

Critical Realism in Science and Theology?¹

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Abstract: *Can critical realism, which postulates that one can acquire true knowledge of an external reality through critical procedure and reflection, be a common denominator for science and theology? If it can, then it follows that just as science can come to know the external world, theology can come to know God. Ian Barbour and others seem to answer in the affirmative, whereas Braithwaite and other adherents of the later Wittgenstein believe the opposite. After making a rather extensive and critical study of the pros and cons of the claim to theological critical realism, the author strikes a middle position and points out that, although the epistemological similarities between theology and science show significant differences, a weak (faith-dependent) theological realism can be defended.*

Key Words: *Critical Realism, Scientific Realism, Naive Realism, Metaphysical Realism, Epistemological Realism*

In the 1970s and 1980s critical realism was the dominant epistemology in the dialogue between science and theology, at least in the Anglo-Saxon space. That is to say, both science and theology were regarded as critical enterprises that could plausibly claim to convey knowledge of a reality independent of the mind, viz., the natural world and God. Critical realism may still be the prevailing epistemology in the science-theology dialogue. But during the last decennium it has increasingly been disputed whether critical realism is an adequate view of theology. This raises the question whether such a view of theology can be defended in the new millennium. It is this question that is the subject of the present article.

Before this question is addressed some historical information may be appropriate. In American philosophy critical realism designates a movement initiated by Roy Wood Sellars in 1916. This movement purported to integrate insights of both idealism and the so-called New Realism, which claimed that the world is as we experience it. In contrast to New Realism, American critical realism acknowledged that all our knowledge of the world is mediated by the human mind, but considered it possible to accommodate for the distortions due to that mediation.

Through the work of Wilfrid Sellars, Roy Wood Sellars's son, American critical realism influenced scientific realism, which arose in the 1950s in opposition to positivistic phenomenalism. Scientific realism basically claims that mature scientific theories are approximately true (in the sense of corresponding to the real world) and that their postulated central entities really exist. Recently (1999) it has been defended strongly by Stathis Psillos in his book *Scientific Realism - How Science Tracks Truth*.³

The term 'critical realism' was introduced into the dialogue between science and theology in 1966 by Ian Barbour. Barbour transferred realism from science to theology and used the term 'critical realism' to cover both scientific realism and a theological realism that takes seriously the cognitive claims of religion, that is, religion's claims to convey knowledge of a mind-independent divine reality. Subsequently Barbour pointed to the cognitive role of metaphors, models and paradigms in scientific as well as religious language. His ideas were later assimilated and elaborated by Arthur Peacocke, John Polkinghorne, J. Wentzel van Huyssteen, and others. However, as already remarked, during the 1990s the transfer of realism from science to theology has increasingly been criticized. The main criticism was that this transfer does not, or not sufficiently, take account of the substantive differences between theology and science.

What is Critical Realism?

Before discussing the plausibility of a critical realist view of theology I have to specify the concept of *critical realism*. Critical realism is a philosophical view of knowledge. On the one hand, it holds that it is possible to acquire knowledge about the external world as it really is,

independently of the human mind. That is why it is called *realism*. On the other hand, it rejects the view of the so-called naive realism that the external world is as it is perceived. Critical realism recognizes that perception is a function of, and thus fundamentally marked by, the human mind. Therefore it holds that one can only acquire knowledge of the external world through critical reflection on perception and the perceived (phenomenal) world. That is why it is called *critical realism*.

Strictly speaking, critical realism as a philosophical view of knowledge only claims that it is *possible* to acquire knowledge about the external world, provided that perception and the perceived world are subjected to critical reflection. However, in the dialogue between science and theology the term 'critical realism' is normally used in a somewhat different sense. Here the term does not merely designate that it is *possible* for science and theology to acquire knowledge about an external reality. It designates also that science and, at least genuine theology, by virtue of adequate critical procedures and reflection, *actually* have acquired and thus contain knowledge about an external reality. Henceforth I will use the term 'critical realism' in this sense.

Critical realism in this sense combines three theses:

(1) *Metaphysical realism*. Metaphysical realism is a thesis about reality. It holds that there exists an external reality independently of our perception or knowledge, that is, independently of the human mind. As far as science is concerned this reality is the natural world. As far as theology is concerned this reality is the natural world too, but also, and distinctively, a divine reality or God.

(2) *Semantic realism*. Semantic realism is a thesis about the relation between language and reality. It holds that science and theology contain propositions, that is, statements that are capable of being true in the sense of corresponding to the reality to which they refer. In scientific realism these are propositions about the natural world. Scientific realism claims especially, that scientific statements about unobservable theoretical entities (e.g., electrons) are genuine propositions, not merely instruments for establishing connections between observables. In theological realism the focus is on propositions about a divine reality or God.

(3) *Epistemic realism*. Epistemic realism is a thesis about knowledge contained in propositions. It holds that some propositions of science or theology are at least approximately true in the sense specified above, and that belief in their approximate truth can be justified. The last statement is necessary because it can be imagined that propositions are (approximately) true by a mere fluke, so to speak, without our having the possibility to know this. Epistemic realism holds not only that some propositions actually are at least approximately true but also that we can *know* this because our belief in their (approximate) truth can be justified. In scientific realism this applies especially to theoretical propositions about unobservable entities. In theology this applies especially to propositions about God. Since epistemic realism presupposes both metaphysical realism and semantic realism it can be regarded as the key tenet of critical realism.⁴

Arguments for and against the Transfer of Realism from Science to Theology

Now I turn to the discussion of the plausibility of a critical realist view of theology. I will proceed by first giving an assessment of the main reasons put forward in favour of this view and second, on the background of this assessment, presenting my own view of what I call ‘a weak theological realism’.

Usually, a critical realist view is defended by transferring realism from science to theology. Put schematically, this transfer proceeds in three steps: (1) it is argued that scientific realism is an adequate view; (2) it is claimed that there are important epistemological similarities between theology and science; (3) it is concluded (or implied) that these similarities justify a transfer of realism from science to theology.

In my assessment I take it for granted that critical realism is an adequate view of science. In other words, I agree with step (1) of the argument.⁵ This means that I would subscribe to a critical realist view of theology (step 3), if there were sufficient epistemological similarity between theology and science. However, as we have seen, the critics of a critical realist view of theology point to important dissimilarities, which, in their view, invalidate the transfer of critical realism from science to

theology. Thus, the validity of the argument depends on the fact whether the invoked similarities offer a sufficient warrant for the conclusion.

The main similarities invoked are: (a) Both science and theology make cognitive claims, that is, they claim to convey knowledge of a mind-independent reality, the natural world and God, respectively. (b) Both science and theology employ metaphors and models as approximate descriptions of a mind-independent reality. (c) Both science and theology build upon experience, that is, sense experience and religious experience, respectively. (d) Finally, both science and theology do not simply accept the reality of what is experienced, as does naive realism. They subject it to critical scrutiny. Therefore, their cognitive claims are both moderate and well considered.⁶

Let us now see if these similarities offer a sufficient warrant for the transfer of critical realism from science to theology. I take them in turn.

(a) It is largely uncontroversial that science makes cognitive claims. The same cannot be said of theology. A number of philosophers of religion, following the later Wittgenstein's focusing on the use of language, deny that religion makes cognitive claims about God. Instead, religious language is said to express commitment to a way of life.⁷ According to R. B. Braithwaite, for example, the meaning of the Christian assertion that God is love is to express the believer's intention to live in love of the neighbour. Christians connect this intention with stories about love as their inspiration. But according to Braithwaite they need not believe that these stories are true.⁸ A consequence of this interpretation must be that also theological statements, as expressions of reflection on Christian belief, should deal with the Christian way of life and not make cognitive claims about a really existing God. If these philosophers of religion are right, theology, unlike science, does not, or should not, contain propositions about God. This would mean that theology would not incorporate the semantic realism that is a necessary condition of its being critical realist.

In my opinion, however, such interpretations misunderstand Christian belief. When Christians speak about God they normally speak about a God of whom they believe that he really exists. When they say that

God is love, for example, they assert that there really exists a God who loves humankind. By so saying Christians may at the same time express the intention to live in love of their neighbours, e.g., as a reaction to God's loving them. But then this expression is connected with a belief in a real God. Thus it includes the cognitive claim that God exists. Correspondingly, in its reflection on Christian belief, theology may legitimately adopt this claim and articulate it in propositional language. Theology often does so, of course. To be sure, theology also contains moral evaluations. It asserts, for example, that God is good and that we ought to love our neighbours. Often propositional and evaluative moments are intertwined in the same assertion, e.g., the assertion that God is love. In this respect theology differs from science, which restricts itself to propositions and formal statements - or at least purports to do so.⁹ But this does not alter the fact that theology also, and legitimately, contains propositions. And insofar as it does, it incorporates a semantic realism on a par with science. Therefore I have no problems in accepting similarity

(a) as invoked by the advocates of a theological critical realism.

(b) Christian religious language speaks essentially metaphorically about God, when it speaks of God as Creator, Father, Shepherd, etc. The reason is, of course, that we have no direct, empirical access to God. Therefore we can only speak of God tentatively, using concepts from our everyday experience as metaphors and models. For the same reason theology cannot avoid speaking metaphorically of God. This does not mean that theology is less sophisticated than science. Also science makes use of metaphors and models when it attempts to get a grasp of phenomena that lie beyond the possibilities of direct description. Well-known examples are the wave and particle metaphors in quantum physics and the tectonic plate model in geology. Therefore the advocates of a theological critical realism are right in pointing out that there is a similarity between theology and science in this respect, suggesting that the use of metaphors and models in theology is no reason to give up a critical realist view of theology.

Nevertheless, our affirmation of this similarity should not make us blind to the differences between theological and scientific language. For one thing, metaphors and models are only a part of science. Scientific

hypotheses and theories are mostly written in non-metaphorical descriptive and mathematical language. In theology, on the other hand, metaphors and models are indispensable for all substantive speaking about God. Theology lacks a counterpart of the precise descriptive and mathematical statements of science (e.g., the statement that the specific gravity of lead is approximately 11.4). Hence, insofar as scientific realism is connected with this type of statements it cannot be transferred to theology. For another thing, whereas scientific metaphors and models are natural similes referring to a natural world, theological metaphors and models of God are natural similes referring to a transcendent being. Consequently theological metaphors and models of God must be regarded as less representative than the wave metaphor or tectonic plate model in science. For these reasons realism connected with metaphors and models cannot have the same force in theology as it has in science.

(c) The point of the reference to experience is not to suggest that there is a similarity between theology and science in that their objects (the natural world and God, respectively) are as they are experienced. That would be naive realism. The point is rather to suggest that just as the ultimate dependence of science on sense experience warrants the reality of its subject matter, so does the ultimate dependence of theology on religious experience. In other words, the similarity between theology and science in this respect is invoked to justify a metaphysical realism for the part of theology.

It is true that both science and theology, at least ultimately, depend on experience. Again, however, we should not overlook the differences between religious experience and sense experience. Although sense experience by no means can be taken to reflect the natural world as it is, it offers strong evidence *that* that world exists as an external reality, independently of the human mind. For example, the fact that our world-experience forces us again and again to correct or give up preconceived ideas and representations is difficult to explain, if this experience were a mere creation of the human mind, without a relation to an external world. Hence it is not surprising that most philosophers and virtually all scientists are metaphysical realists with regard to the natural world. Thus, as far as science is concerned, metaphysical realism is rather uncontroversial.

This is not the place to give a phenomenology of religious experience. I restrict myself to noting that religious experience differs from sense experience in that it transcends the empirical world and is personal in the sense that it is not given to everyone. Although the religious person herself experiences the presence of a transcendent reality or God, or interprets her experience as relating to such a reality, religious experience is open to alternative (e.g., psychological) explanations, which deny that such a reality is involved. These explanations may not be true. But that does not alter the fact that they often have a certain rational plausibility. As a consequence, appeal to this kind of experience to support the metaphysical claims of theology does not have the same force as the appeal to sense experience in support of metaphysical realism in science.

(d) It is true that theology, like science, is a critical enterprise and that its cognitive claims about God are, or at least should be, moderate and well considered. However, this should not obscure the fact that the critical procedures of science are much more stringent than those of theology.

An essential element of the critical procedures of science is the empirical testing of hypotheses and theories, either by means of observation or by means of experiment. In principle, only hypotheses and theories that have passed the test are accepted. In many cases the passing of the test offers a good reason to assume that such hypotheses and theories are true, or at least approximately true, in the sense of corresponding to the natural world. Not least by virtue of a rigorous application of empirical testing science has increasingly been successful in giving a detailed and coherent explanation of the natural world. Also this suggests that a substantial part of the accepted hypotheses and theories of science are at least approximately true. Therefore there are good reasons to affirm epistemic realism for science. And since epistemic realism is the key tenet of critical realism, these reasons justify entertaining a critical realist view of important parts of science.

Theology, on the other hand, cannot subject its hypotheses and theories about God to an empirical testing with the same stringency as science. The reason is that religious experience is personal experience

of a presumed transcendental reality. As such it is not public and lies beyond human control. Hence it cannot be made accessible for observation or experimentation by outsiders. It can only be communicated narratively by the person who has had the experience. And since in such communication experience and interpretation are inextricably intertwined, it is difficult to assess whether the experience bears testimony of a transcendent divine reality or not. Therefore, the theological resort to religious experience does not convey the same good reasons to affirm epistemic realism and entertain a critical realist view as the scientific resort to sense experience.

Theology may go another way to justify its epistemic realism. It may claim that the existence of a transcendent divine reality offers the best explanation of the existence and nature of the empirical world. This argument has the advantage that it sticks to sense experience as science does. Here God functions as an explanatory hypothesis as scientific hypotheses do. However, it is not easy to see how this hypothesis can be tested and corroborated in a similar way as scientific hypotheses. Moreover, the legitimacy of nonnatural explanations is widely disputed. Therefore, the God hypothesis cannot be said to have a similar explanatory success as many scientific hypothesis and theories.¹⁰

We must conclude that the epistemological similarities between science and theology invoked by the advocates of a critical realist view of theology on closer inspection contain important differences, which make a critical realist understanding of theology less plausible than a critical realist understanding of science. The question is whether these differences compel us to give up a critical realist view of theology.

A Weak Theological Realism

Before I attempt to answer the question whether a critical realist view of theology can be maintained, I must explain what I understand by theology.

As I have already suggested above, I understand by theology *critical reflection on religion*. This definition is, however, in need of specification. At a very general level religion can be regarded as a rela-

tionship to a presumed divine reality. Since such a reality is not given in the same obvious way as the empirical world, religion is fundamentally a question of *faith*. Now, it is possible to reflect on religion as a mere human phenomenon, from a standpoint outside religion. In that case we have to do with what is normally called *the study of religion*. But it is also possible to reflect on a particular religion from a standpoint within that religion, from the standpoint of faith. In that case we have to do with *theology*, e.g., Hindu theology or Christian theology. In the following I restrict myself to *Christian* theology, that is, critical reflection on the Christian religion from the standpoint of Christian faith.

That theology assumes the standpoint of Christian faith does not mean that it simply subscribes to the beliefs that prevail in the Christian religion. Theology is *critical* reflection on the Christian religion. This means that it has to appraise those beliefs with regard to their inner coherence and their coherence with our knowledge of humanity and the world and that it has to determine the significance of those beliefs for modern (or, if you prefer, post-modern) life. Insofar as theology does this it is a *rational* activity. Theological propositions and theories are the result of this activity. This means that, at least in a formal sense, they have a similar nature as scientific propositions and theories. Just as scientific propositions and theories about the natural world are the result of a critical reflection on the natural world as given in sense-experience, theological propositions and theories about God and his relationship to the world are the result of a critical reflection on religious experience and interpretation that are contained in the Christian tradition.

The question is whether this formal similarity with science is sufficient to entertain a critical realist view of theology. The answer depends on the plausibility of the arguments theology can give in favour of the beliefs expressed in its propositions and theories. Now I think that theology has some good arguments. It can, for example, point out that both the existence of the world and its nature, not least the fact that it has produced human beings with their amazing abilities to feel, to think and to act creatively, are explained best with reference to a divine creator. Moreover, it can point to religious experiences of salvation and renewal of life through faith in God, both among those who met Jesus during his lifetime and among the Christians who lived and live afterwards. In this

way theology can attempt to justify an epistemic realism concerning at least some beliefs about God, e.g., that God exists and that God loves humans and changes their lives.¹¹

In my opinion, these attempts show that a critical realist view of some theological propositions and theories is not unreasonable.

On the other hand, as we have seen above, these arguments do not have the same trenchancy as the arguments in favour of a critical realist view of science. As *theological* arguments they presuppose Christian faith. They do not lack convincing power, but this power becomes first and foremost manifest within the context of Christian faith. I doubt that this power is as strong as to be able to convince people outside Christian faith. Thus, in my opinion, a critical realist view of theology is in a fundamental sense dependent on Christian faith. Such a view is not unreasonable, but precisely so from the perspective of *faith*. In this respect it differs from scientific realism, which is supported by arguments that seem to have a trenchancy that is largely independent of faith.

My conclusion is that, despite the important epistemological differences between science and theology, a critical realist view of theology can be defended, but only as a *weak* (in this connection: faith-dependent) theological realism.

Notes

1. This article is an elaborated version of a paper read at the Metanexus Conference, Interpretation Matters: Science and Religion at the Crossroads, Haverford, Pennsylvania, June 15-20, 2002. For a more differentiated treatment of some of its subjects the reader is referred to Niekerk, Kees van Kooten, 'A Critical Realist Perspective on the Dialogue between Theology and Science', in Niels Henrik Gregersen and J. Wentzel van Huyssteen (eds.), *Rethinking Theology and Science: Six Models for the Current Dialogue* (Grand Rapids, Michigan, 1998), pp. 51-86. Also cf. Kees van Kooten Niekerk, 'Critical Realism' in J. Wentzel van Huyssteen (ed.), *Encyclopaedia of Science and Religion* (New York, 2003), pp. 90-193.
2. Kees van Kooten Niekerk is Associate Research Professor of Systematic Theology in the University of Aarhus, Denmark.

3. Stathis Psillos, *Scientific Realism: How Science Tracks Truth* (London and New York, 1999 and 2002).
4. I owe the fundamental distinction between metaphysical, semantic and epistemic realism to Psillos 2002, xix - xxi. This does not mean, however, that I use these concepts in precisely the same way as Psillos.
5. I have defended this view in Niekerk 1998, pp. 58-68. For a sophisticated and convincing defence of scientific realism the reader is referred to Psillos 2002.
6. See for example Ian G. Barbour, *Issues in Science and Religion* (New York, 1966, 1971), pp 171-174, 247f and 264-270; Arthur Peacocke, *Intimations of Reality* (Notre Dame, 1984), pp. 22-34 and 37-50; John Polkinghorne, *One World: The Interaction of Science and Theology* (London, 1986), pp. 22-25 and 36-42.
7. Cf. Roger Trigg, 'Theological Realism and Antirealism' in Philip L. Quinn and Charles Taliaferro (eds.), *A Companion to Philosophy of Religion* (Cambridge, MA, 1997), pp. 214-218.
8. R. B. Braithwaite, 'An Empiricist's View of the Nature of Religious Belief,' in Mitchell, Basil (ed.), *The Philosophy of Religion* (Oxford, 1971), pp. 81f.
9. I have elaborated a little on the complex question of the role of evaluative language in science in Niekerk, Kees van Kooten, 'Can Critical Realism Be Transferred from Science to Theology?' in Niels Henrik Gregersen, Kees van Kooten Niekerk and Knud Ochsner (eds.), *Science and Theology: Twin Sisters?* (University of Aarhus, 2002), pp. 67-69.
10. Cf. Willem B. Drees, *Religion, Science and Naturalism* (Cambridge, 1996), pp.141f. He endorses Ernan McMullin's observation that a theological realism cannot be defended with reference to theology's explanatory success.
11. A good attempt to justify Christian belief in God in the context of Christian faith can be found in Basil Mitchell, *The Justification of Religious Belief* (New York, 1973).