**Science and Religion are Not Enemies**

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Many words have been written and much rhetoric produced, coming from scientific materialists and "New Atheists" such as Richard Dawkins declaring that the human religious pursuit is the natural enemy of human progress and, more particularly, of the free search by scientists for knowledge about the physical world. Famously, Stephen Jay Gould and Niles Eldridge have called for peace between warring scientists and religionists by declaring that science and religion are non-overlapping magisteria. According to Gould and others, there is no overlap in subject matter or in the kinds of questions to be asked and answered by the purveyors of religion and science; therefore the two can simply ignore one another. It is not hard to read between the lines of Eldridge’s words to detect that he assumes that, with time, the human need for religion, reflecting a pre-modern superstition, will soon conveniently disappear.

The question at hand here is this: What is the relationship between science and religion as they are regularly practiced in modern life? Is their language and means of acquiring knowledge incommensurate? Are there any important questions which both religion and science seek to answer, and if so, might their means of addressing these questions be complementary rather than in a natural and unending state of conflict? Does the arrival of the age of science herald the inevitable decline and fall of religion? What kinds of questions is science good at answering and what are the limits of science? The same should be asked of religion. One conclusion will be that, although science and religion are broadly incommensurate, there are areas of inquiry where they overlap. The other will be that it is a mistake to assume that the two are natural enemies. Scientific inquiry is not the natural enemy of religious pursuit. Neither is religion, if pursued in its appropriate context, the natural enemy of the scientific search for knowledge about the universe.

**What is Science and What Are Its Limits?**

First, of course, we need to know what we are talking about. What is science? Putting aside for a moment the claim of philosophers that there is no real philosophically defendable scientific method, what is science and what can we learn from the scientific approach to acquiring knowledge? Put simply, science is a means to discover the underlying laws which govern the natural world using empirically-generated data as well as theories and models to explain that data. Science does not answer the ultimate question "Why?" Rather science provides us with explanations of physical phenomena which are not self-contradictory and which are consistent with the physical evidence. Science provides us with physical explanations of physical phenomena.

Science, by its very nature, is limited in the kinds of knowledge it can give us. It is very good at answering certain questions and very bad at answering others. Its answers are always tentative and never the final answer. For this reason, science does not answer the deeper questions about truth. It is completely unable to answer the metaphysical question: Why? On the other hand, science is really quite effective in answering questions such as, Where? When? How many? By what means? Arguably, it is the by far the most effective means yet devised by human beings to answer such questions. Postmodernists may question whether absolute truth exists, but science certainly does seem to give extremely reliable knowledge about the workings of the physical world.

Having said this, science is quite limited and perhaps even useless to answer questions such as, "What is the value of human life?" "Is that the right thing to do?" "Am I here for a reason?" Without exception, human beings find themselves asking questions about beauty, social justice and purpose. Like a local news commentator here in San Diego says when government officials ignore the needs of regular people, "It ain’t right!" Science does not help us here. In assessing the relative importance and need for science in human societies, it is worth noting that these are the kinds of questions people really care about. Human beings are not as concerned with where, when and how many, but are very concerned with questions of justice and truth. When I discuss the limits of science with my students, I point out that, in the final analysis, science is not very good at answering any of the questions most of us really care about. This is not to deny the importance and usefulness of science. Through science we have cured diseases, understood the marvelous working of nature on a microscopic and cosmological level, been able to predict our future and devise means to avoid the negative consequences of human behavior. However, it is clear that science is not the only means to ask and answer questions, and its ability to answer the questions humans care most deeply about is limited. In order to meet the needs of real people and to maximize the human good, other sources of knowledge and experience, such as art, philosophy and perhaps religion are essential.

**What is Religion, and What Are Its Limits?**

It is clearly difficult to define religion and even more difficult to assess its limitations. However, we must make the attempt in order to assess if religion and science are natural opponents. Scientists generally agree, at least broadly, on a "method" to acquire knowledge of the world. Clearly, humans do not agree on the "right" religion. Yet, we can establish in very broad outline the sphere of knowledge and the means of establishing that knowledge in the human activity we label as religion. Generally religion asks questions such as the place of human beings in the world-not just the physical world, but in the larger world, which includes purpose and meta realities which may or may not exist outside/above physical things. Those who practice religion ask questions of what is right and wrong. They ask not what is, but what ought to be. What is my purpose? Is there a higher, supernatural reality? If so, what is the human relationship to that reality? Whereas science seeks tentative explanation and rejects authority, religion, at least in this sense, is the opposite. Generally, religious "truth" and knowledge are based on authority, such as that of a guru or a canonical scripture. In science, nothing is true, per se, but in most religious contexts, truth is well-defined. Scientific knowledge changes and grows. Religious experience may change and grow, but religious claims do not.

We may be stepping into controversial territory here, but generally, religion is not particularly effective in answering questions about measurable things. Questions such as when, where, how many and so forth are either not answered, or the track record for religions answering such questions has not held up all that well. We ignore history on this to our peril. It seems not unreasonable to conclude that generally religion can concede to science the role of informing us the cause of a particular disease, the history of the universe, the age of rock formations and the probable result of combining certain chemicals.

**Boundaries**

Humans are social beings, but we are individuals as well. Generally, in a social sphere, we will concede space to the other, but in our own personal sphere, we will defend our own territory vigorously. I will share space with my neighbor at the coffee shop, but will not concede space to him or her in my own bed. The general conclusion from the discussion above is that the "homes" of science and religion are separate. These are more or less incommensurate bodies of knowledge. As long as religion does not enter the bedroom of science and science does not enter the bedroom of religion we can have peace. It should not surprise us that when religion invades the natural territory of science, it evokes a reaction and vice versa. If science tries to declare that alcoholism is neither right nor wrong, religion will not concede this point. If religion tries to declare that "sin" is the cause of disease, science will not remain silent. Nor should it.

If scientific materialists try to tell us that, based on experiment in neuroscience, the human soul and human consciousness are not real, or at best epiphenomena, then it seems fair for those with religious faith to cry foul. Since when could science answer questions about ultimate reality? This is a boundary issue. Scientists would be best to take off their scientist hat before speaking on such a topic they know little if anything about. Unfortunately, some scientists do not respect this boundary.

On the other hand, if a person with faith in a particular religious authority declares that their scripture denies that the earth moves or claims that the universe has existed in an infinite cycle-a wheel of time, then the scientist has reason to cry foul as well. If a religious claim tells us that galaxies do not exist, the scientist seems within his or her right to respond that this religious claim is almost certainly not true. Again, this is a boundary issue. At the very least, the person with religious faith ought to hesitate to impose a qualitative belief on quantitative science.

Perhaps humility might go a long way here. The scientist ought to hesitate to declare that the physical world is all there is-that there is no God, no supernatural reality-and the person of faith ought to pause before declaring a particular scientific conclusion to be false doctrine. Is it not possible that their own interpretation of their authority is what is at fault? Or, as Augustine proposed, such an anomaly may be evidence, not that science is wrong, but that their religious authority might be mistaken. The story of Galileo’s conflict with the Roman Curia is informative here. On the one hand, for the materialist to declare, by fiat, that there is no supernatural intervention in the world is to commit a boundary error. On the other hand, for a person of faith to apply such a faith to declare that there are no truly random forces in nature seems to be a boundary error as well.

**When Do Science and Religion Overlap, and How Should This Be Handled?**

It would be nice if life was simple. One can only wish that Gould and Eldridge are completely right that science and religion are non-overlapping. However, reality is complex and the fact is that there is indeed overlap between the territory of science and of religion. Is human consciousness real or a mere epiphenomenon? Is there a real demarcation between humans and other animals? If so, what is that demarcation? Was the physical universe created? If so, how and why? Was life created and can fully random forces explain the creation of life? Given the apparent "phase transition" of complexity between living and non-living things, might there be a corresponding transition to a higher level of reality? Is religious experience just chemicals moving around in our brain, or might such chemical activity be an indicator of something real happening on another level of reality? Is love just the release of certain neurotransmitters and the firing of certain neurons, or might "love" be something real? Do I exist? Do I have a body, or am I a body? Neither science nor religion has exclusive ownership of any of these questions. It is in these areas that each can inform the other and that, for the wise person, such interchange will indeed happen.

To simply declare that religion has nothing to offer to these questions or that such questions are sheer nonsense is not acceptable to the great majority of people. To do so is to undermine the dignity of human beings and to lessen the value and quality of life. On what authority can anyone declare such questions nonsense? To say that justice is a meaningless word and that religious experience is mere superstition is to declare the result of an experiment which has not even been performed.

On the other hand, for persons with religious faith to simply ignore the implications of genetic research into the causes of alcoholism or the discoveries of neuroscience is short sighted. Perhaps one can even argue that the moral imperative of most religions includes the search for truth, wherever it leads. One can argue that to simply reject on religious presuppositional grounds the implications of scientific discoveries is to lessen the value and quality of life as well. If it is foolish simply declare religious experience foolishness, it is also foolish to simply ignore the vast and growing evidence for common descent of life on the earth.

**Conclusion: Science and Religion Ought To Be Friends**

The conclusion to this point is that on a great number of questions, science and religion are incommensurate. Careful attention to boundaries can, for the most part, allow the two to coexist without doing battle. Humility and caution can allow people to delve into the areas where the two overlap without major friction. Science and religion can co-exist in peace. However, the conclusion of this essay is not just that the two can exist in peace. The claim is that they are natural friends. Is this going too far? Let me explain.

Let us consider the question of alcoholism. If we only listen to the "science," perhaps we will notice the genetic predisposition of some to alcoholism, but fail to give hope to the alcoholic. It is not inconceivable that if we do not allow science and religion to work together, we may leave the alcoholic in a very bad place. The science alone might even give the person an excuse to not change. Perhaps the "ought" of religion can make the difference for a person to overcome the addiction. On the other hand, if we only consider the "religion" of alcoholism, declaring it a sin, but ignoring the science, we may miss a chance to use a chemical treatment to help the person overcome alcoholism. We might also fail to show compassion, not understanding that for some it really is harder than for others.

Does understanding the brain chemistry of prayer make it any less benefit to the believer who prays? Perhaps knowing that her brain was "designed" to allow her to experience both a spiritual and a physical effect from prayer might increase the faith of a believer. Many believing scientists have found special revelation from religion and general revelation from science to complement one another. Galileo had a good grasp of the boundary issues and the complementary nature of science and religion. In his letter to the Duchess Cristina (1614), speaking of his Christian religion and science he said; "I think that in discussions of physical problems we ought to begin, not from the authority of scriptural passages, but from sense-experiences and necessary demonstrations; for the Holy Bible and phenomena of nature proceed alike from the divine Word, the former as the dictate of the Holy Spirit and the latter as the observant executor of God’s commands." If we allow science and religion to work together, especially in that limited number of questions on which they naturally overlap, much good can result. We can contemplate not just the truth that God (or the gods, or Brahman or…) created all, but can marvel and how it was done. If we allow for the possibility of a design or a plan, then a vast array of incoherent but amazing discoveries can become coherent. They will make more sense. If we respect boundaries, how is science hindered by religion? The answer, historically, is that religion will inform science. That certainly was the case with Roger Bacon, Copernicus, Galileo and all the early scientists. The answer is that if we respect boundaries science will inform religion. If we can assume that our scripture or religious authority is a source of real truth, then science might even help us to understand how to interpret revealed truth. As one believer has said, all truth is God’s truth.

In summary, science and religion are natural friends. If those who practice science and religion will respect reasonable boundaries, allow humility and reason to prevail in the places where the two overlap, and if they will be informed by science and religion when both are relevant to important questions, then science and religion can be kissing cousins once again.