

Cornel du Toit's Science and Religion contribution in the lens of the Divine Action Project: The advantage of limited aims and epistemological diversity

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Abstract

Cornel du Toit is the doyen of the science and religion debate in South Africa. He has led this debate by organising the South African Science and Religion Forum, and its conferences and publications, since 1993 to the present.

Over the same time period, the Divine Action Project (DAP) was a signpost series of conferences, focussing the effort of a significant section of the religion and science community on establishing common ground in one area of research. This paper notes appreciatively the contribution in the standardisation of vocabulary and identification of the different options in this field this series has made. It also attempts to identify and critique the shared assumptions behind the project as ultimately confined to the fundamental assumptions of modernity, thereby constraining its results to the *aporia* the conference does, in the end, result in.

Some suggestions are developed from the *aporia* observed.

This critique is used as a lens to appreciate the epistemological diversity in Du Toit's contribution to the Science and Religion debate. His more modest aims and his greater recognition of the diverse modes of legitimate perception and thinking could enhance the international debate, if taken seriously.

Cornel du Toit's contribution to the Science and Religion debate

Cornel du Toit is the *spiritus rector* of the Science and Religion debate in South Africa. He was the driving force of the South African Science and Religion forum, from its first meeting in 1993 up to this time (Du Toit 2007: ix). During this period the South African Science and Religion Forum has produced a significant corpus of work, including contributions to the science and religion debate from the perspectives of Christian Theology, fundamental Physics, Biology, Philosophy, African Religion and Art and Literature.

During the same period, the most intensively prepared and structured series of conferences in the Science and Religion field to date took place: the Divine Action Project. In this paper, we will use a critique of the Divine action Project as a lens to appreciate the contribution du Toit makes to the Science and Religion debate.

The Divine Action project

Method

The Divine Action project was a joint initiative of the Vatican Observatory and the Centre for Theology and Natural Sciences in Berkeley. This came about due to an address of Pope John Paul II, calling for a review of the Science-Theology debate. From this a preparatory conference was organised, held in 1987, which resulted in the publication of a conference proceedings volume entitled 'Physics, Philosophy and Theology' (Russell et al (ed) 1988).

This project consisted of a series of five extremely well prepared conferences, dealing with different aspects of the Divine Action issue. The conferences dealt with the possible conceptions of Divine Action under the perspective of *Quantum cosmology and the laws of nature* (Russell et al (ed) 1993), *Chaos and Complexity* (Russell et al (ed) 1995), *Evolutionary and molecular biology* (Russell et al (ed) 1998), *Neuroscience and the person* (Russell et al (ed)1999), *Quantum Mechanics* (Russell et al (ed) 2001). It culminated in a capstone conference held in 2006, with was published in the volume "Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress" (Russell et al (ed) 2008) and a further reflective conference and volume: "Philosophy, Science and Divine Action" (Shults et al (ed) 2009).

These conferences made a significant contribution particularly because of the intensive research method adopted. A conference team, consisting of prominent researchers in Science and Theology, invited participants with expertise in the relevant sciences, philosophers and theologians to a preparatory conference. Papers to this preparatory conference were pre-circulated, commented on, revised in the light of comments and other contributions, and then discussed at the preparatory conference. After further revision, circulation, amendment, the papers were then discussed at the main conference, and after a further revision published in a conference

proceedings volume. This process involved intense discussion over a period of two or more years for each conference. The core team of researchers were involved in all seven conferences, drawing in experts and additional viewpoints for each conference (Russell 2008:5-6; Wildman 2008:136-137).

Results of the Divine Action project

This amount of concerted effort has led to significant progress. Through the intensive and concerted interaction, the participants have developed relatively stable terminology for the field. In particular, the distinction between general divine action and special divine action has been agreed to. General divine action (GDA) is the action of God in establishing and maintaining the structures and contents of reality, while special divine action (SDA) refers to particular, intentional acts brought about by God at specific times and places, but possibly also more generally (Wildman 2008:142). This distinction though, is critiqued in the final capstone volume by Gregersen (2008:179.187).

These specific divine actions can again be distinguished into three categories: Objectively special divine actions would be actions that would not have occurred had God not intentionally acted to cause that specific result. On the other hand, causally, but not objectively, special divine actions are defined as actions that have special significance for God's purposes, even though it need not be assumed that God had to specifically act intentionally to cause them. Finally, subjectively special divine actions are actions that are perceived by people to hold special revelatory or soteriological significance, without thereby proposing anything special about the way God acted in them (Wildman 2008:140; Russell 2008:20).

In approaching the question of special divine actions, two approaches can be distinguished. Noninterventionist Special Divine Action is an intentional, particular action of God, which does not violate the structures or orders of reality set by God's general action. Interventionist SDA, on the other hand, breaks the regularities and orders of nature (Wildman 2008:37; Russell 2008:21).

This is related to the concept of miracles: Miracles could be perceived as occurrences where natural laws are broken or their operation or applicability is suspended (Objectively Special, Interventionist Divine actions). On the other hand, miracles might be seen as events that have particular significance to reveal the purposes or characteristics of God, or are seen as instances of God's help or saving action, even if they do not necessarily go against natural laws (Subjectively special, non-interventionist Divine actions). Finally, miracle might be the instantiation of new features of nature that are, or have been, hidden from scientific investigation or common experience (Wildman 2008:142-143).

This differentiation relates also to the conception of the status of the laws of nature. On this, there can be different positions. The strongest is that the laws of nature are prescriptive of all events individually and without exception. Even stochastic laws (such as the measurement laws of quantum mechanics) apply to all events individually. The present description of these laws by natural sciences is to be taken as fundamentally correct, until better descriptions are obtained, and to be seen as determinative of these events. This is called a strong-nomological approach. Somewhat weaker is a nomological approach that considers the laws of nature to prescribe the outcome of events, but, when they are stochastic, to only do so as an average over many systems or measurements. Descriptive approaches to the laws of nature assert that these laws have no own ontological status - they are simply descriptions after the fact of the regularities that have been observed. Often associated with this is the recognition that the laws that are embedded in the sciences are approximations to the laws, as far as the observations of science have to date been made, and that the actual laws may be different, and possibly more flexible, than those recorded by science. This is held by Polkinghorne (Wildman 2008:144-145).

As a consequence of the distinction between the laws of nature as defined by science, and the laws of nature as they may be in themselves, there is a difference in strategy about where to search for causal openness for incompatibilist, objectively special divine action. Those that hold on to ontological views, or see the laws of nature as closely depicted by present science, insist that causal gaps must be found in the present scientific theories. Those who see the laws as more descriptive, and differentiate more strongly between the laws as they are and the present scientific theory, assert that causal openness may be sought not only in terms of existing theoretical causal gaps, but also in terms of intimated openness shown by the incomplete and provisional character of present theories (Wildman 2008:144).

The aim of the interaction between Sciences and Theology is to establish what is termed 'Traction'. Three different levels of traction are distinguished: Traction as consonance aims to establish a general homology or resonance between theological language and the results of natural sciences, without aiming to formulate this in so specific a way as to enable falsification of religious statements by scientific theories or results, while traction as consistency envisages that theological assertions should be formulated in a way that is specific enough to enable conflict to arise with specific scientific theories or results. Beyond this, there is a third mode of traction, not aspired to by any DAP participant, in which theological theories are derived from sciences (Clayton 2008:93).

This relates to the distinction of compatibilism and incompatibilism. Compatibilism states that God's freedom to engage in specific divine actions is compatible with deterministic natural laws, while

incompatibilism asserts that, if God is to have the freedom to act specifically in this world, the natural laws must be contain an element of indeterminacy, in other words, there must be causal gaps left by the laws through which God can act (Wildman 2008:143).

Achievements of the Divine Action project

The sustained engagement of the method of the series has created a discourse community in which terms were clarified, issues thoroughly discussed, and arguments followed through, more and better than has been before (Russell 2008:18, Wildman 2008: 137).

A clear formulation of the aim of the process has been identified: traction between scientific descriptions of the world, and theological interpretations of it. The amount of traction different models give has been identified, and the advantage and disadvantage of different levels of traction discussed. Maximal traction-traction as congruence - binds theology fairly closely to a specific scientific model, but also enables concrete verbalisation of theological interpretation in the framework of such a model, while a lesser degree of traction – consonance – retains theological independence from the specific nature of the model, while allowing less concrete intelligibility (Clayton 2008:92-93).

Many participants were of the opinion that the ideal, non-interventionist special divine action, has been shown to be a possibility in the process (Russell 2008:21, Wildman 2008:134).

Critique of the Divine Action project

Achieving confluence in the view on DA

Unanimity was achieved that one cannot say that science totally excludes the possibility of divine action (Wildman 2008:134). But as soon as the attempt was made to specify how this is to be conceived, definite conclusions vanished like a mirage, with the different positions of the participants remaining linked to their prior epistemological and theological preferences. An instructive chart on these differences is produced by Wildman (2008:176). The details of the differences need not be presented for the purpose of this argument.

Overcoming paradigm differences on the basis of the evidence of science

The differences, as cited above, show that paradigm differences between authors were not overcome, in spite of the intense engagement of authors.

Science sets parameters

Too often science tends to set the agenda for the theological discussion with little if any initiative taken by theology. From the beginning it was the clear intention of the steering committee that our research should expand beyond this format to insure a 'two-way interaction.' between the scientific and theological research programs (Russell 2008:xiii).

Did the Divine Action Project achieve the two-way traffic? There is little impact of theology on scientific theory evident, or critique voiced. In most case, scientific theory is presented, interpreted, and the theological response to integrate theology into the presented scientific world-view is discussed. Indeed, it has been argued that the epistemological preference given to science is one of the weak points of the series (Tönsing 2012:42). Stoeger also criticises the insufficient consideration given to the fundamental theological concept of *creatio ex nihilo* in the series (Stoeger 2008: 226)I come to the conclusion that the DAP did not really achieve the two-way traffic. Fundamentally, it adopts the scientific view of the world, and tries to adapt theology to it. This is evidenced in the next two points.

Recognising theory in scientific data

The series consistently begins with the scientific viewpoint. This is then taken as the basis on which discussion of the possibility of integrating or adapting theology to it is considered. There is no discussion on the epistemological limitation of the scientific method, or of the relevance thereof to the debate (Murphy [1995] 2000:330-331; Tönsing 2012:42-43). Little evidence of this is found. This critique is also made by Tracy (2008:251). Science, and its presuppositions, are taken as is and as one.

DA described with focus on causal nexus that enables it and laws that constrain it

The privilege accorded to the scientific worldview results in a privileging of causal explanation. The focus on causation in describing divine action is the result. In the texts, the assumption of comprehensiveness and accuracy of science is evidenced in that often, in the discussion, the model of science is seen as determining the reality. The status of science as a model distinct from reality is not always clearly seen (Gregersen 2008:191; Tönsing 2012:42).

The epistemological self-limitation of the scientific method is not recognised

Scientific method is aimed at investigating regularities in the world, that can be described by laws, preferably quantifiable and in mathematical form (Steinle 2002:423, Ladyman 2002:8). It therefore requires its data to be collected by controlled experiment that is repeatable (Chalmers 1999:218). Because its method is oriented toward establishing law-like behavior, it is ill-suited to observe contingent behavior. It is also ill-suited to deliberate on matters of aesthetics or ethics (Ellis 2008:80).

Illustration

Should there be a direct, objectively special, action of God – would science recognise it? If there is just one, unconfirmed instance of such instance, outside of scientific control, science would regard it simply as a fluke or as anecdotal evidence, or as misobservation, and it would not form part of the scientific corpus. Should, within a single controlled experiment, God act to result in a different outcome than expected from laws, it would be discarded as a fluke, because it falls outside the norm of repeated observation's standard deviation. Should God act in a way that his action would be recognised by science – the same result in repeated experiments – it would need form part of law of nature – because it would always occur that way.

Comparison to the approach taken by Cornel du Toit

While the conferences organised in the same time by Cornel du Toit have not had the same intensity, and did not have comparable resources devoted to them, it is instructive to compare the themes in these conferences, and especially du Toit's contribution, to the Divine Action Project.

Conference proceedings of the South African Science and Religion Forum were published under the titles:

- Theology and the new physics* (Du Toit (ed.) 1993)
- The action of God in the world* (Du Toit (ed.) 1994)
- Nature, God and humanity* (Du Toit (ed.) 1996)
- World-views in opposition: Interaction in beliefs and values in science and religion* (Du Toit (ed.) 1997)
- Faith, science and African culture* (Du Toit (ed.) 1998)
- Reading the universe through science, religion and ethics: The evolving science and religion debate* (Du Toit (ed.) 1999)
- Evolution and creativity: A new dialogue between faith and knowledge* (Du Toit (ed.) 2000)
- Brain, mind and soul: Unifying the human self* (Du Toit (ed.) 2002)
- Design, information and complexity in creation* (Du Toit (ed.) 2003)
- The integrity of the human person in an African context: Perspectives from science and religion* (Du Toit (ed.) 2004)
- Can nature be evil or evil natural? A science-and-religion view on suffering and evil* (Du Toit (ed.) 2005)
- The impact of knowledge systems on human development in Africa* (Du Toit (ed.) 2006)
- The evolutionary roots of religion: cultivate, mutate or eliminate* (Du Toit (ed.) 2007)
- Homo transcendentalis? Transcendence in science and religion: Interdisciplinary perspectives* (Du Toit (ed.) 2010)
- Knowing, believing, living in Africa: Perspectives from Science and Religion* (Du Toit (ed.) 2012)

The organising of these conferences, and editing of the proceedings is already a major contribution of Du Toit to the scholarship in Science and Religion. Beyond that, a cursory examination of the titles already shows some themes of interest: The African context plays a major role, as do concerns of ethics and development. The human person features prominently.

While all these proceedings contained important contributions from scientists, it is notable that approaches from art (e.g. Du Preez 2010), literature (Du Toit 2006), African religion (e.g. Rakotsoane 2010, Masoga 2012, Ramose 2006), spirituality (Jacobs 2010), and philosophy (e.g. Shutte 2005, 2012) also figure

prominently. It is clear that du Toit ensured that contributions from a wide variety of perspectives were included – showing that du Toit did not give exclusive epistemological preference to a scientific approach to reality, but valued the contributions other approaches can make. This is also shown in his writings, which include influences from literature, art, and jurisprudence. Cornel du Toit contributed to all these conferences and proceedings. Many of his contributions were collected in the volume *Viewed from the shoulders of God: Themes in science and theology* (2007c).

In the first instance, Cornel du Toit's contribution is clearly driven by the concern to find an interpretation of religion that is can be held by modern persons, living in a world formed by natural science, without involving themselves in intellectual contradiction (Du Toit 2007c:vi). This is clear in one of the last contributions he made, where he emphasises that religion is natural (Du Toit 2012:2-3), and that an accommodation between religion and science is both desirable and possible.

His work includes intensive engagement with the Biblical roots of Christianity. This is particularly clear in his reflections on Genesis (Du Toit 2007c:45-60). He interprets this as a narrative with primarily ethical interest, showing that humanity does not measure up to, and does not improve in, its moral standards. This leads to the need for salvation – and the need for reflection on the ethical nature of the universe and the underlying power relations in the cosmos and in society, with the aim to achieve a balance of power (Du Toit 2007c:65-66).

In his contributions, Du Toit extensively draws on modern and classical philosophy. Though not strictly part of his science and theology opus, his publication *Research, identity and rationalism* (Du Toit 2002) shows his intensive engagement with the issues of the basis of knowledge, and the postmodernist critique of modernist claims of universal knowledge. This theme also underlies his collection *Seasons in theology: Inroads of postmodernism, reference and representation* (Du Toit 2007b).

Besides philosophy and natural science, Du Toit engages with a broad spectrum of intellectual life – he utilises insight from literature (Du Toit 2007c:107), art and spirituality. He, however, does not limit his philosophical engagement to Western philosophical traditions. An important part of his engagement is with the philosophical and religious traditions of Africa. This is most notably clear in *The impact of knowledge systems on human development in Africa* (Du Toit (ed.) 2007).

His aim is more modest than to find in scientific results a manner of re-interpreting theology that is science-consistent, or to use science in some way to rescue or prove God (Du Toit 2007c:v-vi). He writes "... the aim of the debate cannot be to find fresh proofs of God's existence in recent research findings ... Its value lies in deepening the self-understanding of both theologians and scientist" (Du Toit 2010:ix). The purpose of the debate cannot be to prove or to legitimate God or God's actions in the paradigm of the sciences (Du Toit 2007c:67) – but to acknowledge the historical conditionedness of our various approaches to reality (Du Toit 2007c:93), and to allow the various levels to interact in mutual enrichment and critique in order to come to a fuller understanding of ourselves as human agents in the construction of our stories (Du Toit 2007c:69.79-80). In this debate, all participants need to acknowledge the limitations of the way their chosen perspective represents reality – and carefully distinguish between the map or representation, which is part of the discussion, and the reality beyond representation, which is transcendent to the discussion (Du Toit 2007c:127). Claims of access to transcendent reality, and legitimations from transcendence, all need to be treated with suspicion (Du Toit 2007c:130)

Du Toit (2007c:105-152) emphasises the need to include the ethical realm in the debate between science and religion. He sees both activities as human, social activities, and therefore united in the social context, and the intellectual law of honesty and critical rationality. He sees in the common ethical commitment to honesty, and in the common ethical commitment to the preservation of life on earth, and the common openness to, and excitement in discovering new perspectives in dialogue, the basis of conversation between the different modes of perception that science and religion represent (Du Toit 2007c:44.153).

In a similar vein, he suggests that the debate and reflection on law between science and religion needs to involve also jurisprudence in the mix of perspectives (Du Toit 2007c:140). In this context he reflects critically on the contexts of causality and laws of nature, and identifies them as human intellectual constructs, as impositions of order (Du Toit 2007c:133). The order imposed, however, has broken down (Du Toit 2007c:136-137). Both Laws of Nature and Natural Law are social creations, which serve legitimating functions. Thus it is in their nature as human constructions that science, jurisprudence and theology find their common aporia of legitimation, and their common difficulty to advance beyond the particularity of observed patterns and positive law to universal constructs (Du Toit 2007c:47). They all should honestly acknowledge these in their dialogue, and acknowledge the humanity of their enterprise.

Du Toit engages with what is variously called postmodernism, post-universalism and post-foundationalism in his work. He acknowledges that no unbiased, universal epistemology is possible, no epistemological Archimedean point can be found (Du Toit 2007c:159). All theories have to represent the world in language, and all representation involves paradox, because theory, observer and universe are in different worlds and yet need to be connected, while each attempt to do so ultimately becomes self-referential (Du Toit 2007c:162). He argues for a clear awareness of the distinction between the map and the terrain, and the

acknowledgement that mapping is an exercise that intends control and power (Du Toit 2007:110.127) He proposes a virtue epistemology as a way forward in the paradox (Du Toit 2007c:164). Such virtue would be critical of power relations in asserting universal knowledge, and have the humility to admit to subjectivity while retaining the integrity of searching for best critically assessed theory (Du Toit 2007c:163). This integrity would admit its contextual nature and search for value in, and expose itself to critique of, other local knowledges (Du Toit 2007c:171).

Therefore, Du Toit seeks dialogue with African knowledge systems. He sees in African contextuality a corrective and enhancement for western knowledge systems, especially as these are life oriented (Du Toit 2007c:175)

In the end, Du Toit (2007c:41) argues that from an evolutionary perspective, religion is simply part of the human condition, which is multifaceted, and includes also instrumental, aesthetical, and ethical perceptions of reality. Religion, and religious reflection, are one part of the cultural response of humans, and one of the ways in which they adapt to, and interact with, their environment (Du Toit 2007c:43). God godself cannot be isolated from, or given a particular point of interaction, in the multiplicity of reality – God is “panentheistically present in, under and through all natural processes” (Du Toit 2007c:43.44) In these multifarious ways, humans experience reality, and the differences need to be acknowledged, appreciated, and critically investigated – not to necessarily come to a uniform resolution of all issues, but to come to a better understanding of, and honesty with, oneself (Du Toit 2007c:vi)

Conclusion

The Divine Action Project, in its ambitious aim to develop a theory of divine action that is both theologically responsible and compatible with scientific insights, and accepted universally, has resulted in *aporia*: While it was shown that conceptions of Divine action are not necessarily in conflict with scientific conceptions of the world, a single theory was not established, and differences, based on differences in theological or philosophical presuppositions, remained among the participants. Even the attempts to standardise language in the field remained under criticism due to varying perspectives in the end.

Some of the *aporia* of this process can be traced back to its privileging of the scientific viewpoint, and its attempt to attain a universal, objectively valid theory that all could agree on. This is indicative of a remaining foundationalist approach to knowledge.

Du Toit, on the other hand, has much more humble aims: He relinquishes the attempt to construct universal theories that integrate science and religion, and is satisfied with a dialogue in which each participant is enriched in their own self-understanding. While his aim is more limited, the scope of his engagement is wider, including, in addition to science and theology, art, literature and especially African perspectives.

In this approach, du Toit enriches the perspectives of science and religion, and shows that, while in post-foundationalist times, no universal theory construction may be possible or desirable, yet the virtue of honesty in the dialogue can assist participants to increase and deepen their understanding of themselves, the other and the subject. The ongoing efforts of those active in the science and religion debate would do well in learning from Du Toit.

Works consulted

- Chalmers, Alan Francis 1999. *What is this thing called science?* Queensland: University of Queensland Press.
- Clayton, Philip 2008. Toward a theory of Divine Action that has traction, in Russel, Robert J., Nancey Murphy, William R Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 85-110.
- Du Preez, Amanda 2010. The posthuman aesthetic of transcendence: blank canvasses and naked faces, in Du Toit, Cornel W. (ed.), *Home transcendentalis? Transcendence in science and religion: interdisciplinary perspectives*. Pretoria: Research Institute for Theology and Religion, 233-251.
- Du Toit, Cornel W. (ed.) 1993. *Theology and the new physics*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 1994. *The action of God in the world*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 1996. *Nature, God and humanity*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 1997. *World-views in opposition: Interaction in beliefs and values in science and religion*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 1998. *Faith, science and African culture*. Pretoria: Research Institute for Theology and Religion.

- Du Toit, Cornel W. (ed.) 1999. *Reading the universe through science, religion and ethics: the evolving science and religion debate*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2000. *Evolution and creativity: a new dialogue between faith and knowledge*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2002. *Brain, mind and soul: unifying the human self*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2003. *Design, information and complexity in creation*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2004. *The integrity of the human person in an African context: Perspectives from science and religion*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2005. *Can nature be evil or evil natural? A science-and-religion view on suffering and evil*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2006. *The impact of knowledge systems on human development in Africa*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2007. *The evolutionary roots of religion: cultivate, mutate or eliminate*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2010. *Homo transcendentalis? Transcendence in science and religion: Interdisciplinary perspectives*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. (ed.) 2012. *Knowing, believing, living in Africa: Perspectives from Science and Religion*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. 2002. The quest for commonalities in rationality and research: Cognitive science and the embodiment of African rationality in, Du Toit C.W, (ed.), *Research, identity and rationalism: thinking about theological research in Africa*. Pretoria: Research Institute for Theology and Religion, 77-94.
- Du Toit, Cornel W. 2005. "Tout est bien?" Natural and supernatural causes of evil: Perspectives from Hume's **Treatise** and Voltaire's **Candide**, in Du Toit, Cornel W. (ed.), *Can nature be evil or evil natural? A science-and-religion view on suffering and evil*. Pretoria: Research Institute for Theology and Religion, 71-106.
- Du Toit, Cornel W. 2007a. The restoration of subjectivity in science, rationality and knowledge systems as a precondition for scientific integrity, in Du Toit, C.W. (ed.), *The impact of knowledge systems on human development in Africa*. Pretoria: Research Institute for Theology and Religion, 67-97.
- Du Toit, Cornel W. 2007b. *Seasons in Theology: inroads of postmoderism, reference and representation*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. 2007c. *Viewed from the shoulders of God: themes in Science and Theology*. Pretoria: Research Institute for Theology and Religion.
- Du Toit, Cornel W. 2010. Preface, in Du Toit, C.W. (ed.), *Homo transcendentalis? Transcendence in science and religion: interdisciplinary perspectives*. Pretoria: Research Institute for Theology and Religion, ix-xvi
- Du Toit, Cornel W. 2012. A scientific defence of religion and the religious accommodation of science? Contextual challenges and paradoxes, in Du Toit, C.W. (ed.), *Knowing, believing, living in Africa: perspectives from science and religion*. Pretoria: Research Institute for Theology and Religion, 1-19.
- Ellis, George F.R. 2008. Scientific issues: ground covered and horizons unfolding, in Russel, Robert J, Nancey Murphy, William R Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 57-82.
- Gregersen, Niels Henrik 2008. Special Divine Action and the quit of laws: why the distinction between special and general Divine Action cannot be maintained, in Russel, Robert J, Nancey Murphy, William R Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 179-199
- Jacobs, Jeremy J. 2010. Mysticism as accomotation of transcendence, in Du Toit, Cornel W. (ed.), *Homo transcendentalis? Transcendence in science and religion: Interdisciplinary perspectives*. Pretoria: Research Institute for Theology and Religion.
- Ladyman, James 2002. *Understanding philosophy of science*, Routledge, London.
- Masoga, Mogomme A. 2012. Engagement with Gabriel Molehe Setiloane's Motho ke Modimo theological discourse: what become key lessons learnt? in Du Toit, Cornel W. (ed.), *Knowing, believing, living in Africa: perspectives from science and religion*. Pretoria: Research Institute for Theology and Religion, 137-154.
- Murphy, Nancey [1995] 2000. Divine Action in the natural order: Buridan's ass and Schrödinger's cat, in Russel, Robert J, Nancey Murphy, Arthur Peacocke (eds.), *Scientific perspectives on Divine Action: chaos and complexity*. CTNS & Vatican Observatory Publications, 325-357.

- Rakotsoane, Francis 2010. Transcendence in African traditional religion, in Du Toit, C.W. (ed.), *Homo transcendentalis? Transcendence in science and religion: interdisciplinary perspectives*. Pretoria: Research Institute for Theology and Religion, 221-231.
- Ramose, Makgobe B. 2006. An African view of evil in nature: madimabe and senyama, in Du Toit, Cornel W. (ed.), *Can nature be evil or evil natural? A science-and-religion view on suffering and evil*, Pretoria: Research Institute for Theology and Religion, 107-116.
- Russell, Robert J. 2008. Challenge and progress in "Theology and Science": an overview of the VO/CTNS series, in Russel, Robert J., Nancey Murphy, William R. Stoeger (eds.), *Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress*. CTNS & Vatican Observatory Publications, 3-56.
- Russel, Robert J., Nancey Murphy & William R. Stoeger (eds.) 1988. *Physics, theology and philosophy*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., Nancey Murphy & C.J. Isham (eds.) 1993. *Scientific perspectives on Divine Action: quantum cosmology and the laws of nature*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., Nancey Murphy & Arthur Peacocke (eds.) 1995. *Scientific perspectives on Divine Action: chaos and complexity*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., Nancey Murphy, Theo C. Meyering & Michael A. Arbib (eds.) 1999. *Scientific perspectives on Divine Action: neuroscience and the person*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., Nancey Murphy & William R. Stoeger (eds.) 2008. *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., Phillip Clayton, Kirk Wegeter-McNelly & John Polkinghorne (eds.) 2001. *Scientific perspectives on Divine Action: quantum mechanics*. CTNS & Vatican Observatory Publications.
- Russel, Robert J., William R. Stoeger & Francisco J. Ayala (eds.) 1998. *Scientific perspectives on Divine Action: evolutionary and molecular biology*. CTNS & Vatican Observatory Publications.
- Shults, Fount 2009. *Philosophy, science and divine action*. Kampen: Brill.
- Shutte, Augustine 2005. Evil and the Christian response: science, philosophy and theology, in Du Toit, Cornel W. (ed.), *Can nature be evil or evil natural? A science-and-religion view on suffering and evil*. Pretoria: Research Institute for Theology and Religion, 39-70.
- Shutte, Augustine 2012. Conflict and religion – secularity as a standard for authentic religion, in Du Toit, Cornel W. (ed.), *Knowing, believing, living in Africa: perspectives from Science and Religion*. Pretoria: Research Institute for Theology and Religion, 107-136.
- Steinle, Friedrich 2002. Experiments in history and philosophy of Science. *Perspectives on Science* 10(4), 408-432
- Stoeger, William R. 2008. Conceiving Divine Action in a dynamic universe, in Russel, Robert J., Nancey Murphy, William R. Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 225-247.
- Tönsing, Detlev 2012. Science and theology: presupposition, presumptions, prejudgements, in Du Toit, C. (ed.), *Knowing, believing, living in Africa: prspectives from Science and Religion*. Pretoria: Research Institute for Theology and Religion, 35-49.
- Tracy, Thomas F. 2008. Special Divine Action and the laws of nature, in Russel, Robert J., Nancey Murphy, William R. Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 249-283.
- Wildman, Wesley J. 2008. The Divine Action Project, 1988-2003, in Russel, Robert J., Nancey Murphy, William R. Stoeger (eds.), *Scientific perspectives on Divine Action: twenty years of challenge and progress*. CTNS & Vatican Observatory Publications, 133-176.