Religion and Science: The Reality of Compatibility and Illusion of Conflict

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Abstract In Aristotle's hierarchy "man" was placed in a position far above all biological life. Nothing to date has been successful in removing him from this lofty perch just below angels. This stubborn worldview has long been at odds with science. However, many of the classical scientists maintained a healthy relationship with religion. Like the classical scientists, it is proposed here that no real conflict exists between religion and science only "noise" distracting most scholars from the reality of an actual compatibility. Furthermore, an alliance between these two epistemological worldviews is a potent force against the ignorance of religious fundamentalism.

Keywords Conceptual Compatibility, Enlightenment, God Hypothesis, Natural Philosophy, Religion, Religious Fundamentalism, Science

classical scientists who were indeed very religious. In fact, their worldview was quite healthy – doing science to show the glory of God. This worldview removes the "noise" in the arguments on the incompatibility between religion and science leaving the clarity of a beautiful accommodation. This may be the "key" to a greater acceptance today of this *conceptual compatibility* between science and religion. I discuss these ideas in great detail in Section I, emphasizing the fact that these classical scientists laid the foundation for the science and technology we presently enjoy despite their devotion to God. In Section II, I re-emphasize the argument of a lasting conceptual compatibility between science and religion, because on an epistemological level, these belief systems are generally two views of the same reality. On a practical level, an alliance generates sensible information which stifles the growth of religious fundamentalism.

1. Introduction

Eight years ago in a collaborative effort, Baylor University researchers and the Gallup Organization conducted a national scientific survey on religious attitudes [1]. The data revealed that 95 percent of the American population believed that a "God" does exist and that Americans are more religious than previous surveys suggest. This survey was conducted from October to December 2005 with 1,721 respondents, with a margin of error of +/- 4 percent. Furthermore, of that 95 percent, 24.4 percent state that they believe God is distant – not active in the world, but a cosmic force which set the laws of nature in motion. It is interesting that this small percentage of the public adheres to the same worldview of many classical physicists and early Enlightenment figures, e.g., Francis Bacon, Isaac Newton, Galileo Galilei, Johannes Kepler, Rene Descartes, Carolus Linnaeus, George Berkeley, etc., who balanced science and religion incredibly well.

The main theme of this essay is to re-emphasize this balance between science and religion and to show that the scientific method was almost never violated by these

2. Can "God" and Science Coexist?

At the 105th annual meeting of the American Anthropological Association from Nov. 15–19, 2006, in San Jose, Calif., I presented a paper outlining the difficulty in combating creationism. After the presentation, as expected, several attendees in the audience immediately raised their hands. After answering several questions I had anticipated, one unexpected question silenced me momentarily. (Some presenters can identify with this situation.) The question as I remember it was, "Why do people have to choose between God and science ... or God and evolution? I am a Christian and I accept science and Darwinian evolution. So ... why do we have to make this choice?" I must confess that I did not handle this question very well. Later, on the return flight to the East Coast, I reflected on the vexing question. It was quite strange, since I was a good "friend" to science and a simple "acquaintance" to religion. Suddenly, my bias was replaced by the simplicity of logic: No one should have to surrender their religion for the good of science. The mere suggestion of this sacrifice could be a key reason why science is not resonating with a large percentage of the general public. After all, we are asking people to do the

impossible – abandon a cultural belief that permeates everything in human society and which is deeply rooted. Put another way, it is like asking us – scientists – to abandon the scientific method. This would be too traumatic to contemplate. In essence, I believe that there is room to accommodate religion instead of shunning it. As one reviewer of Richard Dawkins' most recent book, *The God Delusion*, wrote, "The attacks are so strong that it would root any believer firmly to the ground ..." [2, p7]. Denis Alexander would strongly agree with this reviewer. Alexander [3, p3-7] believes that Dawkins' "scientific naturalism" will create a backlash against science and cause its death. This belief may be somewhat dramatic, in my opinion. Nonetheless, accommodating religious belief might cause science to resonate more with the public. After all, as philosopher Roberta Millstein at the University of California, Davis has argued, all of us (scientists and theologians alike) are ignorant of the real, underlying causes of many aspects of nature [4].

Can "God" and science coexist? It seems that a generation of "giants," e.g., Bacon, Newton, Galilei, Descartes, George Berkeley, etc., had an amazing way of balancing science and religion by making religion the primary impetus for the study of "natural philosophy."¹ These men are widely regarded as the root from which modern science arose, and they exemplified the Enlightenment belief that the practice of science can only reveal the "greatness" of God. One could say the same thing for the much-maligned Charles Darwin two centuries later. In short, their science was sound despite their religious beliefs because they were empiricists [5]. They used the scientific method to arrive at their conclusions and upheld their discoveries even when it conflicted with articles of faith. The scientist who I believe [best] exemplifies the former statement is Galileo Galilei. During his trial in 1615, he wrote:

In expounding the Bible if one were always to confine oneself to the unadorned grammatical meaning, one might fall into error ... Nothing physical which ... demonstrations prove to us, ought to be called in question (much less condemned) upon the testimony of biblical passages which may have some different meaning beneath their words ... I do not feel obliged to believe that the same God who has endowed us with senses, reason and intellect has intended us to forgo their use [6, p30].

In other words, Galileo saw no conflict between religion and science. It is clear in the above quote that Galileo did not reject God even though the Catholic Church labeled him a "heretic;" he simply took a common sense approach. He believed that religion was to serve God and science was to conduct experimentation and observations. This is quite an accommodation. The true conflict is, at a lower level, between individual personalities and, at a higher level, between science and religious fundamentalism.

The philosopher George Berkeley links science and religion by using his theory of "immaterialism" (or "subjective idealism") where our ideas, i.e., physical properties, etc., are related to God's ideas in terms of how they are linked to one another by divine decrees in the laws of nature [7,8]. Berkeley, Bishop of Cloyne in Ireland but trained in the classics, would remove the conjunction 'and' between science and religion. Simply put, he saw no separation between divine activity (God), science (laws of nature), and human experience. Specifically, he believed that God was not the distant Grand Designer of the solar system containing planet Earth with structures on earth such as plants. Rather, the perception of plants is an idea that God's mind has produced in the mind of man, and plants continue to exist when "nobody" is there simply because God is an infinite mind that perceives all [9]. The use of the concepts "idea" and "spirit" are central in Berkeley's philosophy. His concept of "idea" is close to the concept of "sensation" or "state of mind" or "conscious experience" and the concept of "spirit" is close to the concept of "conscious subject" or of "mind" [10]. Hence, human knowledge is reduced to two elements: spirits and ideas. He wrote, "In contrast to ideas, a spirit cannot be perceived. A person's spirit, which perceives ideas, is to be comprehended intuitively by inward feeling or reflection... It is plain that we cannot know the existence of other spirits otherwise than by their operations, or the ideas by them excited in us" [11, p27]. Reflection on the attributes of that external spirit, according to Berkeley, leads us to identify it with God. Consequently, a material thing such as an orange consists of a collection of ideas (shape, color, taste, physical properties, etc.) which are caused in the spirits of humans by the spirit of God [12].

Philosophy professor Margaret Atherton at the University of Wisconsin, Milwaukee provides justification for Berkeley's claim. She observes:

Our perception of objects of common sense (e.g., a cherry) is, in fact, a collection of ideas (e.g., redness, sweetness, roundness), each of which is perceived immediately. The commonsense object cherry is perceived only mediately, as a result of the ways in which immediately perceived ideas "suggest" one another. Such suggestions of sense are not inferences we make based on experience; rather they are the "relatively automatic" associations of immediately perceived ideas by which we learn to experience the objects of sense as physical objects. Just as physical objects are associated with one another by laws of nature, so also laws of nature mediate the associations of immediately perceived ideas... [13, p107-119].

In summary, Berkeley believed that scientific theories conceived in the human mind is intimately related to the objects of the physical world and all produced by God's will. He notes:

Whatever power I may have over my own thoughts, I find the ideas actually perceived by Sense have not a

¹ During the Enlightenment, the term "natural philosophy" was used because the words *science* and *scientist* had not been coined yet.

like dependence on my will. When in broad daylight I open my eyes, it is not in my power to choose whether I shall see or no, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses; the ideas imprinted on them are not creatures of my will. There is therefore some other Will or Spirit that produces them [14, cited by 9, p78].

In the 20th century, the late physicist Donald MacKay, who also had a thorough understanding of the Christian doctrine of Providence rejected the idea of science without God. Instead, he suggested the idea of “dynamic stability,” meaning that the stability of our solar system, planetary orbits, particles, etc., are not solely the intrinsic property of the laws of physics, chemistry and biology, but that this stability is also due to the continual, dynamic, sustaining activity of God [15, p2-9, 16]. He explained:

In our everyday experience chairs, tables, rocks are typically stable objects. There they are. Nothing may seem to be happening to them, or in them, for most of their existence; yet the modern physicist is quite content to describe such stable objects of our experience as a concurrence of unimaginably complex and dramatic submicroscopic events, without any suggestion that he is contradicting the facts of experience. All he claims is that their stability is not static but dynamic. The quiet solidity of physical objects, he would say, reflects the coherence of uncountable myriads of events at the atomic or subatomic level, each of which by itself might seem almost unrelated to its neighbours in space or time [17, p6].

MacKay believed that God made the world “tick,” and that any sense of irreconcilable contradiction between religion and science is in fact an illusion. Alexander [18, p2] takes this theme one step further where he merges Jesus’ command to “love thy neighbor as thyself” with Darwinian evolution, in which there are no “good” or “bad” traits. In other words, variation in DNA (e.g., expressed as “white” skin) is no better than other variations in DNA (e.g., expressed as “dark” skin). The implication here is that behind evolution is a loving God.

Most practitioners of science would argue that this “God Hypothesis” is not science; therefore, it cannot be merged with science. They go further by stating emphatically that religious beliefs are not amenable to scientific testing! Most scientists would agree with the former statement. But there is one who identifies himself as part of the “paleontological lunatic fringe,” and who shows us from a layman’s perspective why conventional wisdom might be wrong. The eminent paleontologist David Raup discusses a court case which involved a dispute over alleged “divine intervention” and winning a lottery:

A few years ago, one Daysi Fernandez, a mother of three living on welfare, wished to buy tickets in the

New York State Lottery and (it is claimed) she asked a young boy of her acquaintance, John Pando, to purchase the tickets on her behalf. John Pando is deeply religious and felt that if he prayed to St. Leggua for help, Mrs. Fernandez would have a much better chance of winning the lottery. According to John’s story, Mrs. Fernandez gave him four dollars, with which he bought tickets for the lottery in her name. He says she agreed to give him half the proceeds if one of the tickets won. Then he prayed. One of the lottery tickets was chosen and Mrs. Fernandez won \$2,877,203.30. She did not split with John Pando and he took the matter to court to try to recover his half. Judge Edward J. Greenfield ruled that John had no case because *it was impossible to prove in a court of law that “faith and prayers brought about a miracle and caused defendant to win”* [19, p197-198].

In cases like this when a judge rules “against religion,” one can be sure that if science is not mentioned explicitly in the ruling, the judge is probably thinking “science.” Raup believed that this was the main problem in Judge Greenfield’s ruling. He also believed that the real issue in the judge’s ruling, and its relevance to this section of this paper, was when the judge compared the lottery case to a hypothetical case of rainmaking by Native American rainmakers, saying that it was impossible to prove in a court of law that *“performing chants and dances and incantations could bring rain in 24 hours”* [20, p197-201]. Raup saw a problem in this ruling; he believed the judge assumed that the efficacy of chants and dances could not be demonstrated. In effect, the judge, according to Raup, firmly believed that the power *could not* be tested. Raup details a possible experiment:

Hire one or more established Indian rainmakers and run the experiment. The rainmakers could be given designated areas; other areas, without rainmakers, would be used as controls. A substantial number of test areas with and without rainmakers would be needed so that chance differences in microclimate would not affect the statistical results. Rainfall would be monitored in all areas and standard statistical tests used to see if the areas with rainmakers had significantly more rainfall than those without rainmakers [21, p200].

A few months ago, I would have responded to Raup’s creative experiment by stating that many years of human experience have shown us that chants and dances do not increase rainfall nor have any other effects on the natural world. Today, like Raup, I would respond by saying “show me the statistics.” Our lack of knowledge in many areas of the natural world compels us to accommodate other belief systems, particularly religion.

Many who advocate for the primacy of science will disagree [22-26]. Anthropologist Jacob Pandian at the University of California, Fullerton particularly would accuse me of “subordinating science to supernaturalism” [27, p164].

He notes that the term “religion” or *religio* (Roman/Latin concept) is a form of supernaturalism that stemmed from Christianity during the “Middle Ages” in Europe to represent Christian supernaturalism as scientific truth. Consequently, according to Pandian, I would be “co-opting scientific discourse in support of supernaturalism” [28, p168]. I strongly disagree. It is important to note that scientific hypotheses have many uncertainties and abstractions. Some may even perceive them as metaphysical. For instance, consider MacKay’s discussion of Heisenberg’s Uncertainty Principle:

As a consequence of this famous “Uncertainty Principle” the physicists had to develop a new “statistical” kind of mechanics ... This is designed to calculate not the precise positions and speeds of atomic particles, but rather the relative probabilities of particular kinds of events called electron-impact, photo-emission, or the like. *In order to calculate these probabilities physicists now talk in terms of “probability waves” travelling from place to place, in much the same way as we talk of flu waves travelling across Europe...* [29, p23]. [italics my emphasis]

In short, I echo Millstein’s argument that many phenomena in nature defy a logical or scientific explanation [30]. Pandian [31] should remember that Galileo, Newton, Darwin and Einstein, to name a few, linked religion or “supernaturalism” and science epistemologically, but they never had a distorted view of science. In fact, they exemplify the scientific method.

In the previous paragraph, I listed a few of the eminent anti-creationist writers. But I have singled out Dawkins because of the incendiary title of his book, *The God Delusion* (2006), which is absolutely intolerant of religious beliefs. Dawkins will certainly find some affinity with Pandian’s argument. Dawkins attempts to make the case that the God Hypothesis is not just wrong but potentially deadly. Most would respond, as he is most certainly aware, by stating that one can make the same case for science. Dawkins forgets that science and religion have had a long and tumultuous partnership. In fact, they are both complicit in all crimes committed in human history. The 1st Crusades in their religious fervor, for example, could not have captured Jerusalem without stronger armor and heavier swords than the Saracens had.² Likewise, the destruction of the World Trade Center in New York City by Islamic religious extremists could not have been accomplished without Western aeronautical engineering technology manifested in passenger airliners. The development of science and technology, unfortunately, made killing efficient and impersonal. For example, the Nazi regime would not have been able to murder six million European Jews without an efficient gas delivery system. We can go on and on listing the

good, the bad and the ugly perpetrated by science and religion, and the list would be quite long. But this will serve no useful purpose here. What is useful to note, which Dawkins fails to consider, is that scientific and religious beliefs coexist much like different sides of the same coin or, more correctly, two different views of the same reality.

Continuing, in chapter 8 of Dawkins’ book, he discusses religious fundamentalism and the subversion of science. This is indeed a problem. On the one hand, scientists have mapped all of the genes on the human chromosomes. On the other hand, some fundamentalist groups are preparing their followers for the “End of Days” or “Jihad by the Sword,” etc. They have little interest in science. Dawkins writes, “As a scientist, I am hostile to fundamentalist religion because it actively debauches the scientific enterprise. It teaches us not to change our minds, and not to want to know exciting things that are available to know. It subverts science and saps the intellect” [32, p284]. I agree with Dawkins on this point. However, he has lumped sensible religious scholars/scientists with religious fundamentalists, blinding him of an advantageous compatibility. It might do Dawkins well to consider a statement made by Galileo during his trial. In a letter to the Grand Duchess of Tuscany in 1615, Galileo wrote, “In my mind God wrote two books. The first book is the Bible, where humans can find the answers to their questions on values and morals. The second book of God is the book of nature, which allows humans to use observation and experiment to answer our own questions about the universe” [33, p82].

In contrast to Dawkins, late medical doctor and Qur’an scholar Maurice Bucaille had more of a *conceptual integrationist* view of science and religion. What is also interesting is that he found a strong correlation between science and religion in the Qur’an (or Koran). Some Western scientists, notably Dawkins [34], would view this with skepticism. Nonetheless, Bucaille [35] argued that the Qur’an refers to a multitude of natural phenomena to illustrate divine omnipotence and provides a detailed description of the way they evolved. He further noted that the Qur’an provides a clear answer to the question “At what point did life begin?” Bucaille translated the verse in which it states that the origin of life is aquatic: “Do not the Unbelievers see that the heavens and the earth were joined together, then we clove them asunder and we got every living thing out of water ...” [36, p166]. Bucaille believed that the phrase “We got every living thing out of water” can equally mean that everything originated in water. Actually, this notion is in accordance with scientific data. For instance, an early experiment investigating the various kinds of organic molecules which might have been produced on the early Earth was carried out by Stanley L. Miller and Harold C. Urey in 1953 [37-39]. They assembled a reducing atmosphere rich in hydrogen and excluded gaseous oxygen and placed this simulated atmosphere over liquid water, which would have been present at ocean’s edge. Miller and Urey maintained this mixture below 100 degrees Celsius and simulated lightning by bombarding it with energy in the form

2 In the middle Ages any person, Arab, Turk or any other who professed the religion of Islam was referred to as a Saracen. The name spread into Western Europe through the Byzantines and the Crusades.

of sparks. Within a week, they found simple carbon compounds that subsequently combined to form simple molecules and more complex molecules containing carbon-carbon bonds, including the amino acids glycine and alanine. Later, other scientists performing similar experiments identified more than 30 different carbon compounds, including the amino acids glycine, alanine, glutamic acid, valine, proline, and aspartic acid. It is interesting that any discussions of the possibility of life on other planets centers on the presence of water. Furthermore, Bucaille noted certain interesting facts about fertilization and reproduction raised in the Qur'an. He translated a passage on the liquid required for fertilization: "[God] fashioned man from a small quantity [of sperm]" [40, p182]. Bucaille stated that the Arabic word translated as "a small quantity [of sperm]" is *nuTfat*, and it comes from the Arabic verb that signifies "to dribble or trickle." In this instance, Bucaille interpreted the phrase as a small quantity of sperm since *nuTfat* is associated with *maniyy*, which is the word for "sperm" in Arabic. This interesting compatibility between religious belief and science (not unlike the West during the Enlightenment era) continues with writings about development of the embryo. Bucaille translated another passage in which God is speaking: "We fashioned the thing which clings into a lump of chewed flesh and we fashioned the chewed flesh into bones and we clothed the bones with intact flesh" [41, p187].

In this age of Islamic radicalism and terrorism, the Qur'an is viewed with suspicion by the West. However, Bucaille showed in great detail that many verses in the Qur'an urge human beings to look for signs of God's magnificence through the study of natural phenomena of all kinds. John C. Avise [42] more or less says the same thing. In chapter 8 of his book *The Genetic Gods: Evolution and Belief in Human Affairs*, he proposes a peaceful coexistence and dialogue between religion and science, rather than suspicion and antagonism. It is apropos that I end this section by adopting Selwyn College divinity professor Ian A. McFarland's *compatibilist* model, in which he states:

... religious doctrines are ultimately viewed as proposals that need to be elaborated and justified in scientific terms. Consequently, if science acts as a constant check on theological claims, theology provides a genuine and necessary supplement to the conclusions of science by enhancing our ability to understand and explain why things are as they are [43, p194].

The best analogy to explain McFarland's statement is that mantra extolled by most archaeologists, which is "the archaeology validates the ethnohistorical accounts." Likewise, one might argue that science, e.g., biblical archaeology, validates religious accounts. Moreover, McFarland's statement does much more to promote a healthy compatibility between science and religion instead of rejecting entirely the validity of religious beliefs.

Hinduism, a non-semitic religion, shares a feature with the

semitic religions discussed earlier in this essay and that is a connection to science. But this connection—Hindu philosophy and science—is buried in the numerous scriptures. These ancient scriptures are classified into two major texts: *Shruti* and *Smriti* [44, 45]. *Shruti* ("that which is heard") primarily refers to the *Vedas*, which form the earliest record of the Hindu scriptures' and are regarded as eternal truths revealed to ancient sages. The most notable of the *Smritis* ("memory") are the epics and the *Puranas*. The epics consist of the *Mahabharata* (the *Bhagavad Gita* is an important part of this epic) and the *Ramayana*. One has to search these scriptures diligently to find the links to science. Nonetheless, Hinduism has been called the "oldest religion" in the world [46] and some practitioners and scholars refer to it as *Sanātana Dharma*, "the eternal law" or the 'eternal way' [47] beyond human origins. Hinduism includes a diversity of ideas on spirituality and traditions, but has no ecclesiastical order, no unquestionable religious authorities, no governing body nor any obligatory holy book; Hindus can choose to be polytheistic, monotheistic, monistic, agnostic, atheistic, pantheistic, humanistic, conservatism, or liberalism [48]. Based on this diversity of worldviews, there is plenty of room in which science can fit into Hindu philosophy. For instance, in the *Veda* texts, Chaplain Gadadhara Pandit Dasa at New York University and Union Theological Seminary [49] and Sri Devasthanam, the Sanskrit Religious Institute [50] find where science and spirituality intersect. Dasa notes that there are many examples of Einstein's Theory of Relativity in the *Puranas* texts. Einstein's hypothetical experiment known as the "twin paradox" suggests that if one of a pair of twins travels to outer space at light speed, while the other remains on earth, when the space traveling twin returns, he will be younger than the twin on earth [51]. A passage from the *Bhagavat Purana* communicates relativity:

One's life endures for only one hundred years, in terms of the times in the different planets...Eternal time is certainly the controller of different dimensions, from that of the atom up to the super-divisions of the duration of Brahmās life; but, nevertheless, it is controlled by the Supreme. Time can control only those who are body conscious, even up to the Satyaloka or the other higher planets of the universe [52, cited by 49, p2].

Sri Devasthanam believes that interpretation of the *Veda* texts is based on the individual's political leanings [53]. For instance, conservative Hindus accept the *Vedas* as the direct revelation of God and, therefore, free from error regardless of any non-scientific content, while liberal Hindus admit the great spiritual nature of the *Vedas* but are willing to reject those parts that contradict reason or science. The mass majority of Hindus, however, believe that the *Vedas* contain divine revelation but the interpretation is not free from errors because human beings are imperfect, and those parts of the *Veda* that contradict reason or science must be reinterpreted in a way that conforms to reason or science [54].

Furthermore, Sri Devasthanam gives an example of how a chapter in the *Bhagavad Gita* might be interpreted as a crude

description of the modern Periodic Table of Elements:

There is a chapter of the *Gita* entitled, *Sankhya Yoga*. The word “sankhya” means “counting,” “enumeration,” or “analysis.” In the *Gita* there is a simple form of “analysis” that classifies matter into eight constituent elements: earth, water, fire, air, space, mind, intelligence and ego. This is essentially a period table and an excellent example of early science or what used to be called natural philosophy. Even before the *Gita*, Hindu thinkers had taken this theme of “counting” and developed it into one of the six traditional philosophies of ancient India called *Sankhya*. From the perspective of *Bhagavad Gita*, it is fair to say that modern science is simply a highly detailed analysis of matter and so, in this sense, *there is no conflict between the Gita and science* [55, p3-4 italicize phrase added].

In essence, the *sankhya* of the *Gita* includes analysis of physical reality as well as spiritual reality. From a Hindu perspective, this accommodation is necessary in modern science to create a true and a complete body of knowledge.

3. Conclusion - Conceptual Compatibility

Some will say that the approach taken in this essay is *conceptual compatibility*, and this accusation would not be totally false. I believe in science, but I also realize that there is much uncertainty in nature. One need only read the writings of the great physicist Niels Bohr [56] who, on the subject of subatomic particles, argued that “a complete elucidation of one and the same object *may require diverse points of view which defy a unique description*” [italics my emphasis] [57, p96]. Continuing, others will say that this accommodationist approach is akin to accepting the *Intelligent Design Hypothesis*.³ This is furthest from the truth. This strategy of accommodation is largely based on two facts: 1) At our present stage of knowledge, we are ignorant of many aspects of epistemological worldviews of both science and religion; and 2) the awesome power of religious belief held by most human beings will never be relinquished for science. An apt comparison of this accommodationist strategy might be to Isaac Newton’s or Charles Darwin’s approach to science. I understand that this comparison is not perfect. For example, Newton had great anxiety that his new equations for gravity, which described the force of attraction between pairs of objects, might not maintain a stable system of orbits for several planets, causing them to crash into the sun or get ejected from the solar system [58-59]. Worried about the long-term fate of the Earth and the other planets, Newton invoked a Supreme

Being as the force restoring order in this chaotic system. Despite Newton’s religious leanings, I have not seen many authors associating Newtonian physics, or Darwinian evolution for that matter, with Intelligent Design. Also, religious belief has not slowed down scientific advances. All would agree that the advances in science, primarily in First and Second World countries, have prolonged our lives, reduced the prevalence of infectious diseases (although many are on the rise again), increased food production and, sadly, made war more efficient. Furthermore, the knowledge – not just the products resulting from the knowledge – is slowly becoming accessible to all levels of society through books and various technological systems. Still, one does not see a retreat in religious belief despite great scientific advancement. In fact, as detailed in the first paragraph of the Introduction, religious belief is growing. Moreover, I am simply suggesting that those of us in the sciences and social sciences must admit that, in explaining some areas of our respective sciences, we are no better than religion. Here, the views of the late, great philosophers of science Thomas Kuhn [60] and Paul Feyerabend [61] are instructive. They challenged the notion that science is the only objective tool that can be used to investigate “the way things are.” They pointed out that periodically in science, when the most important decisions are made about the structure of the world, science provides no usable criterion for proceeding in one direction or the other. Furthermore, relativity theory has cast doubt on the idea that a single description of the universe can be completely valid for all people. But science does, over time, correct unfounded religious claims. In fact, the French mathematician Pierre Simon de Laplace, a century after Newton, invented a mathematical approach to gravity, which extended the applicability of Newton’s equations to complex systems of planets and theorized that there was neither instability nor a “Supreme Being” in our solar system [62-63]. Although Laplace’s mathematical approach to gravity was correct, he really could not test or falsify the God Hypothesis. Laplace would be considered the “Infidel Mathematician” [64] in Berkeley’s view because he (Berkeley) theorized that respective mathematical theories compare unfavorably to revealed theology. Attacking what he calls “the modern analysis” which we know as calculus, Berkeley concluded that “an Infidel Mathematician cannot consistently reject religion for its incomprehensible mysteries while holding up the calculus as a model of correct and convincing reasoning...It contain much Emptiness, Darkness, and Confusion; nay...direct Impossibilities and Contradictions” [65, p255]. But calculus solves mathematical problems. Berkeley addresses this paradox by using a nebulous explanation called “compensation of errors” in which calculus simultaneously underestimates and overestimates the value of a quantity, and these two errors are perfectly balanced. While Berkeley had fundamental issues with calculus, his general view of science and religion was that these epistemological worldviews were contiguous. He had no problem appealing to God’s role as the cause of our sensory ideas and God who enabled him to accept

3 Proponents of this view claim that many of the characteristics of biological organisms, such as the anatomy of the eye, are too complex to have occurred through natural processes, therefore, life *must* have been created.

physical theories such as Newtonian physics or algebra on purely instrumental grounds [66].

In conclusion, we must take a lesson from the past, which I have alluded to in several examples throughout this essay. Therefore, I end with a simple phrase written by celebrated theoretical physicist Albert Einstein: "Science without religion is lame, religion without science is blind" [67, p26]. The claims of incompatibility between the findings of science and religion are wrong. It is religious fundamentalism that is incompatible with science. This is why it is imperative that scientists and religion scholars work together to stem the tide of religious fundamentalism.

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