"In the Beginning, God Created Atoms"

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“THE HANDS OF THE FATHER”

A Research Paper for the
2023 Undergraduate Research and Scholarship Symposium Project:

“In the Beginning, God Created Atoms
Addressing the Duality of God and Science”

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THE SCIENTIFIC METHOD

The relationship between religion and science is similar to the relationship between the two properties of light. Within the field of physics, scientists have found two ways to define light: light as a wave and light as a particle. Despite these two different definitions, Quantum Mechanics tells us that light can (and does) behave as both a wave and a particle. Understanding how light works does not mean choosing between its two properties. To fully describe light, you need both concepts together. Only by examine contrary angles can we discover the truth; thus, we have the debate of religion vs. science.

The scientific method is an essential process used within the STEM field to acquire knowledge from the results of experiments and is comprised of five important steps: asking a question about a certain issue or uncertainty, conducting background research to learn the known details about a topic, formulating a hypothesis, experimenting to test the hypothesis, and analyzing the results to draw conclusions about the hypothesis and its relationship to the specific study. The steps of the scientific method are essential when trying to research complex topics, such as the relationship between science and religion.
The first part of the scientific method is to ask a question. When asking if there is a conflict between science and religion, the answer is often “it depends.” With such a broad topic, you need to have more specific question such as: “Does having any belief system that is neither confirmed nor denied by science put it in conflict with the scientific method and its discoveries?” When looking at this question through the lens of Christianity, which is not a belief system confirmed or denied by science, the following hypothesis can be formed: If the truth about God and His relationship with the world is better understood by more people, then the divide between religion (spirit) and science (sun) will fade to reveal the hands of the Father that shape all things.

To form this hypothesis, background research had to be conducted, starting with understanding the declarations of religious faith (Creation story) and scientific faith (evolution). The Book of Genesis begins the Bible with the words, “In the beginning, God created the heavens and the earth…” (Genesis 1:1). From there, the method of God’s creation is revealed to us until Genesis 1:31, which ends each day...
of creation by saying, “…and it was very good” (Genesis 1:31). These verses act as the foundation of faith in God as the Creator within the Catholic Church. On the other hand, we define the Theory of Evolution. Evolution explains the gradual diversity of life on Earth, beginning with a single living thing “born” 3.5 billion years ago. As time continued, so did the development of that living thing, creating many more living species through the effects of genetic change and natural selection. This means that every living thing and being on Earth is the descendant of a common ancestor.¹

Scientific discoveries offer the ideas and theories that aim to reveal the mysteries surrounding physical reality. Faith is what solves the mysteries of God, which illuminate the meaning of human life. Mystery is the common denominator that ties religion and science together. Alone, just like the properties of light, science or religion alone do not define the world, only together can the mysteries of man be addressed.³ The conflict between religion and science has been debated for centuries. One of the earliest examples of the apparent conflict between science and religion is the Galileo Affair, which took place in the 17th century, the same year the scientific method was created.

THE SPIRIT: THE LEFT HAND OF GOD

The Galileo Affair addresses several different factors (science, politics, religion, personality differences, etc.) but is most known for being the first judicial proceeding about ideas. On June 22, 1633, the Catholic Church’s Inquisition condemned Galileo Galilei as “vehemently suspected of heresy” for his belief in and writings about the theory of heliocentrism, or the idea that the planets revolved around the Sun. This “affair” became a part of the mythology of the modern world, specifically the apparent war between religion and modern science that argued how these two concepts are incompatible and painted Catholicism as anti-science.⁶ At the time this all began, the Church became defensive over the Bible in response to the Protestant view of the Bible that discredited the teaching authority of the Church, as well as the Church’s belief in Scripture and Tradition.
Scientifically, people during this post-Reformation time believed Aristotle’s physics was the philosophy of nature and the Geocentric (Ptolemaic) Model of the Universe, or the theory that the Earth is unmoving at the center of the universe, surrounded by celestial spheres, the Sun, and the other planets, was the true form of our Solar System. It was Copernicus, a polish monk in the mid-1500s, who first proposes the idea of heliocentrism in his published book De revolutionibus orbium coelestium. Nearly 60 years later, Galileo will pick up his first telescope and discover an unknown world among the stars. In December 1613, he would go on to write Letter to Castelli in an attempt to explain the theological use of sciences and how the Bible should be interpreted. Galileo’s future defense of heliocentrism in a way that offended the current Pope (Pope Urban VIII) and went against was the accepted meaning of Scripture at the time is what earned him house arrest for heresy.

Despite the assumptions that can be made from the outcome of the Galileo Affair, the Catholic Church does not discredit the theory of evolution. Divine revelation and scientific discovery cannot contradict each other because they are both gifts from God to humanity that teach us about Him. For example, the theories of gravity and evolution both serve as explanations for certain aspects of God’s creation. The theory of gravity answers questions regarding the relative motive of physical bodies in relation to each other while the theory of evolution explores the history, diversity, and relationships...
between all of creation, both living and extinct. Evidence of both theories consists of several observations and data collected by scientists of all different biological and physical fields.

But why would God create through evolution rather than just making everything at once? The Catechism of the Catholic Church states, “the world was made for the glory of God” (CCC no. 293). Creating the world in a way that allows His creation to participate in his existence through evolution is how he communicates his glory and power as the Creator. Our existence by participation is proof of his existence by nature.

St. Thomas Aquinas has his own way of thinking about the relationship between science and religion. In one of his most famous writings, the *Summa Theologiae*, Aquinas mentions how God chose to create this way to share his causality with his creatures, making them authentic and are caused by their own natures rather than God being the one making all the choice. He says, “If God governed alone, things would be deprived of the perfection of causality.” In addition to this, Aquinas points out how God possible use of this method of creation was the most effective way for him to produce more species to properly reflect his glory “because His goodness could not be adequately represented by one creature alone.”

**THE SUN: THE RIGHT HAND OF GOD**

When it comes to the debate between science and religion, the question is not about the evidence that makes up scientific believes or the believes of certain religions – the questions lie in how people interpret the evidence. Interpretation is what splits people into their different religious groups or theories of scientific phenomenon/concepts. To better understand the possible role of the Church in this argument, a proper distinction between the God of the Bible and the non-Biblical gods needs to be made.
Through the lens of Christianity, God and the world are radically distinct. God as the Creator is neither a type of “thing” or considered to be a part of creation, meaning he is transcendent. He is totally independent of the world but is everywhere all at once without any restrictions and does not take up space. This understanding exemplifies His holiness, or to be set apart. His transcendence allows Him to be present among creations without diminishing His divinity. His divinity is what allows Him to become man without ceasing to be God.

Outside the Bible, the divine isn’t defined as “divine” because they are outside the world. They are a part of the world but considered “divine” because they are separated from what is not considered to be divine (plants, animals, humans) and because of the influence they have on things not divine. What sets this non-Biblical god aside from the people is a matter of degree – gods have a higher degree of qualities than humans do.
Unless God comes down to prove his existence, religious beliefs can never be 100% true. Despite from the attributes assigned to God within the Church, all of the beliefs surrounding His existence and how He behaves is purely based on faith. This is the same case for science and serves as one of its greatest strengths. Scientific theories can never be proven to be 100% correct. They can be (and need to be) tested several times, and conclusions can be drawn that they the theory has a possibility of happening, but it is our faith in certain scientific theories that determine how likely things like gravity work the way we think they do. These theories act as models for how we understand the world to behave. This is why scientific theories are continuously being refined and added too whenever we encounter new information.

This “model” structure is visible through a religious lens as well. As time passes, different Church documents and beliefs are re-examined and refined in a clearer way that adapt the Word and mission of God to modern times. While scientific examinations take the form of the lab experiments or peer-reviewed journal articles, religious examinations consist of new Papal letters, Vatican Councils, and adaptations to important Church documents like the Catechism of the Catholic Church. The only exception to these adaptations is constants; In the context of science, constants are numbers like Avogadro’s Number or the Time-Independent Schrodinger Equation. In the context of religion, the “constant” that never changes is the Canon, the official list of books within the Bible.

**THE HANDS OF THE FATHER**

Both science and religion gather evidence, despite the common misconception that science evidence is more solid than religious evidence. The truth is that both subjects require two different forms of evidence. Science can be measured qualitatively since the discoveries of science are naturally accessible to human beings; however, the truths of theology are not naturally discoverable by human beings. These super-natural truths but be revealed by God for human beings to know and understand them. This is why the evidence for religion is made up of texts, personal evidence, and miracles. This evidence is what leads others to believe in a belief system and leads others to disagree with the Church.
Once again, the same method can be applied to science, more specifically to the argument between the two properties of light.

The question of religion vs. science does not lie within the evidence that makes up scientific beliefs or the beliefs of certain religions, the questions lie within how people interpret these theories. Interpretation is what splits people into their different religious groups or theories of scientific phenomenon. Each interpretation of religious evidence throughout history is what created the multitude of belief; this leads people to have faith in religion. In the same manner, each interpretation of scientific concepts throughout history is what created the multitude of beliefs about the same concept; this is what we call faith in science.

Earlier, we mentioned that miracles were a category of evidence to support religious claims but are not supported by science. For example, take the miracle of when Jesus walked on water. Science holds no evidence that conflicts the idea that an all-powerful being couldn’t bend the rules of science or make use of a force that scientists have yet to discover. Miracles are an aspect of religion that science has nothing on in the same way that religion has nothing on certain scientific beliefs. Science is passive towards the idea of a supreme being bending the laws of Physics to walk on water. Religion is passive towards the true definition of light.

Some argue that religion does hold the same weight as science does since it lacks certain aspects of the scientific method. This conclusion is based on the idea that the scientific method is superior to the religious method of theory-testing. Normandin statutes, “The scientific method is as superior to the religious method as a recipe for cookies is to one for brownies; they have two completely different goals, which will of course have different methodologies. It just doesn’t make sense to apply the same process to both fields.”[3] What he means by this is that each method is useless to the other. You can only judge each field by the things that actually apply to them, not other outside concepts. “If you judge a fish by its ability to climb a tree, it will live its whole life believing it’s stupid.”[1]

Revisiting the steps of the scientific method, the final step is to draw conclusions from the results of the experiment of testing to see how science is perceived within the Catholic Church. From this
“experiment,” several similarities between science and religion arise, causing a bridge to form between the two, not a war. For starters, we must have a more solid understanding of a religion before assuming it conflicts with science just for its religious nature. The answer to our initial question matches our hypothesis: having faith in a belief system does not put you in conflict with science for the sole reason of having a particular faith. Religion is only in conflict with science when it makes claims that are able to be disproved by trust science evidence. Once we gain this knowledge and understanding, we discover that religion and science complement each other. Both subjects cover a domain that stays away from the other. Science (the Sun) is the right hand of God that describes and predicts the universe while religion (the Spirit) explains the universe as the left hand of God. It is only when these two concepts are joined together that we can form the hands of the Father which are used to create the Theory of Everything.
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