

Teaching Science in Christian Schools / Talk 1

The Place of Science in Christian Schools



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Science and Faith

1. What is a non-scientist doing talking about Science in schools?
2. Why politicians value Science.
3. Why society values Science.

Science and Faith

4. Scientism and the challenge to Christian faith.

a. Polarities

- Science and other forms of discerning truth
- Fundamentalism

b. Caricatures of interaction of Science and faith and areas of legitimate interaction.

c. The need for a philosophy of Science and Science education.

- Purpose, methodology, and limitations
- Experiential and other types of evidence and reasoning
- The scientific revolution and the church – Copernicus, Galileo, Kuhn, and paradigms

Science and Faith

The limits of Science and the nature of evidence

Complementary magisteria?

Provisional nature of scientific truth and inadvisability of questions tying faith to particular scientific theories.

Science standing as good Science.

Genesis and Science: Lennox, Francis Collins, Polkinghorne, McGrath.

Science and Faith

What are the implications of the following in how we might teach Science in a Christian school?

‘What is truth?’ (John 18:38)

“The world is charged with the grandeur of God.
It will flame out, like shining from shook foil;
It gathers to a greatness, like the ooze of oil
Crushed. Why do men now not reckon his rod?
Gerard Manley Hopkins *“God’s Grandeur”*”

Science and Faith

‘The heavens declare the glory of God; the skies proclaim the work of his hands. ²Day after day they pour forth speech; night after night they reveal knowledge. (Psalm 19:1-4)

‘We demolish arguments and every pretension that sets itself up against the knowledge of God, and we take captive every thought to make it obedient to Christ.’ (2 Corinthians 10:5)

Carl Sagan, ‘The cosmos is all that is or ever was or ever will be.’”

Science and Faith

Religion is a fairy story for people afraid of the dark – Hawking.

Atheism is a fairy story for people afraid of the light – Lennox.

Science and Faith

1. What is a non-scientist doing talking about Science in schools?

First in Science at James Ruse in the 5th form (Year 11).

What do I remember?

Physics lesson on how to put in fist in (rugby) scrum without being caught.

Heretic – historian!

Science taught badly

Teachers' lack of captivation or excitement themselves about Science.

Didactic rather than joy of discovery.

Failure see big picture / philosophy of Science / Science teaching.

Growing up on diet of Francis Schaeffer.

Belief in front line importance of Science for Christians in faith promulgation – moving away blockers.

Reading with a son who is an academic astrophysicist.

Science and Faith

2. Why politicians value Science.

Clever country – economic rationalism – instrumental and utilitarian.

Human flourishing judged in economic terms, therefore scientific innovation, STEM, drives prosperity, therefore votes.

3. Why society values Science.

Science = medicine = extending life

Science = technology = opportunity, labour saving

Science trustworthy, transformational, salvific. (Scientists are secular priests).

Science = employment opportunities.

4. Scientism and the challenge to Christian faith.

Popular culture and parts of academia.

Only scientific evidence is valid.

All questions fundamentally scientific questions and can be answered by science.

Propositions not able to be validated by science can be dismissed.

Science and Faith

Harrison, Peter: *The Territories of Science and Religion*

“Historians of science have long since abandoned internalist and ‘long march of progress’ accounts of science. Yet these still inform popular representations of the history of science, and underpin claims for the epistemic superiority of its methods.” (page 193)

Science and Faith

Lennox, John: *God's Undertaker. Has science buried God?*

“But what destroys scientism completely is the fatal flaw of self-contradiction that runs through it. Scientism does not need to be refuted by external argument” it self-destructs. It suffers the same fate as in earlier times did the verification principle that was at the heart of the philosophy of logical-positivism. For, the statement that only science can lead to truth is not itself deduced from science. It is not a scientific statement but rather a statement about science, that is, it is a meta scientific statement. Therefore, if scientism’s basic principle is true, the statement expressing scientism must be false. Scientism refutes itself. Hence it is incoherent.” (page 43)

Science and Faith

Polarities

- **Science and other forms of discerning truth**

- Scientific method

- Other modes of investigating / knowing apart from empirical

Caricatures of interaction of Science and faith and areas of legitimate interaction.

- Creation vs Evolution

- 6 Day Creationism

Is that all there is?

- Environmentalism and Christian stewardship – climate change, land degradation

- Bioethics :

- Stem cell research

- Cloning

- Nuclear power

- Intelligent design and fine-tuning

- Cosmology, biology

Science and Faith

Harrison, Peter: *The Territories of Science and Religion*

“A superficial analysis might seem to suggest that the most conspicuous contemporary conflict between science and religion – that between ‘creationists’ and evolutionists – arises, on the one hand, out of an improper attempt on the part of religiously motivated antievolutionists to claim what is properly the territory of science, and, on the other, out of an overreaction on the part of some spokesmen for science, who condemn all of religion on account of the infelicities of ‘scientific creationists’”. (page 177)

Science and Faith

McGrath, Alister: *Mere Apologetics. How to help seekers and skeptics find faith*

“For example, if gravity or the weak force (two of the four known forces of nature) were to be varied in strength by one part in 10, no main sequence stars such as our own sun would be able to form. If a precise nuclear resonance of the carbon atom did not align with the resonance of beryllium and a colliding helium nucleus (yet without aligning with a corresponding resonance in oxygen and helium), then there would be almost no carbon, the basis of life as we know it. Most dramatically, leading mathematician Roger Penrose has calculated that the entropy of the universe is such that our universe seems to exist in an absurdly precise state compared to the available range of possible values. So what are the apologetic implications of this remarkable fine-tuning?”

Science and Faith

Swinburne, Richard: *Is there a God?*

“until we come right back to the Big Bang, the explosion 15,000 million years ago with which apparently the universe began. Recent scientific work has drawn attention to the fact that the universe is ‘fine-tuned’. The matter-energy at the time of the Big Bang had to have a certain density and a certain velocity of recession to bring forth life. Increase or decrease in these respects by one part in a million would have had the effect that the universe was not life evolving. For example, if the Big Bang had caused the chunks of matter-energy to recede from each other a little more quickly, no galaxies, stars, or planets and no environment suitable for life, would have been formed on earth or anywhere else in the universe.” (page 61)

Science and Faith

The need for a philosophy of Science and Science education.

Purpose, methodology, and limitations

Why do we study Science?

Which fields of enquiry are open to Science?

Which are not?

Experiential and other types of evidence and reasoning

Science and Faith

Wright, Tom: *Creation, power and truth. The gospel in a world of cultural confusion*

“There is modern self-description: The Enlightenment. We are the enlightened ones. Our science and technology set us apart; our politics are superior by definition; our artistic and cultural achievements; our grand narratives of world history lead up to the eschatological moment when humankind ‘came of age’. Enlightenment ontology grounds our elitism in a radical dualism. Westerners automatically assume that faith and public life must be held carefully apart. This dualism has a great deal in common with that of ancient Gnosticism.” (pages 7-8)

Science and Faith

The scientific revolution and the church – Copernicus, Galileo, Kuhn, and paradigms

Science and the church in history.

Science and Faith

Bentley Hart, David: *Atheist Delusions. The Christian revolution and its fashionable enemies*

“It has tended to obscure the rather significant reality that, in the sixteenth and seventeenth centuries, Christian scientists educated in Christian universities and following a Christian tradition of scientific and mathematical speculation overturned a pagan cosmology and physics, and arrived at conclusions that would have been unimaginable within the confines of the Hellenistic scientific traditions.

Science and Faith

Stootman, Frank, ‘The sciences’ in Goodlet, Ken and Collier, John (eds.) *Teaching Well, insights for educators in Christian schools*

“The Christian school is therefore outstandingly positioned to teach science facts and how these facts are related to each other, and at the same time how these point beyond themselves to metaphysics, literally meaning ‘beyond physics’. Teachers must stop imbuing students with the common idea that science is a self-sufficient discipline that answers all our questions on origins.” (page 340)

Science and Faith

The limits of Science and the nature of evidence

Complementary magisteria?

Science and Faith

Scientific community often resists developments in science, as they fear they might prove Bible correct (irony, as medieval church resisted Galileo as thought might prove Bible wrong, as they read it).

Science and Faith

Provisional nature of scientific truth and inadvisability of questions tying faith to particular scientific theories.

- Steady State (1960s) and Big Bang and expanding universe
- Neutrons, protons, electrons were smallest particles, now quantum physics.
- Extra elements in periodic table.
- Tectonic plates.
- Dark matter. Black holes.

Science and Faith

Lennox, John: *Seven Days that Divide the World*

“Finally we see that there are two extremes to be avoided. The first is the danger of tying interpretation of Scripture too closely to the science of the day, as the fixed-earthers did – even though, as we have seen, it is hard to blame them in light of the fact that this view was then the reigning *scientific* paradigm.” (page 36)

Science and Faith

Science standing as good Science.

Genesis and Science: Lennox, Francis Collins, Polkinghorne, McGrath.

Science and Faith

McGrath, Alister: *Mere Apologetics. How to help seekers and skeptics find faith*

“Although science and faith are sometimes presented as being in conflict, it is better to think of faith as offering a deeper context to the scientific method. In other words, it offers an explanation of why science works.”
(page 103)

Science and Faith

Poythress, Vern: *Redeeming Science. A God-centered approach*

The modern person brings to Genesis a loaded framework. He expects Genesis to 'measure up' to the prestige of modern science by imitating it and offering the same kind of quantitative, precise, mechanical account. If it fails to do that, he regards it as primitive, antiquated, and inferior. Into his blood has seeped the pride of the modern world in the superiority of its technological and epistemological achievements, the pride in the superiority of modernity to its predecessors." (page 223)

Science and Faith

What then might a School Head in a Christian school expect of a Science Department?

- Presenting the joy and complexity of Creation.
- A Christian world view on scientific / ethical dilemmas.
- Resistance to scientism / hegemonic truth claims of science.
- A contribution to apologetics.

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