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REFLECTIONS ON METHODOLOGY AND INTERDISCIPLINARITY IN THE POSTMODERN DIALOGUE BETWEEN THEOLOGY AND THE NATURAL SCIENCES

ABSTRACT

Postmodern interdisciplinarity provides a more flexible and productive methodological framework for the age-old dialogue between theology and the natural sciences than did the modern more rigid and oppositional disciplinary framework. Taking the work of Wentzel van Huyssteen as basis, the author focuses on developing an understanding of the roles of interdisciplinarity, foundationalism, non-foundationalism, and post-foundationalism in the dialogue between theology and science, and highlights the methodological changes resulting from the change-over from modernity to postmodernity.

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.
T.S. Eliot: "Little Gidding"

1. INTRODUCTION

The dialogue between theology and the natural sciences (hereafter referred to as "science") has had a long and complex history, both in terms of how it responded to larger cultural and philosophical movements at particular historical junctions, as well as in terms of the changing methodological basis of the dialogue through the ages.

The postmodern era has given rise to a widespread questioning and dismantling of the assumptions underlying the notions of objectivity and neutrality so dominant in the modern or positivist scientific method (Grenz 2000:345).

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Postmodernity has had a fundamental impact on contemporary worldview, on how we view humankind's position in the universe, on how we view history, science, religions and theology, and — of particular relevance to this article — on what kinds of scientific methods are necessary to deal with a world in flux, a world with permeable disciplinary boundaries.

Neither theology, science, nor the dialogue between theology and science have been left untouched by postmodernity. Postmodernity has not only given rise to a quest for a new understanding of the relationship between science and theology, but has also opened our eyes to the multilayered nature of reality, in the process engendering a renewed enchantment resulting from the interaction with nature, and renewed energy for trying to fathom these multiple layers (Schilling 1973:47-48).

Finding a new position in such a new configuration is a complex task. For some scholars, it has had more negative than positive results for their disciplines; for others, it has brought new and exciting opportunities. While it is true that postmodernism does entail pluralism and fragmentation — both dangerous elements for modernist science — it is also significant to note that an influential scholar such as Wentzel van Huyssteen argues for positive and constructive ways in which postmodernism can be taken seriously by "not giving up too easily our quest for a kind of comprehensive epistemology" (1997a: 569). According to Van Huyssteen, such a positive appropriation of constructive forms of postmodern critique in both theology and science can not only reveal the resources of rationality shared by these two seemingly very different reasoning strategies, but it is exactly in such a comprehensive epistemology within which true interdisciplinary reflection is possible, and which could lead to an opening up of "a truly postfoundationalist space for the interdisciplinary conversation between theology and science" (Van Huyssteen 1997a:569).

The arguments presented in this article are thus strongly influenced by the work of Van Huyssteen, and will centre on the following key questions:

- What — within the contours of the present theology and science dialogue — is to be understood by the terms interdisciplinarity, foundationalism, non-foundationalism and postfoundationalism, and how does our interpretation and understanding of these terms impact on the dialogue?
- What methodological changes in the dialogue between theology and science have resulted from the change-over from modernism to postmodernism?
- What possible future developments in the dialogue could be inferred from the present historical and methodological context of the dialogue between theology and science?

Over the past few decades the dialogue between theology and science has been based on a range of methodological frameworks, ranging from foundationalism in a modernist context, on the one hand, to nonfoundationalism in a postmodern context, on the other. These extreme positions have led to an *impasse* in the dialogue. Interdisciplinarity has, however, re-opened the possibility of resuming the dialogue.

Interdisciplinarity provides a more flexible and productive methodological framework for the age-old dialogue between theology and science than did the modern more rigid and oppositional disciplinary framework. Postfoundationalism, it will be argued, should be viewed as an appropriate methodology to shift the momentum from a foundationalist view to a more holistic inclusive basis for the dialogue, without the danger of being trapped in total relativism of nonfoundationalism.

2. KEY CONCEPTS IN THE DIALOGUE BETWEEN THEOLOGY AND SCIENCE

Postmodernism has foregrounded an epistemological dualism characterising much of the modern dialogue between theology and science. Attempts to break through the binary opposition of objectivism vs. relativism have led to a view of knowledge as being socially constructed, communitarian and nonfoundational in that it can be regarded as a rejection of "all forms of epistemological foundationalism" (Van Huyssteen 1997b:2). To establish a common understanding of key concepts, it is necessary to provide a working definition of what is meant by each of these terms.

2.1 Interdisciplinarity

The current state of disciplines that appear to be relatively stable also has a history of change. Generally speaking, disciplines are regarded as inward looking, insistent on maintaining the *status quo* while allowing and controlling limited access to the discipline. They jealously guard their own methodologies and tend to work in small areas of specialisation.

Interdisciplinarity, on the other hand, can be conceived of in different ways. In the first instance, it can be viewed as part of a traditional search for a wide-ranging total knowledge. Paradoxically, at the same time it represents a "radical questioning of the nature of knowledge itself and our attempts to organize and communicate it" (Moran 2002:15). Seen from this perspective, it is closely connected with the concerns of epistemology in contemporary philosophy of science.

Secondly, according to Dalke *et al.* (2006:4),

> [I]nterdisciplinarity brings together the products of focused enquiry to uncover broader patterns, meaningful in themselves and generations of new directions of disciplinary activities.

It is problem-centred, democratic, dynamic and co-operative in its attempts to forge connections across different disciplines. It also implies self-reflexivity, flexibility, and indeterminacy, and occupies what Moran calls "[the] undisciplined space in the interstices between disciplines … [and attempts] to transcend disciplinary boundaries …" (Moran 2002:15). It is always transformative, seeking to produce new forms of knowledge in its interaction with different disciplines (Moran 2002:15-16).

The interdisciplinary discussion between Christian theology and the natural sciences is possible precisely because we already know what the presuppositions regarding "the universe, of the nature of reality, of some form of 'ultimate reality', of human beings and of the nature of morality [are]" (Van Huyssteen 1997b:13). Interdisciplinarity is therefore a means of answering complex questions that cannot be addressed satisfactorily by using methods peculiar to a particular discipline. By understanding the epistemologies and methods of other disciplines, broader issues can be addressed, and by building a common vocabulary, a unity of knowledge can be achieved (Klein 1990:11).

2.2 Foundationalism

Foundationalism refers to epistemological theories based on belief systems. These beliefs "may be formed or justified in one or two ways: non-referentially (immediately) or inferentially (mediately)" (Van Huyssteen 2003:335). These beliefs provide justificatory support to other beliefs. In offering a theory of justification, foundationalists may regard a belief as epistemically justified by a chain of beliefs, or supported by a basic belief or beliefs. These beliefs or "foundations" for knowledge are accepted as "given", and, according to Van Huyssteen (1997b:3), are therefore treated as a privileged class of aristocratic beliefs that serve as ultimate terminating points in the argumentative chains of justification for our views.

2.3 Nonfoundationalism (antifoundationalism)

Nonfoundationalism is defined by its negation of a foundationalist approach. Nonfoundationalists believe that there is no fundamental belief which is the basic foundation of epistemological inquiry. "They prefer the image of a web of mutually supporting beliefs, which are mediated through a particular com-

munity" (Van Huyssteen 2003:624). Van Huyssteen (1997b:3) warns, however, that an extreme form of nonfoundationalism "implies a total relativism of rationalities and, in a move that will prove to be fatal for the interdisciplinary status of theology, claims internal rules for different modes of reflection".

Nonfoundationalists (such as Nietzsche and Foucault) often use logic or historical attacks on foundational concepts, in some cases coupled with alternative methods justifying no forwarding intellectual inquiry.

2.4 Postfoundationalism

The work of Van Huyssteen (1997b; 1999) and later Phillip Clayton (2000; see also 1989) charts postfoundationalism as a middle course between the foundationalist and postmodern extremes. In *The shaping of rationality* (1999), Van Huyssteen expects to find in this "middle corridor" an intellectually respectable Christian theology, one that can remain true to its historical origins and sensitive to traditional teachings, yet open to rational, interdisciplinary critique. He sees *postfoundational theology* moving in two directions:

1. It acknowledges contextually

> the epistemically crucial role of interpreted experience, and the way that tradition shapes the epistemic and non-epistemic values that inform our reflection about God and what [we] believe to be God's presence in this world

and

2. It points creatively beyond the confines of the local community, group,or culture towards a plausible form of interdisciplinarity conversation (Van Huyssteen 1999:113).

Epistemologically, postfoundationalism identifies the shared resources of human rationality, and reaches beyond the boundaries of our own traditional communities in cross-contextual, cross-disciplinary conversation. The advantage of a postfoundationalist epistemology is that it allows theological beliefs to be viewed as more than merely an expression of personal convictions. Theology, on this view, can once again be part of the public interdisciplinary conversation and need not retreat to the world of private, insular knowledge claims (Van Huyssteen 1999:xii).

2.5 Methodology

Postmodernism does not only challenge the special and superior status of the natural sciences, but it also rejects all forms of epistemological foundationalism

> that normally would claim to legitimate either scientific or theological knowledge, practices and decisions. Both theology and science have been left seriously fragmented by this process (Van Huyssteen 1998:163).

One way of circumventing this fragmented context is to formulate and operationalise an interdisciplinary methodology (Canale 2001:368). It is for this reason that it is necessary, within the postmodern context, to "work through" the methodologies of this period in order to arrive at new concepts.

Stiver (2003:171) defines the purpose of methodology in a postmodern context as a map to be consulted only periodically, and not as a blueprint that needs to be followed slavishly. The application of a certain methodology in the dialogue between theology and science within the interdisciplinary context is a crucial factor in the epistemological problem of both scientific and theological truth claims.

3. INTERDISCIPLINARITY IN THEOLOGY AND THE NATURAL SCIENCES

Van Huyssteen (1999) argues *against* theology's epistemic isolation in a pluralist, postmodern world and argues *for* a postfoundationalist notion of rationality which reveals the interdisciplinary nature of theological reflection (cf. Van Huyssteen 2000:428-429), and considers the interdisciplinary dialogue between theology and science as a crucial part of the broader discussion of the nature of theological reflection, driven by a mutual quest for intelligibility and optimal understanding (Van Huyssteen 1999:175).

Interdisciplinarity as a means of solving problems and questions that cannot be addressed by singular methods implies an understanding of epistemologies and methodologies of both disciplines involved. The awareness and pursuit of interdisciplinary reflection has turned out to be one of the most challenging intellectual quests in postmodern cross-disciplinary conversation. In fact, it is

> precisely in the interdisciplinary conversation between theology and the sciences … [that] there are rich resources for retrieving a comprehensive approach to human knowledge that would be neither modernist nor foundationalist (Van Huyssteen 1998:xiii).

In order to gain a better understanding of interdisciplinarity in a postmodern context, it is necessary to give a brief account of the postmodern challenge to both theology and science.

3.1 The postmodern challenge to the natural sciences

The modernist view of science is grounded in positivism that holds true scientific knowledge to be objective and grounded in empirical facts that are fixed in meaning. From these facts theories are derived by induction or deduction, and theories are accepted or rejected solely on their ability to survive objective experimentation. Postmodern science, by contrast, finds its

> best expression in postpositivist, historicist, and even post-Kuhnian philosophy of science and has revealed the theory-ladenness of all data, the undetermination of scientific theories by facts, and the shaping role of epistemic values and nonepistemic value-judgements in the scientific process (Van Huyssteen 1999:34).

This approach foregrounds the role played by context and values in postmodern scientific practice, and has clear and obvious links with theological scholarship.

In acknowledging science as a cultural and social phenomenon, postmodern philosophy of science has highlighted the hermeneutical dimension of science. According to Van Huyssteen (1999:35),

> this results not only in the cross-disciplinary breakdown of traditional boundaries between scientific rationality and other forms of rational inquiry but also in the inevitable move from being objective spectators to being participants or agents in the very activities that were initially thought to be observed objectively.

In order to be practical, postmodern science must re-insert humanity into nature, before integrating our understanding of humanity and nature. Epistemologically, this is ultimately recognised as "the turn from foundationalism to holism and also as the move away from a modernist notion of individualism to the indispensable role of the community in postmodern thought" (Van Huyssteen 1997a:570; Murphy 1990:201, 205). If the roles of both the community and historical context are so important in postmodern thought, it follows logically that science must then be understood as a dynamic process with conflicting and competing paradigms, theories, research programmes and traditions (Van Huyssteen 1997a:570) that makes interdisciplinary interaction possible.

3.2 The postmodern challenge to theology

Postmodern theory has an ambiguous reputation in theological circles and is often associated with the "hermeneutics of suspicion", or with some kind of cultural or social, even moral relativism. Theologians engaged in serious dialogue with the sciences no doubt will find the postmodernist rejection of grand "legitimizing metanarritives and the seemingly complete acceptance of pluralism real and formidable challenges for both theology and science" (Van Huyssteen 1997a:570).

In the modernist era, theology as a discipline was firmly embedded in the modernist separation of "knowledge and opinion, explanation and understanding, natural and human sciences, and epistemology and hermeneutics" (Van Huyssteen 1998:xii). Postmodern thinkers seem to have concluded that theological reflection also incorporates pluralism. In the contemporary pluralist society, postmodernist attitudes have resulted in theology as well as most other metaphysically-based systems of thought (such as science) becoming more "acceptable", and regarded as socially contextualised discourses within religious communities, but which do not lay claim to any general, public realities (Peacocke 2001:21). The danger, however, in taking a pluralist stance lies in the fact that it threatens not only traditional academic theology, but also the interdisciplinary dialogue between theology and other disciplines. The theologian is thus confronted with the fact that epistemological foundationalism has been so successfully deconstructed that it threatens the very participation of theology in the interdisciplinary dialogue (Van Huyssteen 1998:5-6).

Van Huyssteen also warns that, because of the complexity of postmodernism, no position in either theology or philosophy of science claiming to be postmodern must, can, or be accepted uncritically. The postmodern theological project can in fact be viewed as "an attempt to reaffirm and re-vision faith in God without abandoning the powers of reason" (Van Huyssteen 1997a:574). The ultimate postmodern challenge to Christian theology, specifically to the rationality and credibility of Christian theology as a belief system, is encapsulated in the question:

> [D]o we still have good enough reason to stay convicted that the Christian message does indeed provide the most adequate interpretation and explanation of our experience of God and our world as understood by contemporary science? (Van Huyssteen 1997a:574).

To arrive at a constructive engagement with the natural sciences in a postmodern context, theologians need to not only revise their philosophical presuppositions, but also make changes in the fields of epistemology, philosophy of language and a major shift in how they view the role of the community. Contrary to what is sometimes perceived as unacceptable modern meta-

narratives, the role of the scholarly and theological community (also the natural science community) in postmodern thought is indispensable in that its traditions form the foundation of language and a search for knowledge (Murphy 1990:201). A postfoundationalist argument implies that theologians should — epistemically at least — "be deeply embedded in highly specified disciplinary contexts" and should show their willingness "to reflect critically on exactly those traditions that underlie our knowledge claims" (Van Huyssteen 2006:113).

Murphy (1997:112; 49-62; 155-208) claims that "the problem is not with theology, but rather modernity". Postmodernism opens up the possibility to make theological reasoning "respectable" by, first, identifying methodological parallels between theological and scientific reasoning, and secondly, controversially locating theology at the top of the science hierarchy because it provides answers to questions raised in other sciences which they cannot answer. By revealing its interdisciplinary nature in this manner, theology is able to break from (what Van Huyssteen calls) its epistemic isolation in a pluralist, postmodern world.

3.3 The postmodern challenge to the dialogue between theology and the natural sciences

Postmodernity has given rise to a quest for a new, more nuanced and diversified understanding of the relationship between theology and science. It is particularly transformative in its power to challenge facile assumptions about what is "really real" in both theology and science, in that it provides many new insights and bridges for the relation between theology and science. Grassie (1997:93) prefers to talk of "constructive postmodernism" because of its inherent invitation to engage in the creative and productive intellectual and moral labour of relating theology and science with the hope that good can be accomplished, knowing full well that such labour will always remain fallible.

Postmodernism does not necessarily have to mean the end of the possibility of the dialogue between theology and science as some would believe. In contrast to the perpetuation of misconceptions and misleading stereotypes based on earlier, outdated theories, it should rather be regarded as *the continuation* of the conversation by means of rigorous and relentless criticism of intellectual conceit and uncritical dogmatism. Such a rigorous criticism will contribute significantly in weeding out the repetition of simple errors which perpetuate faulty and outdated views. Viewed from such a perspective, postmodernism is much more than modernism merely "coming to an end".

In the "postmodern" mind-set, objectivity and subjectivity depend on each other. This mind-set, while not denying rationality completely, no longer perceives any knowledge to be certain or objective. As a result, scientists no

longer articulate their findings as objective truths, but rather as a set of research traditions whose "truthfulness" does not extend beyond the scholarly community which shares a particular interpretative scheme. The general result can be thorough-going epistemological relativism, which raises basic questions concerning the relation between truth and cultural context, interpretation and meaning, and Biblical authority and pluralism (Larkin 1992:171-173).

Van Huyssteen (1997a:575) sees a move beyond naïve stereotypes of rampant relativism and the loss of objectivity and reality as a prerequisite to understand what the postmodern perspective might mean for the interdisciplinary dialogue between theology and science. He identifies the ability to deal successfully with the problem of shaping rationality as inseparable from the identification of the epistemic and non-epistemic values that shape both religious and scientific reflection. The implications of this for the dialogue between theology and science cannot be underestimated. One way of taking up this challenge of a constructive form of postmodernism could lie in the reformation of our approaches to, and integration of, human knowledge. According to Clayton (1998:469), a constructive form of postmodernism reveals epistemological assumptions behind certain more extreme views in theology; it supports close discussion between theology and science, and it preserves the attention to questions of knowledge.

The role that critical theory and deconstruction can play in reaffirming "human finitude and humbleness before the divine and the larger nature that contains our being-longingness" (Grassie 1997:91), must also not be forgotten. The potential that such a position holds for stimulating the dialogue between theology and science at this juncture in time ought to be obvious.

4. METHODOLOGICAL APPROACHES TO THE DIALOGUE BETWEEN THEOLOGY AND THE NATURAL SCIENCES

It is clear from the brief discussion of the characteristics of postmodernism that it has given rise to the inevitable search for a shared methodology within which dialogue can be furthered fruitfully. Before focusing on Contextual Coherence Theory, Natural Theology and Postfoundationalism, two others will be mentioned briefly.

Murphy's model for science seeks to demonstrate theology's commensurability with current scientific probable reasoning, arguing that the rationality of Christian belief is reflected in the similarities between theological and scientific reasoning. "Theology is (potentially at least) methodologically indistinguishable from the sciences" (Murphy 1990:198). She concludes that a

nonfoundational approach to theology, guided by current philosophy of science, is indeed possible and she justifies this by drawing on new historical accounts of science, particularly that of Imre Lakatos. While it can be agreed with her assertion that theology can constitute knowledge that is on par with the epistemic status of scientific knowledge, there is not sufficient evidence that her application of Lakatos's theory of scientific reasoning can be applied successfully to the dialogue between theology and science. One reason for this is that her theory of rationality is too closely linked to a specific empiricist philosophy of science (Gregerson & Van Huyssteen 1998:228).

Pannenberg (1991-1998), on the other hand, challenges the logical positivists' characterisation of science by applying Popper's notion (i.e., that scientific theories are revisable hypotheses) to theology. He argues that theories, both in the natural and human sciences, must be judged by coherence, parsimony, and accuracy. For him, the most adequate theory is the one that can incorporate its competitors. He uses Toulmin's theories on history, science and hermeneutics to place facts in a context in which they can be understood as meaningful (see also Murphy 1990; Russell 2000).

4.1 Contextual Coherence Theory

Gregerson (in: Gregerson & Van Huyssteen 1998), building upon Nicholas Rescher's pragmatic coherence theory, outlines a contextual coherence theory for the dialogue between theology and science. Gregerson's contextual coherence theory coincides with that of Haack (1993:19) who emphasises the criterion of coherence as a critical norm for all forms of knowledge — also for knowledge that is not strictly derived from empirical evidence.

The aim of his contextual coherence theory is, first, to establish a "logical consistency", or a non-contradiction between theology and science and, secondly, "to make possible an interconnection between science and theology that extends to the 'substantial issues' between science and theology" (Gregerson & Van Huyssteen 1998:183). Gregerson uses "coherence" to indicate "that different beliefs … are justified insofar as they are *interconnected* within a logically consistent and a substantially comprehensive pattern of thought" (Gregerson & Van Huyssteen 1998:181). Seeking coherence does not necessarily mean unification of theology and science, but rather searching for interconnections in an interdisciplinary context. His vision is that the coherence theory will be both descriptive and normative: descriptive in the sense that it can "describe the kind of rationality which is already at work in the dialogue", and normative in the sense that it is able "to protect against *a priori* divorce and premature marriages between theories in science and theology" (Gregerson & Van Huyssteen 1998:183).

Metaphorically-speaking, the coherence theory deals with human knowledge as an intersubjective enterprise, based on a "commitment to the interconnectedness of human knowledge [as having to be] balanced by a sensibility to the *differences* in our approaches to reality" (Gregerson and Van Huyssteen 1998:182). From a theological point of view, the postmodern sensitivity to epistemic diversity is understandable, but this does not necessarily mean that human knowledge within different disciplines does not have to connect.

Gregerson's proposed contextual coherence theory has several advantages as a methodological tool for the dialogue. First, it aims at something more than merely "compatibility" between theology and science in that it caters not only for stronger interconnectedness, but also for the "looser connections between different epistemic approaches to reality" (Gregerson & Van Huyssteen 1998:227). Secondly, it takes seriously both the data of science and Christian theology. Thirdly, this version of the coherence theory follows critical realism by it insisting that the truth we are pursuing in the dialogue between theology and science is about reality. A fourth positive aspect is that it is holistic in that scientific theories and theological proposals are viewed as cognitive nets or webs, and not as loose-standing entities. Fifthly, it allows for a "rational competition between different meta-scientific … views of reality". Gregerson himself sees the strength of the contextual coherence theory in "that it allows for a *cognitive plurality* of theories and visions within a *common framework of rationality*" (Gregerson & Van Huyssteen 1998:228).

Conversely, the theory can be criticised on several grounds. First, it seems impossible to work through all one's beliefs in ascertaining whether all of them are interdependent and coherent. Secondly, on what basis does one form the beliefs one has chosen? Thirdly, how can one prove the truth of one's beliefs? The coherence theory maintains a strict adherence to its "strong assertions about the criteria of justification as involving only coherence" (Shults 1999:48). Fourthly, the acceptance of coherence with other beliefs as a necessary condition for justifying the truth of an assertion seems insufficient. In this sense, postfoundationalist "experiential adequacy" and "epistemological adequacy" provide better criteria for identifying our beliefs. I shall return to this aspect later.

4.2 Natural Theology

The revival of Natural Theology (post-1960) was brought about by the insight that the laws of nature possess certain characteristics, and was mainly driven by physical scientists rather than by theologians. A "revised" Natural Theology has been taken up by physicists such as Polkinghorne, Bartholomew and Peacocke, as well as the "complementarity" of MacKay, Hume, Gingerich, Van Till and Houghton (Wilkonson 1990:95-115; Van Huyssteen 1998:33). Pol-

kinghorne (1988:23) defends a revised Natural Theology based on "the pursuit of a thorough understanding of the world that science discerns" by arguing that this approach "concentrates on the scientifically given rather than on the scientifically open".

He posits that contemporary Natural Theology complements science, is modest in its claims, and places more emphasis on insight than on proof. Explanations, and especially the explanation of the laws of nature, lie at the root of theological and scientific enquiry. There is no recourse to "the God of the gaps", but rather to the God whose will is held to be expressed in the laws of nature that science explores, but cannot explain. The transition from modernism to postmodernism has brought with it the recognition that the physical world is not self-explanatory. The revival of Natural Theology resulted mainly from the insight that the laws of nature possess certain characteristics that have resulted in their being seen

> not to be sufficiently intellectually satisfying and complete in themselves alone. Instead, their form raises questions going beyond the power of science's power to answer, so that they are felt to point beyond science to the need for a deeper and more comprehensive understanding (Polkinghorne 1998:72).

Furthermore,

> its appeal is not to particular occurrences or particular entities in that it looks to the ground of all science's explanation, the laws of nature that it has to take as the assumed and unexplained basis for all its explanation, and it asks whether there is more to be understood about these laws beyond their mere assertion (Polkinghorne 1998:71).

The "new" Natural Theology does not purport to have all the answers to scientific questions, but it complements science in addressing metaquestions arising from scientific experience. The revised Natural Theology therefore points to the scientific "given" of law and circumstance rather than to particular occurrences.

One must, however, keep the limitations of Natural Theology in mind. Polkinghorne's first concern is that it can only lead to a limited conception of God as the Great Architect of the universe, "the One whose mind and will are behind cosmic order and fruitfulness, but no more than that" (Polkinghorne 1998:84). Natural Theology is based on limited considerations, and therefore its conclusions will only yield limited insight. This is regarded as consistent both with the God of deism and with the Judaeo-Christian-Islamic God who is active within creation.

As an approach to integrate theology and science, Natural Theology claims

> that the existence of God can be inferred from the evidences of design in nature, of which science has brought greater awareness. Even if the arguments are accepted, however, they do not lead to the personal God of the Bible, but only to a remote, intelligent designer (Ducé 1998:57).

In modern times, apologetics have attempted to relate the fields of science and history by attempting to show that the world still leaves room for divine creation and providence. The relativity of postmodernism has significantly facilitated the acceptance of this stance. A second connection has a critical function in the dialogue between science and theology in taking a stance of "Yes, we believe, and faith is justifiable, but it will be more easily justifiable if we keep it within certain bounds" (Barr 1993:4-5).

As a rational response to the world that science has revealed to us, Natural Theology can and does express a fruitful interaction between theology and science. In evaluating the Wisdom Literature and other parts of the Bible that acknowledge God as the God of the Scriptures and the God of creation, integrating theology and science within Natural Theology seems more than just plausible.

4.3 Postfoundationalism in theology and science

The postfoundationalist concept of rationality presents an intermediate position between the objectivism of foundationalism and the relativism of non-foundationalism. Newman (1998:34) argues that we can have reliable knowledge that "does not confirm to an objectivist model, but that also does not regard chaos of interpretation, in which all knowledge is inevitably domination, as the only alternative".

She describes a framework in which knowledge, both theological and scientific, moves beyond dualism. She furthermore argues that ethics and epistemology cannot be separated in the dialogue between theology and science, and that knowing as involving acts of trust can help us move beyond this dualism (Newman 1998:45-46). This underlines the assumption that knowledge cannot be separated from its contexts and traditions — a concept which is very prominent in a postfoundational approach to the dialogue, or as Van Huyssteen puts it,

> [A] postfoundational model of rationality [is one] that is thoroughly contextual, but that at the same time will attempt to reach beyond the limits of its own group or culture in interdisciplinary discussion (Van Huyssteen 1997b:245).

Such a postfoundationalist approach to the dialogue between theology and science is acceptable because of its willingness to

> fully acknowledge contextuality, the epistemically crucial role of interpreted experience, and the way that tradition shapes the epistemic and nonepistemic values that inform our reflection about God and our world (Van Huyssteen 1997a:580).

In its notion of rationality, it also wants to "point creatively beyond the confines of the local community, group, or culture toward a plausible form of interdisciplinary conversation" (Van Huyssteen 1997a:580).

Postfoundationalism in theology and science

> will therefore be held together by one overriding concern: while we always come to our cross-disciplinary conversations with strong beliefs, commitments, and even prejudices, postfoundationalism enables us at least to acknowledge epistemologically these strong commitments, identify the shared resources of human rationality in different modes of reflection, and then to reach beyond the walls of our own epistemic communities in cross-contextual, cross-cultural, and cross-disciplinary conversation (Van Huyssteen 1997a:581).

In propagating a postfoundational theology, Van Huyssteen indicates the advantages it holds for interdisciplinary reflection, arguing that in a postfoundationalist mode this reflection should "lead to the growing awareness that human rationality can never be adequately housed within one specific reasoning strategy only" (Van Huyssteen 1998:xiv). It is in this aspect that we find the possibility of linking different disciplines and reasoning strategies.

Approaching the challenge of interdisciplinarity from a postfoundationalist mode holds a number of advantages. First, human rationality cannot be claimed by one specific reasoning strategy only. Secondly, different disciplines and reasoning strategies can be linked together by ascribing an equal position to all the different modes of knowledge — also to our theological and scientific endeavours. Thirdly, by taking into consideration our traditional and cultural scientific rationality in both theology and science, we can come to a true epistemological interdisciplinarity. Fourthly, postfoundationalism provides a space in which epistemological overlaps in the theology and science dialogue can be recast. This may result in ways of meaningfully relating the fragmented postmodern intellectual world of contemporary science to that of theology. Finally, a postfoundational approach to interdisciplinarity can be viewed as non-hierarchical in that no one discipline with its principles and practices can claim an absolute or foundational position over the other (Van Huyssteen 2006:41).

5. CONCLUSION

Interdisciplinary knowledge as a new type of knowledge complementary to disciplinary knowledge can bring new vision to the academic enterprise. It can, for instance, be used to specify more clearly and concretely the shared standards for adequate explanations:

> In an awareness of the history, theory, methodology and subject matter of particular disciplines, [it will] aim to explore how exactly these disciplines are brought together, transformed or transcended in different forms of interdisciplinarity, and what new forms of knowledge are created by these interactions (Moran 2002:17).

Interdisciplinary approaches

> can challenge traditional, outmoded systems of thought…; they can produce new, innovative theories and methodologies which open up the existing disciplines to new perspectives; they can help people to think more creatively about the relationship between their own subject and other ways of doing things … (Moran 2002:17).

One should, however, be warned that interdisciplinarity does not have all the answers. Despite arguments to the contrary, the fact remains that fundamental to the whole dialogue between theology and science lies the observation that humankind — including postmodern humanity — is still in search of meaning and intelligibility. This search manifests itself on various levels: interpersonally, in interaction with the Creator, and in several other areas. We are, for instance, still searching for compatibility between what we learn from the Judaeo-Christian teaching of creation and what we observe in nature.

Postfoundationalism is a potentially more productive alternative — for the present that is. It differs from the foundational "building on chains of arguments" for knowledge. Van Huyssteen's postfoundationalism opens up the possibility that we can relate to our rational world via interpreted experience — even in theological reflection. He finds in a postfoundational approach to interdisciplinary conversation the possibility to "emphasize how the contextual and pragmatic nature of different forms of rational; inquiry will reveal important epistemological overlaps between the natural sciences and ... theology" (Van Huyssteen 2006:69).

The move toward a postfoundationalist notion of rationality in theology and science can be held together by a two-pronged approach: First, in recognising that we do not come to our interdisciplinary conversations without strong beliefs, commitments and prejudices and, secondly, that we have to identify our shared resources of human rationality in different modes of reflection in order to be able to "reach beyond the walls of our own epistemic commu-

nities in cross-contextual, cross-cultural, and cross-disciplinary conversation" (Van Huyssteen 1999:9).

The importance of the dialogue between theology and science for future scientific and ethical developments underscores the need to raise the level of methodological sophistication of this dialogue, and is probably one of the most fundamental challenges to the future of this interdisciplinary, scholarly enterprise. It is up to theologians and scientists alike to rise to this challenge, to work together to improve humankind's understanding of the complex and fragmented reality that it faces in the twenty-first century.

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