

SCIENCE AND RELIGION
GRADED PAPER 2
ALICE WOOLVERTON

The thesis and arguments

Your thesis is stated clearly, and it is an interesting one. Unfortunately, your arguments are superficial, failing to identify the more compelling questions that arise from this thesis. Moreover, your argument sometimes drift too far from your thesis, failing to make clear to the reader why a given argument would lead closer to accepting your thesis. Finally, some of your arguments are simply erroneous (such as your blue-sky example), where the structure and the details are flawed and fail to make the point intended.

The writing

The low-level mechanics of your writing are sound, with few grammatical or punctuation errors. However, your text is punctuated with superfluous repetition and redundant questions that serve only as filler. Your text could be tighter and more direct.

Items marked on the paper

(1) Be careful about what exactly you are claiming. What does *acceptance* mean in this context? Are you claiming that many Christians reject **all** scientific progress? What if I were a Christian who uses medication developed and tested via scientific method? How about eating vegetables that have been bred or genetically engineered to be resistant to attackers (insect, bacteria, etc.)? How about using computers and the Internet? Some Christians reject only **some explicit claims** made by scientists.

(2) How are these two scientific questions? I'm not sure I know what *Where are me going?* means, and while scientific methods are certainly employed to predict whether, I am unaware of any scientific approach to ascribe **meaning** to the weather.

(3) Blue light has a **short** wavelength; it is red that has the longest wavelength of the visible spectrum. Moreover, if other colors of light cannot pass through the atmosphere, then why do I see **all** of the visible spectrum when I split sunlight with a prism? Finally, if blue light passes **through** the atmosphere, then why does the sky appear to be **more** blue when the sun is just rising or setting? Wouldn't the blue light pass right over our heads, escaping back into space and not being reflected back down towards the ground?

The sky is blue (a) because the ozone in the stratosphere is blue, and (b) because blue light, at its shorter wavelength, is more heavily refracted by the atmosphere when the sun's incidence is at a higher angle from the viewer. Even that answer is insufficient, because it says nothing of how we perceive color (a complex phenomena), nor does it address questions like, *What does it mean*

for ozone to be blue? You intended to pick a simple question, but the answer to this question is intricate.

(4) You've attempted to present two opposing explanation, but these explanations address different questions. To assert that the sky is blue because God created it that way is to answer the question, *How was the sky created?* The assertion does not attempt to address the question, *By what mechanism does blueness reach our eyes from the sky?* God may have created the sky in such a way that it appears blue, but that knowledge would not explain *how* the blueness is transmitted from the sky to observers standing on the ground.

(5) *Ought to be?* According to whom? You have no justification for this statement. If you plan to present it, then you should introduce your intended assertion not as a conclusion, but as a conjecture that you will support.

(6) Once upon a time, the origin of life would have been considered a question beyond scientific inquiry. So too would have been human behavior, morality, or intelligence. So where is the line? What **are** those questions that are beyond scientific examination? Other than the very existence of the supernatural—something that is, in principle, not amenable to empirical (natural) evaluation—what cannot be examined scientifically?

The existence of an afterlife is perhaps a good example, but morality is not, since it may be an evolved trait that can be explained by physical means alone. Dawkins' explanation may have been lacking, but he is not an expert in evolutionary behaviorism. Worse, you skip the principle: Just because nobody current can explain morality via a natural process, there is nothing that fundamentally prevents scientific exploration into the source of morality. It is a scientific question, although one for which (much) more work remains.

Also, your objection to Dawkins' claim that morality is a *mistake* of nature is both his fault and yours. He should not have anthropomorphized nature, since *mistakes* are a human mental construct. For your part, you should not have taken his choice of terms so superficially. By *mistake* he means *side-effect*. Morality, in his model, is not a direct evolutionary benefit, but an overgrown version of a the benefit of cooperation—one that was not so costly as to be an evolutionary detriment. You must think more deeply if you seek to evaluate the best interpretations of opposing arguments.

(7) You have drifted too far from your thesis. Your conjectures about how to explain morality does not support your central claim that scientists can be religious. You've lost the reader.

(8) Can you justify this statement? Without the Bible (or, more broadly religious texts in general), are you sure that humans would not have devised some other method of culturally communicating moral lessons? More deeply, can you justify a claim that religion provided morality, rather than humans injected morality into religion?

(9) You do not want to invoke Einstein in this debate, and particularly not this quote. That one was **specific** to Einstein's concerns with quantum mechanics. Moreover, Einstein's views on god and religion are a source of great debate, with a great many quotes of unclear meaning of the matter.

(10) In what way does God provide any explanatory utility? Is God really a tool for explanation? Or is God merely a placeholder for explanations that we have not yet been able to devise? Even when considering questions for which we may never develop non-religious answers, does the limitation of our brains imply the existence of God? Just because **we** are incapable of an explanation does not imply that there **is no** explanation.

(11) Here's the heart of the problem with your argument. The view with which you conclude is that of a Diest God that created the universe, but then does not affect its activities after that creation. First, this limited view of God allows science full access to the entire physical universe, with no religious explanations other than, *God created the whole system*. Worse, you don't address the problem of how scientists who believe in God may insert God's actions into the physical world **after** the creation. If a scientist deviates from that strictly Diest view, then there is some aspect of the physical universe that the scientist is not examining scientifically, no longer looking for causal explanations. So why is that **not** a problem?

Grade: B

Can purely scientific and religious views be reconciled?

Alice Woolverton

Scientific and Christian beliefs often contradict each other. Genesis is used to argue against evolution and the Bible is currently invoked to oppose stem cell research and abortion.

Many scientists refuse to accept the existence of a divinity that cannot be proven with the methods of scientific inquiry. Because of this opposition in views, many scientists are atheists

and many Christians refuse to accept scientific progress. Richard Dawkins, an evolutionary biologist and atheist claimed that, "it is trite to replace evolution with 'God did it.'"¹ Pope John Paul II said that, "theories of evolution which... regard the spirit as... emerging from the forces

of living matter... are incompatible with the truth about man."² However, some scientists set aside this dichotomy to embrace science and religion, claiming that they complement each other.

Francis Collins, an Evangelical Christian who headed the Human Genome Project, sees science and religion as complementary. He offers the question of what happens after we die, saying that while science cannot answer this question, religion provides possible answers. Moreover, Collins

believes that the human genome is God's "instruction book of life" or the "language of God"³ made for us to decipher. While there are many arguments that place science and religion at odds, a religious scientist is not a contradiction. Believing in God can involve thinking unscientifically,

but this disconnect actually proves useful when religious scientists turn to religion to explain big questions that science fails to answer.

~~The idea that scientific thinking can be reconciled with a belief in God raises the question~~

Are ~~of whether~~ scientists are abdicating their dedication to science by believing in God? Science and religion both search for answers to many of the same questions. Where do we come from? Where

¹ Dawkins, Richard. "Richard Dawkins Explains 'The God Delusion'" Interview. NPR. 28 Mar. 2007.

² Pope John Paul II, "Truth Cannot Contradict Truth" Address to the Pontifical Academy of Sciences. 22 Oct. 1996.

³ Collins, Francis. "Francis Collins on 'The Language of God'" Interview. NPR. 19 Mar. 2007

Too long for an introductory paragraph.

Would they accept one that is demonstrable?

what dichotomy? Opposition ≠ dichotomy.

awkward

written in

← magnitude of the questions is not relevant here.

②

②

are we going? Why do humans develop cancer? What do weather patterns mean? Why are we moral or immoral? ~~The~~ conflict arises in the different ways science and religion try to answer these questions. A scientist develops a hypothesis and tests ~~a theory~~ ^{it} through experimentation and observation ~~in the hope of developing enough evidence to provide answers to important questions.~~ ^{superfluous} For many questions, this scientific process works in providing answers. For example,

we wonder why the sky is blue. Through chemical analysis of the visible light spectrum and the atmosphere, we can explain that because blue light has the longest wavelength, it can pass ^③ through the atmosphere while other colors of light cannot. This explanation has been observed and we can show it is valid through experiments with the visible light spectrum's wavelengths.

By contrast, arguing that the sky is blue because God made it that way is impossible to explain. ^④ It is conjecture. It may be correct but we cannot employ scientific analysis to establish that God is the creator of the blue sky. In this way, a scientist who believes in God is failing to apply scientific thinking to some parts of his analysis of the natural world.

A question that follows from understanding that a scientist who believes in God is failing to apply scientific thinking is whether this fact is important. ^{yes.} ~~Does it matter? Does this understanding discredit such a scientist?~~ ^⑤ The answer to both questions ought to be no. This is because there are certain questions, beyond the source of the blue sky, that defy scientific

^⑥ analysis. Collins uses what happens after death as an example. Another issue is morality. Can the issue of morality inform our view of whether scientific and religious beliefs can be reconciled? Why do humans act morally or immorally? Richard Dawkins argued that our sense of morality was a sort of genetic mistake, a gene that separates us from less moral animals.⁴ But is this really a scientific explanation of human morality based on observable behavior? Is it sufficient for a scientist to answer a question with the assertion that nature has made a "mistake"? Does nature really make mistakes? If so, then how do we know what parts of nature are "correct" and what

⁴ Dawkins.

o too are scientific hypotheses.

word choice

Do not use as an unmodified pronoun.

parts are “mistakes”? And how do we prove with scientific reasoning what is a mistake in nature and what is not?

Attempting to use religion to explain morality is equally unsatisfactory. Did God create people to be moral? In Genesis, the serpent tempts Eve to eat the forbidden apple, and she did. Thus, we seem neither innately moral nor immoral, but instead easily influenced by external forces. So, what makes these forces moral or immoral and why? Christianity portrays Jesus as the ultimate figure of morality, an example for mankind. But according to the Bible, even God makes mistakes, feels threatened by mankind’s power, “blots out”⁵ human life with the great flood, and then continues to create fear in men to control their behavior. These are not examples of morality. Christianity teaches us to be moral but still does not provide a persuasive explanation for moral behavior.

Old Testament
← Not to us. But is morality universally uniform?

⑦ Perhaps the explanation for morality is a mixture of scientific analysis and religious belief. Without science, we would not understand genetic traits of behavior or the fact that immoral actions, including criminal conduct, may be observed in brain activity. Yet, without religion, humans would not have the examples of right and wrong that the Bible has provided for millennia. When we attempt to explain moral behavior in scientific terms the explanation falls short (Dawkins’ evolutionary mistake). Even Einstein expressed dissatisfaction with the ability of science to explain the universe when he stated that, “God does not play dice”⁶ with the universe. Neither science nor religion in isolation provides satisfactory answers to the vexing question of morality. A religious scientist may be a contradiction because believing in God is an unscientific idea that cannot be explained through observation or experimentation. We cannot prove that God exists, nor can we say that God does not exist. Why then, do some scientists believe in God? The answer is that scientific analysis alone leaves important questions unanswered.

See ⑥.
Not the correct analysis.

repeat

⁵ The Holy Bible. Gen. 7.23. New York, NY: Oxford UP, 1989. 7.
⁶ Collins, Francis S. The Language of God. New York, NY: Free P, 2006. 80.

A combination of science and religion is offered by Francis Collins. He argues that God is a tool that complements the marvels of science and allows us to study our genetic code, the language in which God created life. While this argument does not explain God's existence, it does show science enhanced by a belief in God. Seeing science as the "language of God" allows us to believe in the validity of scientific inquiry while still appreciating that there are unexplained mysteries in life. If God did create or at least influence the natural world, it may be that God created what we now call science through the creation of nature. This idea leads to a framework through which we can understand the natural world and human behavior. It starts with God as creator, establishing the framework within which humanity can act freely. Science, in Collins' vocabulary, is the method by which humans understand God's divine framework and influence the future direction of our lives through scientific discovery.

(10)

(11)

Just because I lack a scientific answer now does not imply that God is the answer.