

God failed. We have science

Introduction

- “science is at war with religion – and that war can only lead to the elimination of religious belief as a relic of superstitious age that is now long behind us. Science proves things, whereas religion depends on the authoritarian imposition of its dogmas, which fly in the face of evidence. To take the idea of God seriously is to commit intellectual suicide. Scientists are the great liberators of humanity from their bondage to religious tradition and superstition. What’s more, this is the way it is now, and it is the way it has been for centuries – religion has always been a vicious opponent of scientific progress. For utterly stupid and self-serving reasons, it opposed Copernicus’ theory of the solar system in the 16th century and the Darwin’s theory of evolution in the 19th century.”

- welcome to the mythology of the so called warfare between science and Christianity. It is perhaps the most powerful and pervasive myths of our culture, a piece of pure propaganda that is so entrenched in our society, that it hardly even seems worth commenting on. However, this afternoon, I want to show you that not only is there no warfare between science and Christianity, in fact, science is the intellectual child of Christianity; that both as a matter of historical fact and philosophical foundations, it is Christianity and Christianity alone that has produced what we call science. But that this loved and valued child has been kidnapped by another, by a rival world view to Christianity which has hidden itself behind scientific clothes, but which is not a scientific theory; instead it is a philosophical system, which needs to justify its claims accordingly.

•• so my plan for this talk is as follows. After carefully defining what science actually is, I want to refer to the work of non-Christian historian and leading sociologist Rodney Stark, to explore the questions of when and how did science arise. In summary, his view is that as a matter of historical record, it arose only once in history, in the Middle ages, in one place, in Europe, under the influence of one group, the so-called Scholastic scholars, a Christian theological movement whose theology drove their scientific work. Then second, we will look at what were the Christian theological principles were necessary and sufficient to cause science to emerge. Third, we'll trace the relatively recent idea of some kind of warfare between science and Christianity, and see how the metaphor of warfare is itself the expression of a mythology that was quite deliberately propagated; and that on the contrary, religious belief among scientists is every bit as common as among any other section of the community. And then finally, we'll ask the question, well, if science and Christianity are not at war with one another, then how do they relate. It's a pacy ride, so you'll need to hang on. My goal is 2 fold. On the one hand, if science constitutes a block for you in coming more to grips with the Christian faith, than I hope to reduce that roadblock, and show you that it is perfectly possible to be as fully scientific about life and a straightforward Christian at the same time; but even more than that, to show that science is both immensely powerful and also specifically limited, and that your intuitions about issues beyond science, issues of morality and human value and purpose, are not illegitimate, nor is science the tool for finding answers, but that these are real questions that Jesus provides utterly satisfying and compelling answers to.

1. What is science, and how did it get going?

- if we're going to get an accurate picture of the relationship between science and Christianity, we'll need to be clear on what we mean by science, which we'll look at now, and what we mean by Christianity, which we'll come to in a little while.

- so, what is science. If you go to that repository of all knowledge, wikipedia, it will tell you that "science is a system of acquiring knowledge based on the scientific method, as well as the organized body of knowledge gained through such research." Actually, that's not bad. It goes onto distinguish empirical science, things like physics and biology, from formal science, which is non-empirical, things like mathematics and logic, although we'll leave the formal science to one side for the moment. There are 2 crucial elements then in science – the first is theory and the second is research. Theorizing is the explanatory part of science, abstract statements about why and how some portion of nature fits together and works. Of course, not all theories are scientific, just because they are abstract. Theories are only science if they lead to definite predictions about what will be observed or prohibited. Which is where the second part, the research comes in. It consists of making those observations that are relevant to the empirical predictions and prohibitions.

- notice two things about this definition of empirical science, which is virtually standard amongst both scientists and philosophers of science.

- the first thing to see is that by definition, science is limited. This is not a defect of science, it's just a fact. Science deals with a specific realm, natural and material reality, things that are at least in principle observable. And the flip side of that point is that there are equally whole realms of human experience and knowledge that science is simply unable to address.
- The second thing to see is that this definition excludes almost all efforts throughout most of human history to explain and control the material world,

even those that have nothing to do with religion. As Marc Bloch, a leading French historian put it: “until recent times, technical progress – sometimes considerable – was mere empiricism”. In other words, such progress was the outcome of observation and trial and error, but didn’t include explanation or theorizing. Interestingly, this is true even of Copernicus, since his description of a heliocentric solar system was merely descriptive, and as it turns out, mostly wrong. He had nothing to say about why planets remain in their orbits around the sun, or moons around their planets, and it was only with Newton that there was a scientific theory of the solar system, rather than some observations. What this means is that the earlier technical innovations of Greco-Roman times, Islam, China, let alone of pre-historical times do not constitute science, but are better characterized as skills, wisdom, technique, craft, technologies, or even engineering. Charles Darwin put it bluntly: “About 30 years ago there was much talk that geologists ought to observe and not theorize; and I well remember someone saying that at that rate, a man might as well go into a gravel pit and count the pebbles and describe the colours. How odd it is that anyone should not see that all observations must be for or against some view if it is to be of any service!”

- so when did science arise? The historical fact is that it was the influence of the great European universities in the 12th and 13th centuries, which developed out of the schools attached to the Christian cathedrals, that saw science proper emerge in recognisable form. From the middle of the 12th to the end of the 13th century, 26 universities began, with a total enrollment of 750,000 students, remarkable given that this was at a time when the population of London never exceeded 35,000. These were a brand new kind of institution, devoted exclusively to higher learning, not a monastery for meditation, nor a training school for Chinese mandarins, but an enormously wealthy and privileged institution for intellectual innovation.

- it was at these universities that science, a commitment to empiricism and consequent formulation of theory developed. [Example of human dissection]. In itself, this seems to us to be no surprise, but rather the natural evolution of cultural progress. However, that is not the case. None of the world's quite sophisticated societies had generated communities of scientists – China was far more culturally advanced compared to Europe in the 1st millennium, but the Chinese did not develop science; although in possession of the whole body of Greco-Roman scholarship, Islamic scholars did not become scientists; once they had mastered the classic texts, Muslim scholars were content with the role of passing on that knowledge. Nor did science arise in ancient India or Egypt. Why?

2. Christianity gives birth to a child – science!

- Stark's answer is, as he says, as brief as it is unoriginal: "Christianity depicted God as a rational, responsive, dependable and omnipotent being and the universe as his personal creation, thus having a rational, lawful, stable structure, awaiting human comprehension." [For the Glory of God, p. 147].

- As Alister McGrath, Professor of Historical Theology at Oxford University and also a PhD in molecular biophysics, has written: "A positive working relationship between Christian theology and the natural sciences is demanded by the Christian understanding of the nature of reality itself – an understanding which is grounded in the doctrine of creation."

•• it's a very helpful comment. The Christian faith understands the reality we live in as created and upheld by the living God. This means the world around us is good, it is real and it is dependent.

Christian faith understands creation as *good* in contrast to those worldviews that hold that matter is somehow inherently evil, that this world is mere material reality, a place to be escaped from. Of course, this is most eastern philosophies. For Christianity, even though creation is not God (or divine), but has a kind of independence from him, God declare that "behold it was very good."

It is *real* in that creation is not an emanation from God and has its own reality and its own way of being and behaving . This is very significant from the point of view of science. The Christian understanding of reality is that God creates that which has its own nature and behaviour. The biblical picture and that of Christian theology reflecting upon it have emphasised that creation has its own real causes and a level of autonomy from the God who created it. A helpful modern statement of this doctrine is to be found in the Roman Catholic Church's National Theological Commission which was presided over by (the then) Cardinal Ratzinger only a year before his election to the papacy. The report on 'Human Persons Created in the Image of God' speaks for more than just the Catholic tradition it invokes when it asserts that: [...] as universal transcendent cause, God is the cause not only of existence but also of the cause of causes. God's action does not displace or supplant the activities of creaturely cause but it enables them to act according to their natures and nonetheless to bring about the ends he intends. This is the key concept of what are called secondary causes, that there is real causation in the world which has its own reality. Nonetheless, creation continues to be dependent for its existence upon God at every point of its autonomous life.

And the creation is as well as good and real also *dependent*. Since it is created out of nothing by God's own will, it does not itself contain within itself its reason for being and therefore is not in any sense necessary. The contingency of the world

around us is both a puzzling and fruitful aspect of its reality. This is one reason why the search for evidence and experience is significant for a Christian understanding of creation. Despite what we have said about the power of reason, the Christian understands that the way the world actually is will not be found simply by working, as some of the ancient Greeks believed, just by getting the right axioms and then logically deducing the way the world must be. The universe being understood is not necessary, eternal and fixed, but a cosmos with a history. It is this combination of the power of reason, particularly mathematics, and the power of observation and experiment which underlie the human enterprise called science.

•• this is the essence of a Christian view of the created order, and it was this view that enabled science to emerge. Alfred North Whitehead, no great friend of Christianity and author with Bertrand Russell of the highly significant *Principia Mathematica*, wrote that science arose in Europe because of the widespread “faith in the possibility of science ... derivative from medieval theology.” [Science and the modern world, p. 13]. Here is a leading 20th century intellectual, who surely must have realised that religion was the mortal enemy of science! Actually, he knew better. He understood that Christian theology was essential for the rise of science in the West, just as surely as non-Christian theologies had stifled the scientific quest everywhere else. Whitehead goes on:

It must come from the medieval insistence on the rationality of God, conceived as with the personal energy of Jehovah [the name for God in the Old Testament] and with the rationality of a Greek philosopher. Every detail was supervised and ordered: the search into nature could only result in the vindication of the faith in rationality. Remember that I am not talking of the

explicit beliefs of a few individuals. What I mean is the impress on the European mind arising from the unquestioned faith of centuries. [p. 12]

- Whitehead ended these comments with the remark that the images of gods found in other religions are too impersonal, or too irrational to have sustained science. Any particular event might be “due to the fiat of an irrational despot [God]” or might be produced “by some impersonal inscrutable origin of things. There is not the same confidence as in the intelligible rationality of a personal being.
- make sure you hear this point clearly. The issue is not that individual scientists need to be Christians, that would be silly. What we’re talking about is the fact that that the whole scientific enterprise is based on certain assumptions which cannot be proved scientifically, but which need to be given to it, and here is the point, are only available and guaranteed by the Christian worldview. For example the laws of logic, the orderly nature of the external world, the reliability of our cognitive faculties for knowing the world, the validity of inductive reasoning and the objectivity of the moral values used in science. Science could not exist without these assumptions and yet these assumptions cannot be proved scientifically. They are philosophical assumptions, which are part and parcel of a Christian worldview, and yet they are inherent to the scientific enterprise. Even atheist scientists have to use these presuppositions. And the fact is that it was the Christian worldview that furnished this conceptual framework which was an ally to science in making science as an institution possible. It can do that, and historically it did do that.
- As Loren Eiseley, a senior academic at Stanford University, states "it is the Christian world which finally gave birth in a clear articulate fashion to the experimental method of science itself ...science ... owes its origins to an act of faith that the universe can be rationally interpreted, and that science today is

sustained by that assumption." In contrast to eastern religions or folk religions, Christianity does not view the world as divine or indwelt by spirits but rather as the natural product of a transcendent creator who designed and brought it into being.

- Stark examines what he calls the negative cases – the fact that science did not emerge in China, ancient Greece or in the Muslim world, and traces that to their respective cultural/theological foundations. They simply didn't provide the philosophical soil in which the scientific method could take root. It was only a Christian world view that supplied this: "Nature exists because it was created by God. To love and honour God, one must fully appreciate the wonders of his handiwork. Moreover, because God is perfect, his handiwork functions in accord with immutable principles. By the full use of our God given powers or reason and observation, we ought to be able to discover those principles. These were the crucial ideas, and that's why the rise of science occurred in Christian Europe, not somewhere else." [p. 157–158].

- the significance of this for an understanding of the relation between science and Christianity is clear. Science is not the intellectual enemy of Christianity; science is the intellectual offspring of Christianity, a quite specific, immensely powerful human enterprise that both philosophically and historically emerged from the presuppositions given it by Christianity. So why this myth of warfare.

3. Kidnapped!

- the next chapter in the story of Christianity and science is an ugly one. Where there ought to have been a beautiful family relationship, the parent and the child

working in harmony with one another, with of course the usual teenager issues, instead something disastrous happened. Science was kidnapped. What do I mean by that?

- Europe in the 17th century was convulsed by religious wars, following the Protestant reformation. Catholic against Lutheran, Reformed against Catholic and Lutheran, mostly to do with politics and power, but nonetheless, appalling in their cost of bloodshed and human misery. And so Europe got sick of religion. By the middle of the 18th century anti-Christian writers like Voltaire (1694-1778), Jean-Jaques Rousseau (1712-1778) and David Hume proclaimed that they lived in the time of the enlightenment, in specific and dogmatic contrast to the newly invented Dark Ages. This had 2 quite focussed implications for the way science was understood. On one hand, the leading intellectual figures of the so-called Dark Ages, the Scholastics, were denounced as obscurantist pedants, interested in how many angels could dance on the head of a needle and such like. Their foundational contribution to the rise of science was entirely denied. On the other hand, these influential enlightenment figures seized on science, and especially on Isaac Newton's life and work as the great ally in the fight against Christianity. Voltaire called Newton the greatest man who ever lived; Hume said that he was "the greatest and rarest genius that ever rose for the ornament and instruction of the species." Why? Because they thought they found in Newton the possibility of a world of science without God.

- the irony here is that Newton himself was a devout, if slightly unorthodox, Christian, who wrote a concluding section to the second edition of his Principia, devoted entirely to his ideas about God; namely, that the true God is a living, intelligent powerful being, that he governs all things, and knows all things that are done or can be done; He endures forever and is everywhere present; and that

having discovered the elegant lawfulness of things, he believed he had once and for all demonstrated the certainty that behind all existence there is an intelligent, aware, omnipotent God. Any other assumption, he said, “is inconsistent with my system.” Naturally, this presented a problem to those atheists who championed him and his theories, but their tactic was simple: to date anything that he wrote about God in his old age, and to say that he had lost his marbles, even though some of his most straightforward comments were written in 1692 when he was 49, 35 years before his death.

- this then is what became typical of the kidnap – science shang-highed in the form of a growing mythology around leading scientists. And of course, it was the 19th century that saw the kidnap completed, and in particular, the use that was made of Darwin’s theory of evolution to hammer a nail into the coffin of Christianity, on the supposed grounds that now that science explains everything, we no longer have any need for God.

- As Dawkins summarises this view: “The only watchmaker in nature is the blind forces of physics ... Natural selection, the blind unconscious automatic process which Darwin discovered, and which we now know is the explanation for the existence and the apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind’s eye, it does not plan for the future.” In other words, there is no God, just evolution.

- but this is a myth; it’s not even a good argument, when you take the time to think about it:

- first, the premise is not even true: science doesn’t explain everything, it’s not designed to. There are just whole great realms of human knowledge that can’t be

reduced to scientific explanation. Look at the words on the screen - give me a scientific explanation of them. Light, yes, shape and geometry yes, but their meaning, no way. Philosopher Alvin Plantinga recognises this and suggests that it's like a drunk man whose lost his car keys, insisting to his friends that they only look under the streetlight on the grounds that the light is better there.; or perhaps even more, since the keys would be harder to find in the dark, they must be under the light. As Sir Peter Medewar, an Oxford immunologist who won the Nobel prize for medicine for the discovery of acquired immunological intolerance writes in his book, *The Limits of Science*, science is "incomparably the most successful human enterprise human beings have ever engaged upon"; but he also is careful to distinguish between questions about the organization and structure of the material universe (which is where science has a legitimate contribution) and what he calls "transcendent questions" which are better left to religion and metaphysics.

- second, the statement itself is profoundly non-scientific. There is no scientific experiment you can do to demonstrate the truth of this argument. In other words, it is self-refuting, since the statement itself can't be demonstrated scientifically. In which case, the really interesting thing about this, is that it is a presupposition, a world view perspectives, which is brought to science, and which seeks to use science to advance their program. It's an ideology, and in particular constitute what you might call philosophy creep. That is, beginning with a method of investigation of natural phenomena, or what is called methodological naturalism; this is extended to become a total philosophy, philosophical naturalism, that only questions that can be answered by the scientific method can be asked, or else what you have is not knowledge of any reasonable sort. Hence statements about God not just aren't true, but can't be true, they must be nonsense. Recently, this philosophy has been dubbed 'scientism'.

- and third, the conclusion doesn't even follow from the premise. It makes a fatal category error, confusing a mechanism with an agent. The fact that you can fully understand a mechanism, without any reference to an agent, doesn't mean that there's no need for an agent. For example, if you see a Ford car for the first time, and start to explore how it works, and find that you can fully explain the internal combustion engine and no where in the engine is a bloke called Henry Ford, then that still doesn't make it sensible to say, 'Well, there's no such person as Henry Ford'. You understand the mechanism of the car, but that doesn't give you any information on how it got there. In particular, evolution is a mechanism - natural selection and random genetic mutation - but you just make a basic category error if you jump from mechanism to agent. You have to draw conclusions about the agent on other grounds.

- modern Darwinian atheist Stephen Jay Gould, understands this when he says - "Either half my colleagues (that is, those who are Christian) are enormously stupid, or else the science of Darwinism is fully compatible with conventional religious beliefs – and equally compatible with atheism." Revealingly, in the God Delusion, Dawkins writes of this comment by Gould "that I simply do not believe that Gould could possibly have meant much of what he wrote" – this is hardly science, in fact it has all the feel of fundamentalism, atheist fundamentalism.

4. If not at war, then ...

- in other words, there is no war between science and Christianity, only a war of worldviews - naturalism (the idea that all there is is matter and energy) and Christianity, and it turns out that at various points Christianity has science on its

side, which is why there are plenty of Christians who see their Christianity not only as consistent with their science, but as a natural consequence of their science.

- Alan Sandage, the world's leading observational cosmologist, who received cosmologies equivalent of the Nobel Prize, began to despair of answering such questions of meaning, God and purpose through science alone, and so, at 50, he willed himself to accept God. "It was my science that drove me to the conclusion that the world is much more complicated than can be explained by science," he says. "it was only through the supernatural that I can understand the mystery of existence."

- Recently, Francis Collins, who heads up the famous Human genome Project has spoken of "a richly satisfying harmony between the scientific and spiritual worldviews ... The principles of faith are complementary with the principles of science."

And I could go on. The fact is that there is no war between science and Christianity, it is a positive relationship, in both directions:

- for many scientists, it is precisely their science which prods them down the path of becoming Christians. A survey conducted in 1914 of a random selection of people listed in American Men of Science, a kind of who's who of science in the US, found that 41.8% of these scientists were straightforward Christians. The survey was repeated in 1996, in the full expectation that finally they would have realised the implications of science – in fact, the figures were unchanged, a little over 41% of scientists are still Christians. Interestingly, in a survey of 60,000 university professors in the US, it was not scientists who came in as irreligious, it was the humanities faculties, and especially psychology and anthropology. The reason that is

important is, as Stark indicates, that “nearly everything written on the topic [of religion and science] in the 20th century was written by non-scientists or by social scientists.” It’s hardly a surprise that the myth of warfare persists.

- But on the other hand, we have seen that it is Christianity that provides the philosophical underpinnings for the scientific enterprise. In the end, science is based on non-scientific, philosophical assumptions, and warrant for them is found only in a Christian world view. You can make those assumptions without the world view, but it’s important to note that in doing so you are making a leap of faith more than any Christian, and in fact are derivative on science’s Christian heritage.

- in a sense, I’ve tried to do only half the job today, the negative part of the job. I’ve tried simply to say that science is not the enemy of Christianity, that there is no war between them, that the most rigorous approach to science is quite compatible with a straightforward Christian faith, seen in the fact that rigorous scientists in every field are straightforward Christians. And in fact not only is there no war, but there is a genetic relationship between science and Christianity, the science sprung from specifically Christian foundations, both as a matter of historical fact and philosophical axioms.

The second half of the job, once that ground is cleared, is to actually investigate the claims of Jesus. He will do nothing to offend your scientific sensibilities, although he may well offend, or challenge, or confront you on other grounds, moral and spiritual. It is an investigation that you owe it to yourself to do. And Credo will help you; if you are interested to take these things further, fill in one of the communication card, and someone will be in touch with you, but I’ll hand back to XXXX to give you the details of that.

