Science and Faith, or, Swallowing Camels

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> *Woe to you, scribes and Pharisees, hypocrites! For you tithe mint and dill and cumin, and have neglected the weightier matters of the law: justice and mercy and faithfulness. These you ought to have done, without neglecting the others. You blind guides, straining out a gnat and swallowing a camel! (Mat 23:23-24)*

I am a scientist. I am also a believer with a faith in God. Obviously, I don't think that science and religion are incompatible, but I have heard people who seem to think so.

People will speak of "SCIENCE" as if it is an alternative to, or some better substitute for, religious faith. [Spoken snootily: "Now that we live in these enlightened times, we have no more need for the fairy tales of the past." That sort of thing.] As if only gullible, naïve people would ever place any value in religion. They seem to suggest that religion is a pastime for unintelligent, or at least, uneducated, people. Or, worse still, they impugn religion as the cause of violence in the world and war. As if peace was the result of reason and war the result of faith.

Likewise, I've heard religious people speaking derisively of science as if it were only an atheist's pastime, highly suspect, and somehow worldly; maybe even, immoral. They tend to highlight the violent and monstrous results of scientific achievements like the atom bomb, global pollution, and the alienation that technology seems to foment. As if all of the ills of the modern age were caused by science and technology and, if only we lived in an agrarian society, the world would be a safe and beautiful place.

But could it be that the anti-religionists and the anti-science crowd could both be somewhat in the wrong, both exaggerating something? I think so.

I believe that Science actually uses a lot of faith, in actual practice, and that Religion relies on scientific reasoning, without even knowing it. I think that the people in either camp who

disparage the other approach to knowledge are not perceiving how similar the two intellectual projects (science and religion) are to one another; and, to top that, they are both making the same arrogant, over-simplification of their understandings, treating their own conclusions as "certain" in distressingly unsound ways.

Let me explain: humans find ourselves, from moment to moment, asking ourselves, "What should we do next?" Because life needs action. Unless we are unconscious, we are doing something. What shall we do? What is good to do?

In figuring out what to do next, we take for granted that we need air, water, food, shelter, friends, security, entertainment... and whatever else you want to put into your list of 'necessities.' So, after feeding yourself, your kids, your livestock, your tribe, and building an empire, what then?

At the end of our life, the inevitable question arises: how can I find out what happens to me when I die? The ancients had lots of people telling them stories about what will happen after death... Who could you believe? Some say that we have a spirit that immediately falls into a place of feasting if you've died in battle. Others say that we travel into the stars on a boat. Who was credible? The question becomes, "How do we know what we know?"

This is a fundamental question that the ancient guys who would eventually become philosophers would eventually come to call "epistemology" or, the study of knowledge. I like to say, "the study of how we know what we know." It's a puzzle that must be faced.

The study of knowledge

Let's go back to the ancients: suppose that you are a shepherd watching your flocks. You have to figure out where to find water. This takes a fair bit of guesswork if you are in new pastures. Suppose that you are a fisherman, sailing your boat out of your harbor. Predicting the weather becomes especially important if you want to make it back to shore alive. This type of problem makes the epistemological mental exercise unavoidable.

So, in answering any puzzle, whether it be, "Is there water for my flocks over that hill?" or, "Will there be a storm on the bay today?" or "What will happen to me when I die?" you have to have some kind of understanding about how you will accept this or that statement of knowledge about the unknown, at least, insofar as you want to make a decision about your next move — either to trudge the flock up that hill or to take the boat out of the harbor or to have someone

bury you in a certain way, like with a bit of gold or food or weapons or whatever, because, you know, if you do it wrong and make the wrong choice, you will unnecessarily weary your lambs, or perish in the sea, or end up in the afterlife without the right stuff to do whatever the spirits do! Better get it right!

Since you can't know everything (especially the future) and you have to face uncertainties (like what is going to happen after death) people had to come up with some way to tell a dependable fact from an undependable one, to distinguish a trustworthy source of information from a bad source. Most people accepted things that they could experience with their five senses. Direct perception works well for most things. And, knowledge imparted by a trusted authority, like elders, worked well, most of the time, except things that your crazy uncle told you. (You probably learned not to listen to your crazy uncle the hard way, but you forgave him, eventually.) And, stories told by priests might be trustworthy, too, because they do all sorts of things that seem like they see things that you don't! You have to make a decision now, so, you go with what seems like the best advice. That's about where the average ancient peasant, struggling to get his family fed, his flock watered, and his fish netted, probably left it. They trusted their own senses, elders, and priests. Direct perception and credible authorities — that's about it for ancient peasant epistemology. Religious explanations were good enough.

Fast forward through history to our times and we find a religious explanation more likely to be openly discredited. Why? Firstly, because the Church in the Middle Ages took a huge amount of authority on itself to explain the natural world, like the revolutions of the planets, with only the most tenuous support from a few ancient writings unearthed in the Renaissance. Then, scientific reasoning showed up as a method that proved to be more reliable than priests and tribal elders — and your crazy uncle. In 1543, Copernicus launched the Scientific Revolution proper by properly putting a new spin on the revolutions of the heavenly spheres. (Which is totally wonderful, since the scientific revolution was started by heavenly things.) So much for the authority of the ancients! If they were wrong about the planets, why, they could be wrong about anything!

"How we know what we know" became less reliant on old authorities. Science proved to be so amazingly effective that it really picked up steam, inventing a steam engine, causing an Industrial Revolution, and helping humanity rocket from the first internal combustion engine to putting men on the moon in less than 100 years. People saw the success of Science and began to

speculate that it won't be long before we can cure cancer, eliminate world hunger, and go to Mars! [Yay, science!] Perhaps we can forgive excessive exuberance. The method really does seem to work!

Science as faith

The more logically positive among us began to see Science as an alternative to religion. And I can't blame them, when religion — at least the Catholic Church's version — was getting soundly rebuffed in astronomy, physics, and medicine. Not to mention the Church's selling of indulgences, weaving mysterious stories about heaven and hell, demons, and a personified devil. With the Church pushing these kinds of ideas, it's no wonder that "faith" was discredited. I'm not surprised that anyone, impressed by the achievements of science, grew to believe that the only epistemology that we should pay attention to is some version of this: "Only scientific facts have validity;" "Only science is dependable for making decisions!"

This sounds good at first, except that the premise that "only scientific facts have validity" isn't itself a scientific fact. It's a belief! [Oh, drat.] You know how Jesus warned the Pharisees about straining out a gnat and swallowing a camel? Inflating scientific validity to primary importance in our personal epistemology is swallowing a camel. In straining out the gnat of over-reliance on Church authority, modern thinkers swallow the camel of over-reliance on science. They turn a way of thinking about evidence into a meta-narrative for all of life's puzzles. We can call this insistence on the primacy of science, "Scientism," which is distinct from the scientific method. The scientific method is just a way of thinking about observable facts. Scientism claims that science negates the need for faith.

Sadly, Scientism has all the same problems as the Church: it alienates and disparages people who may accept other epistemologies; it has a hierarchy of leaders who make the decisions for their field of inquiry, to whom you have to genuflect to get the best positions in academia in prestigious schools; and it can lead people, in extreme cases, into morally despicable conclusions, like we saw with phrenology, eugenics, racist experimentation, and even genocide. At their worst, Scientism and the Church became equally horrific.

Okay, you say, scientism is an exaggeration of the utility of the scientific method of inquiry. But that doesn't mean it's wrong! Who needs theism, when a faith in Science works just as well, probably demonstrably better for making society more comfortable, more secure, more hopeful?

Granted. My point here is that, if you choose that epistemological project, call it for what it is: a faith, a belief system. A trust in something other than God, but a trust nonetheless. Scientism requires faith and, as such, sounds a lot like a religion.

I can't help noticing that scientists disparage faith as blind when, at the very moment that they are disparaging faith, they are actually using faith to arrive at their belief that Science is the best way to establish immutable truths.

No thinker, whether a devout Christian or a devout scientist, can avoid the need for faith in something. Followers of Scientism must take on faith that the accounts of the observations of the preceding academics and their descriptions of their methods have been validly recorded, without errors; that the methods used to make the observations were appropriate and reliable; that the tools used to make measurements were properly calibrated; that the words used to describe the results in peer-reviewed journals were comprehensive enough for replication of the studies; and that the conclusions made by the academy are true. Nobody can replicate all of the preceding fundamental studies to completely prove for themselves the facts in their college textbooks, so young scientists have to take on faith that they've been given enough valid information to not blow themselves up in the lab. You take all this on the authority of the field, on experts you trust, on the gradual build-up of our body of knowledge in the scientific literature. This requires trust in science as a good method for transmitting knowledge and, given the nature of scientific revolutions described by Thomas Kuhn, it seems that we should expect things we think we know in a scientific field to get turned upside down once in a while.

Furthermore, when it comes to death, proponents of Scientism have to have faith that the Divine Being isn't there and won't do what he said he would do, because, after all, that isn't a verified fact.

Now we reach an interesting pivot point: what does a scientist do when faced with a puzzle or an unverified fact or an unknown? He or she makes a hypothesis, right? You remember your basic scientific method: observe, describe, hypothesize and test. So, now that we have that scientific method in mind, we can ask ourselves: what happens to us when we die?

People with a religious faith live as if they face a future reward, but they cannot really know what that ultimate after-death outcome will be. So, in a way, aren't we testing our faith's prediction of what happens to us after death by living in the manner prescribed to achieve

salvation? Living as if God's promises are true is testing a hypothesis. [Yay, science!] It doesn't make sense for believers to disparage scientific thinking when they are using it themselves.

If you are living as if the resurrection won't happen, like a devout follower of Scientism, then you are also testing your beliefs about what happens to you after you die. It is also a lifelong experiment. [Yay, science!]

Let's bring this home: religious thinkers are living as if God will one day resurrect them. Scientism's devotees are living as if one day God won't. Both are testing a hypothesis about what happens after death. Both are using the scientific method, setting up a lifelong empirical test of the veracity of their beliefs about the possibility of eternal salvation. Both think that they have enough evidence to support their hypothesis. Both rely on credible authorities — at least the ones that they find "credible." Both honestly think they are going to be proved correct. Both think that the other people are insane. Both are still in the dark until their lifelong experiment is finished! And, both run the risk of being arrogant enough to disparage each other's epistemology without waiting for the outcome of their own. [Sad, but true.]

Disparaging science as a worldly evil falls into the trap of exaggeration. Science doesn't cause wars. People use science to win wars, yes, but the war is not caused by science. Science is just a method that keenly parses our observations of the world around us into finer and finer statements until we can be confident in our understanding of how the world works. Science is a method for pursuing veracity and immutability. It's a grand project with a grand vision. In a way, it is the same project that believers undertake when they search for wisdom. Science is a method for searching and it is as useful to a believer as to a non-believer.

Pride

Pride is really the problem here, for both religious believers and for Scientism. The Church wanted so badly to be the powerful leader of society that it foolishly and arrogantly exaggerated what it knew about the planets' heavenly pathways. Scientism's believers also have been known to arrogantly over-state what science has been able to figure out so far. Why? Power and influence. Scientists, too, like the Church leaders, want to be the powerful leaders of society. Scientism exaggerates what it knows about God's heavenly pathways as much as the Church exaggerated what it knew about the planets' pathways through the heavens.

The antidote to the lust for power, this all-too-human propensity to exaggerate the certainty of one's epistemology, is humility. We have to be humble about what we know. Direct perception only goes so far with answering what will happen to us after we die. The authority of credible priests or credible scientists also only goes so far. We need to be really careful about the limits of our knowledge.

Humility in our personal epistemology can save us from a lot of distasteful judgments about the credibility of ways of thinking that we are all using.

We are all using both faith and the scientific method, so anyone who disparages someone else's reliance on either faith or science is automatically a hypocrite. Don't exaggerate the veracity and immutability of what you think you know. That being said, like any good scientist, I'm willing to change this conclusion in the light of new evidence.

And because I don't want to swallow any camels.