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Philosophy As Arbiter:
A Proposed Model in the Science-Theology Relationship

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ABSTRACT: The literature devoted to the science-theology relationship in recent decades has been massive. It is therefore all the more curious that a science-theology model that is most historically representative, most intuitive, and most fruitful, is absent from such literature. I propose, however, that when science and theology are viewed as philosophical branches, we have the proper arbiter and liaison which both science and theology can, and ought to appeal. The proposed model stands in as a crucial missing piece of the science-theology discussion.

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The literature devoted to the relationship between science and theology in recent decades is massive. It is therefore all the more curious that a science-theology model that is most historically representative, most intuitive, and most fruitful, is absent from such literature (to my knowledge anyway). Before getting to my proposal, let me outline the four subjects a good science-theology model will illuminate.

First, a good model will accurately depict how science and theology truly *have* related in the past (an "is" question). Second, such a model will accurately depict how science and theology *currently* relate to each other (another "is" question). Third, it will show how science and

theology *should* relate to each other (an "ought" question). And finally, such a model will illuminate the elusive arbiter we need for adjudicating conflicts between science and theology.

My proposal will thus answer these four questions, in four sections. In Section 1, I propose that both science and theology, as formal methodologies, have historically been categorized as *philosophical* disciplines, with science emerging *from* philosophy. Toward the end of Section 1, I will spell out my thesis in greater detail: the proper arena for science-theology arbitration is in philosophy. In Section 2, I will show how current anti-philosophical rhetoric among scientists is a major source of science-theology conflict, and how this rhetoric stems largely from a "blurred" realist view of science. In Section 3, I will show that when science and theology are arbitrated as philosophical branches, their relationship enjoys the greatest fruits. And in Section 4, I show how this model stands in as a crucial missing piece of the science-theology discussion: the proper arbiter and liaison which both science and theology can, and ought to appeal. Along the way, I will tease out my model in those historic cases that have made the science-theology relationship most famous.

Preliminary Definitions

Though I will be developing some definitions throughout, let me outline the way in which I am using three important (and notoriously elusive) terms. First, when speaking of *philosophy*, I am appropriating Alvin Plantinga's simple but suitable definition of philosophy as "not much different from just thinking hard."[1] Regarding *Christian Theology*, to which I hereafter refer simply as *theology*, I am appropriating St. Augustine's definition as "reasoning … concerning the deity,"[2] which includes reasoning on God's creation, actions, and revelation. And finally, I summarily appropriate

[1] Alvin Plantinga, *God, Freedom, and Evil* (Grand Rapids, MI: Eerdmans, 1974), p. 1

[2] St. Augustine, *City of God*, Book VII, i

philosopher Garrett DeWeese's definition of science as a structured, cooperative human inquiry into natural phenomena.[3]

Section 1. How Science and Theology Have Related in the Past: *Introduction*

What better way to understand how science and religion *do* relate, than by investigating how they truly *have* related throughout history? This, of course, is an historical inquiry, and cashes out as more of an "is" question. Subsets of this first question will include: how was each discipline, as a formal methodology, born? From what intellectual world was each born? How did the two disciplines relate in the past? This "is" question will guide us in ascertaining the true, historic relationship between the two disciplines, which is crucial to *Section 2*, where we contrast the current state of the relationship.

How Science and Theology Have Related in the Past: Theology

Theology is technically the study of (*logia*) God (*theos*), or in Augustinian terms, the reasoning of God. Reasoning, of course, is thoroughly philosophical. And terminologically speaking, a study suggests a methodology. Methodology being thoroughly philosophical, we see that theology is also thoroughly philosophical.[4] Granting then that theology is philosophical, in which philosophical branch is it located?

Aristotle places theology under the branch of "theoretical philosophy" in his *Metaphysics*, as does Boethius[5] and, in general, the scholastics (especially Thomas Aquinas[6]). Moreover, Christian theology has historically spanned natural philosophy, ethics, logic, epistemology, politics, and so forth. But more than any branch of philosophy, metaphysics has provided the most conspicuous home for theology. Within the branch of metaphysics we find discussions of deity stretching

[3] Garrett DeWeese, *Doing Philosophy as a Christian*, p. 271

[4] Keith E. Yandell, *Philosophy of Religion* (New York, NY: Routledge, 1999), p. 13

[5] Boethius, *On the Holy Trinity*, II

[6] *Summa Theologica* was, of course, his seminal synthesis of Aristotelian philosophy with Christianity.

back to the 5th century BCE and continuing today. Metaphysical topics of theology range from the Cosmological argument,[7] to the Moral argument,[8] to the Teleological Argument,[9] to the Ontological argument,[10] and so on. In other words, there is a long, healthy tradition of theology within metaphysics.

Of course, theology cannot be reduced purely to philosophy, especially in light of the fact that orthodox Christians generally view scripture as their ultimate authority, while philosophers generally view reason as their ultimate authority. For the Christian then, scripture (special revelation) sets the "ground rules" for his philosophy.[11] Christians can use philosophy to illuminate special revelation, but cannot place reason above it.

But this is not to say that theology has not permeated almost every branch of philosophy. So in summary, one could make a technical claim that theology, both as "reasoning" and as a methodological study, precisely *is* philosophy. One could cite major philosophical and theological figures in support of such a thesis. But, such a claim is controversial. I will therefore conclude here with the modest claim that both history and practice clearly show theology and philosophy as partners.

How Science and Theology Have Related in the Past: Science

Like theology, what is now called science has had a long history within philosophy. Moreover, science had its beginnings in philosophy. Study of the natural world, as a formal philosophical methodology, spans from Aristotle's *Physics*[12] straight through Isaac Newton's *Mathematical*

[7] Cf. Plato's *Laws*, X, and Aristotle's *Metaphysics*, XII

[8] Cf. Kant's "summum bonum" in his *Critique of Practical Reason*, Book 2

[9] Cf. Aristotle's final causes in his *Physics*, II, 8 or Cicero's "water clocks" in his *De Natura Deorum*, II, 34

[10] Cf. Anselm in his *Proslogion*, Ch. 2

[11] Cf. Aquinas's *Theology Proper*.

[12] Different from the modern use of the term, in which Aristotle's use is more of a philosophical investigation into the natural world.

Principles of Natural Philosophy. Historical inquiry thus shows the study of nature as a philosophical enterprise.

Again, if we accept Plantinga's definition of philosophy as "thinking hard," it seems that philosophy is inextricably woven into essentially all branches of natural philosophy. Modern science (or any human discipline for that matter) is no exception.[13] Diagramming the conventional depiction of the "scientific method,"[14] we see the role philosophy plays in science today:

1. Introduction (establishing some work to be done)
2. Observation (collecting data)
3. Form hypothesis for (1) and (2)
4. Test hypothesis/publish for peer review/establish hypothesis as theory or law

We see that (1) involves the "life of the mind" of the scientist in what he brings into his scientific practice: his beliefs, inspirations, motivations, imagination, his metaphysical considerations; his moral virtues of honesty,[15] courage, humility, transparency,[16] etc. (3) involves the "life of the mind" of the scientist in his own introspective and reflexive thoughts of the data he has collected. (4) involves the "life of the mind" as the scientist sets out to conceptually define and develop tests for his hypothesis.

Three notes on (2). First, as Kuhn has shown,[17] "pure" observation is probably not possible. Rather, observation invokes our background (philosophical) beliefs. Second, observation requires the internal sense-perceptive faculties of the scientist in apprehending objective properties.[18] Third, observation is at times not possible, even in

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[13] Martin Heidegger was right when he said that while Aristotle's *Physics* was philosophy, modern physics is yet a "positive science that presupposes a philosophy." Martin Heidegger, *The Principle of Reason* (Bloomington: Indiana University Press, 1991), 62-63.

[14] Diagrammed variously, but for purposes of simplicity I appropriate much of DeWeese's diagram in *Doing Philosophy as a Christian*, p. 265

[15] E.g., do not tamper/fudge with the data. Do not steal someone else's work, etc.

[16] E.g., share data freely with colleagues.

[17] Thomas Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: University of Chicago Press, 2012)

[18] Even via instruments, the scientist's internal perceptive faculties are appropriated to

principle. One cannot observe the half-life of Uranium-238,[19] or the cause of the extinction of an ancient species. And likewise, such cases cannot be tested, but rather are philosophically inferred.

Much of science is therefore internal to mind of the scientist. And such internal introspection – thinking hard (hopefully) – is essentially our definition of philosophy. It seems therefore that, as science began as a branch of philosophy, it thus remains today, whether acknowledged as such or not. This is a strong claim. And while I believe it is defensible,[20] I will defend here the weaker claim that natural philosophy is simply the philosophical analogue, or correspondent of modern science, and therefore, not the totality of science. Therefore, I conclude with the modest claim that science and philosophy are partners.

How Science and Theology Have Related in the Past: Conclusion

We have seen thus far that theology and philosophy are partners, and science and philosophy are partners.[21] We have modestly concluded that, while theology spans nearly every major branch of philosophy, its most conspicuous philosophical analogue is that of metaphysics. And we have concluded that the systematic study of nature began as the philosophical branch of natural philosophy, which is science's philosophical analogue. These conclusions are hereafter represented under the following short-hand: metaphysics is the philosophical analogue of theology, and natural philosophy is the philosophical analogue of science.

I am now in a position to state the central thesis of this paper: philosophy is the proper third-party arbiter for the relationship between science and theology. When science and theology intersect, they ought to

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instrumental affordances.

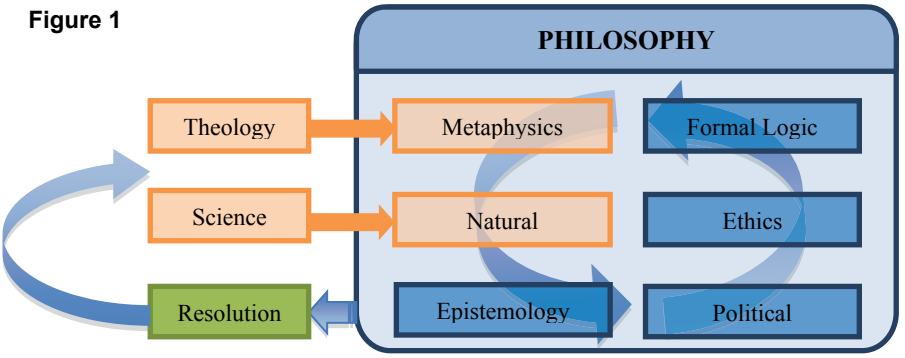
[19] Which has a half-life of over four billion years.

[20] It is less controversial if we take philosophy largely as "thinking hard," which the ideal scientist also obviously practices. Second, rejection of such a conclusion must answer the above raised propositions both from history, and from those noticeably philosophical elements which dominate the "scientific method." And finally, if philosophy is methodology, and science operates under a purported methodology, it is difficult to see how science evades the category of philosophy.

[21] For a similar conclusion, cf. Bertrand Russell, "philosophy is something intermediate between theology and science" in *A History of Western Philosophy*, xiii.

make a temporary appearance in the arena of philosophy in order to relate to each other, and to resolve any issues. And both disciplines ought to feel perfectly at-home in this arena, as it was both (1) their birthplace, and (2) where they got along so well for so long.

Figure 1



As seen in Figure 1 above, when so done, science and theology will occupy *distinct* branches of philosophy. Just as philosophy of ethics is a philosophical branch distinct from, say, political philosophy, they are yet both philosophical. Both branches look dramatically different. But at the same time, not only do the two come to bear on each other, but the two have all the resources of the other branches of philosophy with which to appeal, and grow.

A politician, for example, may argue for a position based on some moral philosophy. An ethicist may disagree with the politician's moral philosophy, and he can properly do so on the basis of some other philosophical branch, say, some law of logic, or some metaphysic. Here, when the politician and ethicist have recognized their philosophical foundations, they have at their disposal the *arbiter* of philosophy. Likewise, a scientist may state a position that goes against a theologian's metaphysical position, or vice versa. The theologian and scientist therefore have at their disposal the full resources of philosophy with which to appeal. I will further unpack in Section 4 what arbitration looks like (and

ought to look like) between the analogues of metaphysics (theology) and natural philosophy (science).

Regarding Ian Barbour's classic fourfold typology of science-theology relationships,[22] my model exhibits qualities of each typology. Claims in one philosophical branch may come into conflict with claims in another philosophical branch. But such conflicts can be arbitrated by bringing additional philosophical resources to bear on such conflicts. In agreement with Steven J. Gould, natural philosophy and metaphysics just *are* distinct magisterium (philosophical branches). A study of either branch shows their stark contrasts. Yet in disagreement with Gould and in agreement with Howard Van Till, natural philosophy and metaphysics are partners within philosophy. This is how philosophy is generally done. And finally, in agreement with DeWeese, claims from different philosophical branches can *converge* on truth.[23] But in disagreement with DeWeese,[24] the two disciplines of science and theology are integrated under the umbrella of philosophy, while remaining completely distinct from each other as natural philosophy and metaphysics.

Section 2: How Science and Theology Currently Relate to Each Other

We have thus far examined the history of the scientific and theological disciplines. But we have yet to investigate the important question of their purposes. If one has not got an understanding of what the discipline of science is, for example, then how will one know whether, and how, science and theology even do relate?

The purpose of theology, while perhaps impossible to comprehensively define, is somewhat straightforward, especially when viewed in light of metaphysics. For the purposes of this paper, we may state the purpose of Christian theology, in light of metaphysics, as the

[22] Ian Barbour, *Religion and Science: Historical and Contemporary Issues* (New York: HarperCollins, 1997)

[23] Garrett DeWeese, *Doing Philosophy as a Christian*, p. 291

[24] Garrett DeWeese, *Doing Philosophy as a Christian*, p. 269

study of ultimate reality, with Judeo-Christian scripture as its ultimate authority.

Our brief study in Section 1 showed science historically as the branch of philosophy known as natural philosophy, which was distinct from metaphysics. However today, it is generally suggested that the natural sciences, and not metaphysics, tell us about the ultimate nature of things.[25] In his chapter on scientific realism for example, philosopher of science James Ladyman goes so far as to say that the natural sciences have replaced metaphysics.[26] So what happened between antiquity and modernity that can account for such a dramatic reversal of roles? I suggest the debate on scientific realism and scientific anti-realism is crucial not only in accounting for this role reversal, but also for discerning the true *purpose* of science.

What we now call scientific anti-realism was simply the long tradition in *natural philosophy* of "saving the phenomenon," seen from Plato[27] to Ptolemy[28] to Aquinas.[29] Copernicus, for example, favored heliocentrism not for metaphysical reasons, but because it offered a mathematical model more "pleasing to the mind."[30] Galileo, however, broke with this historic tradition when he proclaimed the metaphysical *truth* of his natural philosophy.[31] Cardinal Bellarmine, the Inquisition's representative investigator of Galileo, took exception with Galileo primarily for breaking with the historic tradition of science as a discipline of "saving the appearances."[32] The 20th century physicist and philosopher of science Pierre Duhem properly captures an important part of my overall thesis:

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[25] James Ladyman, *Understanding Philosophy of Science* (New York: Routledge, 2002), 129.

[26] Ibid.

[27] See Simplicius, *De Caelo*, II, 12

[28] Bernard R. Goldstein, "Saving the Phenomena: The Background to Ptolemy's Planetary Theory", *Journal for the History of Astronomy*, 28 (1997)

[29] Thomas Aquinas, *Summa Theologica* I, Q. 32, A. 1, Reply to Objection 2

[30] Nicolaus Copernicus, *Commentariolus*

[31] See his *Dialogue Concerning the Two Chief World Systems* in general. For specific examples see the Stillman Drake translation (New York: The Modern Library, 2001), pp. 32, 119, 148, *passim*

[32] See the *Letter from Bellarmine to Father Foscarini*, April 4, 1615.

Galileo blurred the distinction between "the *physical* method and the *metaphysical* method."[33] I hereafter refer to this phenomenon as a *Galilean blur.* It is often overlooked that *this* was a major point of conflict between Galileo and the Church.[34]

I suggest that *Galilean blurring* is part and parcel of scientific realism, where the purpose of science becomes at least partially *metaphysical*. When the distinctions between science and metaphysics are blurred, it is only a matter of time before turf wars (conflict) begin. A scientific realist will naturally want domain over the entities which metaphysicians believe to be their domain. It is no coincidence that conflict between *natural philosophy* and *metaphysics* was rare prior to the *Galilean blur*, but more pronounced subsequently.

Now, it might be argued that such a blur was *responsible* for the scientific revolution and the birth of modern science. "Modern science," after all, purportedly arose shortly after the general transition from scientific anti-realism to scientific realism. But this amounts to no more than a *post hoc propter hoc* fallacy. Granting for the sake of argument that modern science *did* arise shortly after Galileo, all this shows is the arrival of modern science, not its cause. I further argue that regardless of any conceptual blurring of two disciplines, scientists do both science and metaphysics, whether or not they so recognize. Ptolemy, Galileo, and Einstein practiced both. The *Galilean blur* did not change any of this. It therefore does not account for the advent of modern science.

Coming back to modern science, there is a disconcerting, growing movement of modern scientists who berate philosophy.[35] I suggest that this is a natural extension of scientific realism. Why? Scientific realism suggests our scientific theories describe things *as they really are*, not

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[33] Pierre Duhem, Trans. Philip P. Wiener, *The Aim and Structure of Physical Theory* (Princeton: Princeton University Press, 1954), p. 43

[34] Michaela Massimi in *Philosophy for Everyone* (Abingdon: Routledge, 2014), p. 93-94.

[35] See, e.g. Steven Weinberg, *Dreams of a Final Theory* (New York: Random House, Inc., 1994), 168; Lawrence Krauss, http://www.theatlantic.com/technology/archive/2012/04/has-physics-made-philosophy-and-religion-obsolete/256203/ April 23, 2012; Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York, NY: Bantam Books, 2011), p. 5; etc.

merely as they appear.[36] Many of our "scientific" theories are therefore about the ultimate reality of our world. But as we have already defined, ultimate reality is precisely the work of metaphysics,[37] or in our current study, the work of Christian theology. This presents a clear point of conflict between science and theology.

We may conclude this section by noting that the *Galilean blur* marked a reversal of purpose between science and metaphysics, and this in turn affected the relationship between science and theology. In antiquity, the relationship between science and theology was based on two branches of philosophy: *natural philosophy* and *metaphysics*. The *Galilean blur* ushered in a role reversal in which science has become more than a discipline for "saving the phenomena," but which now describes the ultimate nature of things.

Section 3: How Science and Theology Should Relate to Each Other

We have now answered the "is" question of what the formal disciplines of science and theology have historically been, what they currently are, what their historic relationship has looked like, and what their relationship looks like today. We are now in a position to evaluate the "ought" question of how science and theology *ought* to relate to each other.

As we saw, the *Galilean blur* – the merging of two disciplines into a single discipline – was a source of conflict between science and theology. As scientific realism suggests metaphysics is now a part of science, I argue that scientific realism continues the *Galilean Blur*, and continues to be a major point of conflict between science and theology today. Prior to the *Galilean blur*, we see scientific anti-realism as the driving purpose behind *natural philosophy* for millennia. We also see general harmony between *natural philosophy* and *metaphysics* through these millennia, and little conflict.

[36] James Ladyman, *Understanding Philosophy of Science* (New York: Routledge, 2002), 17

[37] See *ibid.*

I suggest that an anti-realist view of science (1) is most faithful to the historic picture of the discipline of physical science, (2) keeps the philosophical disciplines of *natural philosophy* and *metaphysics* distinct, (3) dramatically reduces the potential points of conflict between the two, and (4) breeds the most fruitful dialogue between the two disciplines. What does this look like in practice though? To answer this, let us examine two cases which have made the science-theology relationship famous: (1) Evolution, and (2) Intelligent Design. We will see why the prevailing scientific realist attitude has exacerbated science-theology conflict in these sample cases, and how a traditional scientific anti-realist attitude promotes a healthier relationship via clearly delineated, fruitful dialogue.

Throughout Darwin's *Origin of the Species*, Darwin makes a similar Galilean blur between natural philosophy and metaphysics. To be sure, Darwin was a painstakingly thorough natural philosopher, but much of his argument in the *Origin* is metaphysical. Darwin states explicitly the metaphysical nature of his project: to "overthrow the dogma of separate creations."[38] Darwin thought the metaphysical concept of "separate creations" made God's works "a mere mockery and deception."[39] The metaphysical nature of the *Origin* is underscored in the fact that Darwin references God, Biblical Creation, or its cognates explicitly over fifty times in *Origin*.[40] The primary issue with this is that these metaphysical concepts simply need to be acknowledged as *metaphysics* rather than *natural philosophy*. Of course, Darwin also argued for concepts which potentially *could* "save the phenomenon" of what we observe in the world of organic life: types of variation, types of selection, the struggle for existence, etc.

On scientific anti-realism, the merits of evolution in science can be discerned based on (1) those specific features of the theory which "save

[38] Charles Darwin, *Descent of Man*, Vol. I, 153.

[39] Charles Darwin, Ibid, 167.

[40] God: 169, 424, 166, 7, 150, 365, 146, 159, 383, 143, 429; Creation: pp 4, 13, 17, 46, 55, 89, 110, 122, 125, 127, 130, 142, 144, 156, 159, 160, 166, 173, 181, 215, 234, 261, 276, 310, 311, 330, 334, 339, 340, 348, 359, 368, 377, 383, 396, 409, 414, 415, 417, 423, 450. Charles Darwin, *On the Origin of the Species, A Facsimile of the First Edition* (Cambridge, MA: Harvard University Press, 1964)

the phenomenon," and (2) how those features hold up against certain virtues, such as accurate descriptions of observable phenomena, simplicity, falsifiability, predictability, novelty, etc. Darwin's metaphysical discussions of Biblical Creation, dysteleology,[41] and so on are of course perfectly valid discussions, but as these are largely unobservables, they are therefore metaphysical matters. And while natural philosophy will most certainly inform metaphysics, the merits of these unobservables will be ascertained according to the different methodologies and virtues of metaphysics, such as coherence, reason, logic, modal possibility, etc.

In this way, it seems it would be perfectly viable for a theist to accept the merits of evolution vis-a-vis the phenomena we observe in organic life, evolution's predictive success, novelty, etc., while rejecting certain metaphysical elements according to the different methodologies of metaphysics. And conversely, a non-theist may reject certain merits of evolution in favor of, say, I. Michael Lerner's *Genetic Homeostasis*,[42] while at the same time accepting the metaphysical aspects proposed in *Origin*.

Scientific anti-realism also seems strangely absent in many discussions in the Intelligent Design (ID) movement. Typically, the ID theorist endeavors to bring ID into science by widening the scope of science from naturalism to that which includes at least "design,"[43] but oftentimes to that which includes God as a hypothesis.[44] I suggest the ID proponent here is also making a faulty Galilean blur in which metaphysics wrongly becomes blurred with science.

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[41] See Darwin's correspondence with Asa Gray, for example, "There seems to me too much misery in the world. I cannot persuade myself that a beneficent and omnipotent God would have designedly created the Ichneumonidæ with the express intention of their feeding within the living bodies of Caterpillars, or that a cat should play with mice." Letter dated May 22, 1860.

[42] Essentially the theory of the *Fixity of the Species*, in which an organism can change only so much before it de-volves back to some initial body plan. Proposed by former editor of the journal *Evolution*, I. Michael Lerner.

[43] i.e., William Dembski, *Intelligent Design,* pp. 23, 106-107.

[44] i.e., J.P. Moreland, "Theistic Science and Methodological Naturalism," in *The Creation Hypothesis: Scientific Evidence for an Intelligent Designer*; Alvin Plantinga, "Methodological Naturalism" 18-27.

Further, ID theorists suggest that so long as methodological naturalism characterizes science, ID "has no chance of gaining a hearing."[45] And so rather than decreasing the metaphysics blurred in modern science, the ID theorist typically endeavors to increase the metaphysics blurred in modern science, by incorporating metaphysical elements such as teleology, design, and perhaps God. But there is a missing premise in the ID theorist's lament. Rather than:

(1) If methodological naturalism characterizes science, then

(C) ID has no chance of gaining a scientific hearing.

We see missing premise (2):

(1) If methodological naturalism characterizes science, *and*

(2) Scientific realism characterizes science, then

(C) ID has no chance of gaining a scientific hearing.

But altering (1) is not the only means of resolution. One of the beautiful features of scientific anti-realism is that nothing is sacred in science – after all, the sacred belongs to metaphysics! When metaphysics is no longer a feature of science, a theory which out-produces its competitors in accounting for some phenomenon becomes a good, scientific theory, regardless of its unobservables. Therefore, we see a potential resolution for ID: (2') scientific anti-realism characterizes science. In this case, again, the merits of ID as regards accounting for natural phenomenon, its falsifiability, predictability, simplicity, novelty, etc., recommend it as a good, scientific theory. And its unobservables as regards the intelligent cause behind certain phenomenon are once again the domain of metaphysics. Then ID will have a chance of gaining a scientific hearing.

[45] Karl W. Giberson and Donald A. Yerxa, *Species of Origins: America's Search for a Creation Story* (Oxford: Rowman & Littlefield Publishers, Inc., 2002), p. 208.

Section 4: Philosophy as the Elusive Arbiter in Science-Theology Conflicts

We have now seen how science and theology have related, how they currently relate, and how they *should* relate. But how do we achieve this ideal "should" picture? In other words, when conflicts arise between anti-realist science and theology, to whom should we defer? Science, or theology? And is there any guiding principle, or set of principles, to which we can appeal? This, I suggest, is where my proposed model is most effective. For when the two disciplines are conceived as philosophical, then naturally, philosophy is the arbiter.

Bertrand Russell was right when he said that philosophy is critically lacking in modern science, and therefore, every scientific advance "robs philosophy of some problems which it formerly had … and will belong to science."[46] In other words, any second-order discipline, including science, which proceeds at least in part from a first-order philosophically unsound base, will simply inherit those first-order problems. Any discipline which sets out to show that two and two are five is problematic from the start. No second-order discipline will overcome such a problem.

As an example, let us consider neurological science. A materialist neurologist may view the mind as nothing more than the brain: a biological system, evidences for which come from physical stimuli, such as traumatic brain injury or drug use, which clearly alter mental states. The theist may object to a purely materialist account of the mind, as this ostensibly rules out the existence of the immaterial soul. We see then a point of conflict between materialist science, and a theistic view of the soul. To whom, then, should we defer in such a case? Science, or metaphysics?

I suggest neither. Rather, the proper arbiter is philosophy, and her full set of resources. Are there any principles from other philosophical branches that can bear on the discussion? In this case, I suggest

[46] "The Philosophy of Logical Atomism" (1918). In Bertrand Russell and Robert Charles Marsh (ed.), *Logic and Knowledge: Essays, 1901-1950* (1988), 281.

philosophy of logic can arbitrate. For example, consider the “Enduring I” across time.

According to Leibniz’s *Law of Indiscernability of Identicals* (LII), if any two entities A and B share the exact same properties, A and B are the same (identical) object. Or, if entities A and B do not share the same properties, A and B are distinct (separate) objects. The materialist suggests brain states (A) are identical to mental states (B), or in other words, the purported immaterial mind is identical to (is nothing more than) physical brain states. Therefore A and B are identical, or in other words, there is no immaterial mind in personhood. But what about my first-person-perspective (FPP) of the world – that privileged vantage point from which I see the world, which nobody else has? My FPP has remained unchanged since I was a child. It remains the same from moment to moment, day to day. For example, I have never seen the world through the eyes of some other body – I have never awoken some morning viewing the world from the vantage point of some other body. Therefore my FPP is identical from moment to moment. But my physical body is in constant flux from moment to moment. My brain cells have been changing, and continue changing through my adulthood.[47] Even my DNA changes as I age.[48] Therefore my physical body, even my DNA, cannot account for my identity (FPP) through time. Via *modus tollens* then, my identity (FPP) through time is non-physical. To put the argument in syllogistic form:

1. My FPP (A) remains identical through time.
2. My physical body (B) does not remain identical through time.
3. (A) has different properties from (B), therefore
4. (A) and (B) are distinct and ontic (via Leibniz’s LII).

[47] Wei-Chung Allen Lee, Hayden Huang, Guoping Feng, Joshua R Sanes, Emery N Brown, Peter T So, Elly Nedivi, Dynamic Remodeling of Dendritic Arbors in GABAergic Interneurons of Adult Visual Cortex. December 27, 2005, DOI: 10.1371/journal.pbio.0040029

[48] Portions of DNA change 20% over a 10-16 year period. Bjornsson HT, Sigurdsson MI, Fallin M, et al. Intra-individual Change Over Time in DNA Methylation With Familial Clustering. *JAMA*.2008;299(24):2877-2883. doi:10.1001/jama.299.24.2877.

5. Part of personhood is therefore immaterial (via *modus tollens*), namely (A).

This is an extremely brief example. But the upshot is that, assuming the validity of the argument, it may be impossible *in principle* to hold a scientifically materialist view of the mind and remain logically consistent. Note that such arbitration comes not so much from either science or metaphysics, though both obviously bear on the issue. But rather, the arbitration comes from another branch of philosophy – in this case, logic.

Conclusion

We have seen that both science and theology, as formal methodologies, have historically been categorized as the philosophical branches of *natural philosophy* and *metaphysics*. We have seen how current anti-philosophical rhetoric among scientists is a major source of conflict, and how this rhetoric stems largely from an improper realist view of science. I have shown that, when science and theology are arbitrated in the traditional arena of philosophical disciplines, their relationship enjoys the greatest fruits. And we have seen how this model stands in as a crucial missing piece of the science-theology discussion: the proper arbiter and liaison which both science and theology can, and ought to appeal.

In our case studies, we have seen how this model successfully arbitrates in the case of Evolution, Intelligent Design, and Neurology. My model sifts out the scientific and metaphysical points of evolution, allowing acceptance or rejection based on their respective methodological merits. Likewise, for Intelligent Design, my model proposes that when metaphysics is decreased in science, rather than increased, Intelligent Design finds a perfectly acceptable place in science. And in the case of Neurology, we have seen how Philosophy, along with her full set of resources, can act as a third-party for resolving disputes.

I suggest this model avoids the pitfalls of those that have preceded it. It does not promise avoidance of all conflict, but certainly reduces it. And when conflict arises, we have the proper third-party arbiter to adjudicate such conflicts. It shows the branches of science and theology as distinct, yet avoids the pitfall of obviating any meaningful discussion (or relationship) between the two. At the same time, it vigilantly avoids the pitfall of blurring the two disciplines into some new discipline. This seems to be the only model on the market capable of accomplishing such a feat.

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