

NATURE AS CREATION FROM AN ECO-HERMENEUTICAL PERSPECTIVE: FROM A 'NATURAL THEOLOGY' TO A 'THEOLOGY OF NATURE'

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ABSTRACT

For researchers who are interested in the relationship between theology and the natural sciences, the year 2009 is of special importance. It is now 500 years since Calvin was born and 450 years since his 'Institution of the Christian Religion' was finally published. It is also 200 years since Darwin's birth and 150 years since his 'On the Origin of Species' appeared in print for the first time. Calvin and Darwin are representative of two separate lines which converge in a particular 'transversal space'. These insights are regenerating light on our search for scientific truth today. Neither the absolutization of transcendent revelation nor the absolutization of immanent knowledge of nature serve as an accountable understanding of reality. Against this background, the challenge for Systematic Theology today is to conceive of a 'theology of nature' which can be offered as a dialectical third option. An 'eco-hermeneutics' offers a possibility of establishing such an option for theology. But this will on the one hand have to deconstruct reformed criticism of a natural theology and will on the other hand have to make serious work of an evolutionary epistemology.

1. INTRODUCTION

In this festival year of both the anniversary of Charles Darwin's birth 200 years ago as well as of the publication of his *magnum opus*, *On the Origin of Species*, 150 years ago, I wish to pursue the hint in his concluding chapter of this book and try to find out what the implication of the following theorem can in fact hold for a Protestant theology today: "In the distant future I see open fields for far more important researchers. Psychology will be based

on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history” (Darwin [1859] 1999:399).

What I now wish to offer in this essay is to submit that Protestant theology ought to shake off the anathema expressed in certain circles about a *natural theology*. The time is ripe for us to be able in an accountable way to arrive once again at a *qualified* natural theology. Thanks to the contemporary dialogue with various other sciences, it is indeed possible now for theology to take this matter under review¹.

The reason for the decades of virtual aversion to a natural theology – especially in the Western Protestant theology – can probably be ascribed directly to the adamant role Karl Barth took in his dispute with Emil Brunner in the 1930s. This can be taken together with Barth's famous (or notorious), *Nein!*, to any form of natural theology. In the past several decades the debate in Protestant theology about Barth's standpoint in terms of the above-mentioned dispute, has been conducted on at least five different levels:

- 1 The *ignoring* of Barth's standpoint, with the result that his debate with Brunner is simply perfunctorily dealt with, for example by F H Cleobury.
- 2 The *maintaining* of Barth's standpoint, but with greater emphasis on the analogous aspect of his theology, as advocated among others by C Link.
- 3 A *reinterpretation* of Barth's standpoint, as practised for example by T F Torrance.
- 4 A *rehabilitation* of Barth's standpoint by taking a new approach to the theory of creation, which discounts the insights of other sciences, for example by A E McGrath.
- 5 A complete *break* with Barth's standpoint and the rise of Process Theology, as developed for example by J Cobb.

The perspective mentioned under point four, is also more or less the approach I wish to emulate in this essay. My point of departure is that the Enlightenment and with it, Liberalism, had such a massive influence on theology that the theology of both the

¹ Peacocke (2004:49) is rather blatant in his book, *Evolution. The Disguised Friend of Faith?*, about the value that the other sciences, and particularly evolution, can hold for theology: “In the history of the people of Israel, God was always raising up apparent scourges, such as Cyrus, that were in reality blessings in disguise leading his people through the trauma that would alone enable them to apprehend new truths.”

nineteenth and of the twentieth century developed at least two main categories of epistemology, which are simply no longer tenable today. The one makes too much of reason and the other too much of faith. We simply can no longer make that sharp distinction between revelation and nature. Human beings are after all both the object and the subject of choices, so man possesses a “naturalness” as well as an “ex-naturalness”. Contemporary neuroscience regards the body as well as the psyche as mere functions of the brain. A human being is therefore an embodied mind. However, I do not imply here in any way that a human being can be reduced to matter without any residue! Although genes hold culture on a leash (Wilson), we still cannot say my neurons make me do it (Murphy & Brown 2007).

I wish to illustrate, on the basis of apartheid theology in South Africa, Barth's sharp but in fact also artificial distinction between revelation and nature. Not so much because this theology is still very much alive in certain reformed churches in some countries, but more particularly because in my opinion, Hitler's National Socialism was one of the most important motivations for Barth to fight tooth and nail against any form natural theology. Such churches in South Africa ostensibly wished to invoke Barth with his appeal for revelation and a consequent aversion to a natural theology. Nevertheless, one could equally comfortably fall back on natural laws and the ordinations of creation in apartheid literature! I shall attempt to show that this point of departure is a mixture of both revelatory theology and natural theology, and that it is only possible because the point of departure was an extra-Biblical maxim – something which Barth did in his theology too. Through this particular argument, I hope to indicate that some of the main objections to a natural theology, namely that it wants to entrench particular national interests, are unfounded and that this unjustly contaminated the inclination towards a natural theology.

The direction in which I wish to seek the solution, is the one Darwin insinuated when he said that “psychology will be based on a new foundation”. But the difference lies naturally in that the question of the relation between revelation (faith) and nature (reason), is not which of the two is first or second, or which overwhelms the other, but rather whether we might be dealing with two aspects at all? Does this lie at the foundation of this particular epistemology, which is but still a disguised form of Platonic dualism? I think an evolutionary

epistemology succeeds in overcoming this diastasis meaningfully and in placing it within a transversal space of interdisciplinary dialogue (Van Huyssteen 2006).

My argument is built up as follows. Initially I raise the debate between Brunner and Barth, under the heading, “The [Other] Task of Theology”, which was precisely the burning issue of their dispute. This is clearly an epistemological dispute. It is also here where there is also a parting of the ways in Protestant theology, in terms of a revelatory theology and a natural theology. Next I deal with some of the insights of the Enlightenment, as they influenced processes of understanding. It is also necessary after this, to raise an important architect of natural theology in its classic form, William Paley². The juxtaposition of Paley and Darwin sets the table for asking for an *evolutionary epistemology*³. Then the hybrid epistemology of apartheid theology is examined more closely and its special ideological points of departure are exposed. Inspired by theologians such as Thomas Torrance who could reinterpret Barth and could also become involved in the physics of his day, as well as philosophers of religion such as William Alston who developed an epistemology of religious experience, I attempt in conclusion to arrive at certain contours of a “revival of” (Polkinghorne 1998:70) or a “Christian” (Torrance 2001:107) natural theology. Or then my proposal, a *theology of nature*. I conclude my argument with the conviction that Christians must consciously form their preconception in terms of the evidence of creation – as articulated specifically in the Scriptures. This is an epistemology which does not precede science *a priori*, but is rather a subdivision of it, allows itself to be decisively determined by it, and is in constant interchange with it. In short, *heredity* and *selection* are still the keys to an evolutionary epistemology (Altner 2003:11).

2. THE [OTHER] TASK OF THEOLOGY

The Barth-Brunner debate took place in 1934, in precisely the year when Adolf Hitler came to power in Germany. Although one should assess this background very cautiously, as James Barr (1994:10, 111-117) did in fact indicate, it cannot be interpreted other than especially in terms of it. Barth (2002:71) refers to a time “roughly after 1929” when Brunner, as far as he

² Darwin writes about Paley: “I do not think I hardly ever admired a book more than Paley’s *Natural Theology*. I could almost formerly have said it by heart” (Peters & Hewlett 2003:42).

³ This expression was introduced into academic discourse mainly by Donald T. Campbell (See Van Huyssteen 2006:76).

was concerned, began making unacceptable noises, such as speaking of “the other task of theology” and “the point of contact”. John Hart points out that Brunner on his part, had as long ago as 1918 already begun expressing concern about Barth's “one-sidedness” of the conception of revelation (McGrath 2008:161). What is striking in this debate is Brunner's particularly accommodating and modest style compared with Barth's anger, bitterness and even arrogance. It also seems to be an open question whether Barth (2002:78-79) intentionally reflects Brunner's concept “Wortmächtigkeit” (capacity for speech) invariably as the concept “Offenbarungsmächtigkeit” (capacity for revelation). Brunner thinks people have a basic capacity to *be addressed*, but not to experience revelation independently of the Word. Brunner himself did not want to speak of an “Offenbarungsmächtigkeit”. One can see this in his opening words when he assesses the debate between the two of them had shifted in that they no longer asked about the *Deus in nobis*, but that both sought the *revelation in Jesus Christ* (Brunner 2002:17). A double source where faith *and* reason are both valid, is in advance equally unacceptable to Brunner also.

Besides the fact that each of them offers his own vision throughout and discredits the opponent, the debate consists chiefly of two moments: their respective standpoints as well as their interpretations of Calvin in particular. Brunner set the agenda by putting six points on the table, which he thought formed the essence of a natural theology. Each of them handles these points by presenting his own insight as well as criticising the other.

- **The *Imago Dei***

Brunner (2002: 22-24) distinguishes between the formal and the material aspects of the *imago Dei*. The formal is what makes humankind unique in creation and, according to Brunner, still retains it, irrespective of sin. This being a subject of humankind is also the responsibility humankind has in creation. The material aspect, by contrast, became totally lost at the time of the Fall and this in truth makes human beings “anti-personal persons” and therefore also without justification. To Barth (2002: 79-80), these two aspects are an artificial classification of human beings as the image of God. This gives humans an illicit existence as subjects (Barth 2002:75). No other subject than Jesus Christ can exist and no other *quod* than the Scriptures can exist. As far as Barth (2002:77) is concerned, Brunner is guilty of a system of thought and as a result, gives theology a foreign task.

- **General Revelation**

Brunner (2002:25) judges that the Creator's fingerprints remained as it were on creation and can therefore be regarded as the Self-revelation of God. The same applies to human consciousness which also posits the conscience as a special consciousness of God. The responsibility of the sinner and knowledge of the will of God are one and the same matter. Therefore general revelation does indeed exist. This "double" revelation in nature and in Christ has the same origin, however, and they are therefore directly related to each other. To understand it, claims Brunner (2002: 26-27), we must distinguish between the human and sinful subject and the Divine objective revelation in Christ. Only the person who has met Christ, "has the true natural knowledge of God" (Brunner 2002:27). For Barth (2002: 80-82) there is no possibility that God can speak other than in Christ. He suspects Brunner of inconsistency because on the one hand he says humans are blind, but on the other hand people can *somehow* recognise God in creation. Barth claims that Brunner affects the Trinity in that he thinks he can arrive at the Father without the Son and the Holy Spirit.

- **General grace**

If one takes seriously the omnipotence of God as well as the sinfulness of human beings, one must arrive at a merciful maintenance of creation, claims Brunner (2002:27). Creation must as it were be protected through general grace from the total perdition of sin. This is naturally also different from redemptory grace. Such a view, says Barth (2002:85), leads to a *co-operation* of God and humans, where primary and secondary causes come into question. Instead of Brunner distinguishing between justificatory and sanctifying grace, his concept leads to a double theory of grace which infects the *sola gratia*.

- **Ordinances in Nature**

In Luther's footsteps, Brunner (2002:29) does indeed judge that particular ordinances such as marriage and the State are founded in creation. These can be seen as essentials vested in nature that must be interpreted by faith (Brunner 2002:31). Barth (2002:86) is very clear that the revelation in Christ is caused directly through this. Suddenly the human abilities of instinct are used to arrive at the will of God! Barth asserts that reason or instinct cannot after all tell us what *the form* of marriage should be.

- **Point of contact**

Humankind's capacity for *words* and responsibility makes it unique and gives it the possibility of receiving the Word of God (Brunner 2002:31). As already seen in terms of the *imago Dei*, this receptivity should not be understood as material but formal. In view of this human brokenness, he or she can now understand the Divine message of mercy. This “possibility of being addressed” includes not only the *humanum* in the strict sense of the word, but everything connected with the “natural” knowledge of God. Barth sees in this the actual barb of a natural theology, since it is based on the assumption of the formal aspect of humans as the *imago Dei* which did not become lost with the Fall. He persists in understanding this point of contact by Brunner as a “capacity of revelation” (Barth 2002:88). This then implies that human beings are not absolutely affected by sin and that consequently a remainder of some original righteousness and readiness for God remained behind. Barth claims that through this, Brunner deviated from the *sola Scriptura* and the *sola gratia* principles of the Reformation.

- **Reparation of the Formal Aspect of the image**

Creation is indeed not only recreated, but also repaired, states Brunner (2002:21). It was solely the material aspect of humankind which died off after conversion, but not the formal aspect (Brunner 2002:35). The subjective life of human beings, their self-consciousness, are not uplifted on conversion. The material aspect now becomes the life of Christ in me. So the Holy Spirit testifies with my spirit, which similarly means that the formal aspect continues to exist. The new creation merely repairs this aspect, but does not recreate it. Therefore the continuity carries on. Barth's (2002:92) objection to this is that the human point of contact precedes the revelation of God. Suddenly, in addition to the revelation in Jesus Christ, there is also talk of another knowledge of God. Barth (2002:93) prefers to turn around Brunner's thesis of “It is not possible to repair what no longer exists”, so that it reads: “But it is possible to repair a thing in such a way that one has to say this has become quite new.”

In Brunner's (2002:38-45) analysis of Calvin's natural theology, it is clear that he uses the above-mentioned 6 points as matrix for reading Calvin. Then he understands Calvin (and Luther!) also as supportive of his own standpoint. If Barth accuses him of Thomism or Neo-

Protestantism, the accusation applies rather to Calvin because Calvin goes further with this approach than he does himself, asserts Brunner (2002:36). Yet he finds a substantial difference between Calvin and Roman Catholicism. Although Calvin draws a clear distinction between the objective and the subjective aspect of the *natura*, Roman Catholicism does not and the two coincide fully for them (Brunner 2002: 45-46). They state that humankind did not lose the *imago Dei* with the Fall, but only the *perfectio originalis*. This entails that a framework of independent thought for a natural theology could come into existence, independent of the revelation. Only supernature, that which bears upon redemption, is reserved in faith. Dialectics became a dualism through this and nature became independent. In short, Brunner regards natural theology as humankind's receptivity to God's word, precisely because a "remnant" of the *imago Dei* was preserved in human beings. This "Wortfähigkeit" is not there to prove God, but to proclaim the gospels (the what question) in love (the how question).

Barth (2002: 95 103 105) reacts sharply and accuses Brunner of a warped interpretation of Calvin and Roman Catholicism. He judges that Brunner has missed the point of departure of the sovereignty and election of God in Christ in Calvin's work. Justification and sanctification as Divine actions encompass human beings and their reason. Theology has no "other" task than to witness Christ. Barth (2002:109) can even reproach Brunner of cold malice which presents as reality and fact the hesitation and conditionality in Calvin. According to Barth (2002: 117,121), Brunner has established a *Weltanschauung*. Natural theology is an answer to a false question, the question of the "how?" And this is not the task of theology (Barth 2002:123).

In summary, we can put it that Brunner and Barth both approached this issue one-sidedly. Basically we can nevertheless say that they are two birds of the same feather. Barth was of the opinion that a natural theology could not be rehabilitated, whereas Brunner believed it was capable of renewal. What does come clearly to the fore from this debate is that Brunner's accusation against Barth that he allowed no "conceptual space" for human beings' active involvement in the process of understanding nature, is indeed correct. Because Barth was too scared that theology would be dictated to by anthropology, he let valuable insights pass him by. Although Barth turned around the roles that the

Enlightenment allocated to God and humankind, to him human beings remained passive. But both these theologians understood perception – no matter how important it may be – as a mainly passive process where the human subject is on the receiving end of Divine mercy. McGrath (2008:163) spotted this and gives Brunner the honour for making much more of human observation in that human beings ontologically possess a particular *Fähigkeit*. To Barth, human activity and involvement were merely incidental.

3. THE EPISTEMOLOGY OF THE ENLIGHTENMENT

In his *Discourse on Method* it seems that René Descartes (1596-1650) was convinced that individuals determine rationally their own beliefs, rather than automatically accepting commonsense or tradition. By rejecting conflicting metaphysical assumptions, he made room for a new scientific approach to reality. Underlying this was his conviction that reality had a decidedly mathematical structure (Descartes s.a.:xiv). This reinforced the individualism of the Reformation by taking as its point of departure that the rational individual could arrive at the truth “clearly and distinctly” through logical deduction. Everything that is certain is the result of thinking (Descartes s.a.:86): *cogito ergo sum*. In his *Meditations on First Philosophy* (1641), Descartes sought *certainty* as the absolute foundation of knowledge. Nothing that can be doubted can be true. That is why the *res cogitans* is the privileged access to real knowledge. By contrast, the body and the corporeal reality are known as the *res extensa*. Descartes is universally regarded as the father of the mind-body dualism as well as of the phenomena-reality dualism (Schroeder 2005:2). With this, he clearly detached the conscious observer from what is given in our experience of the world. Not that he denied experience, it was merely given a subordinate position. To think of God is to think of God’s existence, in just the same way as thinking of a triangle is to think of its three angles being equal to two right angles, or thinking of a mountain is to think of a valley (Descartes s.a.:123).

William Paley (1743-1805), once the archdeacon of Carlisle, gave his last but also most important work the title of *Natural Theology*. It was written during the Napoleonic wars and England was in the throes of an economic slump. That was why he wanted to arrive at the Goodness of the Deity. He also writes in his foreword that although this would be his last

book, it should really be read first, before the others (Paley 2006:4). Because in it he presents his “comprehensive design”. And one of the famous readers of this book was Charles Darwin, who would coincidentally also occupy the same room in Christ’s College as Paley had earlier. In this book by Paley he rediscovered the invisible hand of natural selection (Altner 2003:24). The closing paragraph of Darwin's *On the Origin of Species* was indubitably inspired by Paley. It is correct to say that Darwin preferred only to correct, not reject, Paley’s account of biological life, notable by Darwin as the notion of “perfect adaptation” (McGrath 2006:78).

The structure of Paley's *Natural Theology* is like the two halves of a hinge: the first section deals with human anatomy and the last section with the Divine attribute. The axis of the hinge is the classical four elements of nature and astronomy. For the first time, *biology* was adopted in theology. The book begins with his well-known analogy between the world and a pocket watch – very high technology (“high tech”) for his time. If one were to encounter a stone in a heath, it would not elicit any questions whereas a watch with its “intricacy of its parts” definitely indicates an intelligent designer (Paley 2006:7-8). The rest of the book demonstrates that the world is in fact like a huge clock made by a wise and benevolent God. Nature also invariably shows signs of “contrivance”, purposeful design and fabrication. This holds true to a far greater extent than in the case of a clock. And the composition of the eye is probably the best example of this (Paley 2006:16). Based on empirical analysis, Paley (2006:237) now makes the deduction that the design of the contrivance is beneficial and that the Deity has superadded *pleasure* to animal sensation. The beauty and symmetry of nature were well received and established the acceptability of a natural theology.

Paley, as a child of his time, made at least two assumptions. On the one hand, it seems that the knowing subject could dispose of nature from a distance and could therefore be an objective observer; and on the other hand, that God could be seen as an entity of nature and that through accurate inductive investigation, not only could God's attributes be determined but also even his existence. This naturally links up with Isaac Newton's (1642-1727) formulation of the regularity of nature, specifically in terms of constants such as the relationship between gravity and the orbits in which the planets move. This led to reality being conceived as reality according to strict scientific laws and that it could be rationally

and universally revealed by the investigative mind. In this way, reliable knowledge could also be obtained about God. McGrath (2008:141) alludes to this in the title of one of his latest books, *The Open Secret*, when he states: “There is no ‘secret’ or ‘hidden’ meaning of nature, in that the human mind is capable of uncovering its true, public meaning.” It is clear from this that we had a cognitive approach to reality, one which regarded nature as fully knowable and therefore understandable. The human person observes nature and reflects then on how best it ought to be understood.

Immanuel Kant (1724-1804) built further on this and placed God fully in the *noumenal* sphere, completely beyond any contact from humankind. The *noumenon* is “not an object of our sensible intuition” (Kant, [1993] 2000:211). This effectively took God out of nature and declared God unknowable. In his three critiques, *Critique of Pure Reason*, *Critique of Practical Reason* and *Critique of Judgment*, he defines the boundaries of reason as the basis for ethics or judgement (Schroeder 2005:17). The Copernican revolution which Kant brought about was that the source of understanding and coherence was displaced from the object to the subject. “Time and space are, therefore, two sources of knowledge, from which, *a priori*, various synthetical knowledge can be drawn” (Kant, [1993] 2000:59). All the manifold of appearances are arranged and viewed by the pure form of sensible intuitions. What we can know of nature is therefore constrained by *a priori* human ideas and categories, which are capable of assimilating *phenomena*, but not the whole transcendental reality beyond them. Something cannot be known in itself, but simply as it *appears* to us. This approach of Kant created an unbridgeable gulf between nature and God, which prevented humankind from saying anything meaningful about God. This turned humankind into a non-participatory observer of nature.

The metaphor of the “two books” with the same Divine author has been universally known since Galileo. The problem is naturally that there are now two sources to rely on when practising theology and understanding reality. Like a text, nature is read and interpreted. The classical example of nature being read in this way is naturally the renowned work of Robert Boyle in 1674, *The Excellency of Theology Compared with Natural Theology*. The two books can moreover be read and appreciated independently of each other too. The danger is obvious: God is taken largely out of creation and God's Providence was the casualty. This

is precisely what Barth's aversion to a natural theology was, namely this disjunction between Creator and creation, and consequently a deistic concept of God (Torrance 2001:87-89).

The conclusion can now be drawn that although the Enlightenment upheld an epistemology which overvalued humankind as knowing subjects and eventually declared God in an "inaccessible light", Paley at least contributed to our shaping of a natural theology in that nature would henceforth never represent only mountains, rivers and vegetation, but incontrovertibly also include humankind. An ontology of nature which sets out what the world *is*, appears to be more important, so that our response can be determined by this and not led merely by personal likes and dislikes. This is a *sine qua non* in any critical intellectual discourse (McGrath 2001:121). This movement from the semantic to an ontological foundation, Ricoeur (Changeux & Ricoeur 2000:46, 65, 93) prefers to call the "substrate" to denote the relation of the body-as-object to the body as it is experienced, and therefore from the brain to the mental.

4 AN EVOLUTIONARY EPISTEMOLOGY

Charles Darwin (1809-1882) was the first scientist who provided empirical evidence for the hypothesis of evolution and thus exposed the mechanism behind it. Darwinism is consequently a process in which the three elements of *variation*, *selection* and *reproduction* are always involved (Buskes 2008:42). Voluntary variation is the source or the fuel of evolution and a specific fitness of the species increases the chance of survival, which takes place randomly. This consists of an abundance of different elements. Natural selection, again, is the engine of evolution, which uses certain organisms and not others. This means that certain elements are more stable than others. Reproduction, lastly, is the vehicle of evolution because it cumulatively conveys the process from one generation to another. Elements are therefore capable of copying themselves. An evolutionary algorithm is also present in each of these elements. This means that, if certain clear steps are followed, a specific outcome can be achieved. In this way, biological adaptations may arise which in turn lead to new populations which can survive in a particular environment. And because this is a

cumulative process, where the output becomes the input for the next round, adaptability can also be continuously increased (Buskes 2008:221).

Universal Darwinism is where the application of evolution extends wider than only the boundaries of biology. It follows the principle that there is a causal relation from the genotype to the phenotype, although not the converse. Dawkins (1995:4) explains in his book, *River out of Eden*, that: "The river of my title is a river of DNA, and it flows through time, not space. It is a river of information, not a river of bones and tissues: a river of abstract instructions for building bodies, not a river of solid bodies themselves. The information passes through bodies and affects them, but it is not affected by them on its way through." Biological evolution therefore leads to cultural evolution. Like biological evolution which works with *genes* as the building blocks, cultural evolution works with *memes* as replicators. These replicators can also copy their coded information accurately through technique and symbolism (Dawkins 2006:191). In the case of genes, information is primarily conveyed vertically through sexual reproduction and in the case of memes, it is primarily conveyed horizontally by *imitation*. Later developments wanted to see memes as the units of information that *give rise to* cultural artefacts and ideas.

What Paley ascribed to a special Divine Designer who created everything, Darwin explained with natural selection. What is important, however, is that Darwin definitely contributed to the notion that any natural theology would henceforth have to take into account that nature develops *spontaneously* in some or other way. Nature is devoid of an inherent *telos*. Dawkins, a scientific naturalist, consequently pays Paley a somewhat backhanded compliment in his much-discussed book with its straightforward title, *The Blind Watchmaker*:

We have seen that living things are too improbable and too beautifully 'designed' to have come into existence by chance ... Darwin's answer, is step-by-step transformations from simple beginnings, from primordial entities sufficiently simple to have come into existence by chance. Each successive change in the gradual evolutionary process was simple enough, relative to its predecessor, to have arisen by chance ... The cumulative process is directed by nonrandom survival.

(Dawkins 2006:43)

Naturally this places tremendous pressure on classical theism, as Dawkins (2006) wishes to show with his *The God Delusion*. This approach from Dawkins allows no room for God's transcendence or intervention. But it is a fully naturalistic extreme which we need not take seriously.

There is also a second aspect that Darwinism indicated, which a natural theology would have to take into account. It is the astonishing suffering exposed by natural selection; an aspect which quite slipped past Paley. The obvious question is naturally why God did not seek a better way of maintaining creation? Why must so many species be wiped out in the course of nature? The Malthusian principle is that although an exceptional increase in organisms can take place, the "struggle for existence" takes on about the same dimensions and allows the weakest to die out (Darwin, [1859] 1999:55). No wonder this led to questions such as theodicy or anthropodicy (Bennet 2008:10). The "good creation" now seems to have a very large price. George Williams even goes as far as stating that "Mother Nature is a Wicked Old Witch!" and that the goodness in nature ought to be discounted by an evolutionary ethic (McGrath 2006:82).

Twenty-five years after Kant's death and with the publication of Darwin's *Origin* it was only gradually realised where *a priori* knowledge came from. It did not fall out of the sky. Our ability to know developed through natural selection with a specific function. Or, in other words, human cognition is but a small part of a far wider spectrum of information gathering. Kant in his understanding of time and space, still took as his point of departure the Newtonian preconceptions of absolute time and space, with the difference that it was transferred from God to human consciousness. With this, he separated faith and science so absolutely that he robbed faith of any objective or ontological reference and left it without any recognisable content. By emphasising necessity, Kant elevated Newton's determinism to a metaphysical magnitude. The result was that Euclidian geometry figured as an epistemological maxim, whereas it belongs squarely in physics itself (Torrance 2001:26,92). Moreover the theory of relativity does not postulate a three-dimensional Euclidian space, but a curved time-space theory with more than three dimensions. In the same breath, quantum mechanics also breaks away from Kant's idea of the phenomenal world that is causal and determined. An evolutionary epistemology, however, displaces the content of

knowledge largely to the world itself again. This applies to causality too. It is therefore a movement from idealism to realism again.

McGrath (2002:33-34) refers frequently in his works to the value of W Quine's important essay, "Five Milestones of Empiricism", to a theological epistemology. Quine rejects the idea of a "first philosophy" which must precede science. Absolute certainty and unassailable points of departure are by definition not possible. Investigators should concern themselves with reality as it is presented, and empirical science becomes the cornerstone of an epistemology. We are like sailors adrift in a boat on the open sea and have no dry dock for repairs, but at sea we have to resign ourselves to the inevitable (Otto Neurath). We have no "vantage point" to evaluate our beliefs, except on the basis of our already existing beliefs. Murray (2002:79) formulates this aptly: The "God's eye" point of view is in essence nothing other than the "God's I" point of view! Cognitive and perceptual systems are therefore restricted by natural selection to those aspects of the objective world that are relevant to the organism concerned. Knowledge is accordingly the result of the Darwinian algorithm of variation, selection and replication. And because human beings are *aware* of their knowledge equipment, humans are also the first who cannot surmount and correct their cognitive niche (Buskes 2008:251).

Mark Twain commented once, "Faith is believing what you know ain't true", but Alvin Plantinga (2008:9) is correct when he states that this is a gross error. Revelation and nature, fideism and naturalism, faith and reason cannot be set against one another, but must complement and interpret one another. Although nature lends itself to different readings and interpretations, nature does not provide its own authorized interpretation. However, we can never be without our preconceptions. Therefore it concerns choices, some are made *for you* and others *by you*. Organisms adapt to their environment and then genetic change takes place, based on natural selection. But this is different in the case of humans. It appears as if only humans can adapt by also changing their environment to suit the needs of their genes (Ayala 1998:39). Humans can indeed reject their assigned roles in their culture and in this way be responsible and relational beings (Dingemans 2005:313). Our personhood

is inextricably bound up in our physicality and therefore tied to the cosmos God has created, and thus in the sum of our life experiences and relationships (Green 2008:179)⁴.

5. A SOMEWHAT WARPED OUTCOME

Evolution has its definite outgrowths. Social-Darwinism, or better stated, *Social-Lamarckism*, can be traced back to Jean-Baptiste Lamarck's (1744-1829) interpretation of evolution, which posits that acquired characteristics can be hereditary and every new generation simply continues to build on the achievements of the previous generations (Buskes 2008:380). Consequently there is no question of a cumbersome selection process and the process is clearly progressive and linear. As a result, Herbert Spencer came up with the term "survival of the fittest", which states that the weak fellow-human should also be left to perish in order to strengthen the species.

Spencer's approach rests in fact on a metaphysical law without a tested hypothesis. In the opinion of Buskes (2008:382) Spencer merely wanted to sanction the *laissez-faire* capitalism of his time and to justify concurrence and oppression. Now it was only a small step to imperialism, colonialism and slavery. And this, in turn, led to racism⁵, as Gaymon Bennet (2008:9) stated in their anthology, *The Evolution of Evil*: "In some of the most conspicuous moments of political evil in the 20th century – such as eugenics and Nazi 'racial hygiene' – the theory of evolution and the logic of survival-of-the-fittest was taken up to justify the ethics of racism, imperialism, and domination." Although Altner (2003:56,76) thought that the assumption of social Darwinism was in no way in Darwin's field of vision, his standpoint is not convincing. The subtitle of the *Origin* for example reads: "The Preservation of Favoured Races in the Struggle for Life." Bannister (1979:11) therefore seeks an urgent revision of the notion of Social Darwinism.

⁴ In this respect, I can therefore also reconcile myself to Nancey Murphy's *non-reductive physicalism* or Arthur Peacock's *emergentist monism* which judges that the soul can be explained by the functions of the brain as well as by socio-cultural factors, of which the most important is our relationship with God. The human being's ex-naturality therefore lies in his or her being addressed by God ("capacity for speech"!)." This aspect of humans is their uniqueness as embodied in the *imago Dei* as indicated by Van Huyssteen (2006).

⁵ See the book, *The Bell Curve* (1994) by Richard J. Herrnstein and Charles Murray. Its point is that those with high intelligence are becoming separated from the general population of those with average and below-average intelligence. In Chapter 13 we read: "It seems highly likely to us that both genes and the environment have something to do with racial differences."

Barth was of the opinion that Brunner's natural theology could indeed play into the hands of Hitler's eugenic aims. Barr (1994:11) believes that the development in Barth's mind caused him to *perceive* the German situation in terms generated by his own theology and therefore to regard Brunner's theology as the extreme manifestation of a natural theology. German totalitarianism therefore placed the issue in the foreground for Barth.

What the "German Christians" wanted and did was obviously along a line which had for long enough been acknowledged and trodden by the Church of the whole world: the line of the Enlightenment and Pietism, of Schleiermacher, Richard Rothe and Ritschl. And there were so many parallels to it in England and America, in Holland and Switzerland, in Denmark and the Scandinavian countries, that no one outside really had the right to cast a stone at Germany because the new combination of Christian and natural theology effected there involved the combination with a race nationalism which happened to be rather uncongenial to the rest of the world, and because this combination was now carried through with a thoroughness which was so astonishing to other nations.

(Barth 2004a:174)

South Africa is not in truth mentioned by name in this quotation, although assumed, but is in pointed out in another place in the *Church Dogmatic*.

It was quite intolerable when some twenty years ago the rise of Hitler was seriously claimed as a kind of divine revelation, or when to satisfy the racial laws of National Socialism it was proposed to found special congregations of Jewish Christians. How much longer will it be possible in the United States and South Africa to ratify the social distinctions between whites and blacks by a corresponding division in the Church, instead of calling it in question in the social sphere by the contrary practice of the Church?

(Barth 2004b:703)

In a personal correspondence in 1952 between Barth and a South African theologian of the previous century, Ben Marais, Barth adamantly expressed his opposition to Apartheid in South Africa as National Socialism (De Cruichy 1988:141-143). Question 2 which Marais posed to Barth, was: "Does the Bible, according to your view, prescribe, permit, or prohibit a

‘volkskerk’(in the sense of an ethnic church)?” The answer was short and final: “Prohibit!” Question 8 was: “ ‘All racial mixture is against the will and ordinance of God’. Do you subscribe to this view? Briefly comment, please.” Here, too, Barth's answer was straightforward: “No! Nazi Theology!”

Stanley Hauerwas (2002) analysed a natural theology intensively in his Gifford Lectures of 2001 and among other things also placed the witness of Barth under the microscope. He, too, asserts that Barth’s discovery that the proper subject of theology is God, cannot be seen independently of his cultural criticism (Hauerwas 2002: 156 170). The positive converse to Barth's aversion to a natural theology, can be found in his appreciation of the *an/enhypostacy* in Christology after Chalcedon (451 A.D.) and consequently the central placing of Christ. Barth (1991:157) formulates this as follows: “The humanity of Christ, although it is body and soul, and an individual, is nothing subsistent or real in itself. Thus it did not exist prior to its union with the Logos. It has no independent existence alongside or apart from him. Those who want to see revelation in the idea of humanity as such are grasping at something that in itself is not just meaningless but nonexistent.” Christ is thus the interface between God and man and in Him we encounter the history in which God and man meet (Barth 1967:43). That is why Christ is also *the* truth which is simultaneously the *prima* or also the *ultima veritas* (Barth 1979:26).

This point of departure also links up directly with the first doctrine of the *Barmen Thesen* of 1934 (in which Barth played the leading role). The upcoming Social Nationalism in Germany and the messianic role that Hitler began adopting in it, made the danger lights flare up for Barth (Barth 2004b:172). The *Barmen Declaration* pertinently concerns the revelation that can only take place through Jesus Christ.

Jesus Christ, as He is attested to us in Holy Scripture, is the one Word of God, whom we have to hear and whom we have to trust and obey in life and in death. We condemn the false doctrine that the Church can and must recognise as God’s revelation other events and powers, forms and truths, apart from and alongside this one Word of God.

(Barth 2004a:174)

Hauerwas points out in his evaluation of many a theologian's criticism against Barth, who used expressions such as the following: "theological metaphysics" (2002:142), "system coercion" (2002:154), "totalitarian and imperialistic" (2002:169), "a dogmatic theologian" (2002:178), that theology has no stake in imitating or even conversing with other sciences (2002:202). And may we add Barr's sharp criticism: "From beginning to end Barthianism was above all an intellectual, philosophical-dogmatic, system" (Barr 1994:103) and "Barth broke his own principles: his whole approach to exegesis was designed, I believe, in order to obviate the possibility that scripture might contain evidence for natural theology" (Barr 1994:136). Van Niekerk's (1984) research on Barth accords fully with this. Had not Barth developed his personal credo to an impressive dogmatic paradigm? asks Barr (1994:190). Or as Veldsman (2007:1344) put it: "You first have to believe in Barth, then in God. He thus fell prey to precisely that psychological subjectivism which he sought to escape."

In his recent and seminal work, *Imitating Christ*, Richard A. Burrige (2007:365-382) points out that the apartheid theology in South Africa superimposed on the text an external doctrine from outside the Bible. Deist (1979:57) is very emphatic that the *Word of God* never had a constant reference in theology and was therefore always contingent. He bases this on a judgement of G E Lessing who came to the conclusion that the Christian faith itself was never based on the *whole* Bible or on the Bible *alone*. There were always external doctrines involved. That is why Barr (1994:6) is right when he alleges that Barth and Brunner are really just birds of a feather. Both invoke revelatory theology and the exegesis of them both was recognizable by assumptions. Burrige (2007:366) now points out that the apartheid's theologians did indeed consistently invoke the revelation of God and the DRC's report also states pertinently that the concept of 'Scriptural principle' should be treated circumspectly, although the Bible nevertheless offers "fundamental data and principles" (NGK 1974:8).⁶

⁶ Cf. Gilliomée (2003: 454-457) who argues historically that the Afrikaans churches provided the apartheid ideology of a theological substrate. Since Gilliomée focused in particular on the Dutch Reformed Church (NGK), Wolff (2006,) however, applies the argument *mutatis mutandis* to the second largest Afrikaans speaking church, the Netherdutch Reformed Church (NHKA). He indicates that this church followed a "racial-nationalistic paradigm" in that the NHKA applied the words *volk*, *Afrikaner*, *White* and *race* in effect as interchangeable terms (Wolff 2006: 157-161).

The conclusion which can now be drawn, is that the exegesis of an apartheid theology was indeed dictated by an external doctrine and that it was probably influenced by Social Darwinism⁷, but owing to the particularity of the limited ramifications, it could not after all be typified as purely a natural theology. The typical features of a purely natural theology such as *rationality* and *universality* (Barr 1994:112) are almost completely missing in this. And moreover the classical *Sitz im Leben* of natural theology, which is intended to prove the existence of God, is also missing in this. Barr (1994:115) may be right if he asks whether theology is not in any case both "natural" and "revealed". On the basis of his analysis of Athanasius's (1993), *On the Incarnation*, Torrance (2001:76-77) also comes to the conclusion that knowledge of God and knowledge of the world have the same basis, namely the *Logos* or in other words the rationality of God the Creator. There is no real difference between natural and supernatural knowledge, since both are vested in Christ's incarnation.

6. A THEOLOGY OF NATURE

The observant reader would discover that in the preceding, I handled the basic different perspectives of an epistemology, namely empiricism (although not explicitly), rationalism, idealism and realism. These correspond approximately to the opinion of McGrath (2008:60) that there are chiefly four approaches to a natural theology, which are not exhaustive, but rather illustrative:

- *Ascending from nature* to the transcendent. Nature is seen here as the launching-platform to reach the ultimate.
- *Seeing through nature* to the transcendent. Nature is here merely a portal to the transcendent beyond it.
- *Withdrawing from nature* into the human interior. The point of departure is of a psychological nature and truth is vested in humans themselves.

⁷ It is striking that in research on the apartheid ideology in South Africa, Darwinism never actually comes under the microscope. The same applies to the universally known research of De Cruichy (1986). In the recently published conference-proceedings of the *South African Science and Religion Forum* (SASRF) to commemorate Charles Darwin's 200th anniversary of his birth, a parallel is indeed drawn between evolution and apartheid by Van den Heever when he points out that the Afrikaner modeled his religion on the last of a political master plan. "The Calvinism developed in South Africa was narrow, prescriptive and did not allow for a wider interpretation of the Biblical text. Thus religion was tailored to support a political master plan and became colloquially known as *Boere Calvinism*. In this context the DRC became a *volkskerk* (church of the people) and handmaiden to Afrikaner political aspirations" (Van den Heever 2009:155).

- *Discerning in nature* that which is transcendent. Nature is deemed to contain *within it* a special capacity to reveal the supernatural.

The last-mentioned approach probably has the greatest potential to be developed as a theology of nature. Unlike the first three of the above categories, it does not rest on a dualism between reason and faith, and in particular not on a kind of denigration of the material and a reaching out to something higher. The naturalness of humankind implies by definition an engagement with nature through a specific *observation* (discernment). The physicist and philosopher Klaus Müller later distilled his epoch-making book at that time, *Die Präparierte Zeit* (1972) and said aptly that *discernment* was the essence of all reality (Müller 1978:9).

However, nature cannot be observed as such, but is always to be observed *as something*. Consequently there is no transcendent reality above, behind or in front of the observable, but rather a transcendent reality *in* the relation with nature. When interpreted correctly, nature therefore *becomes creation* to the faithful. There is no epiphany or transfiguration, without discernment. This means that the knower is involved in the process of knowing and this results in a realistic perspective on the world. Gadamer (2004:446-447) sees the truth as the interaction between the *interpretandum* and the *interpretans* and this places a huge question mark over any objective knowledge (foundationalism)⁸.

Human beings are embodied and human minds are embrained. No, this does not mean that there is a "me" inside my brain! Such dualism is incommensurate with any picture of the world consistent with scientific observation (Peacocke 2004:91). There is solely a continuous change in brain states, a distillation of history, emotion, instinct, experience and the influence of others. Matt Ridley (2003:278) concludes: "I hope I have shown that the more you discover genes that influence behaviour, the more you find that they work through nurture, and the more you find that animals learn, the more you discover that learning works through genes." There is in other words a "co-evolution" of genes and culture

⁸ McGrath (2002:200-201), naturally aware of the criticism from the side of anti-realism such as Derrida, Foucault, Rorty, Cupitt, Murphy *et alios*, wants to assume in this approach the following three requirements on the basis of Roy Bashkar's *critical realism*: a) there can be no *a priori* foundation existing for theology, b) critical realism plays an ancillary role, not a fundamental role, and c) critical realism is an *a posteriori* activity whose central ideas come to the fore on the basis of a spiralling path of appropriate dialogue or conversation between the knower and the known.

(Haught 2003:109). The solution lies in finding a fundamentally new relationship between understanding and experience, perception and cognition. The perceiver both acts on the world and is acted upon by the world. And this perception is also personal in terms of expressing the unique “bio-cultural paradigm” (Gregersen 2000:7). It encompasses being human in all of its joints, biology, culture and psychology, yes, even including the *imagination*. After all, the human person possesses an ex-naturality which overcomes any neurogenetic determinism.

It is important to spot the individual and personal “addressing” or “attraction” in this. The “cocktail party effect”, a phenomenon well known among psychologists, also shows that in the midst of a cacophony of sounds, a person will immediately pick up his or her name when, for example, people are gossiping about him or her (McGrath 2008:100). And within this complex network of nature, culture and personality, the sensitive individual hears God's voice and so revelation takes place.

In my view, the focus in natural theology has shifted. Initially it was clearly aimed at finding evidence of the existence of God in nature, whose classical three proofs of God (ontological, cosmological and teleological) are known all too well and have also clearly been unmasked, especially by Hume and Kant ([1993] 2000:412-427). One sees this today still, although far more sophisticated, among religious philosophers such as Plantinga (2008), Mackey (1982) and even Swinburne (2004). Since the ecological debate of the 1970s began developing in theology, it has increasingly been attractive to speak of a *theologia naturae*. The challenge therefore has shifted and the question is rather what our knowledge of God holds for our knowledge of nature. A theology of nature interprets the natural world as God's creation (Peters 2005:2). Being then rather a reflection upon nature of which we are part and parcel, it is a movement from an epistemic fact to a hermeneutical observance. But naturally with a hermeneutics which assumes an interaction between subject and object, and where the object encompasses the Creator as well as creation (Newlands 1994:77)⁹.

⁹ The eco-hermeneutics of Habel and Trudinger (2008) comes strongly into play here. They want to read the Bible a) with suspicion in order to expose all unfair anthropocentrism, b) in solidarity in the sense that human beings are an integral part of the fabric of nature, and c) by retrieval of Earth and giving voice to her neglected role in the Biblical narratives.

In this essay, while I now want to understand a theology of nature in terms of the voice of God which is responded to, *De Stem van de Roepende* (Dingemans 2005), I have to emphasize the role of religious experience. In a remarkable dialogue between the neuroscientist, Jean-Pierre Changeaux and the philosopher Paul Ricoeur, published in the book titled, *What makes us Think?*, and in which the thesis is argued that an understanding of the brain helps us to understand our consciousness (minds), Changeaux (Changeux & Ricoeur 2000: 110-125) presents a model linking external and internal experience. The model follows the Darwinian assumption that variability exists on every level: a generator of pre-representations, a process of selection, and then an amplifying mechanism connected with the storage of memory traces to be re-utilized. The brain acquires knowledge through a process of selection, according to a cerebral architecture peculiar to humans' own species (Changeux & Ricoeur 2000:111). Yet note should also be taken of the sober and balanced assessment of brain research by eleven leading German neuroscientists: *Manifesto on the Present and Future of Brain Research*. Of the middle level of the brain, we know "terrifying little" (Küng 2007:181). It is one thing to know *where* we thinking, but another thing to know *how* we are thinking, far less *what* the content is of this thinking (Küng 2007:189).

Someone such as William Alston (1993) takes an equally exciting approach. The fact that people experience a putative direct awareness of God and react to this is, in a derivative sense of the word, also an indication that God exists (Alston 1993:9). Only in a "doxastic" practice (forming and evaluating belief; compare this with George Lindbeck's "socio-linguistic" niche) can it first be possible to determine whether a subject really experiences a given object and whether there is thus "epistemic justification" for the witness of faith. For this reason, "religious experience" is not a purely subjective phenomenon either, but is to be interpreted within a larger framework. What happens here is the "cloud of witnesses" of Hebr. 12 as well as the "heavens and the firmament" of Ps. 19, which exercise a particular "mystical" persuasive power on the individual within his or her bio-cultural sphere and to which human beings respond by constructing a symbolic universe. In this interaction of "act upon" and "act", I can also concur with Berger ([1966] 1991:122) when he states: "Symbolic universes, which proclaim that *all* reality is humanly meaningful and call upon the *entire* cosmos to signify the validity of human existence, constitute the furthest reaches of this projection."

Pursuant to Ricoeur (1980:86) I wish to interpret the expressions, *ethos* and *cosmos*, (the sphere of human action and the sphere of the world) which meet and interpret each other, as being the *coram Deo*. It prevents the pretentious use of “from above” or “from within” and at the same time also offers a modest, yet honest search for the presence and will of God in and from our bio-cultural network. Ricoeur (1980:102) therefore understands as the resonance with one or the other of the aspects of the Biblical message. So God's transcendence as internal reference is not outside the ambit of the discourse of faith. The world to which the text refers is not the world behind the text, but a projected world in front of the text in terms of the witness of the subject, and is based on the *witness* of the text.

As Biblical scientist, Richard Burridge (2007: 390-391) wishes to develop a particular hermeneutic key from the Bible. In the language of Orthodoxy, the Bible is after all the *norma normans*. In his seminal work about New Testament ethics, using South Africa's apartheid theology as a case study, he becomes convinced that “imitating Jesus” is the distilled heuristic point of departure for interpreting the Scriptures and for acting in the world. In principle, this is also an *inclusive* paradigm which not only assumes this imitation but is also its result:

Crucially, one cannot respond alone; rather, it is to be lived out within an open and inclusive community of others who are also seeking to follow and imitate him. Now therefore we must bring this approach to bear upon our South Africa test-case to see how these twin aspects of imitating Jesus in the context of an inclusive community might be applied to the way in which scripture was read under apartheid.

(Burridge 2007:389)

Burridge states (2007:409), however, that the one thing in which South Africa's churches did not succeed, was noticing the *inclusive nature* of the gospels. The prophetic voice of the “interpretative community”, and, if we added, the sigh of nature, were long ignored or even gagged.

This looks like the same hermeneutic point of departure that George Newlands upholds when he regards *love* as a material characteristic of God and therefore wants to make it the

hermeneutical point of departure (once again, distilled from the Scriptures) for all understanding (cf. Augustine). The presence of God is a hidden presence, appropriated in the response of faith:

The understanding of God as love, of God's purpose for the created order as leading to fulfilment in love, has sweeping implications for individual and social ethics, and for the life of the Christian community, the Church. Love is to be the informing principle, not just in special cases but in all human social life. Here is the perennial relevance of an impossible ideal.

(Newlands 1994:41).

What God *is*, determines how God *acts*. The natural, physical, biological, human and social worlds are the realm of God's immanent action and therefore the manifestation of his creative presence (Peacocke 1986:129). This is the God who can be learned of through nature, ontologically identical to the God who is made known through Self-revelation. Otherwise it would indeed have fallen into the pitfall of the Gnostic disjunction. In the footsteps of among others Torrance (2001:118) and McGrath (2002:306), I therefore do wish to say that the Divine incarnation determines our epistemology. Christ functions as both the foundation and criterion of an authentically Christian natural theology. Ontology therefore precedes the doctrine of an epistemology and it results in a particular theological realism¹⁰.

I have already mentioned that a theology of nature must work *a posteriori*. We can also ascribe it to the direction that Charles Darwin took! The view of McGrath (2002:158) is that *On the Origin of Species* is the best example of how, from a variety of opposing explanations, one can eventually find the best possible solutions. The concept of *abduction* was coined for this by Charles Peirce as that *a posteriori* activity to get to the best explanation. The substantial array of observational data could best be explained by Darwin by natural selection and not by the special creation of species. And that is why Schleiermacher ([1999] 2008:738-751) for example was correct in not placing the Trinity

¹⁰ John Polkinghorne (2004:79) asserts with his "top down" approach that it is exactly the converse: "Epistemology models Ontology", although he calls himself a realist.

tenet at the forefront, as Barth does in his dogmatics, but at the end, as a *conclusion* of his theory of faith. In the different iterations of centuries of pondering and revision, the church first achieves the insight of the Tri-unity of God. This is a good illustration of the classical *lex orandi, lex credendi!*

7. CONCLUSION

In order to come to an evolutionary epistemology which overcomes the radical dualism of the Enlightenment and consequently opens the field again for a Christian natural theology, it was necessary to configure at least two diachronic lines. On the one hand, we began at *On the Origin of Species* and this was read in context with William Paley's *Natural Theology*, precisely because of the biological substrate which Paley advocated in his teleology and the influence that his natural theology had on Darwin. Humankind's naturality is offered as a given through evolution and this then has a direct influence on our ability to know. People have a particular epistemological apparatus owing to the bio-cultural paradigm in which they find themselves. The brain is custom-made for and by its environment and is not like a computer, but like a Swiss army knife with its various components for its various tasks (Haught 2003:104). On the other hand, it was necessary to deconstruct the standpoint of the doyen of a revelatory positivism, Karl Barth, against Brunner's natural theology with his ontological "capacity for speech". Barth should as a child of his time be read in terms of his tremendous opposition to the Liberal theology of the nineteenth century and the rise of German National Socialism in the 1930s. His virtually unbridled ferocity against Brunner confirms his real problem: Nazism. (A computer search of the word "Hitler" in his *Church Dogmatics* shows that he referred to him nineteen times!) The converse of his revulsion is a Christomonism which must be applied as an absolute principle. This, too, helps to clarify the traditional objections to a natural theology in Protestant circles. In order to serve this debate in South Africa, it was necessary to make apartheid theology the order of the day. Not only because definite lines can be drawn to a (Social) Darwinism, but also to show that Barth's criticism definitely also had the apartheid theology of South Africa in mind, but at the same time to show that apartheid theology – just like Barth – had as point of departure a metaphorical assumption.

A critical-realistic approach to reality opens up the possibility for a Christian natural theology to develop, where the faithful interacts from within a bio-cultural niche, can experience the *coram Deo* and where love can be hypostasized. A theology of nature is basically therefore the human perception of nature as it is shaped through a specific lens. And because the total human being is involved, this lens is consciously and subconsciously shaped within a bio-cultural framework in which human experience and imagination play no small role. It hears the voice of the Caller in a manner according to Scriptural norms, and reacts with a life of an all-encompassing love.

A natural theology therefore offers a framework in which nature can at all be interpreted and to admire it as the creation of God. The meticulous investigation of the natural scientist, the richly imaginative horizons of the artist and the Divine far-sightedness of the theologian, are brought into discourse with one another, leading to an appreciation larger than the sum of the parts. Where Systematic Theology asks for the intrinsic coherence of theology, a *Christian theology of nature* extends this coherency to theology and the *intellectual world as a whole*.

A revision of traditional natural theology is essential and the birth of a *theology of nature* has already taken place!

Works consulted

- Alston, W. P. 1993. *Perceiving God. The Epistemology of Religious Experience*. London: Cornell University Press.
- Altner, G. 2003. *Charles Darwin - und die Dynamik der Schöpfung*. Gütersloh: Gütersloher Verlagshaus.
- Athanasius. 1993. *On the Incarnation*. C. S. Lewis, Ed. New York: St Vladimir's Seminary Press.
- Ayala, F. J. 1998. Human Nature: One Evolutionist's View. In W. S. Brown, N. Murphy, & M. H. Newton, *Whatever Happened to the Soul?* pp. 31-48. Minneapolis: Fortress Press.

- Bannister, R. C. 1979. *Social Darwinism. Science and Myth in Anglo-American Social Thought*. Philadelphia: Temple University Press.
- Barr, J. 1994. *Biblical Faith and Natural Theology*. Oxford: Clarendon Press.
- Barth, K. 2004a. *Church Dogmatics, Volume 2: The Doctrine of God, Part 1* Vol. II.1. G. W. Bromiley, & T. F. Torrance, Trans. Edinburgh: T & T Clark.
- Barth, K. 2004b. *Church Dogmatics, Volume 2: The Doctrine of God, Part 1* Libronix Digital Library ed., Vol. II.1. G. W. Bromiley, T. F. Torrance, Eds., & G. W. Bromiley, Trans. Edinburgh: T & T Clark.
- Barth, K. 1979. *Dogmatics in Outline*. G. T. Thomson, Trans. London: SCM Press.
- Barth, K. 2002. No! In E. Brunner, & K. Barth, *Natural Theology* pp. 65-128. Eugene, OR: Wipf and Stock Publishers.
- Barth, K. 1991. *The Göttingen Dogmatics* Vol. I. G. W. Bromiley, Trans. Grand Rapids: Wm. B. Eerdmans.
- Barth, K. 1967. *The Humanity of God*. London: Fontana Library.
- Bennet, G. 2008. Introduction: Evil and Evolution. In G. Bennet, M. J. Hewlett, T. Peters, & R. J. Russell, *The Evolution of Evil* pp. 7-16. Göttingen: Vandenhoeck & Ruprecht.
- Berger, P., & Luckmann, T. [1966] 1991. *The Social Construction of Reality*. London: Penguin Books.
- Brunner, E. 2002. Nature and Grace. In E. Brunner, & K. Barth, *Natural Theology* pp. 15-64. Eugene, OR: Wipf and Stock Publishers.
- Burridge, R. A. 2007. *Imitating Jesus. An Inclusive Approach to New Testament Ethics*. Grand Rapids: William B. Eerdmans.
- Buskes, C. 2008. *Evolutionair denken. De invloed van Darwin op ons wereldbeeld*. Amsterdam: Uitgeverij Nieuwezijds.
- Changeux, J.-P., & Ricoeur, P. 2000. *What Makes Us Think?* Princeton: Princeton University Press.
- Darwin, C. 2004. *The Descent of Man*. London: Penguin Books.

- Darwin, C. [1859] 1999. *The Origin of Species*. New York: Bantam Books.
- Dawkins, R. 1995. *River out of Eden., A Darwinian View of Life*. New York: The Perseus Books Group.
- Dawkins, R. 2006. *The Blind Watchmaker*. London: Penguin Books.
- Dawkins, R. 2006. *The God Delusion*. London: Bantam Press.
- De Cruchy, J. W. 1988. Racism, Reconciliation, And Resistance. In C. Villa-Vicencio, *On reading Karl Barth in South Africa* pp. 139-155. Grand Rapids, MI: William B Eerdmans.
- De Cruchy, J. W. 1986. *The Church Struggle in South Africa*. London: Collins Liturgical Publishing.
- Deist, F. E. 1979. The Bible - The Word of God. In W. S. Vorster Ed., *Scripture and the Use of Scripture* pp. 41-74. Pretoria: UNISA.
- Descartes, R. s.a.. *A Discours on Method. Meditations and Principles*. J. Veitch, Trans. London: Everyman's Library.
- Dingemans, G. D. 2005. *De Stem van de Roepende*. Kampen: Kok.
- Gadamer, H.-G. 2004. *Truth and Method* Second, Revised ed.. J. Weinsheimer, & D. G. Marshall, Trans. London: Continuum Publishing Group.
- Gilliomee, H. 2003. *The Afrikaners. Biography of a People*. Cape Town: Tafelberg.
- Green, J. B. 2008. *Body, Soul and Human Life. The Nature of Humanity in the Bible*. Grand Rapids, MI: Baker Academic.
- Gregersen, N. H. 2000. Varieties of Personhood: Mapping the Issues. In N. H. Gregersen, W. H. Drees, & U. Görman, *The Human Person in Science and Theology* pp. 1-17. Oxford: T & T Clark.
- Habel, N. C., & Trudinger, P. 2008. Exploring Ecological Hermeneutics. *Symposium Series, 46*. Atlanta: SBL.
- Hauerwas, S. 2002. *With the Grain of the Universe*. London: SCM Press.
- Haight, J. F. 2003. *Deeper Than Darwin*. Oxford: Westview Press.

- Kant, I. [1993] 2000. *Critique of Pure Reason. A Revised and Expanded Translation based on Meiklejohn*. V. Politis, Ed. London: Everyman's Library.
- Küng, H. 2007. *The Beginning of All Things*. Grand Rapids, MI: William B Eerdmans.
- Mackie, J. L. 1982. *The Miracle of Theism*. Oxford: Clarendon Press.
- McGrath, A. E. 2001. *A Scientific Theology. Nature* Vol. 1. Grand Rapids: William B. Eerdmans.
- McGrath, A. E. 2002. *A Scientific Theology. Reality* Vol. II. London: T & T Clark.
- McGrath, A. E. 2008. *The Open Secret. A New Vision for Natural Theology*. Oxford: Blackwell Publishing.
- McGrath, A. E. 2006. *The Order of Things. Explorations in Scientific Theology*. Oxford: Blackwell Publishing.
- Müller, A. M. 1972. *Die präparierte Zeit. Der Mensch in der Krise seiner eigenen Zielsetzung*. Stuttgart: Radius Bücher.
- Müller, A. M. 1978. *Wende der Wahrnehmung*. München: Kaiser Verlag.
- Murphy, N., & Brown, W. S. 2007. *Did my Neurons Make Me Do It?* Oxford: Oxford University Press.
- Murray, M. J. 2002. The God's I Point of View. In W. P. Alston, *Realism & Antirealism* pp. 79-96. Ithaca and London: Cornell University Press.
- Newlands, G. M. 1994. *God in Christian Perspective*. Edinburgh: T & T Clark.
- NGK. 1974. *Ras, Volk en Nasie en Volkereverhoudinge in die lig van die Skrif*. Kaapstad: NG Kerk Uitgewers.
- NHKA. 1986. *Wet en Bepalings van die Nederduitsch Hervormde Kerk van Afrika*. Pretoria: NHW-Pers.
- Paley, W. 2006. *Natural Theology*. Oxford: Oxford University Press.
- Peacocke, A. C. 2004. *Evolution. The Disguised Friend of Faith?* Philadelphia, PA: Templeton Foundation Press.
- Peacocke, A. C. 1986. *God and the New Biology*. London: Everyman Ltd .

- Peters, T. 2005. Natural Theology versus Theology of Nature. *Theology and Science* , 3 1, 1-2.
- Peters, T., & Hewlett, M. 2003. *Evolution from Creation to New Creation*. Nashville: Abingdon Press.
- Plantinga, A., & Tooley, M. 2008. *Knowledge of God*. Oxford: Blackwell Publishing.
- Polkinghorne, J. 1998. *Science & Theology*. Minneapolis, MI: Fortress Press.
- Polkinghorne, J. 2004. *Science and the Trinity. A Christian Encounter with Reality*. New Haven, Great Britain: Yale University Press.
- Ricoeur, P. 1980. *Essays on Biblical Interpretation*. L. S. Mudge, Ed. Philadelphia: Fortress Press.
- Ridley, M. 2003. *Nature via Nurture*. London: Fourth Estate.
- Schleiermacher, F. [1999] 2008. *The Christian Faith* 2nd ed.. H. R. Mackintosh, & J. S. Stewart, Eds. London: T & T Clark.
- Schragg, C. O. 2006. Traces of Rationality: Acknowledgement, Recognition, and Repetition. In F. L. Shults, *The Evolution of Rationality. Interdisciplinary Essays in Honor of J. Wentzel van Huyssteen* pp. 19-29. Grand Rapids, MI: William B Eerdmans.
- Schroeder, W. R. 2005. *Continental Philosophy. A Critical Approach*. Oxford: Blackwell Publishing.
- Stone, J. A. 2008. *Religious Naturalism Today. A Rebirth of a Forgotten Alternative*. Albany, NY: State University of NY Press.
- Swinburne, R. 2004. *The Existence of God* 2nd ed. Oxford: Clarendon Press.
- Torrance, T. F. 2001. *The Ground and Grammar of Theology*. Edinburgh: T & T Clark.
- Van den Heever, J. 2009. Creationism in the colonies: science, religion and the legacy of apartheid in South Africa. In C. W. Du Toit Ed., *The Evolutionary Roots of Religion: Cultivate, Mutate or Eliminate?* 13, pp. 145-163. Pretoria: RITR, UNISA.
- Van Huyssteen, J. W. 2006. *Alone in the World? Human Uniqueness in Science and Theology*. Grand Rapids: William B Eerdmans Publishing Company.

Van Niekerk, E. 1984. *Methodological aspects in Karl Barth's Church Dogmatics*. Pretoria:
Unpublished Th.D. Dissertation, UNISA.

Veldsman, D. P. 2007. Karl Barth's epistemology: A critical appraisal. *HTS Theological Studies*
, 1337-1345.

Wolff, E. 2006. Anatomie van 'n Teologiese Ideologie: Die Hervormde Kerk se Steun aan die
Apartheid Ideologie. *Historia* , 51 1, 141-162.