



On Writing a Scientific Theology: A Response to Ross H. McKenzie

Alister E. McGrath

Alister McGrath responds to an important recent critique of his exploration of the dialogue between science and theology by the noted Australian theoretical physicist Ross McKenzie. The criticisms concerned relate to the use made of modern physics, the engagement with postmodernism, an evangelical perspective on theology, and fidelity to the thought of T. F. Torrance. A response is offered to these concerns, noting particularly the extended and more developed discussion of these issues in A Scientific Theology (2001–2003).



Alister E. McGrath

It is always a great pleasure to welcome new voices in the science and religion field, and there is little doubt that Ross McKenzie is poised to make some seminal contributions in this domain. Based at the Department of Physics of the University of Queensland in Brisbane, Australia, McKenzie has pioneered some exciting new developments in the field of nanotechnology, particularly relating to superconductivity. Yet McKenzie's interests extend far beyond this important field of research. As his recent engagement with my attempt to forge some kind of working relationship between Christian theology and the natural sciences make clear,¹ McKenzie has a deep and highly informed interest in making connections between theoretical physics and theology. I therefore read his assessment of my project with the greatest of interest. In this article, I shall offer a response to McKenzie's assessment, and indicate how my own thinking has developed since the publication of *The Foundations of Dialogue in Science and Religion* back in 1998.

McKenzie makes many kind comments about my work, which I found both generous and encouraging. It is not my intention to deal with these, but to turn to consider the broad areas in which he expresses concern or disagreement with my approach. The points he makes are as fair as they are important, and I must outline how I would respond to them, even if space limits a more detailed answer.

Let me begin by sketching the background to my approach. Over the period 2001–2003, I published a series of three substantial volumes setting out a new approach to Christian theology which offers new possibilities for interdisciplinary interaction. Unlike those approaches to theology which encourage intellectual isolationism—such as those of Karl Barth and the “radical orthodoxy” of John Milbank²—the “scientific theology” I develop in those volumes both demands and encourages the exploration of the interfaces between Christian theology and other disciplines—above all, the natural sciences.

The background to this lies in my early interest in the natural sciences, which I continue to regard as being at the cutting edge of human thought. I studied chemistry at Oxford, and went on to do doctoral research at Oxford's Department of Biochemistry on aspects of molecular biophysics, focusing especially on the development of physical techniques to study biological systems. In 1976, I was awarded a fellowship by the European Molecular Biology Organization for advanced study at the University of Utrecht, which

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Dialogue I: Theology & Physical Science

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was then pioneering a technique for protein isolation of relevance to my research. It was during my time at Utrecht that I decided to try to set about developing a “scientific theology.”

As McKenzie points out, it is virtually impossible for one person to master such different fields as the natural sciences and theology. It took me twenty years to get up to speed in both domains, and involved me in going beyond my experience as a working scientist to undertake a detailed engagement with both historical and systematic theology, and the history and philosophy of science. I was asked back to the University of Utrecht in January 1997 to deliver a lecture on “The Relation of the Natural Sciences and Christian Theology.” I expanded this lecture in 1998 into the book reviewed by McKenzie, mainly to clear my mind a little in preparation for the larger task that lay ahead.³

This project was to write a series of works, setting forth an approach to theology which drew upon the working assumptions and methods of the natural sciences. The project, which has the running title *A Scientific Theology*, sets out to plot a trajectory for Christian theology which maintains its academic and spiritual integrity while encouraging a direct and positive engagement with a scientific culture, understood as both scientific theory and practice. The work is marked throughout by a sustained and critical engagement with the history and philosophy of the natural sciences, and a passionate commitment to the legitimacy of theology as an academic discipline in its own right. The work argues for a direct engagement between Christian theology and the natural sciences without the need for surrogates or intermediaries, such as the somewhat baffling school of “process thought” apparently favored by some American theological writers in this field.

As McKenzie rightly notes, my role model here was Thomas F. Torrance, unquestionably the greatest British theologian of the twentieth century, who was for many years professor of Christian Dogmatics at the University of Edinburgh. A happy by-product of my engagement with his ideas was a growing interest in Torrance as a person. Theologians sometimes treat theology as a disembodied intellectual pursuit, and I found it important to affirm that Torrance (like other theologians) was actually a living human

being, who connected his theology with his life and work. Researching his biography was one of the more personally fulfilling research projects of recent years.⁴ Although I diverge from Torrance at points—for example, he makes little appeal to the biological sciences in his works—there is little doubt that he has provided a decisive stimulus to those wishing to take the interaction of theology and the natural sciences seriously, rather than just play around with vague notions of human religiosity.

The structure of the three volumes of *A Scientific Theology* makes it clear that this work is primarily concerned with theological method, rather than with specific theological topics. It is a systematic work of theology, rather than a work of systematic theology. After an opening section dealing with the distinctive approach to be adopted, the work crystallizes around three specific topics, each of which demanded a full volume to be dealt with properly.

Nature

This opening volume clarifies the general position to be adopted, before moving on to a detailed engagement with the concept of “nature,” which is of such decisive importance in any discussion of the relation of the natural sciences and theology.⁵ “Nature” is often treated as a fundamental resource for theology, on the basis of the assumption that it is an unmediated and uninterpreted concept. Yet there is a growing and settled view that the concept of “nature” actually represents a socially mediated construct. Nature is thus to be viewed as an interpreted notion, which is unusually vulnerable to the challenge of deconstruction. The implications of this for a “theology of nature” are explored, with especial reference to the Christian understanding of nature as creation.

Reality

The second volume deals with the issue of realism in science and theology, and sets out both a critique of anti- and non-realism, and a positive statement of a realist position.⁶ In the light of this, the nature of a scientific theology is explored, with particular emphasis being placed upon theology as an a posteriori discipline which offers an account of reality. This volume develops the theological potential of the program of “critical realism” developed in the writings of the

noted social scientist Roy Bhaskar, which has considerable potential for Christian theology in general, and for the interaction of that theology and the natural sciences in particular.

Theory

The third and final volume in the series addresses the issue of how reality is represented, paying especial attention to the parallels between theological doctrines and scientific theories.⁷ This volume considers the origin, development, and reception of such doctrines and theories, and notes the important parallels between the scientific and theological communities in these important matters. Christian doctrines—here treated as the counterparts of scientific theories—are shown to be an essential element of the theological task. All three volumes are now published, and have been supplemented by an introductory volume, which both sets the work against its intellectual background, and explains its leading ideas in a relatively accessible manner.⁸

McKenzie's Concerns

McKenzie's assessment of my project is based largely on the relatively short 1998 volume *The Foundations of Dialogue in Science and Religion*, rather than the much more substantial three volumes published over the period 2001–2003. It is no criticism of McKenzie to suggest that some of the concerns that he expresses are met through the much fuller treatment I was able to offer in these larger volumes. But enough of such preliminaries. Let us turn to the specific topics that he raises.

Modern Physics

I fully concede that my 1998 account of the interaction of science and theology was too dependent on some speculative aspects of supersymmetry. The *Scientific Theology* volumes make no reference to this; I had come to the same conclusion myself. McKenzie is also right to make some critical comments of my use of some concepts developed by Niels Bohr, of which I make further use in the *Scientific Theology* volumes. As McKenzie rightly points out, the concept of "complementarity" and other aspects of quantum theory can be abused in some highly misleading ways. I would certainly concur with his judgment that E. L. Simmon's article "Towards a Kenotic Pneumatology: Quantum Field Theory and the Theology of the Cross" shows a thoroughly superficial knowledge of quantum theory, and consequently makes some spurious theological applications.⁹

My concern at this point, however, was to emphasize that, in attempting to represent reality, we must allow our theorizing to be shaped by that aspect of reality which is under consideration, even when this seems to lead to some counterintuitive results. The general point I try to make is that each aspect of reality must be investigated and repre-

sented according to its distinct nature.¹⁰ I appeal to Bohr as an example of someone who was prepared to adjust his conceptualities in the light of his encounter with reality, and argue that theology must also bring its thoughts and ideas into line with the encounter with God we know through revelation. Theology, like the natural sciences, is thus to be seen as an a posteriori discipline, shaped by its distinctive object, rather than predetermined patterns of human thought.

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Postmodernism

As McKenzie points out, while signaling the importance of the issue, my 1998 volume makes surprisingly little reference to postmodernity. My later volumes explore the implications of the Sokal hoax in some detail,¹¹ and I critique many aspects of postmodern anti-realism at some depth in *Reality*,¹² pointing out some obvious inconsistencies and weaknesses in the anti-realistic writings of philosopher Jacques Derrida and theologian Don Cupitt. This "whole body of literature" was omitted due to reasons of space alone, and is fully treated in this later volume, along with a vigorous defense of scientific realism. I follow this by proposing a specific approach to theological realism, which is firmly grounded in both recent writing in the philosophy of science and contemporary scientific practice. In *Theory*, I also stress that theory must be seen as a response to reality, rather than as a free creation of the postmodern human mind. I hope that these later volumes redress this weakness in the earlier work, and I concur with McKenzie that such expansion and elaboration was necessary.

Evangelicalism

I write theology as an evangelical, and seek to do theology from an evangelical perspective,¹³ while at the same time reflecting a responsible scientific outlook. I concede that there are places where I could have engaged with other evangelicals—such as those mentioned by McKenzie—such as those who either ditch science altogether in favor of a highly nuanced biblical hermeneutic, or who adopt a more responsible approach which ought to be com-



Dialogue I: Theology & Physical Science

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What McKenzie rightly discerns as an important task – namely, engaging with the extensive evangelical literature in the field of science and religion – did not seem to me to be of direct importance to the greater task of formulating and articulating a viable way of doing theology.

mended. Yet my concern, both in *The Foundations of Dialogue in Science and Religion* and later in the three volumes of *A Scientific Theology*, was not to settle intra-evangelical disputes, but to map out a coherent, viable and defensible approach to theological method. What McKenzie rightly discerns as an important task – namely, engaging with the extensive evangelical literature in the field of science and religion – did not seem to me to be of direct importance to the greater task of formulating and articulating a viable way of doing theology. Perhaps I shall be able to come back to this; as McKenzie rightly points out, much needs to be done here.

Torrance

A further point of concern relates to my use of Thomas F. Torrance, whom I regard as a pioneer of the approach to scientific theology that I wish to commend. McKenzie – again rightly – points out that my 1998 volume talks about “religion,” where Torrance much prefers to talk about “theology.” I think that this issue is more than adequately redressed in the three volumes of *A Scientific Theology*, which gives priority to the category of “theology,” and rejects any generalized appeal to the vague and somewhat plastic category of “religion” as the basis of theological reflection. This does not represent a change of mind on my part; I have never seen a religion-based approach to theology as being viable, for reasons that I set out in more detail in the later volumes of *A Scientific Theology*, and which are anticipated in earlier writings of mine dating from the early and mid-1990s.¹⁴

McKenzie also expresses concern about the absence of a detailed engagement with the Bible, comparable to that found in some of Torrance’s writings. This actually had more to do with limitations on space than any theological deficiencies on my part. It is true that in 1998 I talked rather broadly about “creation” without interacting seriously with the Bible; readers will note an extensive and more spacious engagement with Scripture in *Nature*.¹⁵ This reflects the publisher’s generous allocation of space, which allowed me much greater freedom to engage with the Bible than the more narrow confines of the earlier work. McKenzie also is worried that my 1998 discussion of natural theology is somewhat lightweight; I correct this in 2001–2002 with a major historical and systematic

exposition of this notion, and demonstrate how it can function as a “trans-traditional device” in facilitating interdisciplinary dialogue on the one hand, and Christian apologetics on the other.¹⁶ I shall be returning to the place and significance of a Christian natural theology in a major monograph to be published in 2006 or so, with the provisional title *The Glory of the Lord: A New Vision of Natural Theology*.

And Finally ...

I am immensely grateful to McKenzie for his constructive, rigorous, and insightful critique of the 1998 volume *The Foundations of Dialogue in Science and Religion*. I hope that he will find the discussion in *A Scientific Theology* to be more satisfactory. I think he will. I learned a lot in the intervening years, not least by listening to my critics, both scientific and theological. But readers may be wondering where I shall be going next. For the “scientific theology” volumes are not really a work of systematic theology, but a work of theological method – in other words, an attempt to develop a viable way of doing theology. It now remains for me to *apply* this method – something that I hope to do in four or five years time, in a three-volume work provisionally and somewhat tentatively entitled *A Scientific Dogmatics*. I have no doubt that I will learn much from writers such as McKenzie along the way, and will always welcome their criticisms and comments, just as I have valued his encouragement and more positive comments in his article, to which this represents a short response. I also look forward to seeing more from his own pen in this field: he clearly has much to contribute, and I look forward to hearing (and learning) more from him in the future. ♦

Notes

¹R. H. McKenzie, “Foundations of the Dialogue Between the Physical Sciences and Theology,” *Perspectives on Science and Christian Faith* 56, no. 4 (2004): 242–54.

²See, for example, John Milbank, *Theology and Social Theory: Beyond Secular Reason* (Oxford: Blackwell, 1993).

³Alister E. McGrath, *The Foundations of Dialogue in Science and Religion* (Oxford: Blackwell, 1998). I was asked back to Utrecht to speak on “a scientific theology” in April 2003, once that project was completed.

Dialogue I: Theology & Physical Science

A Closing Remark

⁴ —, *T. F. Torrance: An Intellectual Biography* (Edinburgh: T & T Clark, 1999).

⁵ —, *A Scientific Theology: 1 – Nature* (Edinburgh: T&T Clark and Grand Rapids: Eerdmans, 2001).

⁶ —, *A Scientific Theology: 2 – Reality* (Edinburgh: T&T Clark and Grand Rapids: Eerdmans, 2002).

⁷ —, *A Scientific Theology: 3 – Theory* (Edinburgh: T&T Clark and Grand Rapids: Eerdmans, 2003).

⁸ —, *The Science of God: An Introduction to a Scientific Theology* (Edinburgh: T&T Clark and Grand Rapids: Eerdmans, 2004).

⁹ McKenzie, “Foundations of the Dialogue Between the Physical Sciences and Theology,” note 32.

¹⁰ See my use of Heisenberg at McGrath, *Reality*, 283–5.

¹¹ McGrath, *Reality*, 188–91. The discussion ranges beyond the accounts McKenzie notes.

¹² *Ibid.*, 177–93.

¹³ For my attempts to contribute to a wider discussion, see Alister McGrath, *Evangelicalism and the Future of Christianity* (Downers Grove, IL: InterVarsity Press, 1995); —, *A Passion for Truth: The Intellectual Coherence of Evangelicalism* (Downers Grove, IL: InterVarsity Press, 1999). More specifically, see Alister McGrath, “Engaging the Great Tradition: Evangelical Theology and the Role of Tradition” in John G. Stackhouse, ed., *Evangelical Futures: A Conversation on Theological Method* (Grand Rapids, MI: Baker, 2000), 139–58.

¹⁴ For example, see McGrath, *A Passion for Truth*, 201–28.

¹⁵ McGrath, *Nature*, 141–59.

¹⁶ McGrath, *Nature*, 241–305; —, *Reality*, 55–120.



Dialogue I: Theology & Physical Science

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Ross McKenzie

I want to commend Roman Miller, the editor of this journal, for giving Professor McGrath the opportunity to respond to my article. I thank McGrath for taking the time to respond and for his exceedingly generous comments about me and my work.

I think it is helpful the way that he has clearly put the 1998 volume I reviewed in the context of his developing thoughts and his more recent three volume work, *A Scientific Theology*. My preliminary reading of that comprehensive and stimulating work suggests that my major concerns are addressed there. Hence, I recommend that readers begin with the forthcoming *An Introduction to a Scientific Theology* rather than the 1998 volume. I only wish I could read, digest, and write reviews of McGrath's work as quickly as he produces them! ♦