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Does science disprove God?

Scientific dogmatism

In the contemporary world, reason is often thought to be the preserve of scientists. They sometimes seem to claim a monopoly on establishing what is true, or even credible. This view has a major influence on public life, and it is all too easy for non-scientific ideas, such as a belief in God, to be dismissed as irrational, and have no right to a voice in public affairs. All this must be challenged.

'If it isn't science, it's fiction.' So read a placard in a contemporary March for Science in Washington DC, replicated in major cities around the world. Thus what cannot be demonstrated, or even proved, in a scientific laboratory, is in the strictest sense of the term false. It is mere story-telling. The claim is that science reigns supreme and is the only way of discovering truth. It alone provides us with knowledge. The very term 'science' comes from the Latin *scientia*, for knowledge. Yet in recent generations, at least in English, the word has been narrowed to mean empirical science, the kind of knowledge obtained exclusively through human experience in observation and experiment. Not long ago, it was used much more widely.

Philosophy was studied until recently under the description the 'Moral Sciences' in Cambridge University. Theology was once called the 'Queen of the Sciences'. In current German, the word *Wissenschaft* means knowledge gained more widely than just through the methods of empirical science. A Philosophy Congress can thus be described by Germans, even in English, as a 'Scientific Congress'.

How has the word 'science' been narrowed to imply that experimental science is the *only* path to truth? Vast tracts of human experience, then, have nothing to do with what is true. Theories of goodness, beauty, or what is right, become just 'fiction'. They become stories we choose to live by with no universal validity, and no claim to reflect the world as it is. Reference to religious faith in general, and to Christian faith in particular, is regarded as mere storytelling. People's faith may be real enough in that they genuinely live in accord with certain beliefs. That, though, seemingly has no bearing on what other people might choose to live by, let alone what they ought to. If truth is established by science alone, your or my choice of a way of life is a matter of arbitrary commitment. What Christian faith points to, namely trust in God as the Creator and Source of everything, is regarded as beyond the reach of human science. It is not to be taken seriously as a claim to be an account of what there is, since the latter is defined by science alone.

These sweeping statements have their roots in philosophy current in the middle of the twentieth century. A circle of philosophers meeting in Vienna[1] before the Second World War made much of what they termed the 'scientific world-conception'. They believed that 'the scientific outlook knows no insoluble riddle'. This meant

simply that what could not be explained by science was to be discarded as meaningless. A. J. Ayer popularized this approach in Britain with his book *Language, Truth and Logic.* Following the Vienna Circle, he tied not just truth but also meaning to scientific verification. What a scientist could not find out was not real. If I say to you that there is a 'heffalump' in my garden, and you want to go and see it, I may deny that it is visible. I may even be unable to describe what it would be like if you could see it. You may well come to the conclusion that a heffalump that cannot be discovered, or even described, is not so different from no heffalump at all. The word does not gain any grip on the real world. The contention of those, like Ayer, who made scientific evidence the standard of meaning and truth was that statements beyond the reach of science, such as those about God, were in as bad a position as those about heffalumps. They could not grasp what was real, simply because reality was defined as that which was within the reach of science.

Like the demonstrators who proclaim that all is fiction without science, anyone asserting that the sciences are the source of all knowledge, and the sole criteria of what is true, must face the charge of irrational dogmatism. The very announcement that all is fiction beyond science is not itself a scientific statement. It is a statement *about* science, its scope and limits, and not one within science. It cannot be seen to be true in a laboratory. The conclusion must be that it itself is a piece of fiction.

Science is an impressive product of human reason. It seems to show how we are able to reach out beyond our prejudices, and come to see how the world really works. Yet we only trust science because we have a prior trust

in the capabilities of human rationality. We see the importance of science and its proven methods of testing theories through observation and experiment. This is because we can stand outside science. We see its achievements and its ability to progress. Science cannot justify itself, and to think that all reasoning can only take place within science is self-defeating.

If someone alleges that science can explain everything, they cannot mean that we know everything now. It would be ridiculous to suggest that anything outside the current reach of scientific theory does not exist. Current science is a product of humans, who are limited in their capabilities. No one is omniscient. All make mistakes, and the human ability to observe and experiment is limited by the constraints of space and time. When A. J. Ayer was teaching philosophy in the Oxford of the 1960s, no one had gone round the moon or seen the other side. So-called verificationists, who wanted to link reality and a human ability to verify through science, were genuinely concerned about what was meant by the reality of the other side of the moon when no one could see it. They had to extend the idea of verification and falsification to what could *in principle* be verified or falsified. They could imagine what it would be like to go round the moon, and soon cosmonauts did.

The limits of science

Vast tracts of the universe lie beyond our ability in principle to observe them, just as there are quantum events at microscopic level beyond the capability of our instruments to

measure. As a result, scientists, particularly in physics, have come to recognize the reality of entities, both large and very small, that we can never see, and may perhaps be always inaccessible. The role of theory in science, going far beyond the baseline of observation and experiment, has been stressed more and more in the philosophy of science over the last 50 years. The burning contemporary question is how far physics can stray from what we can in principle test, and still count its subject matter as scientific, rather than going *beyond* science into so-called 'metaphysics'. Some physicists quite seriously want to talk about many universes, even an infinite number, all of which are by definition beyond our reach and may have different, even unimaginable, physical laws. Yet why should talk of such universes, so different from our own that their nature is inconceivable to us, be regarded as more within the scope of rational explanation than a God who is the source and grounding of everything? Saying that the one is scientific and rational, but that reference to God is irrational because unscientific, seems arbitrary, if not inconsistent.

Any attempt to tie truth to the operation of science has to face the question of whether we are going to rely on science as it is today or science as it might one day be. We can certainly, even in scientific terms, envisage realities removed from our own immediate reach. Otherwise we could make no sense of scientific progress, since we could never discover anything new. We have to recognize the provisional nature of science, and the inadequacy of much of the evidence at present available to us. That motivates us to stretch scientific boundaries, even if we have to produce the relevant technology to

give us new information. That has happened in the past, such as in the seventeenth century when telescopes and microscopes extended our reach as human beings, a process that has continued today with our use of satellites and other methods of penetrating outer space. Even so, physical reality will always outstrip our ability to observe it, even with the most sophisticated equipment. As human beings, we are limited by our place in space and time, so what there is and how far we can know it have to be distinct notions. The mysterious nature of physical reality drives the scientific urge to find out more. The idea that science could be in a position to understand everything makes the erroneous assumption that everything is accessible to human experience.

We might still be tempted to say that reality is defined by some ideal science. Even if we could achieve full knowledge of all conceivable facts, that future science is as far removed from our present life as the idea of a reality that is dismissed by scientists as metaphysical. Even if we hope to understand through mathematics the principles on which the whole universe operates, that does not mean that we are defining reality through our knowledge. When we try to comprehend a reality that operates independently of us, we discover its nature. We do not construct it. Otherwise science itself would be fiction.

That reality is the same for everyone, and so science, when successful, has universal validity. It gains its authority because it is recognized that there is no such thing as Western science or Chinese science. Observations made in Beijing are valid in Washington DC, or London, and vice versa. We live in one world, the nature of which constrains all humans whatever their culture. Given the

diversity of human belief in religious and other matters, this makes science, with its methods of empirical investigation and peer review, seem all the more impressive. Many look to the agreement that appears possible in scientific investigation, and compare it unfavourably with the cacophony of religious disagreement around the world. Some think that the calm rationality of science might provide humans with the way through their quarrels and disagreements. 'Facts' and 'evidence' will force us all to agree.

Yet what are the scientific facts? One of the developments in the history and philosophy of science over the last 50 years has been the growing realization that data do not come labelled as 'facts'. Consider Sherlock Holmes looking in a garden for clues about an intruder. He will not find labels on a dropped piece of paper or a footprint saying 'clue'. What he regards as significant and enlightening will depend on what he regards as relevant to his investigation. It all depends on his theory. Anyone else looking at the same garden would not notice the same things. It is the same in science. One idea about science was that it consisted of the mind passively collecting data like a sponge. Musty old museums, with ranks of cabinets containing curiosities seemingly unrelated by any theme, exemplified this. Sir Karl Popper, the noted philosopher of science, ridiculed the idea as 'the bucket theory of the mind'. Human beings in general, and scientists in particular, have to be active agents in the world. They cannot pick out what is relevant for their purposes, without a theory tying things together. What once appeared literally as mere background noise to physicists studying the universe became recognized as background radiation from

the Big Bang at the beginning of our universe. All that was needed was a theory to demonstrate its significance. The cosmic microwave radiation picked up by instruments in 1963 was first thought to be interference caused by pigeon droppings on the antennae of the equipment. Facts have to be identified as such by scientific theory, which can take note of them and make sense of them.

Even so, too much should not be made of the priority of theory. It could imply that truth is simply the product of such theory, so that what there is depends on what we are looking for. The world as posited in one scientific theory may seem very different from that posited in another. Scientists, it has been said,[2] then live in different worlds, so that when they adopt a new theory, they live in a new world. (An example would be the change from classical mechanics to quantum mechanics.). The opposing, and surely correct, view is that we all live in the same world and gradually find out more about an actual reality. Scientists do not create different ones for themselves and their colleagues.

The provisional character of science

The fact that the world as seen by physicists at the end of the nineteenth century was radically different from that seen through the lens of quantum physics raises an issue. Does it mean that classical physics was mistaken in what it thought it knew? If scientists could be so misguided, might not present-day scientists be equally deficient in their understanding? Can we rely on science at all? Some would allege that science just reflects the

prejudices and preoccupations of the society that produced it. Far from explaining everything, it does not explain anything. The idea of a persisting scientific truth and rock-solid scientific facts seems very far from what actually happens in the course of the history of science. Theories are fervently believed, but then discarded. This makes some wonder that if the certain truths of yesterday become the errors or even half-truths of today, the same might apply to the apparent successes of contemporary science. Could our present day 'knowledge' becomes tomorrow's 'falsehood'?

These are not trivial or frivolous questions. They live at the root of much scepticism about the claims of modern science, and have given rise to considerable research in the so-called sociology of science. That looks at the social influences on scientists, and considers how far their work is constrained by factors sometimes outside their knowledge and control. Science could be the mere product of place and time. 'Post-modernists' have repudiated the idea of a truth that exists across time. Truth becomes simply what people believe, and when people believe different things they have different truths. Different beliefs construct different realities. This relativism makes truth depend on who believes it, and when they do, so that there is our truth and their truth, and perhaps even my truth and your truth. This idea spells death to the notion of sound knowledge and the dispassionate exercise of human reason. It is a mortal threat to the conduct of science itself.

Many deny that there is any objective truth in areas such as morality and aesthetics. Yet once they start questioning the idea of truth in one area, it is easy to extend

the same arguments to others. Science itself needs the idea of an objective truth as a goal, which is the same for everyone everywhere. It needs the idea of a reality that may not be fully understood, but is equally invariant. Any idea that science works, and that we do not have to think about the presuppositions of science, refuses to say what is meant by 'working' or what scientific 'success' is. We need assurance that, as humans, we can understand the world confronting us.

We have to face limitations on our knowledge, and the provisional nature of science. When we do, the idea that science can disprove the existence of God becomes problematic. Unless we define science as the source of all knowledge, we cannot say what ultimately can or cannot exist. People were once absolutely certain that an atom cannot be split. It once even seemed true by definition, and yet had to be repudiated. You can always stipulate anything by definition, saying, for example, that only matter exists. Materialists have often done just that, just as 'physicalists' and 'naturalists' in philosophy can make what is real depend on the edicts of physics, or perhaps a wider body of science. These are philosophical positions, not statements within science. They need philosophical justification, because they define reality in terms of the possibilities of human knowledge. Since it is true by definition that God transcends human knowledge, that would rule out God's existence. It rules out the possibility of even recognizing God's actions in our world, as the possibility of any divine origin is ignored. Such arbitrary decisions hardly constitute a rational approach, and ignore the necessity of giving science firm foundations, based on reason. Science does not deal with the whole of human

experience, and cannot provide its own justification. Why should we trust it? When science is challenged, it has to look beyond its own resources for a defence. Narrowing the idea of evidence and reason to what happens within science makes it impossible to explain why we should practise science in the first place.