

Research Space

Online educational resource

Resources for Secondary Teachers on Science/Religion

Encounters

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Resources for teachers on Science/Religion Encounters

This list of resources is primarily intended to support secondary teachers of science and Religious Education who are interested in planning for Science/Religion Encounters. It is not intended to be exhaustive, but should introduce you to some areas of interest, or provide resources to expand your knowledge. It is divided into 4 sections: Useful websites, general textbooks, edited anthologies and academic papers about the relationship between science and religion. Under each resource we've given a short introduction, alongside a link. We very much hope you enjoy navigating this fascinating area.

The NICER Science/Religion Encounters team <https://nicer.org.uk>

Section 1: Useful websites

<https://www.faraday.cam.ac.uk/>

The Faraday Institute for Science and Religion is a Cambridge-based interdisciplinary research institute improving public understanding of religious beliefs in relation to the sciences. There are lots of thought-provoking videos and links to current research projects on their website. They also have a dedicated team to work with and develop materials for schools, as well as providing teacher development.

<http://www.testoffaith.com/schools/>

This is a video/ book resource produced by the Faraday Institute that explores the relationship between science and religion, and the generally perceived idea that they are in conflict. Test of FAITH: Science and Religion Meet is a series of lesson plans based on the film, aimed at UK based GCSE and A level groups. Topics include creationism, evolution, origins of the universe and the problems of evil and suffering.

www.neverofftopic.com

Never Off Topic is a website packed with useful classroom resources produced by the LASAR research team (Learning about Science and Religion) at Canterbury Christ Church University. There are interesting lesson ideas here for Science and RE lessons across the secondary years. Topics for Year 7 RE, for example, include 'The Big Bang Theory and Creation,' 'Different Types of Questions' and 'Noah's Ark' that bring science and religion together. The Big Questions section aimed at 16+ students addresses questions on Black Holes and time travel among many other fascinating and challenging topics. There are also individual guides for RE teachers, science teachers and Year 6 teachers.

[God and the Big Bang https://gatbb.co.uk/](https://gatbb.co.uk/)

God and the Big Bang runs interactive workshop days with students from Year 5 – 13, providing the opportunity to discover, discuss and debate the compatibility of science and faith. They have also produced a text and DVD resource to support teaching in this area which uses the questions put forward by students at God and the Big Bang school events to explore "questions at the heart of contemporary science and Christian faith through the work of scientists, philosophers and thinkers who are also Christians." There are 5 units including Genesis, The Rise of Humanity, Earthquakes and Evil, Religion and Science: what are their purposes and Religion and Science: a problem of language? Each of these are supported by nine videos provided on DVD.

<https://www.theosthinktank.co.uk/research/2019/06/18/science-and-religion-the-perils-of-misperception>

This is technically a report, rather than a website, but the report is available online above!

Spencer, N. (2019) "*Science and Religion: The Perils of Misperception*", London: Theos.

The 'conflict' between science and religion is sometimes talked up in the UK as if it were part of an emerging culture war, as it apparently is in the US. But what is the real picture in the UK? Is Young Earth Creationism on the rise? Do religious people think more negatively about science? And if there is a conflict between science and religion, who perceives it and why? This report used over ten years of polling data to give the fullest picture yet of the science and religion landscape in the UK. Drawing on 18 major studies, the report looked at public opinion – on science and religion; evolution and creationism; scientists, scientific progress, and its moral implications – and revealed "pockets of antagonism" (rather than all-out conflict), which focus less on God or evolution, than on the nature and status of human beings.

<https://sites.google.com/view/epistemicinsighttoolkit/toolkit>

The Epistemic Insight Initiative is a research and curriculum innovation project that combines research-engaged teaching with a national research project in schools. The toolkit focuses on the role of Big Questions within a cross disciplinary learning project and how they can facilitate students' understanding of the potential and limitations of distinct knowledge disciplines.

Section 2: General texts

Stolberg, T. & Teece, G. (2011) *Teaching Religion and Science: Effective pedagogy and practical approaches for RE teachers*, London: Routledge.

This book, written by a science teacher educator and an RE teacher educator, aims to give teachers a pedagogical foundation for the teaching of religion and science topics across the secondary school and for the teaching of religion as a whole. It aims to help you have confidence to include what might appear to be challenging or controversial topics in your lessons and provides guidance on how religion and science theme can be effectively addressed using appropriate classroom teaching methods.

Dixon, T. (2008) *Science and Religion: A Very Short Introduction*, Oxford: Oxford University Press.

The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Dixon explores the key philosophical questions that underlie the debate and also the social, political, and ethical context. Dixon examines landmark historical episodes such as the trial of Galileo by the Inquisition in 1633, and the famous debate between 'Darwin's bulldog' Thomas Huxley and Bishop Wilberforce in Oxford in 1860. The Scopes 'Monkey Trial' in Tennessee in 1925 and the Dover Area School Board case of 2005 are explained with reference to the interaction between religion, law, and education in modern America.

McGrath, A. (2020) *Science and Religion: A New Introduction, Third Edition*, Chichester: Wiley-Blackwell.

This book provides a thorough introduction to the major themes and landmark debates in the interaction of science and religion. Incorporating history, philosophy, the natural sciences, and theology, this popular textbook examines how science and religion approach central questions and discusses the relationship between the two areas through the centuries. The authoritative and accessible chapters are designed for readers with minimal knowledge of science or theology. It includes sections on Scientism, evolutionary theodicy, the Theory of Relativity, warranted belief in science and religion, the influence of science and religion on human values, and more.

Barbour, I. G. (2000) *When Science Meets Religion: Enemies, Strangers or Partners*, San Francisco, CA: HarperSanFrancisco.

The book has been referred to as "the definitive introduction to the relationship between religion and science." It provides the following sections:

- * In The Beginning: Why Did the Big Bang Occur?
- * Quantum Physics: A Challenge to Our Assumptions About Reality?
- * Darwin And Genesis: Is Evolution God's Way of Creating?
- * Human Nature: Are We Determined by Our Genes?
- * God And Nature: Can God Act in a Law-Bound World?

Ian Barbour is a nuclear physicist and theologian, winner of the 1999 Templeton Prize for Progress in Religion for his pioneering role in advancing the study of religion and science. This book is a "clear, contemporary introduction to the essential issues, ideas, and solutions in the relationship between religion and science... In simple, straightforward language, Barbour explores the fascinating topics that illuminate the critical encounter of the spiritual and quantitative dimensions of life."

Messer, N. (2020) *Science in Theology: Encounters Between Science and the Christian Tradition*, London and New York: T&T Clark.

If we wish to understand ourselves and the world in relation to God, what contribution to our understanding should we expect from a Christian tradition with its roots in the Bible, and what should we expect from the natural sciences? Neil Messer sets out five types of answer to that question. The responses range from the view that the Christian tradition has nothing to contribute, through various forms of dialogue, to the claim that science is irrelevant to theological understanding. This classification scheme is illustrated and tested by extended explorations of three topics in the science and theology field: how to think about God's action in the world, how to make theological sense of the suffering and destruction involved in the evolution of life, and how theology should respond to the scientific study of religion. The classification offers a way to understand and evaluate these debates, and the discussion of specific examples demonstrates the strengths and weaknesses of each type of approach.

Efron, N. J. (2006) *Judaism and Science: A Historical Introduction*. London: Greenwood Press.

This book explores Jewish attitudes towards nature and its study. It answers many questions about the complex relationship of religion and science. It explores how religious attitudes and dogmas affected Jewish attitudes towards natural knowledge and how Jewish interest in science reflected links with other cultures. The book considers the attitudes and work of particular Jews in different epochs.

Al-Khalili, J. (2012) *The House of Wisdom: How Arabic Science Saved Ancient Knowledge and Gave Us the Renaissance*. London: Penguin Books.

Many of the innovations that we think of as hallmarks of Western science had their roots in the Arab world of the middle ages, a period when much of Western Christendom lay in intellectual darkness. Here this lost chapter of history is resurrected showing how the Arabic Enlightenment led to Europe's cultural awakening.

Bube, R. H. (1995) *Putting it All Together: Seven Patterns for Relating Science and the Christian Faith*, Lanham, MD: University Press of America.

Bube explores possible patterns for relating science and the Christian faith, giving examples, and providing a balanced critique of each. A series of possible patterns are discussed, ranging from the destruction of Christian Theology by science to complementary insights between Christian Theology and science.

Clayton, P. (2019) *Religion and Science: The Basics, Second Edition*, London and New York: Routledge.

This book provides an introduction to the burning debates in this controversial field. Clayton presents the arguments from both sides, asking readers to decide for themselves where they stand:

- science *or* religion, or science *and* religion?
- history and philosophy of science
- the role of scientific and religious ethics – modifying genes, extending life, and experimenting with human subjects
- religion and the environmental crisis
- the future of science vs. the future of religion.

This second edition explores religious traditions from around the world and provides insights from across the sciences.

Rolston, H. (2007) *Science and Religion: A Critical Survey*, New York: Random House.

According to Holmes Rolston III, there are fundamental questions that science alone cannot answer; these questions are the central religious questions. He uses the scientific method of inquiry to distil key issues from science, and then he integrates them in a study that begins with matter and moves through life, mind, culture, history, and spirit. Incorporating religious and scientific worldviews, he begins with an examination of two natural sciences: physics and biology. He then extrapolates examples from two human sciences: psychology and sociology. Next, he moves to the storied universe and world history, raising and addressing religious questions. Never in the histories of science and religion have the opportunities been greater for fertile interaction between these fields, with mutual benefits to both, states Rolston.

Southgate, C. (ed.) (2011) *God, Humanity and the Cosmos: A Textbook in Science and Religion*, Third Edition, T&T Clark International.

This text is divided in five 'books'. The first covers overarching issues in the history of the science-religion interaction, the theology of creation and the philosophy of science. The second looks in depth at the three most prominent areas of interaction physics, evolutionary biology, and psychology. The third looks at contemporary theological resources for engaging with the science-religion interaction, both within and outside the Christian tradition, and at God's action in the world as a test-case for scientifically-informed theology. The final book considers areas of particular topical concern how science and religion interact in secondary education, what issues are raised by 'the new atheists', what particular issues are raised by science for Islamic thinking, what challenges are thrown up by the human use of technology, and specifically by climate change. The final, brief 'book' consists of a short set of predictions about the future development of the field.

Section 3: Edited anthologies, collections, companions, encyclopedias and handbooks

Clayton, P. & Simpson, Z. (eds) (2006) *The Oxford Handbook of Religion and Science*, Oxford: Oxford University Press.

This is a single-volume introduction to the debate. Each chapter defends a major intellectual position - at the heart of the book is a series of 'pro' and 'con' papers, covering each of the current 'hot topics' (such as evolution versus creation, naturalism versus the supernatural). In addition to treatments of questions of methodology and implications for life and practice, the handbook includes sections devoted to the major scientific disciplines and the major world religions.

Dixon, T., Cantor, G. & Pumfrey, S. (eds) (2010) *Science and Religion: New Historical Perspectives*, Cambridge: Cambridge University Press.

The idea of an inevitable conflict between science and religion was decisively challenged by John Hedley Brooke in his classic *Science and Religion: Some Historical Perspectives* (Cambridge, 1991). Almost two decades on, *Science and Religion: New Historical Perspectives* revisits this argument and asks how historians can now impose order on the complex and contingent histories of religious engagements with science. Bringing together leading scholars, this volume explores the history and changing meanings of the categories 'science' and 'religion'; the role of publishing and education in forging and spreading ideas; the connection between knowledge, power and intellectual imperialism; and the reasons for the confrontation between evolution and creationism among American Christians and in the Islamic world.

Harrison, P. (ed.) (2010) *The Cambridge Companion to Science and Religion*, Cambridge: Cambridge University Press.

In recent years, the relations between science and religion have been the object of renewed attention. Developments in physics, biology and the neurosciences have reinvigorated discussions about the nature of life and ultimate reality. At the same time, the growth of anti-evolutionary and intelligent design movements has led many to the view that science and religion are necessarily in

conflict. This book provides a comprehensive introduction to the relations between science and religion, with contributions from historians, philosophers, scientists and theologians. It explores the impact of religion on the origins and development of science, religious reactions to Darwinism, and the link between science and secularization. It also offers in-depth discussions of contemporary issues, with perspectives from cosmology, evolutionary biology, psychology, and bioethics. The volume is rounded out with philosophical reflections on the connections between atheism and science, the nature of scientific and religious knowledge, and divine action and human freedom.

Stump, E. & Padgett, A. G. (eds) (2012) *The Blackwell Companion to Science and Christianity*, Malden, MA: Blackwell.

A cutting-edge survey of contemporary thought at the intersection of science and Christianity. This book provides a survey of the central ideas at play at the intersection of science and Christianity through 54 original articles. It focuses on Christianity's interaction with Science to offer a fine-grained analysis of issues such as multiverse theories in cosmology, convergence in evolution, Intelligent Design, natural theology, human consciousness, artificial intelligence, free will, miracles, and the Trinity, amongst many others. It addresses major historical developments in the relationship between science and Christianity, including Christian patristics, the scientific revolution, the reception of Darwin, and twentieth century fundamentalism. This book includes diverse perspectives and broadens the conversation from the Anglo-centric tradition.

Van Huyssteen, J. W. (EIC) (2003) *Encyclopedia of Science and Religion*, Second Edition, New York, NY: Macmillan Reference.

The *Encyclopedia of Science and Religion* addresses the interactions, contradictions and tensions between science and religion, both historically and in contemporary life. The two-volume set examines technologies like in-vitro fertilization, cloning, and continuing developments in neurophysiology against the backdrop of deeply-held religious beliefs. In addition, phenomena such as the Church of Scientology are also studied, along with more traditional issues, such as the origins of life, the nature of sin, and the philosophy of science and religion.

Section 4: Selected academic papers in this area

Astley, J. & Francis, L. J. (2010) 'Promoting Positive Attitudes towards Science and Religion Among Sixth-Form Pupils: Dealing with Scientism and Creationism', *British Journal of Religious Education*, 32(3), pp. 189-200.

DOI: 10.1080/01416200.2010.498604

Billingsley, B., Abedin, M. and Nassaji, M. (2020) 'Primary school students' perspectives on questions that bridge science and religion: Findings from a survey study in England', *British Educational Research Journal*, 46(1), pp.177-204.

DOI: <https://doi.org/10.1002/berj.3574>.

Billingsley, B., Riga, F., Taber, K.S. and Newdick, H. (2014) 'Secondary school teachers' perspectives on teaching about topics that bridge science and religion', *Curriculum Journal*, 25(3), pp. 372-395.

Francis, L. J. & Greer, J. E. (2001) 'Shaping Adolescents' Attitudes Towards Science and Religion in Northern Ireland: The Role of Scientism, Creationism and Denominational Schools', *Research in Science & Technological Education*, 19(1), pp. 39-53.

DOI: 10.1080/02635140120046213

Hanley, P., Bennett, J. & Ratcliffe, M. (2014) 'The Inter-Relationship of Science and Religion: A Typology of Engagement', *International Journal of Science Education*, 36(7), pp. 1210-1229.

DOI: 10.1080/09500693.2013.853897

Lee, L. (2017) 'Religion, Difference, and Indifference' in Quack, J. & Schuh, C. (eds.) *Religious Indifference: New Perspectives from Studies on Secularization and Nonreligion*, Dordrecht: Springer, pp. 101-121.

Levesque, P. J. & Guillaume, A. M. (2010) 'Teachers, Evolution, and Religion: No Resolution in Sight', *Review of Religious Research*, 51(4), pp. 349-365.

Mansour, N. (2015) 'Science Teachers' Views and Stereotypes of Religion, Scientists and Scientific Research: A Call for Scientist-Science Teacher Partnerships to Promote Inquiry-Based Learning', *International Journal of Science Education*, 37(11), pp. 1767-1794.

DOI: 10.1080/09500693.2015.1049575

Subedi, B. (2006) 'Preservice Teachers' Beliefs and Practices: Religion and Religious Diversity', *Equity & Excellence in Education*, 39(3), pp. 227-238. DOI: 10.1080/10665680600788495

Voas, D. and Crockett, A. (2005) 'Religion in Britain: Neither believing nor belonging', *Sociology*, 39(1), pp. 11-28.