

Chapter 5 WAYS OF RELATING SCIENCE AND FAITH

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5.1 INTRODUCTION – MODELS

Five models are suggested. Cf. Barbour, Bube, Peters (see References). Actually Barbour (*Issues in Science and Religion*) considers four models, while Peters (in *Cosmos as Creation*) discusses eight possible models. Barbour opts for dialogue while Peters opts for hypothetical consonance.

1. **CONFLICT** —Scientism, Creationism
2. **SEPARATION**
3. **COMPLEMENTARY** —Dialogue, Consonance
4. **INTEGRATION** —Assimilation
5. **REJECTION** —New Age

5.2 CONFLICT

In this model it is suggested that **science and faith provide alternative explanations** to origins and therefore that they are in competition with each other. Thus we must reject either faith or science.

5.2.1 Perceptions

This is the common perception in the community, in schools and in many parts of the church — that science and Christian belief are at loggerheads. It is the view that is commonly portrayed in the media either implicitly or explicitly, that any supernatural view of origins is outdated. Science is then seen as superseding faith. This leads to a polarisation of views. Thus it is maintained that one cannot be a scientist and a Christian, one cannot believe the bible and accept the modern scientific findings about cosmology, biology and psychology. Jayne's (16yrs) response e.g. is typical of the view of many secondary students today, "**Genesis says the world was made by God, but we know it was made by the Big Bang**".

It might be repeated and reversed or applied to other related areas. "**The bible tells us that humans were made by God, therefore evolution cannot be true.**" Thus the position of conflict is reinforced. These perceptions are fueled from two contemporary sources, both of which formally espouse the conflict view, Scientific naturalism or "Scientism" and Biblical literalism.

5.2.2 "Creation Science" - History of the conflict

What is the genesis of this perception and is it true?¹

Much is based on a false reading of history.

Galileo? The conflict was about the centrality of the sun, not a science-faith conflict.

Darwin? The conflict was about a static cosmos and the struggle for cultural supremacy in 19thC. England, not a science-faith conflict.

White's *History of the Warfare* and Draper's *History of the Conflict*, both now discredited, did much to promote the conflict view. Historical revision has addressed this aspect. Biographical data also fails to support the conflict view. Many scientists are Christian.

In the 17thC, the rise of modern science was influenced and driven by men with a positive Christian faith, men such as Bacon, Boyle, Newton and Kepler, as well as many others prominent as founding fathers of science. In the 19thC, the response to

¹ See Chapters 1-3.

Darwinism was mixed, with many prominent Christians, such as Gray, Wright and Warfield being supportive. The conservative theological response was to accept Darwinism with some reservations. In the 20thC, many contemporary scientists are committed Christians. Therefore we can reject the conclusion of a historical conflict although the historical interaction has often been complex. Let us look at the contemporary picture, the heritage of the 19thC polarisation and of its misconceptions about science and faith. (See Russell, 1985, 1989; Moore, 1995; Livingston, 1987, Berry, 1981).

5.2.3 Scientific Naturalism, Reductionism, Scientism

Scientific Fundamentalism argues for the priority of science as the saviour of society, as the only valid source of information. It is claimed that everything is explained by science. Religion is therefore redundant, outmoded, unnecessary.

Publicists

Dawkins, Crick, Atkins, Sagan — all well known scientists, but also aggressive atheists using science to support their “belief system”. Richard Dawkins in *The Blind Watchmaker* (p 147) states that

*The basic idea of The Blind Watchmaker is **that we don't need to postulate a designer** in order to understand life, or anything else in the universe.*

In the River out of Eden (p. 37), Dawkins indicates that “science shares with religion the claim that it answers the deep questions about origins, the nature of life, and the cosmos. But there the resemblance ends. Scientific beliefs are supported by evidence. And they get results. Myths and faiths are not and do not.”

Peter Atkins in *The Creation* (1981) (pp. vii-viii) states,

My aim is to argue that the universe can come into existence without intervention, and that there is no need to invoke the idea of a Supreme Being in one of its numerous manifestations.

Description

There are a number of descriptive terms

Scientism

Makes three claims:-

1. *That God is unnecessary*

It considers that God is an alternative explanation to science and is now no longer necessary. It has a mistaken view of God as a “God of the Gaps”. **This is an inadequate view of God.** “To the theist God is the cause of everything but the explanation of nothing.”

2. *That God is incredible*

Religious explanation is unbelievable — equates credibility with credulity - that I can't believe. See rebuttals in Stannard (1996), Stannard (1993), Holder (1993) and Jeeves (1969).

3. *That God is objectionable*

The supernatural is seen as an unacceptable replacement for the natural— but the natural is also the work of God. These are all conclusions of scientism. Science itself cannot draw these conclusions. They are outside its domain, beyond its limits. Science in this approach has become a world view— a way of looking at the world— the spectacles by which we view all

of reality— a philosophy or a belief system. The assertion that science does away with God etc. therefore depends on the **presupposition** that science is all there is - on assumptions regarding the validity of a particular philosophical position. Scientism leads to Reductionism, “Nothing Buttery” etc.

Logical Positivism

That science provides a complete explanation of the world. There is nothing beyond scientific knowledge. Nothing is real if it can not be observed by the methods of “objective” science. Bertrand Russell defines Logical Positivism as follows, “*Whatever knowledge is attainable, must be attained by scientific methods; and what science cannot discover, mankind cannot know*”. Science is considered the only valid pathway to truth, therefore other sources of truth are excluded. Non scientific knowledge is non knowledge. Beauty, morality, religion are not admissible. Scientific explanations are therefore the only valid explanations. Metaphysics is excluded, only physics (science) matters.

Reductionism

Implies that everything is explained by science. Reality - the way things are- can be reduced to scientific knowledge. **We must distinguish between Methodological Reductionism** - which is integral to scientific investigation, and **Ontological Reductionism** - which is not science but philosophy.

“Nothing buttery”

The proposition that I am nothing but atoms and molecules. Cf. ink on the page with the message. The former does not exclude the latter.

Evaluation of Logical Positivism, Reductionism, Scientism.

Scientists must be careful to stick to science and not make naïve philosophical statements in the name of science. There are many ways of obtaining valid knowledge. Some lie outside the domain of the scientific method. To deny the validity of non scientific information is to deny aesthetic, moral, religious knowledge, or personal private knowledge.

Examples abound.

In viewing a painting, aesthetic knowledge may be more relevant than scientific. In personal relationships - personal knowledge is more relevant than scientific. Hummel gives a useful analogy of ways that a landscape might be viewed by different people, by Beethoven, Einstein, Constable, or King David. An SOS may be viewed by its physical properties or by its message.

Scientific questions are not the only sort of questions.

How and Why questions are also valid and important.

Examples

The sight of a kettle boiling may give rise to many answers to “why?”. There are different causes for the one event. Four different causes need to be recognised. They are the agent, constituents, mechanism and purpose. Science is concerned with the constituents and mechanisms only, not the ultimate cause or agent or the purpose. My three grandchildren gave three explanations to a question about the rain. Why is it raining? One suggested a scientific answer, the clouds etc., the second suggested the agent, God, and the third the purpose, to water the plants. All were correct. They were not alternative but rather complementary answers. *Science answers scientific questions but not all questions. Theology answers theological questions not scientific questions.*

Scientific explanations and theological explanations are not alternatives.

This is to imply God is a possible “mechanism”. Cf. Atkins who considers the theological answer is one of “The Lazy Creator”, the soft option.

A God of the Gaps. Let us return to Jayne.

“1. Genesis says the world was made by God, but 2, we know it was made by the Big Bang.”

Statement 1 is true or false on **theological** grounds. Statement 2 is true or false on **scientific** grounds. The two statements are not alternatives. We can believe both to be true without conflict. They answer different questions. There are different causes, and different methods are needed to answer these questions. (See Hummell, 1986).

Scientists have always been among the first to recognize this view. Sir Peter Medawar, a Nobel laureate for his work in immunology, has stated the situation clearly.

“There is no quicker way for a scientist to bring discredit upon himself and upon his profession than roundly to declare - particularly when no declaration of any kind is called for - that science knows or soon will know the answers to all questions worth asking, and that questions that do not admit a scientific answer are in some way non-questions or ‘pseudo-questions’ that only simpletons ask and only the gullible profess to be able to answer.” (Medawar P, 1984, *The Limits of Science*, OUP)

5.2.4 Biblical literalism (Creationism)

Considers the Bible to be the source of scientific information about origins. Presents a particular biblical interpretation of origins as a basis for a scientific understanding of creation and rejects the views of contemporary scientists. Thus creation science starts from a biblical presupposition. We must decide whether it represents authentic Christianity and/or authentic science.

5.2.5 History of Biblical interpretation of Genesis in the past**Augustine of Hippo and the Church Fathers**

Augustine recognised the problem of the 4th day and the second account of Genesis and considered Gen 1-3 to be non-literal or allegorical.

Galileo and the church

Recognised the problem of heliocentrism and maintained that the Scripture does not teach science.

Geology and the age of the earth

Archbishop Ussher’s date of creation (4004 BC) was discarded with the development of modern geology and information about the age of the earth.

Concordance and the Scriptural geologists

In the 19thC many Christians sought to fit the geological account to the bible account. The two most prominent concordant theories were the Gap theory and the Day age theory. Others sought to fit science to the bible by suggesting the special creation of a ready made cosmos that fitted the scientific findings e.g. Adam’s being created with a navel and trees with annual rings denoting age.

Darwinism and special creation

Darwinism was not consistent with the creation of individual species as suggested by a literal reading of Genesis 1. Despite this history there are those who still maintain the **scientific** accuracy of Scripture with respect to creation.

Fundamentalism and its 20thC history (See Chapter 3.)

Most of the early anti evolution campaigners accepted an old earth and some form of "Scriptural geology". However some of the leaders of the Fundamentalist movement accepted Darwinian evolution, e.g. Warfield. Espousal of scientific inerrancy, and a strict biblical literalism, however, have characterised the development of the Creation Science Movement in the later part of the 20thC. It has been marked by the legal struggle to prevent the teaching of evolution in schools.

1925 Scopes trial in Tennessee

This saw the ultimate reversal of the statutes prohibiting the teaching of evolution in schools.

1957 Sputnik and its effect on US education

It promoted a more active pro evolution stance in biology teaching.

1961 Morris and Whitcomb: The Genesis Flood

Associated with the development of the "Creation Science Movement" and the call for equal time for evolution and creation science teaching in schools.

5.2.6 Creationism: Creation Science

The following definition was given by the "Creation Science" movement to the Arkansas court in connection with the case for consideration of equal time with evolution in school curricula in 1981 (*Creation Science 1981 Arkansas legislation Act 590*).

"Creation-science" means the scientific evidences for creation and inferences from those scientific evidences. Creation-science includes the scientific evidences and related inferences that indicate: (1) Sudden creation of the universe, energy, and life from nothing; (2) The insufficiency of mutation and natural selection in bringing about development of all living kinds from a single organism; (3) Changes only within fixed limits of originally created kinds of plants and animals; (4) Separate ancestry for man and apes; (5) Explanation of the earth's geology by catastrophism, including the occurrence of a worldwide flood; and (6) A relatively recent inception of the earth and living kinds."

The application for equal time was rejected on the grounds that Creation Science was a religion, not science. It is not authentic science. A US Supreme Court resolved that an "injunction will be entered permanently prohibiting enforcement of Act 590. It is ordered this January 5, 1982".

In 2000, the Kansas Act, which precludes mandatory assessment of evolution in biology examinations, was rejected.

Description

Creation Science (Whitcomb and Morris, *The Genesis Flood*, 1961) has resurrected some of the *outdated* theories of science, abandoned by the professional scientific community, some 150-200 years ago. They involve a special role for catastrophism and the role of a universal flood. The ideas originated in a vision to the prophetess of Seventh Day Adventism, Ellen White, and are promulgated by the geology of McCready Price. They provide "pseudo scientific" support for a literal interpretation of Genesis and aggressively promote this position as Christian orthodoxy. Creation Science has proved a highly successful publicity exercise (particularly in North America). Proponents do not form a part of the accepted professional scientific community, do not engage in serious scientific research nor debate the issues on the basis of established

scientific method. The approach is rather polemic and publicist, actively, and successfully campaigning, to promote a particular interpretation of Genesis and to introduce legal constraints on the education system.

Content

Accepts that the findings of modern conventional science conflict with a literal interpretation of Genesis, and therefore present an “alternative science” - “creation science”, widely judged to be non-authentic science. See *Chapter 4. Nature of Science*.

There are two main aspects.

Young Earth Creationism

Maintains that creation occurred less than 10,000 years ago in 6 x 24 hr days corresponding to the six days of Gen 1. i.e. adheres to a young earth - contrary to the findings of current cosmology.

Flood Geology

Geological and paleontological findings are explained by a universal flood. i.e. contrary to the findings of modern geology. Their position is based on a *particular* literal interpretation of Genesis, that gives little attention to genre or to the contemporary ANE culture. The “findings” of creation science are required to fit this presupposition. Science thus becomes not an unqualified search for truth, but rather a “folk science” with an interpretative axe to grind. This often leads to a lack of integrity and intellectual honesty which brings legitimate criticism from the scientific fraternity.

Creation Science

Confuses biblical interpretation with biblical authority, the science of origins with the doctrine of creation, secondary causes and first causes, evolution and evolutionism.

It has the following misconceptions about science and faith:-

- That the bible is a scientific textbook whereas it presents eternal truths in the language of the contemporary culture, cosmology. The genre needs to be considered.
- That the doctrine of creation is about “How” rather than “Why”.
- That creation is only about beginnings, not about sustenance.
- That the pursuit of science in relation to origins has been usurped by secular scientists (Plimer, I, 1994, *Telling Lies for God - Reason vs. Creationism*, Random House).
- That God’s actions are not manifested in the natural (in biological evolution and Big Bang cosmology) but only in the supernatural.

Evaluation

It must be asserted that the Bible speaks of ultimate causes, not immediate (scientific) causes. Therefore there is no conflict. Different questions are being raised. It must be recognised that there are many possible interpretations of the creation accounts. One particular literal account cannot be made a mark of orthodoxy or a basis for (pseudo) science. Proper interpretation on the basis of good exegetic principles taking into account the genre, purpose and context of the passage is an appropriate approach to the meaning of a passage. When this is done there is no need to assert that the bible is in conflict with modern scientific findings regarding the age of the earth or the origin of humanity. They address different questions.

Both Scientism and Creationism perpetuate the myth that science and faith are in conflict.

5.3 SEPARATION, INDEPENDENCE, CONTRAST

In this model the differences in approach, method and language between the scientific and theological search for truth are emphasised. It seeks to build walls between Science and Faith. It claims **that Science and Faith provide different answers** to the same questions

5.3.1 Different methods

Science is empirical and experimental, dealing with objective data. It is repeatable and predictable. Theology is concerned with personal experience and revelation. It is subjective. It has nothing to say in the **scientific** realm. Both approaches however are considered valid approaches to truth. But it is maintained that they give a *different* picture of reality. Not one in conflict but a different view.

5.3.2 Different languages

Science deals with concrete entities whereas theology speaks in the language of metaphor.

5.3.3 Different domains

Science investigates nature and the finite, whereas theology investigates God, the spiritual realm and the infinite. These contrasts reflect the separation of science and theology in the 19th century, and reflect to some degree the antagonism to the introduction of critical studies of the biblical documents. They also reflect the neo-orthodoxy of Barth and Bultmann. However while it is important to recognise the differences between the two approaches, it is also necessary to concede that the above is too rigid. Theology is after all “The Queen of the Sciences” - reasoned belief - the search for truth. Its methods and language have important parallels to science.

On the other hand, in the 20th Century, science is now understood to be much less objective in its methods, language and even content (*see Chapter 4*). Truth is unitary- not fragmented. There is not a separate truth about nature and another unrelated truth about God. Both form a complete and integrated view of reality. As Augustine observes, “The search for truth is the search for God - for God is truth”. Science explores the truth about nature- the creation of the universe by God’ . Theology explores the truth about God - the God of creation. One cannot divorce the two.

5.4 COMPLEMENTARITY, DIALOGUE, CONSONANCE

In this model Science and Faith are seen to present complementary answers to the same questions. They are seen to be in dialogue. There is seen to be one truth, **common truth**, but there are two faces of this truth. There are two Books: that of the World, and of the Word, as suggested by Francis Bacon. General revelation is explored by science, the truth about nature. Special revelation is explored in Scripture and experience, the truth about God. These represent complementary views. They must be in dialogue, interact with each other and complement each other. There are many interacting facets and boundary questions.

5.4.1 Boundary questions

Theology undergirds science. In many ways one cannot separate science and faith.

Theology provides the presuppositions of science. Those of order, of contingency. **It also provides purpose** - the teleological dimension.

On the other hand **scientific investigation raises non scientific questions** that are important, but outside the domain of science to address. These include metaphysical questions e.g. the strong anthropic principle, the source of the laws of physics. Thus science describes but does not explain, whereas theology is needed to give meaning to science and to the world it describes. They also include ethical questions such as the use made of science. The source of values used in science comes from outside science. For example, ecological, bioethical questions such as are raised by genetic engineering.

5.4.2 Similarities in methodology

This has already been addressed in Chapter 4.

Science is "motivated belief".

It is based on presuppositions that are not provable. It has content that arises from observation and experiment. It develops models that best explain the "way things are" - interpretations of science - theories. Science is thus not just objective facts, but governed by presuppositions and beliefs.

Theology is "motivated belief".

It also is based on presuppositions that are not provable. It also has content that arises from scripture, tradition and experience i.e. there are rational "grounds for faith". It also develops models and beliefs that best explain the "way things are". Theology is not irrational, myth, or blind faith but based on content. Theology is not fixed, but open, exploring by reason the "facts about God". Thus the two approaches can best make sense of the way things are. Science needs theology and theology needs science to make sense of the world. Polkinghorne develops these concepts well in his books.

5.5 INTEGRATION (ASSIMILATION)

Seeks to interrelate science and faith in such a way *that science modifies faith and may be seen to assimilate it*. This attempts to develop not just a new natural theology but a Theology of Nature, a Doctrine of Creation in the light of modern science. *This aspect is perhaps beyond the scope of this book.*

There are two dimensions:-

Exploring what nature reveals about God

Awe, Wonder, Meaning. Science and its questions. Theology gives meaning to nature.

Effect of contemporary science on theology

There are many contemporary issues such as quantum uncertainty or indeterminism (see discussion in chapter 2) and chaos theory (see also chapter 2) that raise questions regarding God's action in the world.

5.5.1 Is there a new natural theology?

Science is evolutionary, time related, open, non-determinist. What does this imply for our understanding of God, humanity and nature? This leads on to a consideration of process theology and panentheism - God as open, self limiting, immanent, at one with nature, and the world is envisaged as God's body. Humanity is seen as a unity with nature, oneness with God. The world is seen in ecological oneness, having an eschatological destiny. These problems need exploring, but threaten an understanding of orthodoxy as revealed in Scripture.

The following issues need addressing.

God as changeable. Limited, developing - process theology. But what about transcendence and the sovereignty of God?

Humanity - as part of creation. What about the image of God and humanity as the pinnacle of creation?

The world as organism. Is there a return to naturalism, even pantheism?

5.6 REJECTION – NEW AGE CONSIDERATIONS

Post modernism rejects both science and faith - substituting a pseudo-science and a pseudo-faith. There are two aspects:-

Alternative science

Relativism, subjectivism, science as one of many views. Rejects an ordered world, determined and explorable by science and verifiable by science. Substitutes a magic, mystic, medieval world.

Alternative faith

Rejects a theistic creation and a monotheistic understanding of nature. Substitutes a monistic view - pantheism, naturalism e.g. Gaia and ecology, Nature as an organism.

5.7 CONCLUSIONS - SCIENCE AND THEOLOGY ARE COMPLEMENTARY

The conflict picture is inadequate both historically and philosophically. Science informs while theology raises "why" questions. Reductionism does not account for everything. Brings input into Scriptural interpretation. See the section on Complementarity. Raises implications for our understanding of God and humanity. How autonomous is the physical world? How autonomous are we?

Theology expands, science explains. Science alone does not consider purpose. Scientific discoveries raise ethical questions regarding how the knowledge should be used but does not answer them.

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