

## Intelligent Design Theory, and the Relationship between Science and Religion

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### Introduction

When discussing the subject of "origins" (i.e. the question "How did we get here?"), people often make both religious and scientific claims. Additionally, people have many different views on the proper relationship between science and religion. The purpose of this article is to discuss the nature of science, the nature of religion, and the relationship of science and religion. The article will show how intelligent design theory is science, and not religion, and that while many proponents of intelligent design have religious beliefs, this affect neither the quality of the science of intelligent design nor does it negate the secular, scientific basis of the theory of intelligent design.

### What is science?

"Science is a particular way of knowing about the world." So says the National Academy of Science in its *Teaching about Evolution and the Nature of Science*.<sup>1</sup>; see also ref. 2 A primary goal of science is to understand nature, where "understanding" means "relating one natural phenomena to another and recognizing the causes and effects of phenomena."<sup>1</sup> Progress in science consists of the development of better explanations for the causes of natural phenomena.<sup>1</sup>

Although there is no "demarcation" definition of science agreed upon by all philosophers of science,<sup>3</sup> many scientists and philosophers have suggested that scientific explanations are:

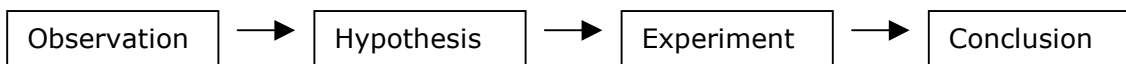
1. Based upon results obtained through observations and experiments that can be substantiated by other scientists.<sup>1,2</sup>
2. Subject to testing because scientists can observe the natural world to see if the explanation holds up.<sup>4,5</sup>
3. "Falsifiable," in the sense that some type of observations could conceivably count against the theory.<sup>4,5</sup>
4. "Tentative," meaning that they are not held absolutely but are held subject to state of the evidence.<sup>1</sup>

As the National Academy of Sciences explains, observations (often via experimentation) are fundamental to science:

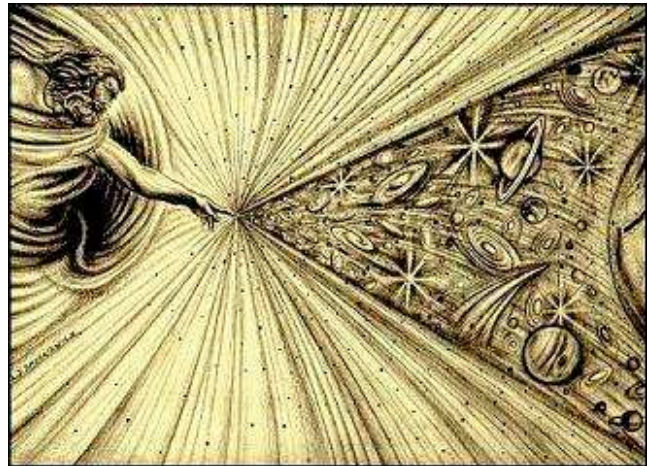
*Anything that can be observed or measured is amenable to scientific investigation. Explanations that cannot be based upon empirical evidence are not a part of science...The statements of science are those that emerge from the application of human intelligence to data obtained from observation and experiment.*<sup>1</sup>

(The NAS also states that science must only invoke natural explanations, but evaluating that claim is not the topic here.) Thus, at the heart of science is observations, which is what forms the beginning of the scientific method.

### The Scientific Method:

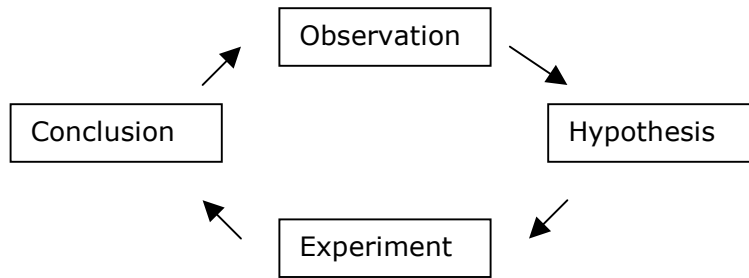


As seen at left, scientific understanding begins with observations. Scientists then make a hypothesis to explain those observations. The hypothesis should make predictions which can be tested. via experiments. If the predictions of the hypothesis are verified, it is concluded that the hypothesis is supported by the scientific data. That conclusion is an observation in-and-of itself, which can form the basis for further hypotheses, experiments, and conclusions. In this way, scientific knowledge builds upon itself:



Religion and science both deal with the subject of origins, and are naturally "mixed" when discussing the question "How did we get here?" Religion deals with origins through faith and divine revelation (coming from the left, in the picture), while science explores origins from observations about nature (coming from inside the universe on the right). The statements of one may have implications for the other, however one must be careful to interpret both religion and science using only the methods inherent in each endeavor.

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Thus, scientific knowledge is at its heart based upon observations and experiments. Another way of putting it is that science is based upon empirical data.

### What is religion?

Religion is another way of "knowing about" the natural world. While science bases all statements upon observations, religion bases many of its statements upon faith or divine revelation. The main difference between religion and science is that only religion has a component of faith. Faith statements are not ultimately based upon the observable, and are not tentative, nor testable nor falsifiable through the scientific method, but are believed to be true for reasons that go beyond empirically observable evidence--often because of divine revelation.

Because religion has faith, religious beliefs are held absolutely, and faith may maintain religious beliefs if there is an absence of confirming evidence. Scientific beliefs are said to be "tentative," for nothing in science is absolutely proven; scientific claims are only said to be "supported to a given degree by the evidence." Only religious beliefs are "dogmatic" in the sense that they are claimed to be absolutely known to be completely true.

Unfortunately, it is a popular notion that if something is not scientific, it is irrational or cannot be known to be true. Terms like "dogmatic," "unscientific," or "faith-based" may be eschewed because people believe that only strictly scientific evidence-based claims should be taken seriously. The fact that religion has a component of faith does not imply religion is based upon irrational "blind faith." In reality, there are many philosophical, moral, historical, and even empirical intellectual arguments which can be made in favor of religious claims.

Religious claims are not necessarily any less valid than scientific claims. Some religious beliefs may even be testable and/or supportable by "empirical data." For example, one could envision empirical evidence for the resurrection of Christ. Jesus himself did not teach that the Christian faith is blind, as he helps his disciple Thomas who doubted that Jesus had really risen from the dead:

Put your finger here; see my hands. Reach out your hand and put it into my side. Stop doubting and believe.  
(John 20:27, NIV)

Yet, immediately following in the same passage, Jesus notes that the Christian faith is at its heart like a childlike trust in God, which is not always dependant on evidence or circumstances:

Because you have seen me, you have believed; blessed are those who have not seen and yet have believed.  
(John 20:29, NIV)

Yet Christianity itself has a strong intellectual component. Jesus' greatest commandment was to "Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength"<sup>6</sup> and the Apostle Paul commands, "Test everything. Hold on to the good."<sup>7</sup> Christianity is at its heart based on faith--but it is not meant to be an irrational or blind faith.

### The NOMA Model of Science and Religion:

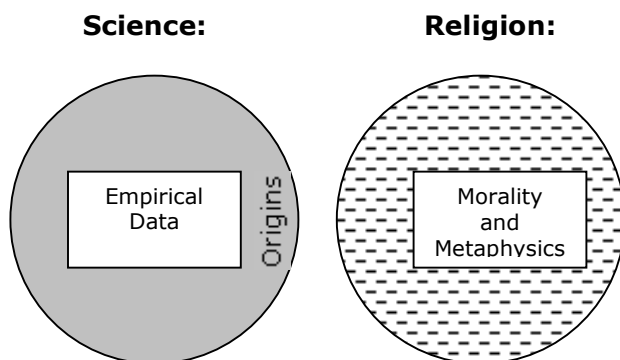
Some scientists disavow that evolution can conflict with religion because they maintain religion and science occupy "two separate realms." Stephen Jay Gould described this model as the "Non-Overlapping Magisteria" (NOMA) model of science and religion:

*Science tries to document the factual character of the natural world, and to develop theories that coordinate and explain these facts. Religion, on the other hand, operates in the equally important, but utterly different realm of human purposes, meanings, and values--subjects that the factual domain of science might illuminate but never resolve. ... [T]he net, or magisterium, of science covers the empirical realm: what is the universe made of (fact) and why does it work this way (theory). The magisterium of religion extends over questions of ultimate meaning and moral value. These two magisteria do not overlap ...<sup>8</sup>*

Many students taking science courses, particularly those which discuss evolution, may be taught this model of science and religion as if it were correct. The model essentially states that science investigates objective 'facts' while religion only investigates vague and subjective "values" or "beliefs" that are not necessarily held for rational reasons. Many who teach this model do so at the suggestion of teaching guides on evolution.<sup>1, 2, 9</sup> According to this model, religion has its

'magisteria' in dealing with supernatural or metaphysical phenomena like morality, spirits, etc. Science, on the other hand, deals with the physical world--the empirical data.

*The Purported "NOMA Model" of Science and Religion:*



In the diagram above, science and religion are depicted as completely separate realms. Science deals only with the empirical data, while religion deals only with morality and metaphysical questions. Under this model, however, the subject of origins exists entirely under the realm of science.

A strength of this model is that it recognizes that at the heart of religion is morality and metaphysics, and at the heart of science is empirical data. However, this model is flawed because it pretends that only science is allowed to make statements about origins. In reality, contrary to NOMA, religion does not make statements solely about "morality and metaphysics," but also makes statements about the natural world, including the subject of "origins." Philosopher of science Stephen C. Meyer concurs:

*Christianity in particular does not simply address questions of morality and meaning as Gould's NOMA principle asserts, but it also makes factual claims about history, human nature and, it would seem, the origin of the natural world ... The church, however, by its historic creeds has long insisted that the affirmation of these and other factual claims constitute a necessary part of orthodox Christian confession. The NOMA principle consistently applied, therefore, requires subtracting content not just from science or literalistic fundamentalism, but from basic orthodox Christianity.<sup>10</sup>*

Thus, it is incorrect to assume that religion is "safe" from statements science makes about origins, or visa versa. If we recognize that science's claims about origins may contradict claims of religion, the implication cuts both ways: atheism as well as theism may be evaluated in light of the findings of science. Proponents of NOMA may actually seek to insulate non-theism from criticism by promoting a model that prohibits any scientific idea from supporting a theistic worldview. Meyer continues:

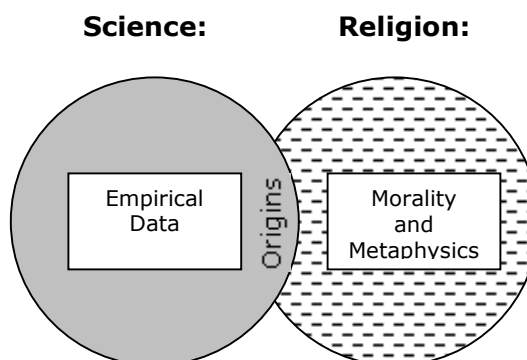
*[T]hose committed to the NOMA principle insist...that science and Christian belief never really address the same subject no matter how much they appear to do so. Thus they reject not only the existence of conflict between Christian theism and apparently materialistic theories but also the apparent agreement between Christian theism and theories that seem to support aspects of a Christian or theistic worldview (such as the big bang theory, the contemporary design hypothesis or dualist theories of mind-brain interaction).<sup>10</sup>*

Some biologists disagree with Gould's NOMA hypothesis and understand that evolution indeed treads upon the territory of religion, such as the origin of humanity. UC San Diego biologist Christopher Wills seems to take this viewpoint:

*Evolutionists purport to explain where we came from and how we developed into the complex organisms that we are. ... So, the study of evolution trespasses on the bailiwick of religion.<sup>11</sup>*

Thus, if we take into account the fact that religion actually does speak about the subject of origins, then we see that the purported NOMA model in reality works as follows:

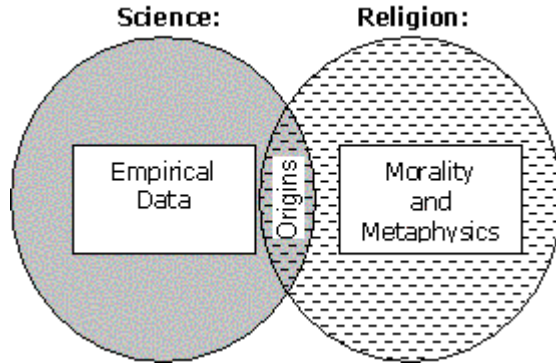
*Effective "NOMA Model" of Science and Religion:*



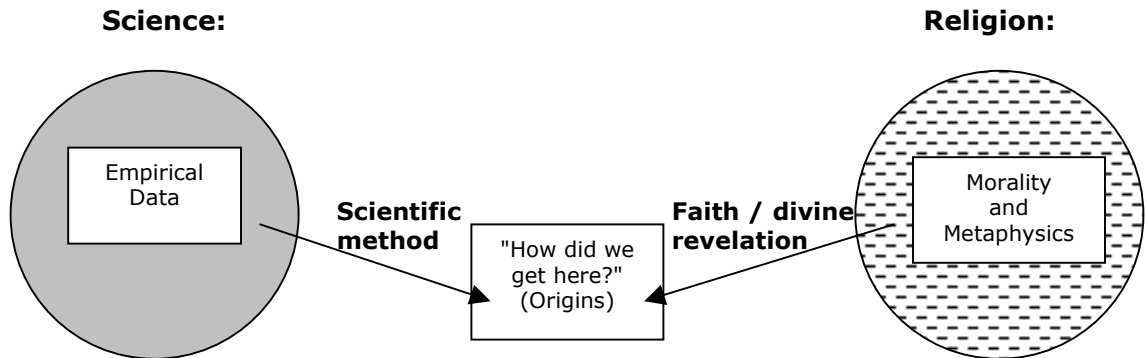
This diagram shows how NOMA effectively removes the ability of religion to have any say over origins so that science always has the 'final say.' Under this model, science is actually given precedence over religion with respect to origins. The model purports to teach that science and religion can never conflict, and thus students are often told that evolution could never conflict with their religious beliefs. Any real tension between evolution and religious beliefs is glossed over. Phillip Johnson calls this a "polite lie" which may be a self-serving tactic to get religious students to accept evolution. Given that religion clearly can make statements about origins, this model may be exposed as an attempt to justify a solely "naturalistic" perspective of science, which in the end may serve to prop an atheistic worldview.

**Do Science and Religion Overlap?**

When talking about the question, "How did we get here?" (i.e. origins) both science and religion speak. An accurate model of science and religion must recognize that fact:

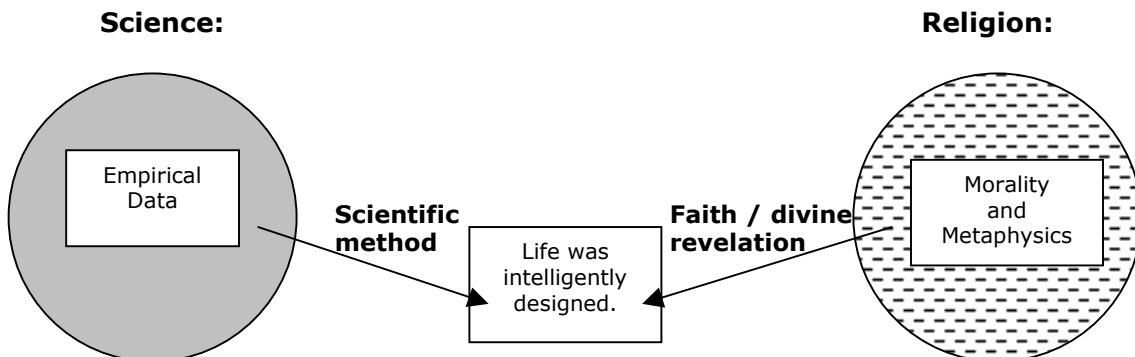


Science and religion are both different "ways of knowing" can be different ways of knowing about the same thing: origins. Science knows things through the scientific method. Religion knows things through faith and divine revelation. Science approaches the subject of origins through the scientific method. Religion approaches the subject of origins from faith and divine revelation:



**Is Intelligent Design Theory Science or Religion?**

Intelligent design is an answer to the question, "How did we get here?" If understanding in science is to "recogniz[e] the causes and effects of phenomena"<sup>1</sup> and scientific progress "consists of the development of better explanations for the causes of natural phenomena"<sup>1</sup> then if certain natural objects were caused by intelligent design, then it would increase scientific understanding would science would undergo progress to discover that fact. Yet, a common question about intelligent design is if it is a "religious" or "theological" concept or if it is a scientific theory. Part of the confusion stems from the fact that one can answer the question "How did we get here?" with "Life was intelligently designed" by using both scientific methods or the methods of religion:



Before one can understand why intelligent design theory is science, and not religion, one needs to understand how intelligent design theory works, and why it is based off of the scientific method, and not faith or divine revelation. The following is a description of the logical steps one takes to infer that an object was designed through intelligent design theory:

### How intelligent design theory works:

#### i. Observation:

The ways that intelligent agents act can be observed in the natural world and described. When intelligent agents act, it is observed that they produce high levels of "complex-specified information" (CSI). CSI is basically a scenario which is unlikely to happen (making it complex), and conforms to a pattern (making it specified). Language and machines are good examples of things with much CSI. From our understanding of the world, high levels of CSI are always the product of intelligent design.

#### ii. Hypothesis:

If an object in the natural world was designed, then we should be able to examine that object and find the same high levels of CSI in the natural world as we find in human-designed objects.

#### iii. Experiment:

We can examine biological structures to test if high CSI exists. When we look at natural objects in biology, we find many machine-like structures which are specified, because they have a particular arrangement of parts which is necessary for them to function, and complex because they have an unlikely arrangement of many interacting parts. These biological machines are "irreducibly complex," for any change in the nature or arrangement of these parts would destroy their function. Irreducibly complex structures cannot be built up through an alternative theory, such as Darwinian evolution, because Darwinian evolution requires that a biological structure be functional along every small-step of its evolution. "Reverse engineering" of these structures shows that they cease to function if changed even slightly.

#### iv. Conclusion:

Because they exhibit high levels of CSI, a quality known to be produced only by intelligent design, and because there is no other known mechanism to explain the origin of these "irreducibly complex" biological structures, we conclude that they were intelligently designed.

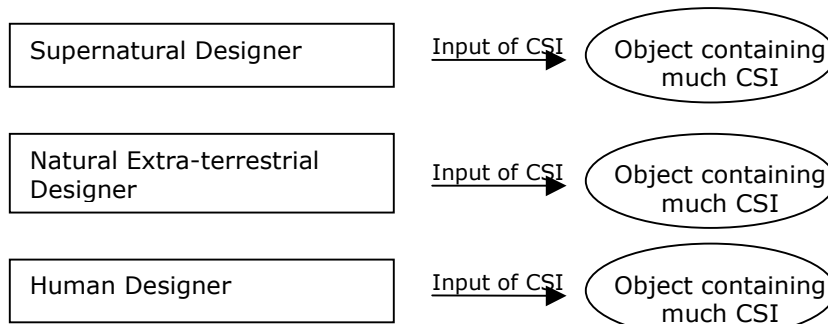
In this description, only the scientific method, via observations of the natural world, is used to conclude that life was designed. There is no appeal to the supernatural, and no reliance upon faith or divine revelation (including any religious text).

However, it should be noted that many religions may teach that life was intelligently designed. While intelligent design theory makes claims about the natural world which are consistent with these religious claims, intelligent design theory is science not because of the claims it makes, but because of how it makes those claims. Remember, science is a "way of knowing"--not a set of things which can be known. If a conclusion may be arrived at through the scientific method, even if some religious faith or divine revelation is coincidentally teaching that same conclusion, it is scientific.

In determining if something is science or religion, what matters is not the claim you are making, but how and on what basis you are making the claim. What you 'know,' or what your claims are about, do not determine whether those claims are religious or scientific. Rather, it is the 'way,' or means by which one makes those claims that makes them religious or scientific. Intelligent design theory is a purely scientific way of arriving at the conclusion that life was designed, even if that conclusion may also be reached via religious means.

### Understanding the Identity of the Designer:

The scientific theory of intelligent design cannot name the identity of the designer, but only detects the past occurrence of intelligent design in the natural world. Intelligent design theory cannot name the designer because it works off the assumption that all designers in general create a certain type of information when they act. While we can detect that type of information in the natural world to infer intelligent design, finding that type of information does not give us any more information about the designer other than that the designer intelligently designed the object in question. Consider the following diagram:

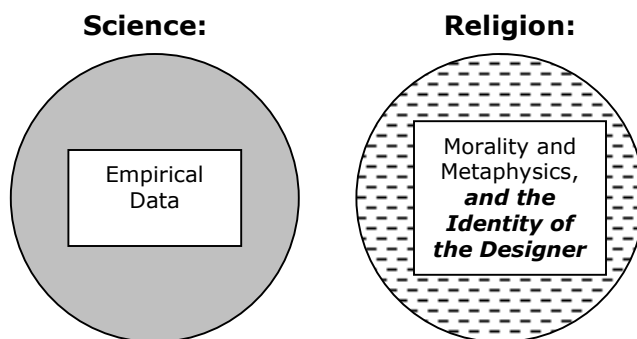


In this diagram, many types of intelligent agents could produce identical objects with high levels of CSI. Intelligent design theory can only find the object containing high levels of CSI and works backwards. While it can detect that the object was designed, it cannot discriminate what kind of designer designed the object, nor determine any specific properties about the designer, other than that it was an intelligent agent. All intelligent design theory can infer is that the object was designed. Intelligent design, as a scientific theory cannot identify the identity of the designer.

Not identifying the designer is not a cop-out nor does it stem from an unwillingness to be honest about motivations. It results solely from the pure empirical limitations of scientific investigation:

*[The] only commitment [of intelligent design theory] is that the design in the world be empirically detectable...This is not a matter of being vague but rather of not pretending to [have] knowledge that we don't have.<sup>12</sup>*

The scientific method and empirical data are presently incapable of helping to understand the identity of the designer. Thus, the scientific theory of intelligent design simply cannot identify the designer because it is not a question which can be addressed through the methods of science. At this point, this question can only be answered via faith, or divine revelation, and other religious "ways of knowing." However, the fact that the identity of the designer is a religious question does not negate the purely scientific methods through which we can infer merely that an object was indeed designed. Thus, assessing the identity of the designer is essentially a religious question:



Thus, scientifically, one only can state that life was designed by an unidentified intelligence. Many may believe that the identity of the designer is the God of the Bible, however these are religious claims.

### **Common Arguments Against the Scientific Nature of Intelligent Design: Motivations and Religious Affiliations**

It has been argued by many critics of intelligent design theory that ID is religion because of the religious affiliations of many groups or individuals promoting intelligent design theory, or because of the nature of the subject. Many have argued that because many theists promote intelligent design theory, it must be a religious concept. However, to attribute characteristics to something just because those affiliated with it have certain characteristics is to commit what is known as the genetic fallacy or to make what is called an ad hominem argument. Neither of these are valid lines of argumentation.

The "genetic fallacy" occurs when one judges an idea based on its past or its origin. In reality the origin or history of an idea is irrelevant to its present properties. It does not follow that because some proponents of intelligent design are religious, that therefore intelligent design theory must be a religious concept.

An ad hominem argument criticizes a person rather than an argument. To criticize a person because they are religious, or have religious motivations, does not therefore mean that their claims (such as intelligent design) are unscientific. Religious motivations are irrelevant to determining if an idea is scientific or scientifically true. Many famous scientists, such as Kepler and Newton, used their religious beliefs to justify their belief that God created an ordered and rationally comprehensible universe. Their religiously motivated scientific claims were confirmed, leading to hundreds of years of fruitful scientific progress.

Even if these fallacious arguments were true, there are still intelligent design organizations with no religious affiliation. The International Society for Complexity, Information, and Design (ISCID), founded by William Dembski in 2001, is a professional research society that investigates the purely empirical scientific methods for detecting intelligent design. There are individuals with a wide variety of religious and metaphysical beliefs who see merit to intelligent design theory and are fellows of ISCID. ISCID has no religious requirements for membership.

### **Religions Premises vs. Religious Implications:**

Since both science and religion speak about the subject of origins, science can often agree with some religious claims. In these instances a genuinely scientific theory--not built upon religious premises--may have religious implications. A theory is scientific if it has scientific premises--and is not based upon religious premises. However, the fact that a theory has scientific premises does not mean it cannot have religious implications.

Many have seen the scientific theory of evolution as having religious implications. Stephen Jay Gould wrote that evolution has very particular religious implications for humanity:

*Biology took away our status as paragons created in the image of God ... Before Darwin, we thought that a benevolent God had created us.*<sup>13</sup>

Cornell evolutionary biology professor William Provine says that "[e]volution is the greatest engine of atheism ever invented"<sup>14</sup> and sees clear religious implications from evolution:

*Naturalistic evolution has clear consequences that Charles Darwin understood perfectly. 1) No gods worth having exist; 2) no life after death exists; 3) no ultimate foundation for ethics exists; 4) no ultimate meaning in life exists; and 5) human free will is nonexistent.*<sup>14</sup>

Richard Dawkins, zoologist and professor for the Public Understanding of Science at Oxford University, wrote:

*...although atheism might have been logically tenable before Darwin, Darwin made it possible to be an intellectually fulfilled atheist.*<sup>15</sup>

Though some might not say that evolution mandates atheism, many have stated that it has significant theological implications. The famous biologist George Gaylord Simpson wrote in his book, *The Meaning of Evolution*, that if evolution is true, then "[m]an is the result of a purposeless and natural process that did not have him in mind."<sup>16</sup> The popular textbook, *Biology*, by Miller and Levine, notes that evolution is "random and undirected" and "works without either plan or purpose."<sup>17</sup> In 1995, the National Association of Biology Teachers declared evolution to be an "unsupervised, impersonal, unpredictable and natural process."<sup>18</sup> These claims may be scientific, but they have clear theological implications: we are here because of the blind, chance purposeless processes of nature. These implications are perhaps best described by Gould--ironic given his NOMA model:

*We are here because one odd group of fishes had a peculiar fin anatomy that could transform into legs for terrestrial creatures; because the earth never froze entirely during an ice age; because a small and tenuous species, arising in Africa a quarter of a million years ago, has managed, so far, to survive by hook and by crook. We may yearn for a "higher" answer - but none exists.*<sup>19</sup>

This statement by a leader of modern science conflicts sharply with that of a leader of modern religion, Billy Graham:

*[H]umanity is not an accident, and life has profound meaning. This is because our Creator, whom we call God, deliberately put us here, and endowed us with a spiritual nature, as well as body and mind. This not only separates us from the animals but gives us capacity to know God and to do His will.*<sup>20</sup>

Thus, while evolutionary theory is built upon the scientific method and is science, it still has theological implications. Intelligent design theory postulates that humans originated due to the intentional arrangement of biomatter by an intelligent agent. Under intelligent design, humans exist because an intelligent being did "have them in mind." Intelligent design theory is also based upon empirical evidence and the scientific method, yet intelligent design also has theological implications: we are here because a designer "deliberately put us here." We feel that our approach to gives safe and proper boundaries to both the pursuit of science and the pursuit of religion, while also properly acknowledging their very real areas of overlap.

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