

Toward a Unified View of Science and Theology

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Current Christian thinking on the philosophy of science and theology largely embraces a “two-worlds” view of science and theology, that scientific claims and theological/biblical claims cannot contradict each other because they address two completely different aspects of reality. I dispute this view, and argue that faith in God and the propositions of the Bible are of the same nature as faith in the order of the universe and the results of scientific experiments. Although keeping certain propositions in the religious sphere may protect them from attack, ultimately this kind of separation cuts Christians off from meaningful dialogue with the world. In keeping with this view of the unity of knowledge, I propose several areas in which theology and modern science intersect in their studies.

Is the philosophy of science of Christians healthy these days? Do we have a cogent system for pursuing distinctly Christian science? I feel that modern Christian philosophy of science could use some fresh thinking.

In this essay I present a brief overview of my approach toward the philosophy of science and theology. In doing so, I challenge the viewpoints of many others. I do not refer to the specific works of other writers, however, because I wish to generalize a great diversity of thought under the single category of the “two worlds” view. In response I argue for a

“unified” view, that all knowledge is essentially the same. As I show, this viewpoint can have profound implications for science and theology.

The “Two Worlds” View

Having interacted with a number of Christians at the university level over the past few years, including members of the American Scientific Affiliation, I would say that one view of the relationship of science and theology pervades the thinking of most Christian scientists today. This view, which I call the “two worlds” view, says, in essence, that science and our thinking about science lie in one world and that the Bible and theology lie in another world, completely distinct from the first. The two worlds do not contradict each other because they cannot; no overlap exists for one world to have implications in the other. I have heard the terms “orthogonal”, “complementary”, and “different levels of description” used to describe this non-intersection of worlds. The Bible has authority in “matters of faith,” not at all in matters of science, because faith and science have nothing to say about each other.

This mindset of “two worlds” comes, I believe, from an essentially defensive posture. Having survived a long tradition of attack on Christianity in the name of science, many Christians make the underlying assumption that if the two worlds did overlap, then science would surely contradict Christian faith. Even if science does not presently appear to contra-

dict our faith, the possibility always exists that it will. Richard Bube perhaps puts it best when he says that if we tie our theology to our science, then when science changes (as it always does) then our theology must change. To go further, if our *belief* rests on some point of science, then if that scientific fact becomes disproven, our faith will crash! Not wanting to lose their faith nor to reject the truth yielded by science and experience, many have found a refuge by living in two worlds at different times of the day, not unlike the schizophrenic. With Christian faith having no implications at all for what to look for in science itself, the only implication of Christianity for the scientist boils down to the needs to live an ethical personal life and to have a Bible study during the week. Christianity never challenges the actual science of the scientist.

Some have even gone so far as to define evangelism in terms of affirming as much as possible of non-Christian science, in fact, all of non-Christian science because Christianity has nothing distinctive to say about science, in order to demonstrate the degree of enlightenment of modern Christians. This in turn presumably provides opportunities for inviting non-Christians to Bible studies. The degree to which some people have gone to affirm atheistic science sometimes amazes me. I recently read in the ASA Newsletter of a man who claimed that Christians could even accommodate Hawking's theory of an eternal universe, in contradiction to the historical doctrine that only God is eternal, Who existed "in the beginning."

In saying this, I do not mean in any way to question the faithfulness or sincerity of individuals who hold to a two-world view. For most individuals I know, this view serves as the best philosophy of science they have found. I feel, however, that such a view necessarily stunts inquisitiveness, removes a basis for offense against worldly philosophies on the basis of reason, and leads to sacrifice of biblical truth.

Can We Make Faith Unassailable?

Can we ever really divorce science and Christian faith? Can we really come to an unchanging theology that knows only the Bible and not the latest scientific data? To put it another way, can we ever put our faith in such a safe place so that no datum of experience could ever overturn it? I think not.

Suppose that next year scientists came up with the bones of Jesus, proven beyond a shadow of a doubt to belong to Him. Would that affect your faith? I hope that it would destroy it. Or can you already imagine hastily redefining your definition of the Resurrection? Suppose that scientists proved beyond doubt that propagandists wrote the Bible in the 18th century and at the same time generated all the historical records of it existing before then. Only a fool would continue to cling to faith in such a document. In fact, I know several acquaintances in religious cults like the Mormons who do continue to believe in the dogmas

of their religion in spite of overwhelming historical and scientific evidence to the contrary, precisely because they have foolishly made their faith untestable, a world completely different from the world of experience, history, and science. I claim that our faith does depend on the well-established scientific “facts” that no one can find Jesus’ bones and that the Bible comes from the times it says it does, as well as a host of other such facts. These facts may seem so well established that questioning them seems absurd. Nevertheless, they belong to the physical, observable world and therefore at least in principle have implications for science.

Some may at this point feel uncomfortable with my position. If I make faith subservient to experience, do I not leave open the possibility of the believer blowing with every wind of new scientific theory? Or do I put Christianity in the position of opposing science whenever it contradicts the Bible (which I claim can happen), therefore endorsing anti-intellectualism? How do I define faith, if not as an unassailable presupposition?

I think that the basic question comes down to, “What should we do when a result of science appears to contradict a belief we hold as part of our faith?” Let me take again the hypothetical case of a report of proof of the discovery of Jesus’ bones. I can imagine three possible responses to such a report. First, a believer may say, “I reject that report because it comes from scientists.” I call this the position of “fundamentalism”/anti-intellectualism– the scientist as villain. A second believer may say, “I can handle that. The essence of the Bible’s teaching in the Resurrection does not center on the fact that Jesus really rose bodily.” I call

this the “eager-to-please” position—the scientist as god. Both of these positions maintain a dichotomy between the truth of the Bible and the truth of science. In the first case, the truth of science belongs to the unimportant world, while in the second case, the literal sense of the Bible belongs to the unimportant world. Both reject any tension.

I have, of course, caricatured both positions above. In the first category belongs not only the anti-intellectual, but also many quite intelligent schemes of presuppositionalism. These also reject data out of hand such as bones purported to belong to Jesus, not because the scientist is an evil person, but because the data comes from the natural world, which is the world of science. Any attempt to bring these in conflict with the presuppositions of religion is seen as evil. In the same way, quite intelligent liberal thinkers, for reasons other than pleasing the world, feel that Bible scholars overstep their bounds if they insist on a scientific implication, such as the location of an ancient city or the time period of the Flood, based on Scriptural exegesis.

Let me return to my hypothetical case of the report of Jesus’ bones. A third believer, the Seeker after Truth, may say, “That really goes against the Bible, and I don’t believe it. But you seem to have built a compelling case, so I want to examine this further. I expect that your science has errors, in which case I can advance science by discovering them. If your claim truly is airtight, however, then my faith has no basis, and I can not take that possibility lightly.”

Can a believer live with that kind of attitude? I think so, although perhaps not with the degree of comfort he or she would like. Let me give an example from science of living with tension. Suppose a scientist comes across some data which seem to violate a cherished principle such as the conservation of energy. How should the scientist react? Option 1: ignore the data. Option 2: give up on physics as we know it. Option 3: investigate thoroughly. Breakthroughs can occur when this happens. Has the scientist lost faith in physics in this case? Not really, although the slight possibility of the failure of a cherished principle does drive the investigation. I note that the first two options are not merely hypothetical. Many professional scientists ignore data when they contradict well-established theories, often simply because questioning these theories would require too much work. Option two is all too often the case among students. Most students hate physics not because it is too difficult, but because it contradicts too many cherished “common sense” principles. Each group makes an easy resolution of any tension.

Some may object that comparing faith in God to faith in a scientific principle such as conservation of energy does disservice to faith in God. I agree that faith in God involves a much more far-reaching faith than belief of a single scientific principle. I see the difference between the two as essentially quantitative, however, rather than qualitative, with faith in God as *deeper* and *wider*. In fact, faith in a single scientific principle does not properly compare to faith in God, but compares to faith in a single principle about God, for instance

an attribute of God. I have indeed changed my mind regarding the attributes of God over the years; for instance, at one time I did not know or believe in the wrath of God, but now I do. Did I believe in the same God then? I do not believe that changing my understanding of an essential attribute of God involved lack of faith in God. That deepest faith in a personal God compares to an equally deep faith in the area of science, that is, my faith in an orderly God.

A Unified View

Let me expand my view a little further. Experimental results, archeological digs, historical documents, my inner feelings, and the words of Scripture all function as “sense experience” data. Historically, the Church has talked of “general revelation,” that is, experience at least in principle available to us all, and “special revelation,” that is, experience available to only a few, which involves direct communication from God. Scripture contains a general-revelation record of the claims of others to special revelation. The two kinds of revelation, or sense experience, both occur in this physical world. With both, we must trust second-hand information (“authorities”) to some degree.

Science and theology both function as the “theoretical frameworks” into which we organize all of our sense-data memories and make predictions of what new sense data to expect.

On an almost daily basis, we encounter sense data which does not fit readily into our mental framework. The apparent contradiction creates tension, a state of some level of confusion. To resolve the tension, one must ultimately adjust one's theoretical framework in a self-consistent way to incorporate the new data. We can not always do this easily, and so at any given time we each carry a certain number of apparent contradictions with us. The seeker after truth has at least a goal of eliminating the contradictions, as opposed to the mystic who revels in contradictions. To the seeker after truth, real contradictions can never occur in the "data" provided by God, only in the frameworks we construct.

To put it another way, we each make "presuppositions" or assumptions about the world. These presuppositions build on each other in layers— many presuppositions involve deeper, underlying presuppositions. In the ordinary course of life, we can overturn upper-level presuppositions without much stress in order to resolve new experiences (e.g. meeting a person from Indiana who hates basketball overturns the simple presupposition that all people from Indiana love basketball). More abiding contradictions may force a more painful re-examination of lower-level presuppositions (e.g. maybe not all people like me). A buildup of deep contradictions within a system of thought may force a "Kuhnian revolution," that is, a complete change in world view due to the overturning of a fundamental presupposition. This can only come about if a viable alternative world view exists.

Some Christians seek to put all Christian doctrine at the level of fundamental presupp-

sitions. In doing so, they can keep their doctrine safe from questioning for a long time, but they risk having their whole world view overturned when contradictions to certain doctrines arise. The child of a fundamentalist may leave the flock altogether.

As a reaction to the above type of Christian, other Christians try to deduce a “minimal set” of Christian belief to hold on to at the deepest level, such as the “Four Spiritual Laws,” a few creedal statements, or simply the need to always keep the name “Christian”. They then sacrifice every other Christian truth claim which conflicts with the world.

In each case, and in many less extreme cases, Christians seek a simple cutoff for beliefs to defend at all costs. For me, the most responsible course requires a recognition of the different levels of importance that various doctrines may have. An initial conclusion based on a little experience may require only one counterexample to overturn. A more deeply held belief, such as a belief about the wrath of God or the conservation of energy, may require a long period of exposure to completely inexplicable data (biblical or natural). Deepest beliefs like belief in the personhood of God, by which we interpret the world, do not belong to a completely different world. I do not divide the world into so-called “control beliefs” which are unassailable and all other beliefs which can be sacrificed. This kind of division allows us to sacrifice too easily biblical truths which we have not made “control beliefs”, and it allows us to add too easily to our body of control beliefs doctrines which we find hard to defend.[1]

My position allows for changing of theology and science. Nevertheless it insists that we

do not quickly drop beliefs simply because they lack popularity in the world (or the church) at the time. In my example above of the report of finding Jesus' bones, I stated that *proof* of their existence should destroy our faith. A simple claim of their discovery, however, should do no such thing because the Bible and the Church among other things are strong proofs to the contrary.

What is Faith?

At this point I must address the basic issue of the definition of faith. Very few philosophers deny that people do indeed acquire all forms of knowledge starting at a very early age via a process like that which I have outlined above, creating and overturning assumptions at various levels over time. A person gains religious knowledge in the same way, hearing the Bible or other religious propositions and making decisions about whether they make sense and the trustworthiness of their sources such as parents and teachers. The problem arises, however, that we do not want to allow the overturning of our faith in a casual way. For this reason some have proposed that at some point after we have come to know certain truths, we take another step, by an act of the will, to make these beliefs unassailable. This step is equated with faith.

What is faith? Is faith an act of the will by which we remove a proposition of truth from

the world of experience and place it at the level of presuppositional dogma? I find that the Bible consistently uses *passive* terms for faith— those with faith “having been persuaded”, or “being convinced”, or “believing what they have heard.” Faith is not a work of the will which has merit in the eyes of God. Rather, faith is a necessary prerequisite work which God must do *to* us before He can save us, by which He convinces our minds of certain basic truths *via our sense experience*, such as hearing sermons or looking at nature.

Faith in God compares well to what we think of as faith in a person. Suppose I have a friend, a true friend in whom I put all my trust. He has said he would not leave town without me. A person then comes to me and tells me that he has seen my friend driving out of town. How do I respond if I have faith in my friend? I don't want to believe he has let me down. Suppose I say, “By force of willpower I have presupposed that my friend can never leave town without me.” To force all data into that framework without possibility of letdown, I have two choices: I can ignore all new information so that I can never hear that my friend has left, or I can “redefine” what I mean by “leaving town” so that no matter where he goes, he is still “in town.” Both of these responses indicate a lack of what we would commonly call faith in someone. One may say, “Why do you need to use willpower to believe that your friend will not leave? Don't you know him?” Both the consequent options, ignoring new information (anti-intellectualism) or redefining the terms of the promise (liberalism), betray a fear that he may indeed leave town!

If I have faith in my friend, I respond first by expressing doubt about the news that he has gone. If I receive even more information indicating that he has left, I may start to do some checking, always with the belief that the truth will vindicate my friend. My faith has real consequences for the world I live in, which makes me vulnerable to a true failure by my friend. But I don't believe that will happen!

A related issue is the question of "sureness". What can we be "sure" about? Can we be perfectly certain about anything? Ever since Kant and Hume, philosophers have taken it for granted that nothing is perfectly certain except for mathematical deductions. Many a sophomore student has lost all sense of purpose and direction after exposure to such philosophy. In response, many Christians take the position that believers acquire perfect certainty by the means of faith as an act of the will. Do Christians need 100% certainty by Hume's definition?

The destruction of all certainty by eliminating "perfect" certainty is essentially a trick, a deception by wordplay. If we do not have 100% certainty are we necessarily "uncertain"? Certainly not! There is room for knowing things as certain without requiring a mathematical standard of perfection. No person has "perfect" certainty that jumping off the Empire State building will lead to death. Few philosophy professors would try it, however! In fact, the idea of 100% certainty is absurd. Consider the statement, "I am perfectly sure." Who am I? The boundary of my skin does not end perfectly; as an electron microscope can show,

it fades away. Instead of causing insecurity about my existence, however, this should only show the absurdity of splitting hairs indefinitely.

Rather than talking of perfect certainty, we can talk of being “sure enough” – sure enough to act, sure enough to keep trusting in a friend indefinitely. God expects us to use our will power to act on that which we do believe, not to create beliefs.

To reiterate, moving propositions into a separate world of 100% certainty only does injury to the real-world certainty they do have. It implies that we fear that if we took our religious propositions out of the protected world and let them compete on their own merits in the world of experience, then they would fail.

The Intersection of Theology and Science

How can theology intersect with science today? This involves our whole notion of how scientists do science. No one can deny that the image of the dispassionate scientist simply collecting data, with no prejudice or goals, does not correspond to reality. In a big universe with a lot of data, the philosophy of the scientist defines the interesting places to look, the problems to select.

I apply here this kind of approach to several examples of the intersection between science and special revelation. First, what do we make of the Institute for Creation Research, or

“scientific creationists”? Many scientists operating from a “two worlds” view condemn them for the cardinal sin allowing the Bible to say anything about science, for allowing an overlap of the worlds. The secular world hates them for the same reason– if they kept the Bible to Bible studies, the world would love them, because then the world could ignore the Bible as “religion”, not truth about the world we live in. To me, however, the scientific creationists have the right idea when they refuse to throw out the biblical data on the basis of current science, allowing instead the unpopular possibility that cherished scientific theories may fail on the basis of research motivated by biblical presuppositions. To a large degree, they have succeeded in their mission, forcing nearly all of the modern scientific world to respond to their critiques of evolutionary theory and indirectly assisting a great number of scientists to admit that the random, spontaneous evolution of mankind from subatomic particles is extremely unlikely, even if it did happen. *The Anthropic Cosmological Principle*,^[2] which has impacted much of the physics community, shows how seriously some scientists take theism as a valid input to scientific theory.

Where have creationists gone wrong, then? In my opinion, they have erred in the first place by sticking to a too inflexible theology and mode of biblical interpretation. Blurring the distinction between the biblical “data”, i.e., the actual statements of the Bible, and the theological frameworks of people’s minds, they leave little room for overturning “upper level” assumptions about what the Bible teaches. The flow goes entirely one way– science

may change based on biblical data, (properly, I believe,) but biblical interpretation may never change based on scientific data. We must allow the possibility of adjusting our biblical interpretation based on historical/scientific data. This already occurs on the basis of study of ancient languages, even among fundamentalists.

I also feel, as do many Christian scientists, that creationists have also erred in setting themselves in a position of antagonism toward nearly all modern science, like a secret society infiltrating and attempting to overthrow the “establishment”. Their science, some of it good, has too much consisted of attacks on modern science rather than a proposal for a new consistent framework, in other words, a proposal for the kind of data they expect to see based on biblical assumptions.

In positive terms, what interactions do I see between biblical faith and science? I can think of several examples from my own field of physics. I have mentioned one, that is the issue of the eternity of the universe. Atheism requires an eternal universe of some sort. The observations indicating a Big Bang, however, imply a universe with a beginning. For no other reason, modern cosmologists such as Hawking have promoted the “inflationary” model of the universe which allows for Big Bangs seeded by previous universes in an eternal super-universe. Can we apply Occam’s razor in cosmology? In which can we more easily believe, a universe with a beginning and a God Who communicates or a finely-tuned theory of epicycles in an eternal universe that by clever masking obscures all record of its eternity?

Do we expect that a simple theory of an eternal universe may appear? Experiments looking at the cosmic microwave background may overturn the inflationary theory by next year, and astronomers already talk of a complete collapse of the theory in their field. Do we have any alternatives?

To turn this around toward implications for theology, can we resurrect the argument for the existence of God from the design of nature, in particular the design of conscious humans? The two-worlds view has led to a kind of half-heartedness toward such arguments for the existence of God because they do not prove anything with 100% certainty— because an atheistic loophole always exists many apologists end up by saying, “But ultimately, you must decide to believe!” To what degree does the present age of the universe constrain atheistic theories of design?

Quantum mechanics is also presently in a state of philosophical upheaval. No serious philosopher of physics is satisfied with the present understanding of quantum mechanics. Can Christians enter in? Does belief in an external Observer-God affect one’s interpretation of quantum mechanics? Can we say categorically on biblical grounds that no random event ever occurs?

On a more general level, what makes a theory “beautiful”? Ever since the Greeks, people have seen beauty in symmetry. In ancient times, thinkers saw the best symmetry in the sphere, and philosophers of nature considered a law beautiful and satisfactory if it

put everything into circles. When the theory of epicycles for the planets failed, “Galilean invariance” became the standard for beauty. In other words, scientists consider a theory beautiful if it involves no center point in space, no special chosen reference point. Maxwell’s and Einstein’s equations especially seem beautiful for this reason. The desire for symmetric laws of nature still drives physics. With all of the subatomic particles discovered, however, physicists presently need complex theories with up to seventeen dimensions in order to make everything “symmetric.” Can Christians apply a different standard of beauty? *The Anthropic Cosmological Principle* suggested a different standard, namely, that physicists should consider as beautiful theories which allow the existence of cognizant thought.

Conclusion

In conclusion, I quote two of my favorite philosophers of science, Augustine of Hippo and Roger Bacon. Neither of these saw a high wall of separation between science and the Bible, but rather they encouraged science as improving the understanding of Scripture. According to Augustine,[3]

”That man would indeed do the Scriptures a kind service who should collect the characteristics of times and places, of stones and the rest of inanimate things, of plants and animals.”

Roger Bacon, for whom I have increasingly gained admiration as a progenitor the scientific method, wrote,[4]

”But the whole purpose of philosophy is to evolve the natures and properties of things, wherefore the power of all philosophy is contained in the sacred writings; and this is especially clear, since the Scriptures far more certainly, better, and more truly comprehend the creatures than philosophical labor would know how to define them.”

Although given little credit in later writings because his attacks on other philosophers led the Church to ban his works, Bacon trained a great number of young scientists in the scientific method. His writings influenced Francis Bacon three centuries later to leave a life of pleasure and pursue the high calling of science. Roger Bacon encouraged the study of astronomy to better set the calendar to fix the dates of Scripture, the study of ancient languages and cultures to better understand the original texts, and the study of nature to better understand the literal sense of Scripture. He encouraged the study of magic in the form of magnetism, herbs, and optics to disarm evil magicians and their false wonders. At the same time, sounding like a Reformer, he swept away the writings of human philosophers and theologians, even men like Aristotle and Aquinas, as the mere frameworks of men.

Roger Bacon faced a similar problem in his day: Christian philosophers felt that the study of history and languages, astronomy and experimental science added nothing to theology and could only distract from it. Bacon's bold assertion that Scripture belonged to the same world as science and would be supported by it, despite the vast unknowns of science facing him, led to the scientific revolution. Dare we do the same?

References

1. I have argued that no contradictions can occur in the "data" provided by God, only in our human scientific theories and theology. A friend has raised the objection that such a belief is itself a presupposition made by choice. I concur with Sproul, Gerstner, and Lindsley, however, in their work, *Classical Apologetics* (Zondervan, Grand Rapids, 1984), as well as with the famous atheist Ayn Rand and others, that the law of noncontradiction is inherent in all thinking. To argue against the law of noncontradiction is to use the law of noncontradiction. While it is possible to formulate a contradiction in our thinking, a direct contradiction, i.e. "A is true *and* A is false," can not refer to reality because it is simply meaningless.

A long series of philosophers have also doubted whether we can properly speak of "external" reality separate from our mental frameworks because we perceive external data exclusively through the filter of our mental frameworks. I concur with Mortimer Adler, e.g. in

Ten Philosophical Mistakes, (Macmillan, New York, 1985) that the existence of an external reality is self evident.

It is certainly possible to hold the view that the Christian Scriptures contain contradictions. It is, however, impossible to hold that God the Author of Truth could speak a contradiction. Therefore to believe that the Bible is God's Word is to believe that it contains no real contradictions with itself or with the external reality created by Him, even if certain passages seem to us to have such contradictions.

I note that Sproul, Gerstner, and Lindsley in *Classical Apologetics*, cited above, have made a substantial contribution toward the reconstruction of natural theology and the unity of science and faith. In particular they treat the issue of miracles which I neglect here. I depart from Sproul et al., however, in claiming that the personal God of the Bible can only be known through the less-than-mathematically exact evidences of our experience, not through 100% certain propositional logic, as they would like to affirm.

2. J.D. Barrow and F.J. Tipler, *The Anthropic Cosmological Principle*, Oxford University Press, 1988.

3. As quoted by Roger Bacon, *Opus Majus* II. iii, trans. R.B. Burke, University of Pennsylvania Press, Philadelphia, 1928.

4. Roger Bacon, *ibid*, II. viii.