



ATHEISM, SCIENCE, and CHRISTIANITY

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Atheism, Science, and Christianity

"There is a fundamental difference between religion, which is based on authority, and science, which is based on observation and reason. Science will win because it works."

- **Stephen Hawking**¹

Consider the general perception that our culture has of Christianity:

"Christianity is implausible."

"The text of the Bible is unreliable."

"It is full of stories passed on by word of mouth for years before being written down."

"Whole books were left out of the Bible because they didn't support the views of the people in power at the time."

"Christianity has caused untold violence over the years."

"Christians hate homosexuals and want to meddle in everyone else's private business."

"We know now that people can't walk on water, heal disease, or return from the dead."

"Science has proven the Bible is wrong on how the world was created."

"Evolution has demonstrated that there is no cosmic designer who created everything."

"Christianity is implausible."

These are the reactions of people on the streets of our towns, and students on our university campuses, as Christians hold out the word about new life in Jesus.

"I believe in evolution, so I can't be a Christian." You have probably heard a friend or co-worker say that. One of the key features in the landscape of the cultural implausibility of Christianity is the notion that evolution and Christianity are incompatible. More generally, we could say that there is a cultural belief that Science and Christianity function as competing explanations and solutions for the same set of questions, and that Science has decisively swept the field.

What compounds the problem and confirms public suspicion is that there are virtually only two public voices on this issue: the Atheist-Humanist-Secularist movement; and the Young Earth Creationists. One of the things that makes this duopoly on public comment so powerful is that it isn't quite a duopoly, but rather a *monopoly*, since the two voices agree on - and relentlessly promote - one particular

point: that Evolution and Christianity are incompatible. In fact, both sides have the same hermeneutic for the Bible, which is that the default perspective of the Bible is Scientific-Historical. There are other less strident Christian voices, but compatibility sells fewer newspapers than conflict. It is not surprising then that the one point on which our society seems clear is the point agreed by the two strongest, public voices.

In line with this cultural suspicion, a movement has arisen in recent years called "New Atheism" and it has committed considerable time and effort to highlighting supposed incompatibilities of Science and Christianity. The proponents of this movement are, generally speaking, what we would call Scientific Atheists. That is, even though they are not all trained scientists, they agree that the results of Science provide the strongest arguments against the existence of God, in general, and against the truth of Christianity, in particular.

While not exclusively the case, the vast majority of Atheists would hold to the worldview called Naturalism. One prominent New Atheist, Richard Dawkins, describes that view as follows.

"An atheist in this sense of philosophical naturalist is somebody who believes there is nothing beyond the natural, physical world, no super natural creative intelligence lurking behind the observable universe, no soul that outlasts the body and no miracles - except in the sense of natural phenomena that we don't yet understand. If there is something that appears to lie beyond the natural world as it is now imperfectly understood, we hope eventually to understand it and embrace it within the natural."

- **Richard Dawkins**²

As we begin to consider the issue of a Christian attitude to Science, let's hear what the New Atheists have to say on the subject.

"As a scientist, I am hostile to fundamentalist religion because it actively debauches the scientific enterprise. It teaches us not to change our minds, and not to want to know exciting things that are available to be known. It subverts science and saps the intellect."

- **Richard Dawkins**³

"Religion is nothing more than bad concepts held in place of good ones for all time. It is the denial - at once full of hope and full of fear - of the vastitude of human

ignorance."

- **Sam Harris**⁴

The overall impression in New Atheism is that Christianity prefers ignorance to knowledge and will therefore be wary and mistrustful of Science. Christianity (says New Atheism) is a substitute for knowledge. It fabricates knowledge in order to deny ignorance and keep people in the dark. Science as a pursuit of knowledge is thus under threat from Christianity.

What is *your* attitude toward Science and the pursuit of knowledge about our world? While these quotes may seem somewhat extreme, do they to some degree resonate with you? Can you see something of them in your own attitude? What about in the attitude of your church and Christian friends?

Let us now begin our own investigation into what should be a Christian attitude toward Science. First, we'll try to understand where the world is right now on this question. Second, we'll look at the nature of Science and how our culture reached this position. Finally, we'll consider the relationship of Science to Christianity.

¹ Stephen Hawking, interview by Diane Sawyer, *ABC World News*, 7 June 2010.

² Dawkins, Richard, *The God Delusion* (London: Bantam Press, 2006), 13-14.

³ Dawkins, *The God Delusion*, 284.

⁴ Harris, Sam, *The End Of Faith* (New York: W.W. Norton & Co., 2004), 221.

Where are we at in the world right now?

In order to get a hold on where the world is at the moment, consider the following two statements.

Statement 1: *Christianity is incompatible with Naturalism.*

The incompatibilities of these two worldviews are so fundamental and so obvious as to render the statement entirely uncontroversial and uninteresting. With one, intelligence and intentionality is foundational, while with the other they are evolved. With the one, the universe is a purposeful creation, while with the other it is an accidental collocation of atoms. Christianity looks to a personal God who is the supervening cause of everything that exists, while Naturalism allows for no causes outside the matter and energy of our physical universe. It is virtually inconceivable that one could argue for the compatibility of these two views.

Statement 2: *Christianity is incompatible with Science.*

This statement, on the other hand, is certainly controversial. We see the controversy in endless hours of YouTube videos discussing the question; in public, high level academic debates; in thousands of books, both academic and popular; and in the seemingly obligatory inclusion of this question in outreach events organised by churches and Christian groups in universities. Of course, one of the reasons this statement is controversial is that it *simply isn't true*.

That's not, however, what our western societal common sense says. The proverbial "man on the street" believes Science is incompatible with Christianity. One of the most common knock-backs to efforts at Christian outreach is an assertion that Science has disproved Christianity. Regardless of whether the "man on the street" can offer any content to back up his claim, this assertion is the gut feeling of the Western public. This is also becoming, more and more, the case for those of the East.

Over the past 400 years of what we might call "modern" Science, its empirical knowledge gathering paradigm (scientific worldview?) and the naturalistic worldview have been increasingly equated in public discourse. The effect of this is that Statement 1 and Statement 2 are now equivalent, or at least indistinguishable from each other, in the minds of publishers, media outlets, and our man on the street.

The conflation of the two worldviews results in what is called *Scientism*. Scientism is the conviction that scientific knowledge, particularly that derived from the natural sciences, is the highest - or even *only* - form of knowledge.

“If we do discover a complete theory, it should in time be understandable in broad principle by everyone, not just a few scientists. Then we shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason – for then we would truly know the mind of God.”

- **Stephen Hawking**⁵

“It may seem bizarre, but in my opinion Science offers a surer path to God than religion ... Science has actually advanced to the point where what were formerly religious questions can be seriously tackled ...”

- **Paul Davies**⁶

“It’s only in recent years that scientists have exercised any sort of influence over what might be called the big questions ...”

- **Paul Davies**⁷

The scientific enterprise is so good at answering the questions we have asked about the physical world, that we have persuaded ourselves that Science will answer *all* questions that can possibly be asked on *any* subject, including the metaphysical questions of meaning and purpose. On top of this, Science won't just be *answering* our metaphysical questions. Science will be the only *means* by which we will answer those questions: the “surer path to God”.

One of the primary factors responsible for the public equating of Science and Naturalism is the success Science has had in explaining, without reference to God, the workings of the physical world. That success is related to both the nature of Science and the nature of the world it investigates.

So let’s now look more closely at the nature of Science and the nature of the world in order to try to understand how we have arrived at the point where Scientism is our default foundational western worldview.

⁵ Hawking, Stephen, *A Brief History of Time* (Toronto: Bantam Books, 1988), 185.

⁶ Davies, Paul, *God And The New Physics* (New York: Simon and Schuster, 1983), xi.

⁷ Paul Davies, “Introduction: The Emerging Third Culture” in *The Third Culture*, ed. John Brockman (New York: Simon & Schuster, 1995), 29.

The nature of Science

The advent of modern Science can be marked at roundabout AD1600. It was a time of change in the philosophical world, when the Rationalists and Empiricists were arguing about the nature, acquisition, and limits of our knowledge - a discipline called Epistemology. The battle was primarily fought around ideas about the acquisition of knowledge, or how we know what we know.

| | <i>Rationalism</i> | <i>Empiricism</i> |
|--------------------------------|---|--|
| <i>Knowledge is ...</i> | <i>a priori</i> | <i>a posteriori</i> |
| <i>... derived from</i> | reason | experience / senses |
| <i>Key thinkers</i> | Rene Descartes 1596-1650 Gottfried Leibniz 1646-1716 Baruch Spinoza 1632-1677 | Francis Bacon 1561-1626 John Locke 1632-1704 George Berkeley 1685-1753 David Hume 1711-1776 |
| | "True virtue is life under the direction of reason." - Baruch Spinoza | "A wise man proportions his belief to the evidence." - David Hume |
| | "I think, therefore I am" - Rene Descartes | "No man's knowledge here can go beyond his experience." - John Locke |

One of the prime movers among the Empiricists was Francis Bacon (1561-1626). He described the differences between Rationalism and Empiricism like this:

"There are and can be only two ways of searching into and discovering truth. The one flies from the senses and particulars to the most general axioms: this way is now in fashion. The other derives axioms from the senses and particulars, rising by a gradual and unbroken ascent, so that it arrives at the most general axioms last of all. This is the true way, but as yet untried."⁸

The search for knowledge that "flies from the senses" is Rationalism. Rationalism holds that knowledge can be derived through reason alone. This is called *a priori* knowledge, or knowledge that comes prior to, and independent of, our experience of the world. Perhaps the most well known rationalist statement was made by Rene Descartes: "I think, therefore I am". With eyes closed and no sensory experience, one can still be certain of one's own existence because we have the knowledge of our own thought. We know, through reason, certain fundamental truths about the world and we can combine those building blocks to derive other truths. The primary methodology of Rationalism, then, will be deduction.

Consider this example of a rationalist-style argument:

Premise 1: God is perfect

Premise 2: God exists in the heavenly realms

Conclusion 1 / Premise 3: Only perfect things are fit for the heavenly realms

Premise 4: The planets exist in the heavenly realms

Conclusion 2 / Premise 5: The planets are perfect

Premise 6: The only shape fit for the heavenly realms is a perfect sphere

Final Conclusion: The planets must be perfect spheres

Points to note about this argument:

- There are no observations of physical world, yet ...
- New knowledge has been derived: planets are perfect spheres!
- But ... If any premise is false, the conclusion is likely to be false

Questioning the premises:

- Are only perfect things fit for the heavenly realms?
- Do planets exist in the heavenly realms?
- Is there such a thing as a shape that is fit for the heavenly realms?

Bacon and the Empiricists⁹ argued that instead of starting with these immutable laws known through reason alone, we should get at knowledge in the opposite direction: start with the physical data of what we find in the world. Where we see patterns emerging in the data, and after enough testing, we will have an appropriate confidence that we have uncovered one of those regularities of creation we call laws of nature. That law, however, will not be of a theological, or metaphysical, nature (such as, “God is perfect”), but physical, derived simply from observations of physical phenomena (such as, “In a vacuum, the speed of a falling object is independent of the mass of the object”). Empiricism believes that knowledge is *a posteriori*, or derived from experience. The primary methodology of Empiricism, then, will be induction.

Bacon sums up the advantages of Empiricism:

“If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts he shall end in certainties.”¹⁰

If you are certain of the obvious conclusion of reason that the planets are perfect spheres (see inset), then, for example, when Galileo observes craters on the moon with his telescope, demonstrating that the planets are not, in fact, perfect spheres, your whole system will be shaken without anyway to adapt. Your prior conclusions about planets were *meant* to be self-evident.

If you start, however, with the assumption that you know nothing, then you can let the data speak freely and you can watch as the true laws emerge before you. If, subsequently, you observe contradictions to those laws, in principle there is nothing that would hinder you from adapting the law

to incorporate the new data. In this way, because the 'laws' are representations of the data, not only do we have an inherent expectation that the laws will change with new observations, we also expect their accuracy to improve.

Empiricism won. Science, conducted along these lines, has been arguably the most successful human endeavour ever undertaken. Academic journals are multiplying every year because as we specialise further, we discover there is more and more and more to understand about even what seem to be the narrowest of specialisations. The corollary of the explosion of knowledge is the admission of the vastitude of our ignorance. We simply cannot fathom how much we don't know, and yet we can see more clearly than ever the truth that we have barely scratched the surface.

That the empiricist exercise has been successful is undeniable, but the question we turn to now is "why?". Why was this idea so effective in generating knowledge about our world?

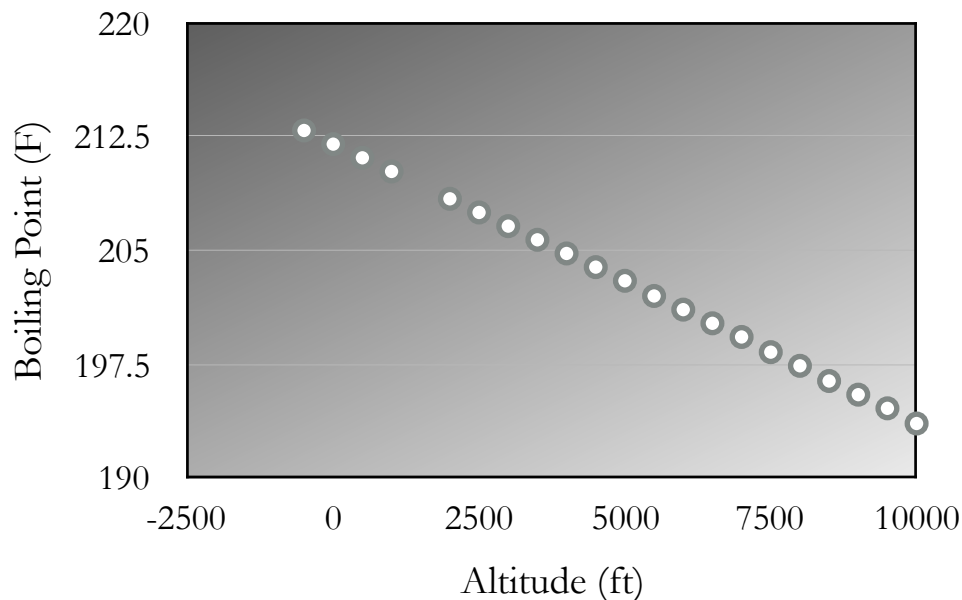
⁸ Francis Bacon, *Novum Organum* (1620), Online Library of Liberty, accessed 18 May 2015, <http://oll.libertyfund.org/titles/1432>

⁹ While, as far as I know, this is not the name of a rock band, it probably should be.

¹⁰ Francis Bacon, *Advancement of Learning* (1605), Book 1, Chapter V, Section 8, accessed 18 May 2015, <http://www.readbookonline.net/read/16413/41833/>

The Power of Science

There are some simple reasons why the empirical program was so successful, and it is the nature of creation that underpins them all. Consider the following graph of the boiling point of water versus altitude above sea-level. Think about what it suggests to you about the nature of our world.



As more and more people took up the challenge to discover the laws of nature, they found that there was no end to these kinds of very regular relationships between different physical quantities. Indeed, they expected them. In fact, had they not expected them, what would have been the point of the project in the first place? This brings us to what we might call the assumptions, or presuppositions, of Science. The presuppositions of Science are those ideas about the nature of the world, such that, if they were not true, the empirical project of modern Science would cease to be. They are presuppositions because they are ideas we *presuppose*, ideas we have in our head before we ever get out of bed in the morning to encounter the world.

The Presuppositions of Science

Here is a short list of some things that seem to be true about our world, which, were they not true, Science, as we know it today, would not exist.

1. Nature is orderly, i.e., regularity, pattern, and structure
2. We can know nature because ...

- a. It is intelligible to our mind
 - b. The rules of logic are valid
 - c. Language is adequate for describing the world
 - d. Human senses are reliable
 - e. Mathematics is, in fact, descriptive of the world
3. All phenomena have natural causes.
 4. Nothing is self-evident. Truth claims must be demonstrated objectively.
 5. Knowledge is derived from acquisition of experience, empirically, through senses directly or indirectly.
 6. Knowledge is superior to ignorance.

If there were not patterns in nature, Bacon's idea of building from the particulars to general axioms wouldn't be possible. If knowledge is not derived empirically, then Science is doomed. The mathematical nature of the world is necessary if we are ever to use our knowledge to make predictions. If the physical phenomena being investigated don't have physical, or natural, causes, then Science will be unable to make any progress, because the tools of Science are bound by the physical. And so we could go on.

Even though we cannot demonstrate that our presuppositions about the world are true, or how the world must of necessity be, it remains that if they are not true - and if we did not believe them to be true - no one could or would ever have bothered with "Science".

It is in the truth of these presuppositions where we discover the power of Science and the reason for its success over the past 400 years. Let's spend a little time looking at the first three of those presuppositions: orderliness, intelligibility, and methodological naturalism.

Orderliness

Nature is orderly. This seems an obvious assertion. Our graph above demonstrates it quite nicely. There are patterns and structures out there to be discovered. We can run the experiment the next day and find the same result. We can collect meaningful data. The orderliness of nature is where Science derives the reliability of its conclusions. In 90% of the scientific work conducted in research labs around the world, the primary measure of reliability is repeatability. If nature were not orderly, we would not have repeatability of our experiments and, hence, no reliable conclusions.

Intelligibility

Nature is intelligible. One of the key points to pick up here is about the mathematical nature of our world. What do I mean by that? Take our graph above, as an example. I can draw a line through the data points, a line that will have a simple mathematical formula that describes its shape. I can then pick an altitude for which I do not have data, plug it into my formula and discover the boiling point of water at that altitude without ever going there and running the experiment. That may sound like Greek to you, but rest assured, it is one of the most fascinating things about our world.

Mathematics is a game that we have made up. It is fundamentally an abstract pursuit, needing no connection with objects in the physical world to justify it or provide it with the rules of the game. Mathematics is like Chess, in that sense. What's bizarre - indeed, fascinating - is that, having made up this game, we find that the concepts from the game allow us to describe the patterns and structures of the physical world. The workings of our minds find a surprising correspondence with the workings of the physical world!

You may or may not agree with me about how fascinating that is, but, whether fascinating or boring, the mathematical nature of the world is *essential* for the success of Science, and as with our graph of altitude against boiling point, it allows us to predict the future. That is the glory of Science. You tell me you are going to the top of Mt. Everest to measure the boiling point of water, and I can predict the result you will get before you ever leave home. I can predict the future, and without the correspondence of mathematics to the physical world, that would be impossible.

When I run an experiment, it tells me what happened at the time I ran the experiment, and as soon as I run the experiment, that time is in the past. I can run the experiment again, and, as before, I know the result at some time in the past. I can do that 100 times and even if I get the same result every time, all I have learned is on average, in the past, the way the world works. I cannot tell you what will happen tomorrow or for a different set of conditions. It is the *mathematical formula* that gives me a timeless representation of that data and which gives me the power to extrapolate and predict what will happen tomorrow.

Richard Feynman, a nobel prize winning physicist, describes the power of predictions like this.

"... [it] has to be done because the extrapolations are the only things that have any real value. It is only the principle of what you think will happen in a case you have not tried that is worth knowing about. Knowledge is of no real value if all you can tell me is what happened yesterday.

It is necessary to tell what will happen tomorrow if you do something -- not only necessary, but fun."¹¹

Internal consistency ... Methodological Naturalism

Nature is orderly and intelligible. The third presupposition in our short list states that all phenomena have natural causes. Really? Christians don't believe that. Let's look at what we mean by the statement.

Newton sits under the tree and observes the apple falling to the ground. Newton could have responded by thinking, "God did it", and, if the Christians are right, God *did* do it, and Newton was entirely justified in his conclusion. Job well done. Mystery solved. You can see, however, where this is going. Newton could say the same for anything he observes and be perfectly correct, and yet learn *nothing* about the physical working of the world, or the various chains of cause and effect that led to the apple falling from the tree (all of which are entirely physical). Yes, God did it, and outside of God's providential care for His creation, it would not have happened. It seems, however, that we can generally *also* discover physical causes for events we observe. So one of the presuppositions of Science is that we will be able to discover physical causes for observed phenomena.

This presupposition is referred to as *Methodological Naturalism*. It's not a belief that there are no supernatural causes (that would be called Philosophical Naturalism), but simply the assumption that nature is organised in such a way that we will most likely be able to find a physical cause for phenomena we observe. Without that assumption, we might as well hang up our boots. Under Methodological Naturalism scientists have effectively agreed not to appeal to or reason from God, or principles derived from the nature of God, to explain what we observe, but continue to search for physical causes in nature itself. A given problem may carry through several academic lifetimes, and may never be resolved. For Science, it will remain an unanswered question, rather than invoking the supernatural to resolve the tension. Christians, of course, can think of plenty of phenomena that will consistently defy physical explanation - the chief of which is the resurrection of Jesus - but that doesn't mean we give up on Methodological Naturalism as a general rule for uncovering the physical workings of the world.

Methodological Naturalism is the driving force behind scientific advancement. It cuts off any escape or easy "out" from curly problems, and sends us back, over and over again, to the particulars of nature to try to find physical answers to our physical questions. Humans don't like unanswered questions! Curiosity didn't just kill the cat - it also discovered penicillin and built the space shuttle!

“They are ill discoverers that think there is no land, when they can see nothing but sea ...”¹²

Methodological Naturalism says don’t give up, even when you’ve been out on the ocean for months. If you want to be a good scientist, you’ll keep sailing.

¹¹ Feynman, Richard, *The Meaning Of It All* (Reading, Mass.: Addison-Wesley, 1988), 25.

¹² Bacon, *Advancement of Learning*, Book 2, Chapter VII, Section 5

Scientism revisited

Nature is orderly and intelligible and seemingly explicable without reference to God (at least, on your average day in the lab, no one rising from the dead, etc.). Now, consider for a moment the weight of this reality, brought to bear for 400 years, on the minds of people who live *with* and *by* and *for* the myriad practical blessings that Science has bestowed upon them.

Steam trains, automobiles, aeroplanes, telephones, radios, televisions, computers, medicine. All of these have been brought to you by our advances in scientific knowledge.

We've had 400 years of breaking through every unbreakable barrier, and all without invoking God as an explanation for why something is the way it is. So far, we've been able to find and follow the physical chain of cause and effect to get the answers we're looking for. This isn't to say there aren't unanswered questions out there that have stymied us for now, but the past 400 years has shown that often even long-standing problems get answered eventually.

The logic has gone something like this:

1. Science is the most successful endeavour of the past 400 years.
2. Science has answered nearly every question about the physical world that's been thrown at it.
3. God has not been mentioned or needed to answer any of those questions.
4. Therefore, God probably never existed in the first place.¹³

The success of Science has wooed us into Naturalism and thereby into Scientism. That is, our society has been convinced that if all that exists is the physical world and Science is the best way to answer questions about the physical world, then all questions worth asking will be answered by Science. There are simply no rivals for runs on the board in the generating of knowledge. When our society wants answers, it turns to Science. So confident are we that Science is the only game in town that Richard Dawkins can end his children's book, *The Magic of Reality*, with the following paragraph.

“So where does life come from? What is it? Why are we here? What are we for? What is the meaning of life? There's a conventional wisdom which says that science has nothing to say about such questions. Well, all I can say is that if science has nothing to say, it's certain that no other discipline can say anything at all.”¹⁴

This is Scientism, and this is where we are today and how we got here. Before turning to consider the

relationship of Christianity to Science, we will linger to say two more things about Scientism.

The Limits of Science

Scientism is insidious and false and needs to be denounced. That Scientism is false can be seen straightaway by considering the range of different departments at your local university. If Science is the only discipline generating knowledge, how do we explain the existence of departments of History and Philosophy?



Think of Science as something like this orange juicer. It is an excellent orange juicer. In fact, it probably wins awards for its excellence at juicing oranges. It doesn't follow, though, that because the orange juicer is excellent at making orange juice, there are no other foods. There are still meat pies, rockmelon, and bread rolls. Similarly, just because Science is good at generating knowledge doesn't mean that History and Philosophy do not generate any new, reliable knowledge.

Not only is Science not the *only* way to generate knowledge, but other disciplines generate knowledge that Science *cannot* generate.

Compare Science with History. Did World War I really happen? How would you defend the claim that it did? Perhaps you would quote your history teacher or refer to a book you have read on the subject. Whatever evidence you amass, what is certain is that you would not need to refer to any scientific data to establish the fact that World War I is an historical reality. To be sure, you could employ a chemical analysis of ink to date letters to the time of the war, but the question is whether that evidence is necessary to establish the fact of the war. The answer, of course, is no. History, on its own, with its own methods, generates reliable knowledge about our world.

When Science has no access to the physical evidence for an event, the historical, or forensic, sciences can't help, so the contribution of Science reverts to the detailing of observed patterns and making predictions about the likelihood of the event.¹⁵

The central, historical claim of Christianity is that Jesus of Nazareth rose from the dead three days after his confirmed lifeless body was placed in a tomb. Without access to the physical evidence, Science can't address the *direct* question of whether Jesus rose from the dead. However, Science can make predictions about the likelihood of anyone rising from the dead by examining the regular patterns of nature. Science will go to every graveyard in the world and confirm that on average, in the past, dead people have stayed dead, and on the basis of that research, it will make the prediction that people will not rise from the dead in the future. That is good empirical Science.

What Science cannot tell you is whether anyone has ever risen from the dead. If it was claimed that someone *did* rise from the dead, Science would not have the tools to investigate the claim without access to the physical evidence. Instead, we would need to interview witnesses, or read accounts submitted by witnesses. We would try to determine the value of the sources and what bias they have in their reporting. We would ask whether the sources were independent, or whether some accounts depended on the others. The discipline of history, while often employing physical evidence as well, still allows us to generate knowledge of the past even where the physical evidence is lacking.¹⁶

So we see that Scientism is false, because other disciplines *do* generate reliable knowledge, and, because the tools of Science require physical evidence, it is limited in the types of investigations it can make.

To the extent that Scientism has turned multiple generations of our society against History, it is not only false, but insidious, because History constitutes the primary area of intersection between Christianity and the secular world. Do you find that historical arguments just don't gain much traction when you talk about Jesus to your friends and workmates? Your friends can follow your argument, and understand why you arrive at the conclusion you do, and may even be tempted to see things your way, but something holds them back. That something is Scientism. It whispers that your friends don't need to believe your conclusions, because those conclusions haven't come out of a research lab at MIT.

There is another type of question that demonstrates the limits of Science and the falsehood of Scientism. That is the question of *purpose*. Purpose is a property bestowed upon an object by its creator, and the creator is the only one who knows that purpose unless or until he shares it with you. That type of information falls in the category of personal knowledge or revelation and can only be discovered by

asking the person with the knowledge. Science can determine what *functions* an object has, but has no means by which to uncover its *purpose*. John Lennox, in his book *God's Undertaker*, gives an illustration of this point.

“Let us imagine that my Aunt Matilda has baked a beautiful cake and we take it along to be analysed by a group of the world's top scientists...[when] these experts have given us an exhaustive description of the cake, can we say that the cake is completely explained? We have certainly been given a description of *how* the cake was made and *how* its constituent elements relate to each other, but suppose I now ask the assembled group of experts a final question: *Why* was the cake made? The grin on Aunt Matilda's face shows she knows the answer, for she made the cake, and she made it for a purpose...In fact, the only way we shall ever get an answer is if Aunt Matilda reveals it to us. But if she does not disclose the answer to us, the plain fact is that no amount of scientific analysis will enlighten us.”¹⁷

Scientism, then, is false because there *are* limits to Science, for example in the areas of History and purpose. Advocates of Scientism generally take two stances toward purpose, both of them dangerous in that they reduce truth to what can be known through scientific methods: the first is that purpose is an illusion implanted in our brains by vagaries of natural selection; the second is that Science - and *only* Science - is equipped to answer our purpose questions, so other disciplines - such as Philosophy and Theology - should admit they have nothing to say. Scientism is also dangerous because it inculcates a suspicion toward History that hinders the reception of our historically particular gospel.

Let's move on now to consider what the relationship between Science and Christianity both is and ought to be.

¹³ Point 4 does not follow from Points 1-3, so this is a bad argument. It is, however, equally important to recognise two other assumptions behind the argument: one, that in Christianity, God is simply the answer to some questions we have about the world, rather than a personal creator who desires fellowship with his creatures; and two, there can be one and only one layer of explanation for anything we experience.

¹⁴ Dawkins, Richard, *The Magic of Reality* (London: Bantam Press, 2011), 257.

¹⁵ Beyond popular notions of Science as generating knowledge through the repeatability of experiments, there are significant strands within many sub-disciplines, known as Historical, or Forensic, Science where repeated trials cannot be run, but where the evidence is presented as a *fait accompli* and the only way forward is, relying on the consistency of physical laws across the universe, to tell a coherent story that includes the evidence at hand. Astronomy, Evolutionary Biology, and Geology are among those disciplines that involve, at various times, this kind of Historical Science.

¹⁶ Perhaps the most obvious, everyday example of establishing truth in the absence of physical evidence is our justice system. In fact, the Christian Scripture allows for facts to be established on the testimony of two or three witnesses. No process is perfect, not even with physical evidence, but ‘beyond a reasonable doubt’ is a high standard.

¹⁷ Lennox, John, *God's Undertaker* (Oxford: Lion, 2009), 40.

Science and Christianity

There are two questions we must deal with: first, the Christian attitude toward Science; and second, the biblical view of creation and the success of Science.

First of all, a Christian attitude toward Science. Dawkins and Harris have expressed the view that Science and Christianity are opposed to one another because Christians prefer ignorance to knowledge and are therefore suspicious of - and anxious about - advances in Science. Christians, they say, are under threat from Science, and Science is under threat from Christianity.

Their understanding of the situation is simply mistaken. At the time of writing, there are at least 100 well-known Christians who are scientists in major universities and government research labs around Australia. There are, of course, many thousands who are less well-known. The point is that Christians, in general, are most certainly *not* suspicious of - or threatened by - advances in Science. Those researchers are members of 100 different churches where, for the most part, their fellow Christians are entirely comfortable with and supportive of how they earn their living. There are some groups of Christians who are threatened by advances in Science, yes, but they are a small fraction of Christendom worldwide. They are not the mainstream.

Dawkins and Harris have also missed the mark at the level of principle. That is, the Bible gives a fairly straightforward description of the relationship of humanity to creation, which has clear implications for a Christian attitude toward Science. Again, just because these ideas are in the Bible does not mean that every Christian has carefully thought it through for themselves, but because the Bible is our “charter document”, as it were, we can say that there *is* a biblical view on Science and Christianity, and that those who delve into it for themselves will largely come to the same conclusion as follows.

The Bible opens with a picture of God’s relationship to his world, the culmination of which is his creation of human beings.

“Then God said, “Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground.” (Gen 1:26)¹⁸

God creates humanity and then gives them a purpose, to rule creation under God. If humanity is to rule over the creation successfully, we will need to know how things work. Fulfilling our God-given purpose will necessarily involve us in scientific pursuits. The more knowledge we have of the world, the

more successful we will be at fulfilling our purpose; hence Christians, far from being suspicious of - and a threat to - Science, have every reason to be eager about advances in Science, and to promote the success of Science. This is essential to our mandate in creation.

In fact it is worth pointing out at this stage that all, or nearly all, of the Empiricists who launched modern Science were themselves professing Christian believers who saw no conflict between their empiricist crusade and their belief in the Bible.

“To conclude therefore, let no man upon a weak conceit of sobriety or an ill-applied moderation think or maintain, that a man can search too far, or be too well studied in the book of God's word, or in the book of God's works; divinity or philosophy: but rather let men endeavour an endless progress or proficiency in both; only let men beware that they apply both to charity, and not to swelling; to use, and not to ostentation; and again, that they do not unwisely mingle or confound these learnings together.”¹⁹

Bacon's views here are entirely consistent with what we find in the opening chapter of the Bible: that God has created humanity to have an open, eager, and encouraging attitude toward Science.

The second question to tackle is the relationship between a biblical view of creation and the success of Science. You'll recall that as we traced the success of the empirical enterprise, that success was related to the presuppositions it held about the world. That is, because the presuppositions Science holds about the world appear to be true, the scientific endeavour founded upon those presuppositions was bound for success from the beginning.

Why did the empiricists enshrine those particular assumptions into Science? We know now that they work, but on what basis could the empiricists have predicted their success? Is there a worldview that would naturally suggest, or provide justification for, those presuppositions? Let's quickly go back over those first three presuppositions from earlier, comparing the view from Naturalism with the view from Christianity.

Firstly, *the orderliness of nature*. Richard Feynman, an atheist, gives us the view from Naturalism.

“Incidentally, the fact that there are rules at all to be checked is a kind of miracle; that it is possible to find a rule, like the inverse square law of gravitation, is some sort of miracle.”²⁰

From the perspective of Naturalism, the fact that there are laws and patterns to be discovered, is, ironically, a “miracle”. There is no reason from within Naturalism to suppose orderliness because nature is an accidental arrangement of matter that has no goal or purpose or intentionality behind it.

Genesis 1, however, sets out the Christian understanding.

“Then God said, ‘Let the land produce vegetation: seed-bearing plants and trees on the land that bear fruit with seed in it, according to their various kinds.’ And it was so.” (Gen 1:11)

“And God said, ‘Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years.’” (Gen (1:14)

These verses are two examples from the opening chapter of the Bible which suggest that God's creation is a purposeful, orderly place. Trees bear fruit, the seeds within which produce trees of the same kind that originally bore the fruit. Order, not accident, nor chaos. The lights mark out time, setting the boundaries of day and night, and summer and winter. Creation holds patterns and there is purpose behind them.

Of course, the entire Genesis account, quite apart from the content, is itself rigidly ordered, adding to the impression of God bringing order to his creation.

Secondly, *the intelligibility of nature*. Again, Richard Feynman:

“[the] rules that describe nature seem to be mathematical...it is not a characteristic necessity of science that it be mathematical. It just turns out that you can state mathematical laws, in physics, at least, which work to make powerful predictions.”²¹

Feynman is pointing out that there is no fundamental reason from within Naturalism as to why mathematics should correspond to physical phenomena and allow us to make predictions and thereby harness great power to fashion our world.

“The most incomprehensible thing about the universe is that it is comprehensible.”²²

Einstein, too, trying to grasp the success of Science in understanding the world, is left saying that the most incomprehensible thing of all is that Science works!

On the other hand, the biblical view is that God created humanity with a purpose in relation to the rest of creation, which then entails some sort of correspondence between humans and creation. Creation is ordered to humans.

“Then God said, ‘Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground.’” (Gen 1:26)

We can make two points about how humans are related to creation. First, the rational, orderly God who created the world also created humanity in his image. We know that we are rational beings and we can see that God is rational and created a rational world. It makes sense, then, that as his image bearers we will share our rationality with the rationality that is the nature of creation.

Second, God’s great purpose for humanity is to be stewards of his creation, and if we are to fulfil our purpose, creation needs to be intelligible. It is reasonable to expect the orderly God to make us fit for purpose.

Once again, we see that Naturalism offers no reason for the empiricists to expect nature to be intelligible, whereas Christianity (on the basis of Genesis 1) provides a firm grounding for our second presupposition.

Third, *all phenomena have natural causes*. Naturalism shines on this point, of course, by way of definition more than anything - but that counts! Naturalism says the only kind of cause possible is a natural cause! But note that while this presupposition has good naturalistic support, there remains, however, one chink in its armour and it is this: if all phenomena are meant to have natural causes then there is one enormous phenomena that still requires explanation, which is the universe itself. Gravitational theorist and atheist John Wheeler comments

“Science must provide a mechanism for the universe to come into being.”²³

Paul Davies also understands the challenge.

“This so-called cosmological argument has in one form or another often been used

as evidence for the existence of God...The enigma of the cosmic origin is probably the one area where the atheistic scientist will feel uncomfortable.”²⁴

Davies goes on to say that the cosmological argument would be “hard to fault” unless science can explain the origin of the cosmos from within the framework of physics.

This is a genuine problem for Naturalism. That is, if the universe has a beginning, but the cause is metaphysical, rather than physical, then Naturalism fails because there would, in fact, be supernatural causes at work. While Methodological Naturalism is never more than a working assumption and can maintain its usefulness in the face of an occasional exception, Naturalism itself becomes immediately untenable in the case of any kind of supernatural intrusion.

For Christianity, on the other hand, Methodological Naturalism was only ever a tool to encourage empirical investigation, and never a commitment to the bona fide absence of supernatural realities. While, even then, it may seem surprising, given they were Christians themselves, that the empiricists adopted Methodological Naturalism as one of their working assumptions, it turns out that the idea was derived from a very basic tenet of a Christian doctrine of creation.

“In the beginning, God created the heavens and the earth.” (Gen 1:1)

Christianity understands God to be distinct from his creation. Creation is *outside of* God, *separate from* God. Creation is not God - this we would call Pantheism. Creation is also not part of God or an emanation from God - this we would call Panentheism.

Picture yourself holding a water bottle. Now imagine the water bottle is the universe and you are God. The water bottle universe depends on you to hold on to it, but it is not any part of you. It is distinct. You are free to be involved in the water bottle universe, but you aren't part of it. Conversely, if you were a creature the inside the water bottle you could live your life there and understand how your universe worked without ever needing to refer to the hand outside the bottle. The water bottle universe has its own logic that doesn't connect in any direct way to the hand, and so can be understood on its own terms. Our world is very much like that. The hand is there, and one of its functions is to keep the world working the way it always has, so that we can get on about our business in an orderly, peaceful way.

We saw earlier that the truth of the top three presuppositions of Science were the secret behind the success of Science. We can now also see that Christianity provides warrant for adopting those

presuppositions in a way that Naturalism does not.

Rodney Stark in his book *For the Glory of God* says

“... leading historians and sociologists of science ... agree that [science] was a development unique to Europe.”²⁵

Historians agree, then, that modern Science did arise in Christendom, but the question soon follows, why? Stark responds:

“My answer to this question is 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.”²⁶

Stark holds that the nature of the God of Christianity and the consequent nature of his creation were the inevitable seed bed for the rise of modern Science. Peter Harrison, a professor of the history of the relationship between Science and Christianity, agrees:

“Could modern science have arisen outside the theological matrix of Western Christendom? It is difficult to say. What can be said for certain is that it did arise in that environment, and that theological ideas underpinned some of its central assumptions. Those who argue for the incompatibility of science and religion will draw little comfort from history.”²⁷

The success of Science in explaining our world without reference to God has led to the logical misstep of imagining that God was never there in the first place. As Science has become equated with Naturalism, giving birth to Scientism, the idea that Science and Christianity could be anything but enemies has become implausible to the public. This is a perception fuelled by the vocal scientific atheists of the New Atheism.

What we have found is this: not only is an open and eager attitude of Christians toward Science encouraged - even necessitated - by a biblical view of humanity as God's rulers over his creation,, *but also* the biblical view of creation makes sense of the success of Science by providing warrant for the presuppositions of Science in a way that the naturalistic view of nature does not. In fact, the Christian worldview is not simply a better fit for Science than Naturalism, it is increasingly being seen by

historians as the most significant factor in the rise of modern Science.

In principle then, Christianity has nothing to fear from Science and Science has nothing to fear from Christianity.

Sounds nice, but...

Truth is a unity and God is behind it all, so we do not expect to find any fundamental conflicts between what God reveals to us about his creation in the Bible and what we discover in his creation through empirical investigation. Imperfect knowledge of our world and an imperfect understanding of the Bible will, however, lead in practice to apparent conflicts between the two. We are familiar with a long list of these and they can make us uncomfortable. They can make conversations with friends frustrating.

Is the universe 13.8 Billion years old or 6,000 years old? Is the earth 4.5 Billion years old or 6,000 years old? Was the first of our human species born as much as 200,000 years ago? Was that human being the result of a gradual evolution over billions of years from a single self-replicating molecule? Do human beings share a common ancestor with apes, rosellas, and gum trees, or are they an entirely distinct creation? Has death been a part of creation since the first organisms or is it the result of a particular act of one human being later in the timeline? Has belief in God evolved as an adaptive benefit, or is God really there? What happens after we die? Did Jesus walk on water? Did he calm storms and heal people with a word of command? Did he rise from the dead?

How do we approach these questions? The answer to that is another paper, at least, but here are six ideas to keep in mind as you navigate the relationship between the Bible and Science in areas of apparent conflict.

1. Be clear on what's essential

Our minds are full of ideas we hold dear for a variety of reasons. When it comes to Theology, these ideas might be essential planks in the understanding of salvation, or they may be preferences about dipping the bread or sipping from the cup. When faced with conflicting ideas, it can be helpful to compare our ideas to the Bible and highlight what is essential and cannot change. The more confident we are about what we believe to be central, the more comfortable we will be discussing both essentials and non-essentials.

When we get ready to investigate conflicts, let's get our non-negotiable stakes in the ground, so we can better recognise challenges to both the essential and the non-essential. We can still be wrong about either, but we'll be more prepared to discuss the issues without being defensive.

2. Be humble

We neither know everything about our world, nor everything about the Bible, nor everything about our God. Also, what we think we know may be mistaken. Our knowledge of the world and of God is affected both by our finiteness and by our moral state.

For these reasons, humility is always the correct stance toward others and toward new ideas. We do well to listen more than we speak, putting energy into exploring new ideas, and making sure we understand the other person and their ideas.

3. Be driven by the truth

Christians cannot be censorship people, as a rule. If the truth will set us free, then we need to know if we have the truth. Censorship keeps us from ever being certain we have heard all the arguments against what we believe. If we are wrong, don't we want to know? Let us be people who are driven by wanting to know the truth.

4. Look for layers of explanation

Where conflicts are concerned, one thing to remember is that there are always layers of explanation. How did my children get to school this morning? Did I get them there by driving them? Did the car get them there? Did they get themselves there by being clever enough to get in a car that was going there? The answer is 'yes' to all of them. Let's assume, for a moment, we have been hard-wired by evolution to believe in God. Is that evidence against the existence of God? Not at all. We don't have to choose between explanations as neither explanation need be exhaustive. That is, evolution did it and God did it.

Aristotle identified four different categories of causes: material, formal, efficient, and final. The material cause is the physical matter without which you would not have the item, e.g. marble is the material cause of a marble mantelpiece. The formal cause is the concept of the item into which we can import specific content, e.g. understanding the concept of mantelpieces is what opens up the possibility of discussing this particular mantelpiece. The efficient cause is the builder or the mechanism by which

the mantelpiece was made. The final cause is the home owner who decided, in the first place, that there would be a mantelpiece and what it should look like.

If we apply this kind of scheme to theology, it's easy to see how God can be the final cause of everything, including human beings. This is an idea that is proclaimed consistently throughout Scripture, without necessarily being the material, formal, and efficient causes as well. For example, Neo-Darwinian evolution could potentially be the efficient cause of human beings without either taking glory from God or purpose from humanity.

5. Do not derive Theology from Science

God has revealed himself to us preeminently in his Son, the Lord Jesus. Jesus comes to us wrapped in his Scriptures. God's physical creation gives us the barest picture of some basic attributes of God, his eternal power and divine nature. Even then, Romans 1 tells us that this revelation serves primarily to remove any excuse from humanity about not knowing God. Trying to know God through his creation is like trying to know me through the bird-house I made in Year 7 Industrial Arts. God is a person, not his creation. A personal relationship is offered through Jesus in the Scriptures, not through creation.

However, this does not mean we cannot alter our interpretation of the Bible in light of our knowledge of Science and History. We should always be adjusting our interpretation of the Bible as we seek to humbly uncover the truth. Science is one tool to help us in that quest. If we learn from Science that the Earth orbits the Sun and is not fixed in its place, then we are learning that the Bible uses figurative language (cf. Psalm 104:5). The discovery helps us read the Bible more responsibly, and that's a good thing.

6. Do not derive Science from Theology

God is free. God has revealed to us some general principles about his creation, but very little in the way of specifics. We know that God is sustaining his creation at all times. We know that there is purpose in everything. We know that God is concerned for what happens in, and to, his creation. Within those bounds, God has left himself an enormous freedom to create as he wills. The specifics of his creation cannot be predicted from his nature alone, and this means attempts to reason from God to the specific workings of creation won't work, as a rule, but getting our hands dirty and investigating for ourselves will work.

There are many different Christian voices on these issues, but I trust we can see that the Bible gives us some broad principles that will encourage us to seek the truth wherever it takes us, to work hard at understanding what is essential and what is not, to always remain humble, to listen carefully, and to admit our ignorance. These principles will help us to see that multiple explanations of a single phenomenon are not necessarily mutually exclusive (because they could explain different aspects of a problem), and to understand that the endeavour of Science is a good part of God's plan for us. As we learn to properly rule creation under God, these principles will help us to see that - over against Naturalism - it is the Christian view of creation that gives us proper foundations for doing Science, and that, however we ascribe mechanisms, we will give glory to the one true God, Creator, King, and Saviour of the world.

¹⁸ All Bible quotations are taken from the New International Version (1984), unless otherwise stated.

¹⁹ Bacon, *Advancement of Learning*, Book 1, Chapter I, Section 3

²⁰ Feynman, *The Meaning Of It All*, 24.

²¹ Feynman, *The Meaning Of It All*, 25.

²² Einstein, Albert, "Physics and Reality" (1936), in *Ideas and Opinions*, trans. Sonja Bargmann (New York: Bonanza, 1954), 292.

²³ Wheeler, John, "Genesis and observership", in *Foundational Problems in the Special Sciences*, eds. Robert Butts and Jaakko Hintikka (Dordrecht: D. Reidel, 1977), 39.

²⁴ Davies, Paul, *The Mind of God: Science and the Search for Ultimate Meaning* (Penguin Books: London, 1992), 39.

²⁵ Stark, Rodney, *For The Glory Of God* (Princeton, N.J.: Princeton University Press, 2003), 146-47.

²⁶ Stark, *For The Glory Of God*, 147.

²⁷ Peter Harrison, "Setting the record straight: Christianity and the rise of modern science," *ABC Religion and Ethics*, 20 August 2013, accessed 26 May 2015, <http://www.abc.net.au/religion/articles/2013/08/20/3830010.htm>.