places where knowing is eclipsed, preparing them for the complex and letting go ... new questions and positions... all an unfolding work we participate in together. God accompanies us.

Closing poem: 'A Song of Creation' by Joy Cowley

Discussion

Learning is not a linear process of acquiring more and more knowledge. More fluid. We need to keep the humility of learning teach.

Mission is not a soup-kitchen, but more like a pot-luck meal – everyone brings a contribution.

12.30 Lunch

1.15 **afternoon session**

Presentation 4

Elke Keeling

What should our pedagogy be?

Do we have the courage to engage with science enough in order to integrate it with our theology? It will involve putting aside our paradigms and engaging with new thinking. Do we have open enough minds?

Ilia Delio: theology and quantum physics, Centre for Christogenesis

Reviewed a range of curriculum

To teach preschoolers that the world was created in 7 days is just sinful. They grow up to ask 'Why was I taught that?' and reject faith.

Writing curriculum for A Rocha, including a session on planting and caring for a tree. Challenging the need to 'produce' something for quick results. Journal. Focus on learnings. Goal is to care for creation, rather than to believe in God.

How can we teach this in short time frames?

Why do we have to have new things all the time? The cycles of the church calendar can help us.

Discussion

As I scientist I have to ignore the supernatural.

The application of science is no longer the authority of the scientist.

In theology there is a lot of emphasis on the idea that God is acting all the time. A causality behind it all, that is not in competition with your causality.

Silvia Purdie

Silvia discussed a session she had been part of, professional development for science teachers in a large evangelical high school, doing biblical reflection to help equip them for the complexity of their role.

There are endless other opportunities for science with children, such as 'home science', growing and cooking vegetables, hospitality and ecology.

Presentation 5

Jeff Tallon

Presentation on slides

There is miracle at every point!

You can dig in to everything and find something wonderful. There is so much richness.

There are practical outcomes of both faith and science

... gives understanding

... science is for everyone

... science tells a story

Presentation 6

Jake: Jacob Martin

Resources:

- *The Author of Life* on the CIS website (for teaching), shot in Hawaii
- Jacob and Louise Martin created a course called '*Christians Don't Talk About That*' in the Towards Belief series (for young adults)
- Worked with the Faraday Institute, website called *Never Off Topic*: www.neverofftopic.com. Course for Years 6-12. Lot of animations
- BioLogos has new course. (Francis Collins & science & theology of vaccinations). www.biologos.org/integrate. Indepth course for young adults on biology from a Christian worldview.
- ISCAST – new book: *Science and Christianity: Understanding the conflict myth*, by Chris Mulherin. Good resource for teachers.
- Jennifer Wiseman: astronomy, head of Hubble program with NASA. Holding together insights of the universe. Switches as a speaker between her NASA role and her personal faith – seamlessly marry the two together.
- Jennifer Doudna: gene editing research. Started organisation for ethical use of embryonic research. The model she has is nice ... how ought we to use this technology?

As a scientist you are quite easily rejected. It is difficult to find safe spaces within the church.

Presentation 7

Emma Belcher

Went to university to study anthropological science because I wanted to understand why Christians rejected evolution. My world was turned upside down. My family taught me the goodness of God which got me through it.

For me there is not a conflict between science and faith. My biggest concern is the theology.

I found such awe and wonder in science. But my theology did not reconcile with the science. It took a long time for me to rebuild my theology.

We need good resources for parents. I did not know where to turn.

I am trying to do the theology well, in my own home. We start with the Jesus Storybook Bible. We read a story and talk about it: What is the story trying to tell us? Broadening the questions, getting the child to step back and think more widely.

I was a missionary's child. I was very aware of pain and suffering, growing up. The awe and wonder of creation is remarkable, but we also need to grapple with the pain. Faith is not lost when it is unstable. How do you know that God is real? ... answering in ways that are enough for the child at their stage. I want her to feel confident in her theology.

Presentation 8

Andrew Saunders

Experience from teaching both theology and biology

Thinking about dragons ... and dinosaurs

What you see depends on how you look, and where you look. Are you looking through a science lens, or a mythical lens.

What I found is, through surveys, is about 40% of Christians are strict creationists. Our context is polarized.

My main point is to **let the tensions stand**. It is both dragons and dinosaurs.

- Recognise the interplay of biology and theology
- Listen to experts. Let them stretch your thinking.
- Be open to outsiders
- Read fantasy, poetry, grow in understanding of the poetry of scripture
- Be happy with the fact that you're always finding new evidence
- Indulge in speculation and day dreaming.

I am interesting in looking behind our conflicts or ideas to our personal experience.

Most people have spiritual experiences but do not know how to understand them.

Discussion

Helping children have spiritual conversations

Research into children's spiritual experiences: Rebecca Nye

3.00-3.30 End