

Epistemic Justice: Bridging the Divide between Science and Religion in the Public Square

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I. Epistemic Justice

A few words about the phrase “Epistemic Justice.” Epistemic is derived from the Greek word for knowledge, *episteme*; and justice is derived from the Latin word for justice or fairness, *iustitia*. I use the phrase “Epistemic Justice” to indicate something like “a fairness in considerations of knowledge.” Webster’s Third International Dictionary defines jurisdiction as the legal power, right, or authority to hear and determine a cause considered either in general or with reference to a particular matter. As a legal right or authority, jurisdiction is a matter of justice which includes the proper or appropriate sphere of the relevant authority. In law the consideration of different kinds of matters, for example, a civil matter as distinct from a criminal matter, come under a different legal jurisdiction. Analogously, when I use the phrase “epistemic justice” I have in mind the scope – capacity and limits – of the right or authority of human reason to hear and determine a knowledge claim, for example in pure mathematics as distinct from history. It would be unfitting, which is to say, unjust, to bring an historical claim before the court of mathematics to judge its rational acceptability, or to evaluate ethical claims by the norms and methods appropriate to physics. This is something that Aristotle understood quite well. Thus, a major presupposition to any consideration of fairness in knowledge claims is that of epistemic jurisdiction. Though I will not apply this in an explicitly direct, analytic, this notion informs my remarks on science and religion this evening.

I.

The question of science and religion is an all important instance of the perennial question of faith and reason in our modern age of science and its technologies. The question is not new to those familiar with the Catholic intellectual tradition, but it is renewed and reformed especially when reason's findings undergo a major transformation as in the 13th century's accommodation of Aristotle's natural philosophy or the 17th century scientific revolution or the 19th century Darwinian revolution or the 20th century revolutions in physics and mathematics. An important role of philosophy is to bring to light the changes in the fundamental presuppositions in such transformations and their significance for our understanding of reality, human knowing and human values—moral, political and religious. Today, from the side of religion, at one extreme is a fundamentalist understanding of faith which simply rejects any science which conflicts with the assertions of a literal reading of faith's revelation. Recent creationist theories of the origins of life represent instances of such religious fundamentalism. At the other extreme is another kind of inverted "fundamentalism,"—scientism which simply holds that the only cognitively significant considerations are those of science. At the outset it closes the door to any different kinds of knowing or understanding other than a scientific one. Accordingly, it rejects as irrational, even meaningless, any religious belief whatsoever and replaces it by an uncritical extension of particular scientific theories to comprehensive worldviews, or metaphysics. It is a violation of what I mean by "Epistemic Justice." The Harvard sociobiologist E. O. Wilson's recent work *Consilience* and the French biologist Jacques Monod's *Chance and Necessity* are examples of scientism, and Richard Dawkins newly published book, *The God Illusion*, is a particularly virulent version. Today an intellectually responsible thinker who wants to sustain a tenable faith and reason relationship that she can take

into the public square must find a standpoint between the two extremes of an uncritical scientism and an anti-intellectual fundamentalism.

II Reflections on the recent Federal Trials

The 1633 trial of Galileo in regard to the Copernican theory and two recent Federal Court trials on the teaching of alternatives to the neo-Darwinian theory of the origins of life involved determinations of epistemic jurisdiction albeit with opposite outcomes. Despite Galileo's appeal to Augustine's "Biblical hermeneutics" he failed to convince his judges that he, Galileo, had remained within his proper jurisdiction as a "scientist." In contrast to Galileo's time, we live in an advanced scientific-technological society that often presumes that science is the court of highest appeal in epistemic matters. Moreover, the question of science and religion is all the more complex when placed in the context of a free, pluralistic society under a constitutional rule of law.

Indeed, it was primarily under the First Amendment's non-establishment of religion clause, understood as the separation clause, that the two judges made their rulings. The First Amendment also has a "freedom of speech" clause which is construed as establishing academic freedom in the teaching of science. It was a secondary consideration in the judgment of both trials. In 1982 Federal District Judge Overton struck down Arkansas Act 590 entitled the "Balanced treatment for Creation-Science and Evolution-Science Act." And very recently, in December, 2005 Federal District Judge John E. Jones struck down the Dover (PA) Area School District's policy of offering the Intelligent Design hypothesis as an alternative to the neo-

Darwinian theory of the origins of life. Inasmuch as the Intelligent Design theory was a not-so-subtle way to open a backdoor to a Biblically based creationist theory of origins, Judge Jones's ruling made sense in order to "preserve the separation of church and state mandated by the Establishment Clause of the First Amendment to the United States Constitution" And Judge Jones was correct in his reading of expert testimony that ID is not a scientific hypothesis.

However, unlike the Arkansas case of Biblical creation which is a religious position, the correct judgment that Intelligent Design is not a scientific hypothesis does not entail that it is a religious assertion. Between science and religion there is a middle road, namely, philosophy or metaphysics in particular. It is a matter of locating the correct epistemic jurisdiction, and then determine which should and should not be excluded under the non-establishment clause. Thus, as a philosophical thesis Intelligent Design represents a philosophical theism and does not entail a specific religious position, Aristotle's substance metaphysics or Whitehead's process metaphysics are illustrative of what is called a "natural or philosophical theology," which establishes its premises by reasoning from our experience in and of nature. Even Spinoza's metaphysics could be construed as a theism without a transcendent creator, which contradicts virtually all Judeo-Christian religious beliefs! In light of this I wonder whether Judge Jones's opinion in the Dover case has gone too far in excluding philosophical hypotheses from the classroom and thereby risks infringement upon the "free speech" clause of the First Amendment?

Of course, if one understands all philosophical theisms as religious theories, then the Judge did not go too far. But this presumption flies in the face of a longstanding recognition of a distinction between philosophy and religious theology in the history of Western thought. I believe that the opinion in the Dover case suffers from a double prejudice: one, that of the

separation interpretation of the non-establishment clause of the First Amendment; and two, a less obvious prejudice of a deeply embedded scientism in a lingering, logical empiricist understanding of any knowledge other than science as cognitively insignificant. But the latter thesis has long been discredited, and the mistaken logical empiricist understanding of science has been replaced by what might be called post-empiricist philosophy of science.

In this view the rational scientific assessment of truth claims follow logically from a foundation of objective facts ascertained from a theory-neutral empirical observation. Simply put, scientific hypotheses must be logically proven from an empirical base of evidence. The latter half of twentieth century philosophy of science has discredited this view on logical, epistemological and historical grounds. In light of this, when a matter of science and religion is at the heart of a Federal Court's ruling regarding a state's law on a public school district's curriculum, justice requires attention to the proper scope and limits of the relevant kind of knowledge or theories under contention. In a scientific age such as ours it is all the more important that the epistemological, as distinct from theological, presuppositions behind the discourse—especially the sometimes volatile versions that spill over to the public square—be brought to explicit articulation for critical reflection. And the question is rendered all the more complex when the public square is that of a free and pluralistic society, and all the more pernicious when our non-establishment clause is read as a “wall of separation” between religion and reason. Given the time limits of this talk I shall mention two major sources of the science and religion conflict that runs through the testimony and reasoning in both the Arkansas decision and the Dover decision in order to disclose the presupposition that I believe is the deeper source of the problem.

The first source is how the creationists understand evolutionary theory. They do not understand it as a set of tentative explanatory hypotheses dealing with a circumscribed, carefully delimited area of level of experience. On the contrary, for them Darwinian evolution represents a **total** explanation of the origins of all things, a complete account of how all things came to be without a creator-God. Thus, for the creationist, Darwinian theory is directly opposed to any belief in divine creation and their fundamental religious beliefs – the practice of which ironically enjoys protection under the First Amendment. So in response to what they found to be in direct conflict with their fundamental religious belief, the creationists proposed creation-science as an alternative “scientific” account of origins in order to balance what they construed as an atheistic evolution that places public school teaching in conflict with their children’s religious formation.

The second source of the conflict, is the creationist (false) presumption that the **only** alternative theory of origins is creation science, i.e. a theory that includes an assumption of a transcendent God-creator. The assumption appears to give creation science the logical advantage that any finding that poses problems for Darwinian theory, provides positive support for creationism. It is a rhetorical strategy which they have put to effective use. In normative theories of scientific method this is what is called the logic of a crucial experiment. However, it does not work on total, comprehensive theories in the way that the creationist use it.

The more recent Dover, Pennsylvania case shows a shift from the explicit Biblical based creation-science account of origins to the central thesis of Intelligent Design as proposed by Michael Behe’s book, *Darwin’s Black Box*. Intelligent design postulates the existence of a mental, intentional and purpose being as the best explanation for the universe as we know it. Insofar as it proposes the intelligent designer to explain phenomena which is scientifically

understood it attempts to bring the “intelligent designer” hypothesis into the court of scientific knowledge which generates contentious confusion in understanding the relationship between science and religion and its significance for our knowledge.

It is vitally important to note that the deeper source of the conflict is a failure to make a distinction between the **order of proximate causes** of the nature of things and events and the **order of ultimate causes** of the existence of an event or thing. Accordingly, the Darwinian question of **proximate origins** is a scientific question of how one thing arose from something else, e.g., the solar system from a prior gaseous state of the universe, or the human species from preceding forms of life. And the question of **ultimate origins** is a metaphysical question about the universe as a whole, its being here—its final source, ground or principle which may or may not open to a religious dimension in its answer. The failure to make this important distinction by either side in a modern culture dominated by science and its technologies can easily lead to a pernicious scientism. For it presumes that all truth is universal and has the same meaning in different disciplinary contexts. Consequently, the resultant epistemic injustice is its insistence that the only truth is scientific truth.

To be sure, if the distinction between proximate order and ultimate order is to address the question of science and religion effectively, the nature of truth in science and religion needs to be developed—perhaps along the lines of an analogical notion of truth joined to a critical realism. The situation is complicated further by today’s philosophy of science which has shown that the rationality of science is a highly complicated, historically situated process of critical discussion among inquirers in an open communication. Since any theory of science is always fallible, subject to correction, and so provisional and incomplete, the notion of a non-fallible truth needs to be worked out.

III Models of Science and Religion Relationship

Do the above findings mean that science as fallible, provisional knowledge and theology as "eternal" revelation can only meet at the end of history with nothing to exchange now? The Protestant theologian and physicist, Ian Barbour, offers a useful classification for developing a critically reflective answer to the question. In brief, Barbour partitions the possible relationships between science and theology into models: Conflict, Independence, Dialogue, and Integration.

In the first category, Jacque Monod's scientific reductionism and Edward Wilson's *Consilience*, despite its title, represent instances of a "scientism" which inevitably leads to a conflict with theology. By excluding any other knowledge as valid, and adding the a priori lemma that there is no God (because the web of science can not recover any God), then there can be no rational room for any theology, revealed or natural. There can also be a conflict model from the side of religion, as we have seen in the case of "creationism," where naive literalist readings of Scripture invade the disciplinary integrity of the sciences. From different angles both the naive literalism of a fundamentalist theology and the naive realism and methodological chauvinism in the sciences, set up an irreconcilable confrontation which generates more heat than light.

The second model views science and theology as independent of each other. Galileo's explication of the demarcation between the language of science and the language of theology, developed in his "Letter to the Grand Duchess Christina," is an eloquent statement of an Independence type of relationship between science and theology. Paleontologist S. J. Gould's work, *Rock of Ages* is a good current example of an independence view on science and religion.

But the independence initiated by Galileo eventually developed into Kant's epistemological dualism, leaving each discipline with its respective autonomy with nothing to say to each other. For Kant the autonomy of the two disciplines came at the price of relinquishing the pursuit of any truth about reality, whether it would be about the starry skies above us or the word of God within!

In an interesting way the Conflict and Independence views share a naive realist perspective regarding reality and our knowledge of it. The conflict model presupposes that the metaphysics of science or theology is all or nothing, that it insures complete and final knowledge of reality or all inquiry is in vain. There is no in-between. And the Independence model agrees that there is no in-between, no possible bridge between science and religion. But it allows each to have its own jurisdiction so long as there is no significant communication across the divide. But recent philosophy of science says, with virtual unanimity, that our science is by its very nature provisional and incomplete. Accordingly, we find both the Conflict view and the Independence view to be unacceptable because of the naïve realism that each presupposes. This conclusion may not be obvious in the case of the Independence view. For one might subscribe to disciplinary autonomy without claiming complete or permanent knowledge, conceding that our current science is provisional and incomplete. But what would this imply? A pluralism, one which is itself provisional and for which the possibility of convergence between science and theology, in the long run, can not be excluded.

The Catholic tradition has always struggled to bring faith and reason together. In light of its doctrine of creation there is a presumption that human reason, the intellect as distinct from the will, is reliable. As a part of God's creation reason is adequate as an instrument to study nature. In our modern times, ever since Galileo met with Bellarmine, the struggle between faith and

reason has unfolded as that between science and religion. The Christian thinker today, especially its theologians, can not rest with the dogmatisms of yesterday whether they be those of the Conflict view or the momentary truce of the Independence view. Thus, for both philosophical reasons and for religious reasons we reject the first two categories as acceptable accounts of the relation between science and theology today.

The last two models, Dialogue and Integration, represent positions more in line with the tension-filled perspective of a *fides quaerens intellectum*. Because of the provisional and incomplete nature of the findings of science, the Dialogue view cautiously restrains from any premature integration at either a substantive level or a methodological level. It recognizes a shared interest in the truth between the disciplines sufficient to warrant a dialogical relation between science and theology. In this relation it is usually theology reformulating its understanding of a basic doctrine, such as creation, in light of the best current knowledge from science. But it also recognizes disciplinary differences which require respecting the integrity of the distinct disciplines. Representatives of the Dialogue view are Wolfgang Pannenberg among Protestant authors, and Ernin McMullin among Catholic authors. Whether Quantum physicist and Anglican priest John Polkinghorne falls into this category or the Integration view is difficult to determine. But this may be due to an inadequacy in Barbour's taxonomy, for Professor Polkinghorne cautiously holds out for the possibility of some convergence for a dialogical theology of nature. (See his *Faith, Science, and Understanding*, 2000.)

The last model, Integration, holds that some sort of integration between the content of science and theology is possible. Barbour distinguishes three versions of Integration. One version is a "natural theology" which claims that the existence of God can be inferred, at least as

a plausible hypothesis (Richard Swinburne), from the evidence of design in nature which science discovers. Like the eighteenth century "physicotheology" which it resembles, this natural theology is subject to unexpected findings in science which might conflict with the basic theological claims. The second version is a "theology of nature" which in appropriating scientific theories within its otherwise distinctly theological concepts may reformulate its understandings of basic theological doctrines, such as that of creation. The Jesuit paleontologist Teilhard de Chardin's *The Phenomenon of Man* readily comes to mind as an example of a theology of nature. More recently the current theologian and biochemist Arthur Peacocke works a critical realist approach to develop a theology of nature. A major issue for the theology of nature is the nature of God's creative action: is it a continuous creation with God as remote but primary cause? Or, is it a deistic-like plan initiated and implemented into a proximate chain of secondary causality, the domain of scientific study? The third version of Integration, "systematic synthesis," is a comprehensive metaphysics which incorporates contributions from both science and theology into a coherent worldview. The process metaphysics of Alfred North Whitehead exemplifies this version of integration. It is interesting to note that each version of integration represents a standpoint which works the integration respectively from science to theology, from theology to science, and from both science and theology into an "overriding" metaphysics. In every case theology is affected by science, in the "natural theology" even the data of theology may be construed as derived from the findings of science. In the later two versions, theology's understandings of the data of theology may be affected by science. But are the concepts or theories of science ever reformed as a result of theological developments? No example comes readily to mind. A way may be through an indirect route, made possible by the subsumption of theology within a more comprehensive, integrative metaphysics. Aquinas's "integration" of

Aristotelian *scientia naturalis* with the Christian theology represents such a metaphysical achievement in its time.

Finally, the question of which court—science or religion—should rule on the nature of the question of “ultimate cause” can not be decided in either the court of science or religion without begging the question. Only a philosophical perspective that transcends both science and religion while remaining open on the respective jurisdictions of science and religion and to exploring their relationships is entitled to make legitimate claims in the important matter of science and religion.

In June, 1988 Pope John Paul II wrote a letter to be included in the publication of the papers from a Vatican hosted conference (in Russell, Stoeger, and Coyne, eds, *Physics, Philosophy and Theology*, 1988). In his letter the Pope encouraged, even urged, an open pursuit of a relational, dialogical unity between science and theology. As relational the encouraged unity insists upon respecting the integrity of the distinct disciplines. Accordingly, he insisted that the unity is not that of an identity between science and theology, nor is it the unity of a reduction of one discipline to the other. Rather, it is the unity of a shared relationship upon which dialogue can proceed, a “Dialogical Unity.” His letter manifested an awareness of recent themes in science and philosophy of science, some presented above. He holds up Aquinas' accomplishment in respect to Aristotle as the benchmark to be surpassed. But Aquinas could rely upon a *scientia naturalis* that transcended the particularities of time. The task for the theologian today is even more daunting, for history has entered into the bloodstream of science and its epistemology. John Paul's letter acknowledges implicitly this dimension of modern science in his observation that "physicists possess a detailed though incomplete and provisional

knowledge of elementary particles." [M6] Perhaps more than most of his Catholic contemporaries Bernard Lonergan appreciated the challenge that historicity in science presents for a systematic theology.

The Pope's perspective is a cautious one which seems to fall between Barbour's categories of Dialogue and Integration. Though an alternative set of models, for example, one which added "convergence" as a distinct one somewhat between dialogue and integration, might be proposed, Barbour's taxonomy provides enough perspective to appreciate a closing caution. Whether Dialogue or Integration or Convergence, any substantive contact between the content of scientific knowledge and theology will require a critical realism and an analogical notion of truth which accommodates the historicity of science as well as theology. The truths of revealed theology may be eternal but our understandings of those revelations, as well as of science, hopefully are still improving.

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