

THE SCIENCE-RELIGION DISCOURSE: MODELS OF RELATION BEYOND BARBOUR

INTRODUCTION

Recent years have seen significant development in the discussion on the most appropriate way to conceive of the relationship between science and religion. Studies range from precise investigation into specific areas that straddle both domains to meta-methodological analyses of epistemic, cultural and ideological presuppositions that determine much of the discourse. That interaction between the domains of science and religion is inevitable is a given; that the nature of this interaction is determined by the subject matter of each is not. The nature of the relation becomes clearer once it is recognised that epistemological and methodological strategies rather than ontological propositions shape the nature of the relationship. Attempts at conceiving a relationship based on the latter result in methodological and epistemological reduction with a simplistic opposition or an over-identification between the two disciplines. These attempts demonstrate how a specific engagement with boundary issues without a clear grasp of what is involved in such projects, leads to a conflation of methodological strategy, the collapsing into one or the other the conceptual framework and distinctive epistemological principles appropriate to each, and the eliding of linguistic and cultural terms of reference. This paper intends an analysis of the modes of relationship between science and religion, with specific reference to the epistemic and cultural presuppositions that determine the way these modes are conceived and constructed. With Ian G. Barbour's typology of the relationship as a methodological framework, the paper will examine how attempts at effecting particular modes of engagement between the two domains either succumb to the methodological and epistemological temptation mentioned above or deliberately seek the epistemological and ontological subordination of the other discipline. As development in the area of a more comprehensive understanding of the relationship has rendered Barbour's typology inadequate, a broader and more flexible conceptual framework within which to construct the relationship will be explored. This will take the form of a concise account of three modes of relation responsive to contemporary notions of culture and rationality.

1. BARBOUR'S TYPOLOGY OF RELATING SCIENCE AND RELIGION

Because science and religion tend towards universalising their distinct worldviews, their relationship to each other has traditionally been cast as that of static opposition in areas of conflict or naive consonance in points of contact in the boundary questions. Ian G. Barbour has come up with a model of relationship based on a fourfold typology of **conflict**, **independence**, **dialogue** and **integration**¹. Although Barbour's typology has been developed and taken in new directions by himself and others,² it remains wedded to a particular epistemological framework (critical realism) and a notion of rationality that has been eclipsed by developments in reconceiving new models of relationship and by postmodern epistemologies³. Nevertheless, the simplicity of his typology remains an adequate framework for an introduction to the nature of the relationship between science and religion. Barbour is more sympathetic to those authors and positions that respect the domain integrity of both disciplines and advocates a dialogue position as the more appropriate mode of relationship.

¹ cf., Ian G. Barbour, "Ways of Relating Science and Theology", in R.J. Russell, W.R. Stoeger, G.V. Coyne eds., *Physics, Philosophy, and Theology: A Common Quest for Understanding* (Vatican City State: Vatican Observatory, 1988), 21.

² cf., Robert J. Russell, "Dialogue, Science and Theology", in *Interdisciplinary Encyclopedia of Religion and Science*, edited by G. Tanzella-Nitti, P. Larrey and A. Strumia, (July 2007), available from <http://www.disf.org/en/Voci/51asp>; Accessed 28 December 2007.

³ cf., Mikael Stenmark, *How to Relate Science and Religion: A Multidimensional Model* (Grand Rapids, MI: Wm. B. Eerdmans, 2004) and J. Wentzel van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science* (Grand Rapids, MI: Wm. B. Eerdmans, 1999) respectively.

Advocates of scientific materialism or scientism and biblical fundamentalists clearly view the relationship as one of **conflict** and opposition. Their competing worldviews and ideological convictions compel them to view the presuppositions and conclusions of science and religion as irrevocably antithetical. Advocates of the **Independence** view insist that contrasting methods, differing language⁴ and divergent worldviews necessitate a sharp distinction between the two domains. Any attempt to forge a relationship beyond that of comparative analysis violates the distinct integrity of either discipline. Stephen Jay Gould offers cogent reasons for maintaining a relationship of respectful non-interference between what he calls the ‘Non-Overlapping Magisteria’ of science and religion⁵. Gould’s primary reason for advocating this position is the confusion and abuses that result when ideological expansionists extend their theories and conclusions beyond their domains and areas of expertise⁶. Although the Independence position means that conflict and expansionist abuse is avoided, not only does it obviate the possibility of “constructive dialogue and mutual enrichment”,⁷ it also goes against our common-sense view of life and the world often experienced as a seamless garment of interconnected realities. The **Dialogue** view opens up the possibility of respectful non-interference while recognising the reality that the competing worldviews of science and religion make claims on scientists and believers alike that require responsible and tentative interaction where theories and conclusions intersect in boundary issues. Furthermore, interaction is possible where the conceptual tools of methodology and the metaphysical presuppositions of the two domains indicate some fruitful exchange.⁸ The dialogue position requires a careful analysis to determine the nature and degree of intersecting points of contact and the shared and divergent methodologies of both domains if it is to avoid lapsing into an overenthusiastic integration. Where it is quite easy to identify authors and positions that view the relationship as fundamentally conflicted, it requires a more subtle analysis to discern integrationist positions that succumb to the abovementioned pitfalls of epistemological confusion and metaphysical over-identification.

Attempts at forging a methodological and ontological **Integration** of either the epistemological parallels and/or the metaphysical systems of science and religion appear as the more tempting position of proponents who have a prior religious commitment. Where the rationale and method of subordinating scientific explanations of the origins of the world and evolutionary theory to religious monist ideologies by the Intelligent Design advocates is quite apparent, other integrationist strategies require a more astute analysis. Barbour distinguishes two modes in which integration may be attempted: the reformulation of religious doctrines in light of scientific theories and the constructing of a systematic synthesis that reflects a “coherent worldview with an inclusive metaphysics”.⁹ Reflecting the former mode of integration, Patricia Williams has sought to replace the doctrine of original sin with an alternative view consonant with theories of human nature and social interaction in sociobiology¹⁰. Nancy Murphy has attempted a similar project with Christian anthropology by reconceiving the human person in a scientifically inspired philosophical framework of non-reductive physicalism.¹¹ In fact, Murphy makes the distinctive claim that theology could be a transformer not only of culture in general but also of science in particular.¹² Arthur Peacocke and John Polkinghorne on the other hand, have sought to effect a synthesis of worldviews and metaphysical

⁴ cf., Barbour, “Ways of Relating Science and Theology”, 28-33.

⁵ cf., Mikael Stenmark, *How to Relate Science and Religion* 3.

⁶ cf. *ibid.*, 3-5.

⁷ Barbour, “Ways of Relating Science and Theology”, 33.

⁸ cf., Mikael Stenmark, *How to Relate Science and Religion*, 251.

⁹ Barbour, “Ways of Relating Science and Theology”, 40.

¹⁰ cf., Patricia Williams, “Sociobiology and Original Sin,” in *Zygon* 35:4 (2000), 783-812.

¹¹ cf., Nancy Murphy, “Nonreductive Physicalism: Philosophical Issues,” in: W.S. Brown, N. Murphy, H. N. Malony eds., *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature* (Minneapolis: Fortress Press 1998), 127-148.

¹² cf., Robert J. Russell, “Dialogue, Science and Theology”.

systems. Peacocke has conceived a theoretical basis for this relationship through a scientific understanding of the unity of reality as a hierarchy of complex systems both material and immaterial.¹³ Polkinghorne seeks to complete a scientific understanding of cosmic history through an all-embracing theological interpretation that makes manifest the ultimately transcendent nature and *telos* of the universe.¹⁴ The methodological confusion inherent in these integrationist strategies leads to Peacocke's understanding of reality determining his conception of God and Polkinghorne's understanding of God, determining his conception of reality. Both these and other attempts at designing a grand theory of everything in an ultimate explanatory framework from science or theology fall prey to an epistemological dualism in order to achieve an ontological monism. A brief survey of the determinative role of rationality and culture in the science-religion discourse will not only clarify this concise analysis, but also open the way for exploring ways of relating the two in a way that goes beyond the limitations of Barbour's typology.

2. RATIONALITY AND CULTURE IN THE SCIENCE–RELIGION DISCOURSE

A conceptual framework that assesses attempts at mediation between science and religion; be that mediation contact, intersection or mutual enrichment,¹⁵ must incorporate as a preliminary element the task of discerning and clarifying the presuppositions of scientific and religious rationality and the determinative role of culture in each domain specifically, and in both domains as products of rationality and culture. Furthermore, a consideration of both religion and science as determinative of cultures facilitates a proper understanding of the descriptive and prescriptive nature of models of their interrelation. With exceptions, most contemporary attempts at a specific interaction and their broader guiding methodologies occur within an abstract context that fails to recognise the determinative role of the historical and contextual nature of the discourse. A comprehensive analysis of the historical path of the relationship reveals how socio-religious and cultural-historical interests influence perceptions of the relationship. Contemporary attempts at relating religion to specific scientific theories of cosmology and biology reveal the context dependent nature of the discussion surrounding evolution and its implications for many areas in the discourse. More basic than a consciousness of the historical-social reality of the relationship, is the defining factor in the discourse of the human person as knower and agent within both science and religion.

A preliminary task in effecting mediation between science and religion whilst avoiding the abovementioned pitfalls, is acknowledging the role of the determined/determinative subject of both pursuits, the culturally embedded and historically conditioned human person. The role of the knowing agent in the discourse is being acknowledged as central to furthering the discussion by a number of authors. In *The Quest for Humanity in Science & Religion: The South African Experience*, Augustine Shutte identifies the difference in character between the nature of the discussion in South Africa and Europe or North America. "In the latter context the discussion has focussed mainly on the latest scientific theories and discoveries or the most recent theological attempts to integrate the scientific with a religious world-view. As a result, it has become increasingly more specialised and more technical".¹⁶ The South African context, where the first-world and third-world collide, and where a new engagement between cultures is the background against which "the relationship between science

¹³ cf., Arthur Peacocke, *Creation and the World of Science: The Bampton Lectures 1978* (Oxford: Clarendon Press 1979), 112-146.

¹⁴ cf., John Polkinghorne, "Eschatology: Some Questions and Some Insights from Science," in J. Polkinghorne & M. Welker eds., *The End of the World and the Ends of God: Science and Theology on Eschatology* (Harrisburg: Trinity Press, 2000), 29-41.

¹⁵ These modes, as examples of interaction cover a broad range of views of the nature of the relationship that go beyond Barbour's model, but also implicitly exclude integrationist models. This will become clearer in what follows.

¹⁶ Augustine Shutte, *The Quest for Humanity in Science & Religion: The South African Experience*, Augustine Shutte ed., (Pietermaritzburg: Cluster Publications, 2006), xiii.

and religion appears not primarily in the form of a set of theoretical issues but in the form of a confrontation of cultures that demands what is essentially an ethical response”.¹⁷ With this in mind, it becomes apparent that a self-reflexive engagement with the human person within a cultural and social context has much to offer the discourse. “Both science and religion are the product, the creation, of humanity. Getting a proper understanding of them, and how they ought to be related will therefore involve acquiring a certain kind of knowledge of oneself, of what is in human beings that causes and enables us to do this”.¹⁸ The contributors to the book offer a perspective on the discourse that indicates the unique contribution to be made by a consciousness of the social and cultural context of the human person as producer and product of the cultures of science and religion.

J. Wentzel van Huyssteen similarly believes that the relationship between science and religion is properly conceived by a prior consideration of the nature of each pursuit’s mode of reflection in the understanding self.¹⁹ Furthermore, he believes

... that the problem of rationality holds the key to understanding the forces that have shaped the radically different domains of theology and of the sciences, today widely regarded as two of the most enduring, but also controversial, cultural achievements of our species. I also believe that the problematical relationship between these two cultural forces should be seen as the contemporary form of the age-old “faith and reason” problem *par excellence*.²⁰

While the type of rationality operative in each domain is different, and the rationality of theological reflection apparently under increasing threat by the pervasive secular scientific rationality, a reconceiving of rationality in light of postmodern notions of rationality may provide the bridge between the two domains.²¹ Van Huyssteen’s notion of bridging the domains is not one of collapsing the rationalities into each other in a type of integrationism, but is concerned more with the implications an awareness of the contextual specificity of the human person, culture and rationality has on understanding the relationship between science and religion. Van Huyssteen further observes that theology’s uneasy relationship with the perceived superiority of scientific rationality is challenged by the influence on both by postmodern culture.²² The certainties of positivistic and universal explanatory paradigms that characterised much of science and theology in the past have given way to more modest claims that reflect the historically conditioned and context dependent nature of theological narrative and scientific theory formation.

Mikael Stenmark’s multidimensional model of relationship is based on the influence that the social, epistemological, teleological and theoretical dimensions of both science and religion have on shaping how the relationship is conceived. For Stenmark,

The basic idea, then, is that *somebody who wants to successfully understand how to relate science and religion needs to take into account at least the social structure of science and religion, the aims of these practices, the kind of epistemology they exhibit, and their theoretical content (their theories, beliefs, or stories)*.²³

With this conceptual framework, Stenmark develops a comprehensive multidimensional approach to conceiving the relationship. What Shutte, van Huyssteen and Stenmark demonstrate is the absolute necessity of not isolating the discussion of how to relate science and religion to an abstract theoretical

¹⁷ *ibid.*

¹⁸ *ibid.*

¹⁹ *cf.*, J. Wentzel van Huyssteen, *The Shaping of Rationality: Toward Interdisciplinarity in Theology and Science* (Grand Rapids, MI: Wm. B. Eerdmans, 1999), 1.

²⁰ *ibid.*, 1-2.

²¹ *cf.*, Stenmark, *How to Relate Science and Religion*, 82.

²² *cf.*, *op. cit.*, 6.

²³ *ibid.*, 13.

domain, but to consider the personal, cultural and rational context and goals of the cultural phenomena that are science and religion. It is now clear that Barbour's typology lacks the flexibility to absorb the determinative role of person, rationality and culture in relating science and religion. What is needed is an approach that is not wedded to a typological framework, or if it is, this framework must be able to incorporate these central elements in a more flexible typology.

3. BEYOND BARBOUR: THE SEARCH FOR A NEW PARADIGM OF RELATIONSHIP

One of the criticisms levelled at Barbour's typology from van Huyssteen among others, is that it is "too a-historical, universal, and static to map in any fruitful way the relationship".²⁴ Because Barbour's typology is rooted in a modernist epistemology of critical realism, Stenmark suggests it be linked to his in order to account for the historical and evolving nature of the relationship.²⁵

Stenmark's multidimensional typology of science and religion seeks to overcome the shortcomings of previous attempts at conceiving the relationship or of demonstrating a model of relationship through a specific engagement of concepts or points of contact. Stenmark adopts a meta-methodological approach that analyses the state of the discussion up until recently. He identifies the ideological motivations of some protagonists, the expansionist goals of scientism and certain religious philosophies, and the restrictionist approach of those (in both science and religion) who maintain a strict separation of the domains.²⁶ He envisions a dynamic and evolving relationship between the complexities of science and religion conscious of their social, teleological, epistemological and theoretical dimensions.²⁷ In this way, he overcomes the limited typology of Barbour who fails to take into account the historical complexity of the relationship and which is fixed within a static descriptive model that does not allow for the more nuanced and composite nature of the discussion at different levels and along different lines.

Another approach that seeks a mediating framework between science and religion beyond the simplistic integration of methods and concepts is developed by J. Wentzel van Huyssteen with its focus on renewed and revised notions of rationality in theological and scientific reflection. Despite Stenmark's critique of the overly theoretical nature of van Huyssteen's position and the perceived lack of awareness of aims other than the epistemic,²⁸ I believe van Huyssteen deals more directly with the principal issues at stake. While Stenmark's analysis and his carefully crafted multidimensional model is perhaps more appealing, its very multidimensionality diffuses its value by an all-embracing higher viewpoint that lacks the commitment to a more specifically applicable position. Van Huyssteen's postfoundationalist model of rationality is predicated on the failure of foundationalist rationalities that sought grounding for belief in universal objective norms of modernist epistemologies. It attempts a model of rationality that reveals the possibility of shared sources of rationality between theological and scientific forms of reflection and moves "beyond the epistemological dichotomy of foundationalist objectivism and nonfoundationalist relativism".²⁹ Because of its transversal (as opposed to universal) nature, this model of rationality resists the totalising tendencies of different forms of knowledge, reveals as flawed the search for a higher viewpoint which combines different forms of knowledge and opens up the way for dialogue across disciplinary boundaries. Postfoundationalist rationality facilitates dialogue and enrichment between various discourses and contexts, producing a tentative and shared understanding in a method of wide reflective equilibrium.³⁰ This wide reflective equilibrium is a moving across and between disciplines

²⁴ Stenmark, *How to Relate Science and Religion*, 257.

²⁵ *cf. ibid.*

²⁶ *cf., ibid.*, xi-xiv.

²⁷ *cf. ibid.*, 12-14.

²⁸ *cf. ibid.*, 114.

²⁹ *op.cit.*, 8.

³⁰ *cf., ibid.*, 277.

and contexts in search of a reasonable and responsible judgment of the particular issue at hand. It enables prior commitments to be enriched, modified and corrected in the cross-disciplinary and inter-contextual referencing across boundaries of rationality and culture. It provides a model of reasoning that grants priority of foundation to no particular discipline or position, allowing a self-correcting strategy to yield tentative and provisional results that can never be coalesced into universal norms. Van Huyssteen refers to Francis Schüssler Fiorenza's description of wide reflective equilibrium as the back and forth movement between personal commitments, doctrinal convictions and scientific insights that bring into equilibrium the principles reconstructed from practice with practice itself.³¹ "On this view our already agreed-upon principles and background theories provide a critical, independent constraint that prevents these principles from being mere generalisations of our contextual judgements and practices, while at the same time these principles can be critically questioned too".³²

A methodology for relating science and religion along very similar lines, yet perhaps more pertinent to our discussion because of its starting point in a recognition of science and religion as cultural phenomena and therefore adopts a cross-cultural model of relationship bases itself on the differentiation of consciousness. The crisis of cultures that emerges as the unfolding of history brings about shifts in meaning and changes in horizons, forces us to find appropriate forms of mediating between the ever-increasing plurality of cultures and disciplines. As new disciplines (and new paradigm shifts within existing disciplines) emerge and as cultures collide, we are challenged to revise and enlarge our notions of rationality, standards of knowledge and truth, and of transcendence and religion. As cultures develop and expand, and the cultural domains of science and religion confront each other with emergent and alternative views of reality, we experience multiple worlds of meaning, co-existing in tension, that force us to find mediating frames of reference.³³ Gerard Walmsley argues in "Integral Self-appropriation and the Science-Religion Encounter"³⁴ that Bernard Lonergan's method of integral self-appropriation of the dynamism of consciousness in shifting between and across the boundaries of cultures and disciplines offers a philosophical framework within which the science-religion discourse can productively operate. Lonergan's interdisciplinary and trans-cultural philosophy seeks in the dynamic consciousness that generates diverse cultures and disciplines a way to move between alternate worldviews without sacrificing or conflating the distinct meanings of each.

[he] argues that the complexity of diverse and developing cultures, the proliferation of disciplines and sciences, along with the different horizons they generate can only be adequately understood and negotiated if we grasp the complexity of our polymorphic, many shaped consciousness, which gives rise to the plurality of positions.³⁵

Walmsley argues that the capacity to shift between fields of knowledge through appropriating the method and structure of knowing in Lonergan's empirical method outlined in *Insight*, allows us to go behind the fixed conceptual products of scientific and theological minds to discover the dynamic core cognitional structures of consciousness that are the generative source of the diverse disciplines of science and religion.³⁶ The flexibility and diversity of the structure of the intellect enables a movement between different modes of knowing and multiple subjects with the modification and restructuring of each. The polymorphic diversity in the shifting patterns of experience (Lonergan identifies a range of these, that include the religious and scientific) not only enables us to think in

³¹ cf., Francis Schüssler Fiorenza, *Foundational Theology: Jesus and the Church*, (New York: Crossroad, 1984), 302.

³² van Huyssteen, *The Shaping of Rationality*, 278-9.

³³ cf., Gerard Walmsley, "Integral Self-appropriation and the Science-Religion Encounter" in *The Quest for Humanity in Science & Religion: The South African Experience*, Augustine Shutte ed., (Pietermaritzburg: Cluster Publications, 2006), 75.

³⁴ In Augustine Shutte ed., *The Quest for Humanity in Science & Religion*, 63-110.

³⁵ *ibid.*, 77.

³⁶ cf. *ibid.*, 64.

different ways, at different levels and to move with ease between and across different subjects, but also results in the advanced modification and adjustment of prior viewpoints. An appropriation of the polymorphic nature of consciousness reveals not only the capacity to arrive at a heightened understanding that defuses the tensions between subject matters, but in overcoming rigid systems, inflexible viewpoints and fixed concepts, we constantly revise and expand our horizons of knowledge in theology and science and their interrelationship.³⁷

Lonergan believes that in identifying the levels, patterns, differentiations of consciousness he has discovered a framework for understanding different horizons and the relationships and oppositions and complementarity of horizons. Different horizons are arrived at by the unfolding of the structured dynamism of human consciousness. Hence, comprehensive self-appropriation allows us a point of entry into a wide range of horizons. The greater the degree of self-appropriation of the patterns and levels and differentiations, the more likely a person will find within themselves, a point of entry into another horizon.³⁸

The implications for an appropriate relating of science and religion in Lonergan's method as interpreted and developed by Walmsley, emphasises the necessity for a consciousness of what we are doing when we engage the different worlds of science and religion, with their different presuppositions, goals, languages and methodologies, is in the first instance the strength of Lonergan's position. This conscious self-appropriation of the dynamics of knowing alerts one to the temptations of conflation and elision in integrationism and to the static opposition of conflict and independence. It furthers an understanding of our aims and methods in seeking interdisciplinary dialogue. In the second instance, the highlighting of the polymorphic nature of consciousness in manoeuvring between and across the worlds of different and often differing disciplines is a valuable methodological tool for the epistemic task of relating science and religion.

CONCLUSION

Barbour's typology of the relationship between science and religion is founded on a rationality of critical realism that has under the weight of postmodern notions of epistemology given way to rationalities more responsive to the historical, contextual and ideological influences on science and religion as cultural phenomena. This has forced a revision of the conceptual framework in which the discourse takes place. Furthermore, science and religion considered as cultural realities also brings to the fore how they are not only determined by culture but also how they become the site of conflict between secular, religious and other ideologies. This becomes apparent when the conflation of methodologies and the confusion of domain specific elements lead to the violation of the integrity of either discipline in integrationist strategies. Thus, a model of relationship sensitive to these factors and receptive to nonfoundationalist epistemologies and non-realist metaphysics not only reflects the contemporary reality of pluralist worldviews and the formative influence of cultural-historical forces, but also establishes a more flexible conceptual framework in which the discourse can be furthered. The models proposed by Stenmark, van Huyssteen and Walmsley are a step in this direction. Nevertheless, their limitations and the need for complementarity among models indicate that the discussion can never be definitively resolved but only continuously responded to by careful reflection and openness to modification and revision even as our conceptions of science and religion are constantly challenged and revised.

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³⁷ *cf. ibid.*, 97-103.

³⁸ *ibid.*, 103-4.