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Science and Religion: Competitors or Companions?

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Abstract

Perhaps the chief attack on religion over the last century has been that launched by science. Whilst many scientists and theological thinkers advocate a symbiotic relationship, there are others who use science and evolutionary findings to directly undermine the fundamental basis of religion. Traditionally it is thought that science and religion are the ends of two spectrums and often likened to the two ends of an ocean but perhaps they work in tandem, with science metaphorically representing the sea and religion the seashore. This metaphor can be developed by arguing that on our journey of life we sail in that very ocean of knowledge with the final ambition of arriving at the shore. Controversially, some scientists would vehemently disagree, exemplified principally by Richard Dawkins who advocates Ernest Hemingway's statement that, "all thinking men are atheists" (Hemingway, 1929, p.27). But is there a need to pit science and religion against each other in such a dramatic way? Equally, is it rational to suggest a logically harmonious relationship between these two antithetic fields? So, still the main question stands strong: in modern society, are science and religion competitors or companions?

When reaching turning points in our lives, experiencing great pain through loss, or even success it is inevitable for us as humans to wonder who to turn to. Religion speaks with the authority of the past and holds the power of a supremely ultimate being, but science's empirical nature is often comforting primarily through its awe of reason. In what follows, I explore the relationship that science and religion share and consider whether the rapid advances in scientific fields directly undermine the primary teachings of religion. In examining both the aims of science and religion and their key principles, I seek to demonstrate the controversial nature of this discussion by ultimately demonstrating that science and religion can be both competitors and companions.

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Clarification

To come to an educated (and also fair) conclusion, it must first be understood what we actually mean when we refer to science as science, and religion as religion.

Science is defined as, “the investigation of natural phenomena through observation, theoretical explanation and experimentation, or the knowledge gained by such investigation,”(Oxford Dictionary, 2002). Through this definition it is logical to label science as largely objective as it is based on empirical evidence gained through observation and experiment.

Religion is defined as, “the belief in and worship of a superhuman controlling power, especially a personal God or gods,” (Oxford Dictionary, 2005). As there is little, perhaps even no, empirical evidence used in coming to the conclusion of the existence of a, “superhuman controlling power,” it is fair to presume that religion is largely subjective. This is where the first difference occurs - subjectivity versus objectivity.

To thoroughly answer the question proposed, I intend to split my piece into three different sections:

1. Does science contradict religion, and if so is science all we need for a comprehensive understanding of the universe?
2. The role religion plays in modern society and the questions it addresses.
3. Do both science and religion work symbiotically and complement each other in understanding human existence to the fullest potential?

Part 1 - Does science contradict religion, and if so is science all we need for a comprehensive understanding of the universe?

The first part of my project is centred around identifying three main attacks that science launches on religion. These being: The Big Bang Theory, The Cosmological Revolution and Darwin's Theory of Evolution. This simplistic diagram below seeks to show the lack of any relationship between these two fields.

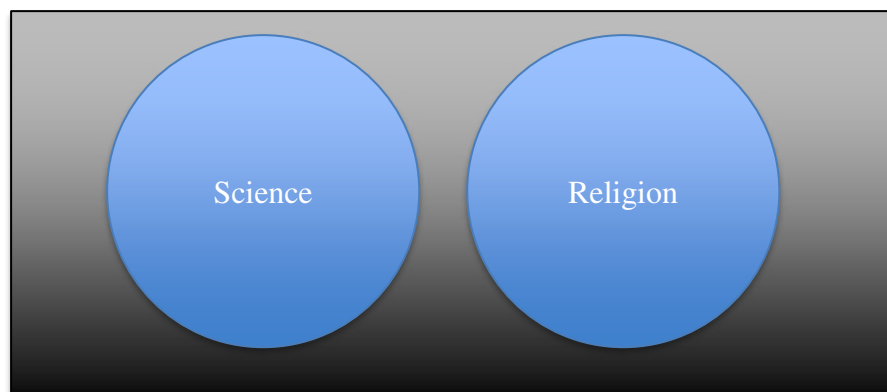


Fig 1: The lack of relationship, Author's own, 2017

The Start of the Universe - The Big Bang Theory

Despite the disagreement between many scientists over whether there is a God or any form of a higher being, a shared hypothesis amongst all is that, in essence, the universe began with a huge explosion commonly referred to as the “Big Bang.” The Big Bang Theory (BBT) roughly 13.7 billion years ago, in its simplest form was when all matter contained in the Universe was compressed into a single point that eventually exploded. In this explosion masses of heat and light were produced consequently causing the universe to cool and expand indefinitely. Robert Grosseteste first thought of this idea in 1215 and since then it has continued to develop as a theory. Now, in the 21st century, this hypothesis has been supported by a whole wealth of scientific reasoning and hardcore empirical evidence making its legitimacy almost unopposed. Hard, modern day atheists would use the legitimacy and scientifically convincing nature of the BBT to argue that the creation of the universe can be pinned down to an explosion which is independent to any other entity. So do these scientific findings leave religion as a bystander? A convincing case can indeed be made.

George Lemaitre, perhaps the key thinker behind developing the BBT said:

“As far as I can see, such a theory [of the primeval atom] remains entirely outside any metaphysical or religious question. It leaves the materialist free to deny any transcendental being... For the believer, it removes any attempt at familiarity with God.” (Lemaitre, 1950, p.50)

This section from Lemaitre's work deals with the core attack on religion. In the early ages of history, religion was an answer to the unanswerable. Why are we here? Who created the universe? To both these, due to the lack of scientific knowledge and other hypotheses, society turned to God for answers. However, now that society has a more copious understanding of the possibilities for the creation of the universe, it has launched an attack on the need for a God and religion. This is because, now that we are well equipped with scientific knowledge, society does not need to turn to religion as what was once unanswerable- and in turn caused people to seek religion to explain, is now answerable through scientific and empirical means. The awe of reason associated with the scientific version of the creation of the universe also undermined the credibility of the teachings of the Bible and in particular, Genesis 1. Until the BBT gained gravitas, the Creation Story in Genesis 1 stood unopposed. However, as soon as another hypothesis for the universe's creation came about, this directly undermined many of the key ideas of the Bible. Seemingly, it appears that due to the undisputed evidence associated with the Big Bang, it leaves believers in the Genesis account of creation being viewed as fantasists and illusionists. Astronomer Paul Seidl noted, "An astronomer would laugh at the naivety of anyone who chose to equate the two events" (Steidl, 1997, p.197).

There are fundamental differences between the BBT and the Genesis story. Most notably the BBT suggests a chaotic explosion caused the universe and after this, the world gained some order. However, this is almost the antithesis to religious teachings as Genesis depicts creation as a supernatural masterpiece with undisputed order from the very beginning. This is best epitomised by Psalm 19:1 that says, "The heavens declare the glory of God: the skies declare the works of his hands" (Staff, 2011, p.32). From these two contrasting offers on creation, realistically only one account can exist. Now, when one theory is centred on evidence and the other isn't, it is needless to say which theory emerges the more logical and sensible. In a world where society grabs onto the assurance of any strand of hard-core evidence, it leaves the Genesis account isolated as a mere piece of fictional works.

The Cosmological Revolution

The Cosmological Revolution was a period in history, during the middle ages, that was host to an array of new scientific developments which challenged religious beliefs and casted a hold on the church. This was famously when the Earth was discovered to be spherically shaped as opposed to flat. Through the new findings, the teachings of religion appeared out-dated and were subsequently undermined.

In the early 1500s Nicolaus Copernicus resurfaced a hypothesis, first thought of 150 AD, that the earth was spherically shaped and revolved around the sun. Towards the end of his life he published a book named, *De Revolutionibus Orbium Coelestium* ("On the Revolutions of the Heavenly Spheres"). Within this book, Copernicus documented that "the planets orbited the sun rather than the Earth" (Copernicus, 1543, p.72). The heliocentric principles of the scientific discovery completely demoralised the anthropocentric, religious traditions of the universe. In Joshua 10:12-13 it says, "And the sun stood still, and the moon stayed," (Staff, 2011, p.44) referring to the miracle of Joshua. Here it appears that Joshua

successfully ordered the sun to stand still, therefore prompting that the earth is the centre and the sun revolves around us. However, Copernicus's findings proved this not to be the case. If the Earth is not the centre of the universe, but the sun is, and if we revolved around the sun instead of vice-versa, does this mean that the universe was not created for us as religion teaches? Seemingly so! It would be nonsensical for God to have created the universe for humans, and not have placed it at the centre. This led people in society at the time become disillusioned with religious, anthropocentric readings and consequently Copernicus was excommunicated from the church, despite not trying to disprove God. Galileo championed the heliocentrism and Copernicanism, which was controversial during his lifetime, when most subscribed to either geocentrism or the Tychonic System (Hannam, 2011, pp.329-344). This cemented the validity of Copernicus's original discoveries. Yet another contradiction between hard-core scientific evidence and the readings of the Bible must be seen to undermine its legitimacy. This further lead to the possibility that if the Earth is not the centre of the universe, than what is? Perhaps, contrary to religious teachings, mankind was not God's primary creation.

A further long-term issue that the Cosmological Revolution raised was that as science progresses, religion no longer has a place - a phenomenon known as 'God of the Gaps'. 'God of the gaps' is a term used to describe observations of theological perspectives in which gaps in scientific knowledge are taken to be evidence or proof of God's existence (Wikipedia, *God of the Gaps*, 2017). The attack that this launches on religion is that religion is no longer needed to fill the gaps of our knowledge because hard-core empirical findings such as those of Copernicus and Galileo in the Middle Ages can do so with a higher degree of accuracy instead.

Theology and Evolutionary Biology

Biologist and theist John Lennox postulates that two assertions are often incorrectly made when considering the impact that Darwin's findings had on religion (Lennox, 2008, p.79):

Assertion 1: Biological evolution is incompatible with the existence of a Creator.
 Assertion 2: Biological evolution accounts for the existence of all of life's complexity.

Following Darwin's voyage on the HMS Beagle in 1831-36, a new wave of naturalism launched powerful attacks on natural theology, in particular Aquinas and Paley's Design Argument. After analysing his findings from the voyage for just over 20 years, Darwin released 'On the Origin of Species by Means of Natural Selection' in 1859. The significance of this work was that Darwin substantiated claims by previous naturalist thinkers such as Erasmus Darwin (1731-1802) and Jean Baptise Lamarck (1744-1829) with observational evidence. Secondly, and equally importantly, Darwin presented a mechanism by which evolution - not God - could, over time, play host to the array of life forms present on Earth. Hence, Darwin's findings demonstrated that contrary to biblical belief, it might be biology not God that holds the answers to the question of origins of existence, adding to theological disillusionment in the 1800s.

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The primary challenge posed by evolutionary biology was that it dismissed, almost immediately, the theodicy that creatures were a manifestation of God's intricate design. William Paley uses the analogy of watch to demonstrate that if an individual were to stumble across this object in a heathland they would immediately consider, from the complexity of the design, the nature of the designer - a great design surely has a greater designer. Take for example, a 35mm frame camera, which automatically captures images by detecting motion. It would be nonsensical to argue that this sophisticated design occurred out of chance and thus one would subconsciously consider the design of the camera to be a causality of a highly complex designer. However, Darwin's evolution demonstrated the illogicality of any suggestion that could argue directly from the ingenuity of their design, or their exquisite nature of their adaptation to their environment, to point to the existence of such a Being (Southgate, 2005). Secondly, evolution illustrated the geology old age of the universe undermining the chronology of Genesis 1, thereby dispelling any possibilities that a literal reading of Genesis could adhere with scientific account.

Moreover, the theological uniqueness of humankind was made questionable. Based on Darwin's later works, a less divine and special relationship between man and God is explored. This is because evolution implied that apes and humans have a common ancestor; rather than humans arising by any distinct act of creation, which would cement their theological uniqueness. From the three main conclusions that follow from Darwin's scientific findings, a key attack is launched on the need for religion in offering a supernatural explanation as Darwin's evolution proposes a far more naturalistic and tenable explanation based on concrete evidence.

Conclusion to Part 1

Part one has explored the three main developments in scientific thought, which have undermined religious authority insofar as offering antithetical explanations as to the origin of the universe. The conclusion that can be safely reached is that any fundamental and literal readings of the Genesis creation account and biblical scriptures must be expelled in order for these two disciplines to co-exist.

Part 2 - The Role of Religion and the Power of Belief

If the role of religion was simply to answer, 'Is God the supreme creator' then perhaps its use in modern scientifically advanced society would be limited. However, this would be a naïve suggestion: religion provides a sense of guidance, a way of life and hope demonstrating the limited conflict with science because one aspect of religion is completely uninvolved in any interaction.

When trying to comprehend our confusing and turbulent existence, which so often is riddled with pure evil and upset, it can become intimidating and at times petrifying, however the study of Theology and Philosophy provides the ultimate comfort. When reaching turning points in our lives, experiencing great pain through loss, or even success it is inevitable for us as humans to wonder whom to turn to. Religion speaks with the authority of the past and holds the power of a supremely

ultimate being, giving mankind someone to turn to. Theological critics, such as Karl Marx infamously label religion as “the opium of the masses” (Marx, 1843, p.72). However, there is no problem with this because it underpins religion’s primary aim of re-assurance. Even if Theology is a man-made construct devised to provide us with the ultimate comfort, then that alone is true value. The same principle applies to the hotly debated question, ‘what happens when we die?’ Religion offers comforts such as being reunited with lost family members and a continued existence in a heavenly realm, so why wouldn’t you believe in it? In his book, *To Heal a Fractured World*, Lord Rabbi Sacks asserts that one of the primary focuses of religion is to “offer a feeling of cosiness and ease” (Sacks, 2005, p.11). In response to these claims, Richard Dawkins would vehemently disagree and discard Sacks’ claims by referring to them as “merely wishful thinking” (Dawkins, 2006, p.4). This underpins a completely different side to the value of religion; one which is not concerned with facts and evidence showing the limited overlap with scientific disciplines.

Deepak Chopra in *How to know God* explains how God manages to do the impossible. According to some polls, over 95% of the world’s population hold a belief of a higher entity and yet it poses a curious challenge to our everyday human sensibilities (Chopra, 1998, p.1). For this reason, the value of religion is almost self-validating; it has survived multiple challenges launched by science for the very reason that it provides a unique element to our lives. Religion is reliant on a sense of faith, which is an ineffable and often unjustifiable emotion and so the question remains ‘why do we believe?’ For many this question is simply answered through seeing religion as a device to provide guidance and comfort. A sense of well-being, health and happiness, is often dependent on one’s state of health. Dale Matthews demonstrates, through the use of three hundred university-based experiments, that there is a medical value of religious commitments (Matthews, 2001, p.105). Quite simply, these studies demonstrated that those attend church on a weekly basis, live longer than those who do not. Harold Koeing hyperbolically suggests that the effect of not attending church on a regular basis can be likened to smoking one pack of cigarettes a day for forty years! (Matthews, 2001, p.107). Despite the exaggerated nature of Koeing’s analogy, it can be clearly ascertained that whilst the relationship between health and religion may be a casual one, it must not be ignored. And so, this demonstrates the duality to religion and exposes the side that is unconcerned with science because its role is not to provide a watertight explanation of the universe but instead to provide guidance, belonging and comfort.

The power of belief is so strong that it is often thought faith helps you heal. Karl Marx as eluded to earlier, labels religion as the “opium of the masses” (Marx, 2013, p.72) and so the question arises: can religion be likened to a prescriptive drug? The common contention is that even if there is no likely help in believing in God when suffering from an illness, what if the 1% suspicion is correct? Surely the value of religion lay in providing psychological comfort in a brutal world. Pascal’s wager explores the idea that there is no harm in believing in God; what one stands to gain from belief, dramatically outweighs what one stands to lose with no belief. Even if there is no God, undertaking sacred customs often provides and inspires a sense of meaning purpose and hope to life. Faith offers, according to Dale Matthews “a peace that passeth understanding” (p.108) with healthy lifestyles (avoiding alcohol, nicotine and drugs) being far more common amongst the religious. Equally religion

provides a buffer to stress because the rigidity it inspires often lends itself to the development of stable relationships. Religious marriages tend to last longer with divorce far less likely thus providing a more stable environment in which health issues are tended to. These relationships, facilitated by religion, are often pivotal in early detection of disease and thereby, prolonged life. For example, those who attend synagogue on a regular basis allow for community members to check up on one-another (Matthews, 2001, p.110). It is therefore essential to consider the practical use and value that both religion and faith offer society. As evidenced, religion is more than proving or disproving belief in a Judeo-Christian concept of God. Returning to Marx's infamous attack on religion by labelling it as a mere "opiate", a strong contention is that atheism and a complete denial of such religion is of equal consideration. The comfort, which is received through understanding there is no higher entity watching and scrutinising our every action, would perhaps be more comforting as there would be no one judging our inevitable imperfect lives. And so, to render religion invalid due to the comfort it creates would be negligible because the argument can more convincingly be used against itself to highlight its inadequacies. Therefore, to arrive at the conclusion that science and religion are complete competitors would be unjust because an essential factor of religion is the ineffable emotion of security it fosters which is detached from scientific inquiry.

Part 3 - The Companionship

Whilst vicious attacks have mainly originated from scientists, there are an equal number of academics that do not view these two disciplines to be at war with one another. In fact, far from it: John Lennox, John Polkinghorne and Anthony Flew, are only a selection of scientists who see scientific findings to have gifted religion more authority than ever before. Therefore, the companionship between these two worlds addresses the misguided warfare mentality that science and religion should be pitted against each other and so perhaps my very own title for this investigation is damaging. Science and religion are best likened to two overlapping circles and it is this area of intersection which bares the most significance.

Most commonly, theistic thinkers liken the relationship between science and religion to that of a mechanism and agency. To come to the conclusion that both disciplines cannot mutually exist would be committing a category error because they are two antithetical fields and so they cannot, by definition, be mutually exclusive because they belong to different categories. All scientific explanations reason to be a mechanism whilst theists regard God as the agent who facilitates the work of the mechanisms allowing for creation. In the same way that the mechanical works of the cogs, springs and levers of a watch does not make the watchmaker non-existent, so too is the case with science not rendering religion invalid. Equally in the same way that the Big Bang took place (an example of a mechanism) this only ratifies the necessary existence of a God in order to facilitate the Big Bang that caused the universe. For many this may be seen as a tenuous and idealistic response in order to defend religion in the face of the highly adaptive science but even if this is so, God's existence cannot fully be miscounted because if he does exist it would logically follow that he facilitates the science we observe in our everyday life. Confirming this hypothesis is Lennox's example of algorithms. In engineering, the

idea of a computer-implemented genetic algorithm is routinely used for sophisticated engineering optimisation purposes - perhaps to construct the most efficient shape for an aircraft wing:

“It would also be absurd to suggest that the fact that these evolutionary algorithmic optimisation processes are themselves blind and automatic constitutes an argument that they do not have an intelligent origin,” (Lennox, 2008, p.90). And so, evolutionary arguments must invoke religion and God within their conclusion to act as an explanatory agent that triggered the initial evolution. Through this analogy, it becomes blindingly clear that the presence of any scientific force observed in the universe forms the foundation of a great partnership with the mechanism of science being facilitated by the agency of God and his divine, supernatural nature.

Moreover, American Philosopher, William Lane Craig further argues that between science and religion exists a partnership. This is because science, on a regular basis helps to verify and falsify claims made by religions. He argues that when religions turn to the natural world as a source of authority they are overlapping with the domain of science and are therefore making assumptions which scientific discovery can either verify or falsify (Craig, 2015). For example, the necessary relationship between science and religion can be illustrated through the Copernican revolution in the mid-1500s (Craig, 2015). Here, Copernicus used scientific observation and empiricism to falsify biblical statements regarding the anthropocentric nature of the universe. And thus, even if science appears to contradict fundamental religious teachings, it is in the very rejection that the partnership becomes clear. Another example of the relationship between these two fields is illustrated through the views held by religions such as Taoism that posit the world is eternal due to it being a manifestation of a divine being who himself is eternal (Craig, 2015). However, due to the progress of the Big Bang Theory, this claim was falsified as science showed that the universe did have a beginning in which all space, matter and energy was compressed into a single point which exploded. This example demonstrates how there exists a partnership because whilst religion makes claims, science helps to test the validity of these claims. Indeed, whilst falsifying religious claims, science also helps to verify religious claims. The first words of the Torah and the Genesis creation story are “Bereshit bara elohim et hashamayim ve’et ha’arets,” which translates to “In the beginning God created the heavens and the earth” (Genesis 1:1) confirming creation *ex nihilo*. Therefore, this demonstrates the relationship because science verified claims that the universe had a beginning as religion initially suggested. Space scientist Robert Jastrow, confirms this suspicion:

“ [The scientist] has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there fore centuries” (Barrow and Tipler, 1998, pp.561-65). Therefore, there exists no need for science and religion to be pitted against each other in such a dramatic way because science both confirms and rejects the metaphysical plausibility of religion’s claims.

Significantly, religion offers answers to questions which science simply cannot address regarding ethical approaches to our everyday existence. Can Capital Punishment ever be morally justified? Should euthanasia be legalised on ethical grounds? These questions can be answered using a multitude of different stances.

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For many, Joseph Fletcher's Six Propositions outlining that all decisions should be made on one fundamental axiom, namely love, provides an approach to answering these topical questions (Fletcher, 1966). However for others, this would be insufficient. Instead they would turn to Immanuel Kant's use of logic and reason in coming to a deontological position on intentions. Despite these approaches being the antithesis of one another, theology and religion allow for a conscious development of a worldview by reflecting critically on different theological and philosophical perspectives, allowing individuals to face the intellectual, moral, emotional and spiritual challenges of life responsibly and with integrity. Therefore, religion offers answers and solutions to matters which science cannot begin to address demonstrating the collaborative and supportive relationship that exists. The limits of science and the overlap extends further. John Polkinghorne, uses the example of experimental testing on human individuals without informed consent and without assurance of the survival of the patient (Polkinghorne, 2008, p.120). In order to address and progress this scientific problem, religious ethics are invoked. To determine the morality of human experimental testing both the knowledge of science (regarding likelihood of survival and the impact on future humanity) coupled with theology (which is ascertained by wisdom gathered through theological studies) must be used. This combination shows the partnership because both fields work together to reach conclusions which couldn't be reached alone.

Conclusion

This investigation has endeavoured to explore why the battle between science and religion continues to be a hotly debated topic within both the scientific and the theological worlds. However, this investigation has explored how science and religion do not necessarily need to be pitted against each other in such a vehement way. In numerous occasions, it is the combination of both these fields, which provides the best outlook and stance to solving human problems. The advancements of science have undeniably undermined certain religious teachings however my contention is that the gap for religion will always remain due to it being concerned with answering the fundamental 'why' questions, which science continues to struggle with.

Religion is a subject that is simply unavoidable; but more importantly it tries to tackle the greatest questions of life that everyone ought to consider. "Why are we here?" asks Descartes (1628, p.8), "are our lives meaningless?" questions Lord Rabbi Sacks (2005, p.28); this is just to name a few colossal questions that arise. These questions are all too seminal to our existence to be left unanswered. As Socrates said, "An unexamined life is not worth living," (Plato, 399BC, p.82) and Theology and Religion examine life and in doing so, embark on the daunting but yet rewarding journey of searching for answers and true meaning. Regardless of its concurrence with modern science and the empirical objective likelihood of these answers, its merits lay in the pursuit of truth and knowledge - sincerely the most worthwhile pursuit of all. In order to break out of the warfare mentality that exists between these two fields perhaps the age-old proverb, "the enemy of my enemy is my friend" should be applied allowing for science and religion to work harmoniously to uncover the reality which lies behind outward appearance.

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