

Science and Faith

Read any newspaper or visit any secondary school and you will be told in no uncertain terms that there **is** a real conflict between science and Christianity.

I want to argue that not only should this **not** be the case, but for completeness **each needs the other**. The traditional hostility between science and Christianity can be avoided by careful attention to our interpretation of science on the one hand and our interpretation of scripture on the other.

1. Our interpretation of science

Arguably, science is the most successful of the human scholastic disciplines. We can put a man on the moon, build bridges, replace body organs with spare parts and even prostheses – eg the coronary stents inside my heart and the bionic ears I helped to develop in my research.

Science is successful primarily because it **chooses straight-forward problems where hypotheses can be tested**. Thus it basically consists of assembling a set of observations; constructing one or more hypotheses; and then subjecting the hypotheses to experimental test. Any hypothesis not standing up to the test is rejected or modified. Then the new hypothesis goes round the cycle of testing; and so on. **The crucial stage is the testing**. A beautiful hypothesis can be slain by an ugly fact, as someone put it.

Note two things from this. **First**, science **cannot prove** something - it can only **disprove**. The fact that a hypothesis stands up well to experimental tests simply verifies its value without **proving** that it's the only hypothesis to fit the data. A newer and better hypothesis may be just round the corner.

Secondly, Sciences differ by the degree to which their hypotheses can be tested. Thus physics and chemistry especially allow much more exhaustive testing than biology and these even more so than other sciences like psychology, sociology, anthropology paleontology and so on. Sciences like psychology are notoriously theory rich and data poor: it's extremely difficult when you're dealing with human individuals or populations of individuals to conduct ethical experiments to test and therefore reject hypotheses. So some sciences are less reliable than others and shouldn't be given equal weight.

2. Our interpretation of scripture

The Church has had to learn painfully that the Bible is **not a textbook of science** and cannot always be taken literally.

The most obvious example of this was in the 17th century in the Copernican - Galilean overthrow of the Ptolemaic idea that the earth was the physical centre of the Universe. It's hard for us now to see what the fuss was about! But it's a good example of the way in which the Church unwittingly aligned itself with a particular and flawed interpretation of scripture **and** nature. From the time of Aristotle to Ptolemy, it was widely believed:-

(1) that the earth was the centre of the universe with the known planets and stars including the Sun travelling in circles around the Earth.

(2) that the heavens were immutable – unchanging.

As far as the church was concerned, the scriptural evidence was in Eccles 1:5: "The sun rises and the sun sets and hurries back to where it rises"; and Psalm 93:1, where it describes the world as "firmly established; it cannot be moved".

So fixed and certain were these views, that Galileo had to employ un-learned shepherds to confirm his observations of the changing positions of the moons of Jupiter that he saw in his telescope, before he could convince even himself of the observations, untainted by theoretical prejudices!

It took a long time for the Church to learn that the Bible uses **every-day, often imprecise, language** rather than scientific language and describes natural phenomena **as seen by the human observer**. We still use the same language: of the sun rising and setting, even though we know it is not **literally** true.

The Bible therefore is **not a scientific textbook**: if it was, it would be incomprehensible to most people and if comprehensible, quickly out of date. The Bible is not to be taken literally always: when it is written as poetry it needs to be interpreted as poetry; when it is written as story it needs to be interpreted as story and so on. This doesn't mean that we can conveniently ignore the Bible accounts. The Bible is to be taken **seriously** rather than always **literally**. Why do I say that the Bible is not a scientific textbook? Because it says itself: "all scripture is inspired by God and is useful for teaching, rebuking, correcting and training in righteousness, so that the man of God may be thoroughly equipped for every good work". It is a **textbook of life**, not science. It deals with meaning, with life-style and direction in life; not scientific mechanism.

The Church is now in danger of making the same mistake as it did in the 16th century over the question of **evolution**. Evolution may or may not be a very good theory, but the account in the first few chapters in Genesis is clearly not meant to offer an alternative **scientific theory** to evolution. It rather seeks to unfold the mind and purpose of God in creation, **whatever** the mechanisms involved: evolution or whatever. As far as the scientific explanation is concerned, evolution is not a strong theory being difficult to put to the test, although very recent data from the human genome project gives very strong support. But we need to keep an open mind. To do so does not diminish the message and meaning of the Genesis passages in any way. Some of our church folk may have problems with that and perhaps that can be a topic for discussion.

3. Can we make a synthesis?

Albert Einstein said that "**a legitimate conflict between science and religion cannot exist**". How come?

The chief problem that we need to deal with, is that if science gives a comprehensive account or explanation of something then that seems to leave little room for theological explanations, or does it? What I think Einstein meant is that that you can have more than one apparently complete explanation, say scientific, because there is **still have room for alternative explanations**. This is such an important and elusive point that I want to labour it with a several analogies.

1) First, an analogy that may seem stupid, but which is actually very useful. Hold out one finger and point to my nose. Now close one eye keeping the other open and note where my nose is in relation to your finger. Keep the finger still and now close that eye and open the other. Notice that the finger is now on the other side of my nose. If you asked one eye what does it see it would say the finger is to the left of my nose and if you asked the other eye, it would say the

finger is to the right. Now which is right? Or are both wrong? The answer is that they are **both right** and that their apparently contradicting accounts can only be reconciled by taking into account the standpoint or viewpoint of the observer. The two views are **complementary**; each is correct.

2) Another analogy is that of a **painting**. If you ask a physicist to analyse a painting s/he will do so in terms of the wavelengths of the light reflected from different parts of the painting; ask a chemist and s/he will say that the different parts had different chemical compositions. Ask a **normal** person and they will talk about the beauty or the meaning of the picture. Now which one is correct? The answer is that **all are correct** and **all have their place**. For most purposes, when visiting an art gallery, we're only interested in the meaning or the emotional impact of the painting. But if you were working in the restoration section of the gallery then you would probably be more interested in the physicist's and chemist's accounts. The point is, that each of these accounts are **complementary**.

3) Another analogy is an architect's drawing of the plan and elevations of a building. Each can be complete in itself from its particular viewpoint but needs the other views for final completeness for the three dimensions.

4) If you are from BT, then another analogy would be the software engineer's and electrical engineer's accounts of the activity of a computer. Each can be complete in itself without at all involving the other account.

Notice that each of the accounts/explanations in the above analogies can be exhaustive in its own terms and yet still leave room for other, complementary accounts. Many areas of science and parallel scriptural passages are **complementary** in this sense, rather than **alternatives**. Genesis and evolution may be a case in point. But not all, such as some or all of Christ's Miracles – we may wish to discuss this!

The importance of all this is that it helps us to avoid falling into several traps: first, of assuming that because science gives an apparently **complete explanation** of something, there is therefore no room for a God-based account. It avoids what Donald MacKay called "nothing-buttery" – "man is nothing but a physico-chemical machine", for example. He/she **is** a physico-chemical machine at the scientific level, but the Bible (and common sense!) teaches us that there is much more to us than that. Secondly, it also helps us to avoid falling into the trap of the "**God of the Gaps**" where we insert God when we don't have an adequate scientific explanation.

4. Finally, for a Christian to be a scientist is wonderful calling.

S/he can rejoice in the reflection of the creator in His creation: as Kepler put it: thinking God's thoughts after Him. Galileo, Kepler, Hooke, Boyle, Newton, Faraday were all Christian believers. A scientist can rejoice in being part of God's revelation to mankind, unravelling some of the unknowns.

The first head of the Cavendish Laboratory for Experimental Physics in Cambridge was James Clerk Maxwell. He had what has been called the research workers' text put up over the front door: Ps 111.2: "**Great are the works of the Lord; sought out of all those who delight in them**". I was delighted to see recently that the words have been retained over the front door of the New Cavendish on the Cambridge West site.

This was also the view of the Puritan Founders of the Royal Society who saw scriptural revelation and scientific investigation going hand-in-hand: as the **two books** of scriptural and natural revelation. As Francis Bacon put it:-

“I want this primary history [science] to be compiled with a most religious care, as if every particular were stated upon oath; seeing that it is the book of God’s works, and (so far as the majesty of heavenly can be compared with the humbleness of earthly things) a kind of second scripture”. Science was “rightly given to religion as her most faithful handmaid, since the one displays the will of God, the other His power”.

So Christianity was a driving force behind science as we now know it. If we had time, we could develop another important aspect: that science cannot of itself develop its own value judgments: **ethics** in science and medicine for example, while needing to be informed by science, have to be derived from other belief systems. And that is where Christians can come in.

Even secular scientists recognized the similarity in the scientific and faith enterprises. T H Huxley wrote:- **“the great truth which is embodied in the Christian conception of entire surrender to the Will of God: sit down before fact as a little child... follow humbly wherever and to whatever abysses nature leads, or you shall learn nothing.”**

In all of this, I have been careful not to use the word religion, although it is in our title. By religion, I mean the formal institutionalized system of **ritual, robing** signifying importance, and **regulation** of people's lives, beloved of the mediaeval church. Science has rightly demolished many of the **superstitions** of **religion**. Christian faith is quite different. Jesus reserved his greatest strictures for the religious of his day. True faith did not depend on self-important religious ritual and fervent attempts to justify oneself by religious practices. Rather, it simply depends on a trusting relationship between a believer and God through Jesus Christ. This Christian faith is like science: emptying oneself of preconceptions and submitting to the will of God, and putting it to the test in your life. As the psalmist put it: **"Taste and see that the Lord is good"!**

(2075)

Some Further Reading

F S Collins (2006). *The language of God: A Scientist Presents Evidence for Belief*. Free Press/Pocket Books

E Lucas (2005). *Can we believe Genesis Today?: The Bible and the questions of science*. IVP

D. Alexander (2008). *Creation or Evolution: Do We Have to Choose?* Monarch Books.

J.C. Lennox (2007). *God's Undertaker: Has Science Buried God?* Lion.

D Alexander and R S White (2004). *Beyond Belief: Science, Faith and Ethical Challenges*. Lion Publishing

D M Mackay (1988) *The Open Mind and Other Essays: A Scientist in God's World*. Ed By M Tinker. IVP

I G Barbour (1966) *Issues in Science and Religion*. SCM

Questions

0. What about the Miracles?
1. Evolution versus creation?
2. Random versus purposeful?
3. Is Science prescriptive?
4. How does God act in the world?
5. How does God answer prayer?
6. Can we believe in the supernatural?
(What do we mean by the supernatural?)
7. What is implied by "scientific explanation"?
8. Is the material universe "real"?
9. Can we reconcile science and theology?
10. Is our view of God, "the God of the gaps"?
11. Is experiential faith like science?
12. Is science a "faith"?
13. What about the problem of suffering?
14. Can God be known independently of revelation i e can there be a natural theology?
15. How far is our view of Jesus as human and divine "complementary"?
16. how should we regard psychological explanations of religious experience?
17. Is science necessarily reductionist?