

THE NEW NATURAL THEOLOGY: A BRIDGING AND INTEGRATING MODE OF INQUIRY

Peter Barrett
School of Physics
University of KwaZulu-Natal

Abstract

The burgeoning science-and-theology discourse of the past four decades has produced a new natural theology, broadened beyond its traditional task of finding arguments for the existence of God. Much of its concern has been to address the evolutionary world-picture of the sciences and thence give a theistic account of the universe. Here we suggest an account that draws upon the concepts of kenosis and to kalon (the beautiful) – one that has implications for the teaching of science in South Africa and for developing an inclusive theological approach to religious pluralism.

Key Concepts: Natural theology, epistemology, worldview, complexity

Introduction

This paper describes aspects of the new-style natural theology that has emerged since the mid-1960s from the initiative of leading scientist-theologians. It is a sequel to my earlier paper, “Natural theology in a pluralist society” (Barrett 1997:167-178) which addressed the following topics: (i) the nature and role of natural theology, both in its historical development and in its present “revived and revised” form; (ii) the world-picture produced by the sciences of the twentieth century, and (iii) some implications of the latter for certain Christian doctrines and for Christian theology’s overall account of the meaning and purpose of the world. A key idea in that earlier account is the concept of divine kenosis underlying the unfolding cosmic drama. This fundamental aspect of the divine nature, it was suggested, can encourage an affirming and inclusive stance toward the people of other religions.

Here we consider the same three topics, but with a more detailed treatment of the nature and role of the new natural theology, and a richer theological account of the world – one that introduces a broadened concept of beauty and draws upon the idea of the Spirit of God as beautifier and perfecter who inspires the human imagination and affirms human particularity. We also touch on the educational role of natural theology in South Africa as it relates to the teaching of cosmic and biological evolution, and to the task of inter-religious engagement. The paper concludes with a brief discussion of the concept of “aesthetic existence” – a hoped-for enrichment of human life in both church and society through the opening up of broad areas of freedom and creativity.

On the Nature and Role of Natural Theology

We may consider the natural theology of the past millennium as essentially a continuing attempt to find irrefutable arguments for the existence of God – whether on purely ontological grounds (Anselm, Descartes), or on a combination of cosmological and

teleological grounds (Aquinas), or on the evidence of nature's superb ordering as acclaimed in the 17th, 18th and early 19th centuries (Ray, Boyle, Paley).¹ Indeed, there was a strong temptation within the ferment of ideas of the 18th century Enlightenment to explain the world in terms of simply the universal truths available to human reason and conscience, emphasizing the doctrine of creation at the expense of the doctrine of redemption and thus standing against the particularities of God's redemptive acts in history. For the most part, however, natural theology has evolved within the ambit of orthodox Christian belief, complementing the theological understanding of the world that comes from divine revelation. (Barrett 2000:58-59, 6). In due course its former mode of "argument from design" was severely weakened by the advent of Darwinian theory in 1859 and its neo-Darwinian development in the 1930s; this immediately provided a highly plausible non-theistic explanation for the many ways in which life-forms are well-adapted to their environments and can be transformed gradually into new species.

In the first half of the 20th century natural theology was largely neglected, not least because of the formidable opposition of Karl Barth. Perhaps, as scientist-theologian John Polkinghorne suggests, it was the spectre of the perverted theology of the "German Church" (seduced by Hitler) that provoked in Barth the view that "the logic of the matter demands that, even if we only lend our little finger to natural theology, there necessarily follows the denial of the revelation of God in Jesus Christ" (quoted in Polkinghorne 1994:42). Here we should note the view of Thomas Torrance, writing extensively on natural theology and on Barth's work from within the Reformed tradition. He admires Barth, but also criticizes him for his reluctance to engage with science.

Torrance illustrates the significance of natural theology by describing its relation to revealed theology as similar to the relation of geometry to physics. Einstein had brilliantly discerned that space/time and matter/energy were two intimately connected co-existents – neither could exist without the other – and Torrance claimed an analogous and similarly intimate co-existence of natural and revealed theology. As Polkinghorne adds, if natural theology is isolated from revealed theology, it too easily becomes deism or even pure naturalism. And if revealed theology is isolated from natural theology, it loses an important point of contact with general human experience and is in danger of becoming no more than an ecclesiastical language game. (Polkinghorne 2000:176-177).

In a notable collection of essays by a group of Cambridge theologians in the 1960s, *Soundings*, Howard Root points to another consequence of the neglect of natural theology that is at least as important:

If natural theology is out of court and there is no appeal to metaphysical reasoning, what rational basis can there be for opposing, say, the most illiterate varieties of fundamentalism? (Root 1962:14).

Natural theology forms an integral part of the theological enterprise as its philosophical mode of inquiry. Inasmuch as it deals with questions of meaning, truth, beauty and practice, discussed in relation to religions and pursued through a range of academic disciplines (Ford 1999:15), it has been referred to as "metaphysical theology". It has also been called "rational theology" and, as an introduction to the theology of Christian revelation, "funda-

¹ Such "physico-theology" is exemplified in the celebrated works of John Ray and William Paley: *The Wisdom of God Manifested in the Works of Creation* (1691) and *Natural Theology; or Evidences of the Existence and Attributes of the Deity, collected from the Appearances of Nature* (1802), respectively. The same concern for a scientifically based "proof of God" is to be found in the current Intelligent Design movement in the USA, led by Phillip Johnson, William Dembski, Michael Behe and others.

mental theology” – but perhaps the most appropriate alternative name is “philosophical theology”, even if philosophers might look askance at such usage. Here we shall stick to the term “natural theology” because this provides a degree of continuity with the older versions as a bridge between theological thought and more general discourse on ultimate questions.

Writing on “the tasks of philosophical theology” in the 1970s – a time when logical positivism, with its aggressively anti-metaphysical stance, was still influential – John Macquarrie (1977:43-58) points to the finitude of human existence as an objection to the ambitious forms of earlier natural theology. This is a more convincing limitation, he claims, than the fallen nature of human reason asserted in Calvinist thinking. He sees the new-style natural theology as distinct from the old in the following respects: It would be *descriptive* instead of *deductive*, not attempting to prove anything but simply letting us see what its claims are; and its approach would be *existential* rather than *rationalistic*, taking into account other dimensions of human experience than purely theoretical reason. He advocates natural theology as a bottom-up mode of inquiry, beginning with ordinary human situations that can be described in secular language and linking these to the situations of the life of faith, thus helping to illuminate the meanings of distinctively religious words such as “God”, “sin”, “revelation”, “faith”, and placing them on the map of meaning (1977:56-58).

For Howard Root, natural theology must act as a bridge, not only to the natural sciences and the human sciences but also to the humanities – not only to the realm of logic and reason but also to the realm of art and imagination. He would see the main challenge faced by theologians as to “regain contact with those ranges of thought, feeling and imagination which now live a life – even for the Christian believer – quite independent of theology”. Indeed, theologians cannot direct people’s minds to God, says Root, until they are themselves steeped in God’s world and in the imaginative productions of his most sensitive and articulate creatures – the poet or novelist or dramatist or film producer. In other words, it is a matter of taking to heart the principle of incarnation (Root 1962:18).

Polkinghorne describes natural theology as “the search for the understanding of God through the exercise of reason and the inspection of the world”, a definition appropriate to both the old and new forms. (1988:2; see also 1-16). If, through its combination of reasoning and inspecting, it can place revealed theology in a comprehensive matrix of understanding, it allows theology as a whole to become the great integrating discipline, including not only the scientific account of the world but also the insights of the humanities as they deal with the great values of truth, goodness and beauty that give meaning to life. Forming a well-reasoned theistic account of the world is the main aim of the new natural theology.

With these ideas in mind, we may construct the diagram on the next page, Figure 1, to show the relations and interflow between the different modes of theological inquiry.² This is a scheme of mutually interacting modes in which the progression from first to second to third means going to successively higher levels of abstraction – no hierarchy of status is intended. It should be noted that Macquarrie conflates the second and third orders, situating philosophical / natural theology within the scope of systematic theology. (1977:44-45). However, the criteria of internal and external coherence seem worth emphasising separately, thus giving weight to the task of natural theology as it engages reciprocally with what is described here as “other intellectual / cultural discourse” – a catch-all phrase that embraces the natural and human sciences, together with the human search for meaning as expressed in the humanities –

² The idea of a three-order scheme was suggested to me by systematic theologian Niels Gregersen (University of Copenhagen), together with the criteria and arrows of interconnection. The tasks shown in each box represent my understanding of the structure of theology after discussion with several theologians.

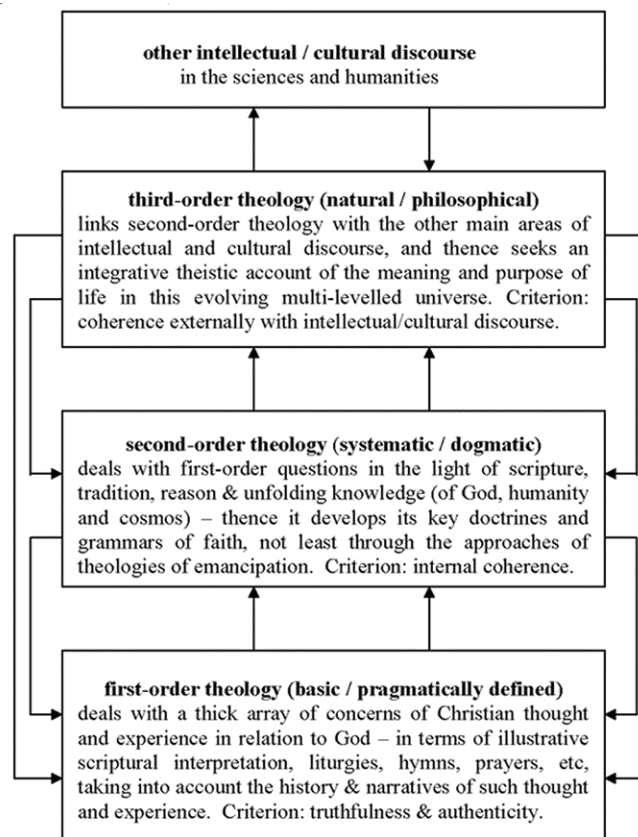
in philosophy and history, in literature and the arts, and in other religious traditions. Indeed, the engagement with other religious traditions is now perhaps its most significant challenge.

A bird's eye view of the theological enterprise is available, for example, in David Ford's brief stimulating text, *Theology: A very short introduction* (1999). There he introduces the term "ecology of responsibility" to describe the usual three constituencies served by Christian theology: The academy, the church, and society at large. It is the third of these, he writes, that is often ignored by the first and second, and then continues:

Religious and theological concerns are essential to many debates about politics, law, economics, the media, education, medicine, and family life. But where is high-quality theologically informed attention being paid to such matters? It is unlikely their complexity can be done full justice to *unless there is collaboration across disciplines, faith communities, and nations*. This is probably the greatest lack in the world theological scene at present (Ford 1999:18, italics added).

Figure 1

The main orders of Christian theological inquiry (reflexively linked to the other main areas of inquiry by natural theology and characterized by complementary bottom-up and top-down interactions)



In recent years the world theological scene has received a strong impetus from the various emancipatory theologies. With their focus on ethical and socio-political issues, liberation theologians have been disinclined to invest in the science-and-theology discussion, with its inclination towards philosophical rather than ethical concerns. (Mooney 1991:312). What is now needed, perhaps, is a more holistic theological approach that embraces both the ethical and the philosophical in the overall task of relating the Christian gospel to today's world; and if theology is to enter into the wide-ranging collaboration called for by Ford, a spirit of openness towards other realms of human learning and culture is an obvious prerequisite. The vitality for such collaboration would arise from a combination of "metaphysical boldness" (urged by Root and Polkinghorne), epistemic humility, and an input of good insights and information, represented by the downward arrow from the top box in Figure 1.

The Scientific World-Picture³

A major input addressed by the new natural theology is, of course, the multi-leveled scientific knowledge of the world that has emerged in recent decades. One of the great scientific discoveries of the twentieth century is that the universe itself has a history; it has undergone a fourteen-billion-year process of cosmic expansion and complexification. We see a universe that is "large and old, dark and cold", containing a vast number of solar systems, in at least one of which an astonishing variety of life has emerged, including human beings who can think and reflect upon the nature and meaning of it all.

In the beginning was the Big Bang, say the cosmologists (its faint echo having been discovered in 1965 in the form of the cosmic background radiation), and everything in the universe – every event, every particle and movement, from the most powerful burst of gamma rays to the song of a bird – derives its physical energy from that initial moment. Indeed, we belong to the first couple of generations to possess a comprehensive overview of cosmic history. Furthermore, the Big Bang account contains a well-established theory of nucleosynthesis – the forming of the chemical elements through the nuclear-burning processes in the interiors of the larger stars. Through supernova explosions, these become the raw material for future planets and their life-forms; therefore, we can speak of these stars as, in a sense, the ancestors of all living things, including human beings.⁴

From the primordial particles and subsequent chemical elements, increasingly complex material entities have been formed as the expanding universe has cooled.⁵ On the next page, Figure 2 shows the successive natural systems that have gone into the making of human beings. The lay-out suggests a seamless emergence of the mental as neural systems reach a high degree of complexity and organizational capacity, leading to the development of consciousness and, eventually, the full range of operation of the human mind. In the upward direction the academic disciplines deal with that which is increasingly complex; more flexible in its arrangement; increasingly particular (ranging from the universal to the

³ Here we use a history-of-science convention that *world-picture* refers to as a description of the structure and processes of the universe, whereas *world-view* implies an evaluation of the world concerning its meaning and purpose.

⁴ A simple chronology of the physical development of the universe is given in Barrett 1997:176 and 2000:118.

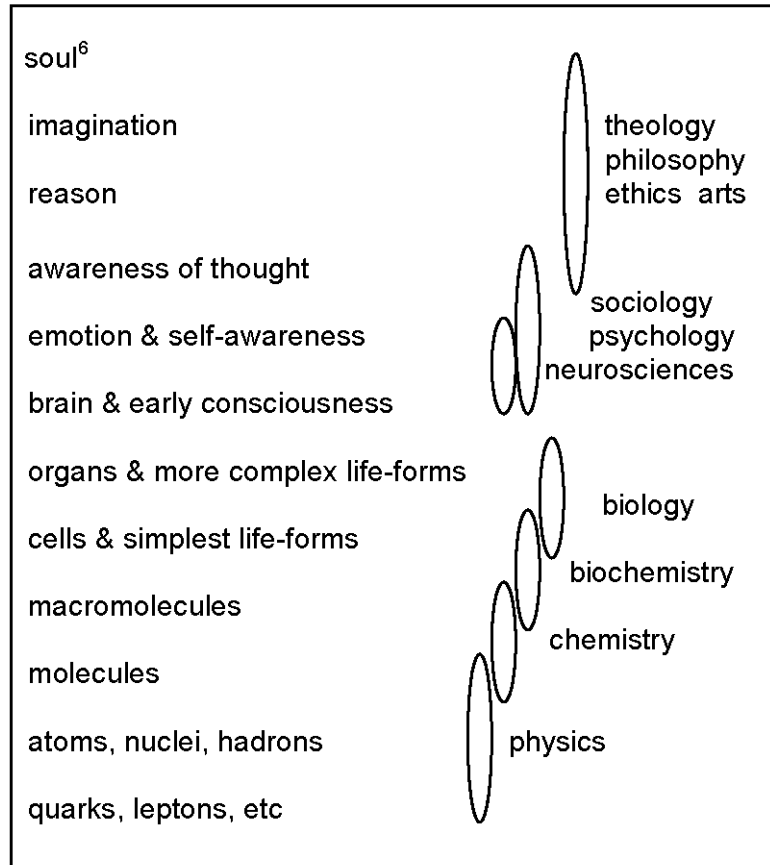
⁵ The Second Law of Thermodynamics (or Law of Entropy) concerning the degree of order in any closed physical system is sometimes invoked naively as an argument against any naturalistic account of the emergence and evolution of life. The law states that, within the system *as a whole* (such as our solar system), change makes for a net increase of entropy, i.e. a lessening of overall order. However, a *local* increase of order is permitted (in any limited region, such as a living thing or complex), at the expense of a more than compensating amount of disorder in the remainder of the closed system.

unique); more capable of choice of action; and ultimately personal – hence the variation in style of inquiry through the range of natural sciences, human sciences and the humanities.

If mind thus emerges from matter, capable of understanding and transcending the purely material, however vast the cosmic setting, we may think of the universe as a “dual-aspect monism” of mind/matter (Polkinghorne 1988:73; 2000:95-99).

Figure 2

Ladder of emerging complexity and the corresponding disciplines



A significant aspect of this cosmic fruitfulness is that it has involved an extraordinarily intricate, tightly-knit set of conditions and processes which, if slightly different, would almost certainly have rendered the universe lifeless. As it is, the fundamental forces in nature are of appropriate strengths for the long drawn out burning of stars and, indirectly, for a certain degree of looseness in nature’s causal networks⁶ – two of the factors that undergird millions

⁶ The emergence of new structural levels and their processes are assumed to be inherently non-deterministic. The properties of organic cells, for example, are not derivable from the properties of molecules but they are to some

of years of biological evolution. Altogether, this seems to be a special universe, with just the right conditions and laws of operation to produce complex forms of life.

The question then arises: Is it the only universe in existence, deliberately fine-tuned by a Creator, or is it simply one of a countless number of universes, at least one of which happens to be suitable for the emergence of life? Each way of explaining the existence of life is logically coherent, but the theist would claim the first as the more plausible, more satisfying, and of greater explanatory power.

Two other aspects have received close attention from the scientific side. First, the question of what it is that drives biological evolution – is it simply Darwinian natural selection or is there also some principle of self-organization acting in conjunction with it, as strongly espoused by Stuart Kauffman⁷ and a few others? And second, the surprising intelligibility of the physical world to the human mind, especially through what physicist Eugene Wigner called “the unreasonable effectiveness of mathematics” in describing nature at the level of physics.

This picture of the unfolding of the cosmos is one that evokes awe and wonder in scientists and laity alike. In the words of Cambridge evolutionary biologist Simon Conway Morris:

Quite a few biologists suggest that the world is far more peculiar and marvellous than we realise. If you sit and talk to biochemists – and, incidentally, theologians – they realise in their unguarded moments that the way the whole thing is put together is quite astonishing. And the beauty of it is just incredible, an absolute marvel.⁸

Such fascination continues to draw scientists to the cutting edges of research in the physical, biological and neurological sciences, keen to try to solve the profound puzzles that keep arising in each. In cosmology there is good evidence of the existence of the “dark matter” and even more mysterious “dark energy” that together are estimated to represent about ninety-five percent of all mass/energy in the universe. At present, physics has no explanation for either and, as cosmologist Tony Readhead remarks, a revolution in fundamental physics is needed to incorporate these major constituents into a comprehensive theory of physics. In evolutionary biology there is some argument about the relative contributions of Darwinian natural selection on the one hand and nature’s seemingly inherent capacity for self-organization on the other – a discussion that is summarized in Niels Gregersen’s treatment of “theology in a self-organizing world” (2002:53-92). There he points out the untenability of the notion of a detailed cosmic blueprint, given that cosmic evolution is open-ended. And in the neuro-sciences work continues on the immense project of mapping and understanding the operations of the mind-brain system.

Among the scientists themselves the world at large is often explained in terms of a purely naturalistic frame of reference; nevertheless, for many of them it raises questions of a philosophical or theological nature concerning the origin, destiny and ultimate meaning of the world. From the theological side Christopher Mooney (1991:319) comments that:

...the universe that science studies is not a mere sequence but a story, a struggle upwards through matter, life, thought, history, and culture. Only a narrative can really capture what is going on. And it is precisely this need of humans for meaningful narrative that allows theology to complement the causality of science.

extent constrained by the latter, and what the molecules actually do in the working of a cell is set by the overall task of the cell itself. There is bottom-up and top-down interaction between levels.

⁷ Note his *At Home in the Universe* (New York: Oxford University Press, 1995). Also see Barrett 2000:120-121.

⁸ Interviewed in *Science & Theology News* (Brentwood, Tennessee) 4:5 (January 2004), p. 26.

We turn then to the outlining of a theological world-view that embraces the multi-levelled evolutionary world-picture of the sciences.

A Theological Worldview

Science-and-theology discussion has been concerned essentially with the question of how a well-winnowed theological understanding of God as Creator can do justice to the rich diversity and openness of the natural order described by the sciences. Polkinghorne would claim that this is a task that needs bottom-up thinking in the first place – trying to describe the world in empirical fashion, as represented in the above world-picture – and then introducing a certain degree of top-down understanding in the form of appropriate assumptions about the eternal nature of God. One needs both approaches, he writes, neither scorning the aid of the specific nor refusing the boldness of trying out an occasional general speculation. (1994:11). Here, our top-down input will take the form of a key assumption: that at the heart of the Creator and creation are the qualities expressed in the Greek words *kenosis* and *to kalon* (the beautiful) – axiomatic concepts in theology and metaphysics, respectively, that can form the basis of a theological framework of understanding.⁹

The key Christian idea of the “kenosis of God” has re-surfaced relatively recently within Christian thought as a reaction to the classic conceptualization of God as all-powerful, all-knowing, unchanging and impassible – that is, of such transcendence as to be completely aloof from everyday human concerns. Jürgen Moltmann and WH Vanstone are two names closely associated with this phrase concerning the gracious self-emptying and self-giving nature of God – a concept directly related to the intensive discussion of the past decade or more about divine action in the world. (The kenosis of God as creator is the main theme of Polkinghorne 2001.)

Moltmann and other writers point to kenosis as characteristic of the relations within the being of the triune God and a mark, thence, of the ongoing work of creation, *creatio continua*. If, in William Temple’s striking phrase, that work is driven throughout by “power in subordination to love”, we may think of divine kenosis as, in the first place, a self-limiting of omnipotence – making room for human free-will and for the natural world’s freedom to unfold under the constraints of simply the divinely instituted laws of nature. Here is a divine “letting go” and “letting be” that is costly to an extent that is hardly imaginable. As Vanstone explains, the phrase “kenosis of God” contains something of the limitlessness, the vulnerability and the precariousness of authentic love. He argues that such graciousness does not hold back any reserves of power or wisdom or love; all is poured into the creating and sustaining of the world and the bearing of all consequences (Vanstone 1977:57-74). At the end of the book he quotes the line of the *Dies Irae*: “Tantus labor non sit cassus” (May so great a labour not be in vain), referring not to the passion of Christ but to the precarious work of creation.

The cost of that work is the subject of the chapter, “God saw that it was good”, in John Taylor’s *The Christlike God* (1992). If God is eternally limitless self-giving love, he writes, then God *had* to create a universe, seeking some “other” on which that love may be lavished. Echoing Vanstone’s sense of the cost involved, Taylor (1992:196) continues:

⁹ Whereas the Intelligent Design movement seeks the precarious route of a scientific (bottom-up) proof of the existence of God, here we postulate the nature and purposes of God (on the grounds of centuries of thought and religious experience) and then see if this provides the basis for a convincing explanation of the entire sweep of human existence – a case of hypothetico-deductive reasoning (an approach described briefly in Barrett 2000:97, 150).

...there will be accidents and casualties by the million every step of the way. Yet with all the risks, its agonies and tragedies, there is no other conceivable environment in which responsive self-giving love, to say nothing of courage, compassion or self-sacrifice, could have evolved.

The theological top-down input comes to an intense focus in “the Word made flesh”, “that unexpected and stunningly imaginative way of making his love and forgiveness unmistakably real” (Sherry 2002:111) – a self-limiting to mortal horizons and cultural context that would culminate in the cross. Such an account of creation and redemption would be consonant with George Ellis’s natural-theological “Christian cosmology” in which the universe is designed to bring forth not only carbon-based life but also high levels of uncoerced responsive self-giving love (see 1993:363-399 and Murphy & Ellis 1996:205-213; also Barrett 1996:68-71 and 2000:149-151).

But our theological world-view, with its keynote of stunningly imaginative kenosis, would be further enriched by setting the purpose of the creation as the bringing forth of “the beautiful” as well as “the good”. We then introduce the concept of *to kalon* as a second underlying theme – a richly-textured term that embraces both the good and the beautiful and carries a sense of fittingness, of being “just right”. (Kittel & Friedrich 1985:402-405). In its adjectival form it appears repeatedly in the Septuagint version of Genesis 1: “And God saw that it was *kala*”.

If the word “beauty” is allowed to carry the broad meaning of *to kalon*, it can be used as an organizing idea for a theistic understanding of the evolving universe (Barrett 2004:24-29). Indeed, it is not unreasonable to assume that:

...beauty / *kalon* is what the entire cosmic drama is about, that is, the creating and sharing of beauty on every scale of its wide variety of expressions, even if this needs to be seen as not yet fully achieved but rather the ultimate purpose. Then beauty is perhaps the single most apt word to apply to the created order itself – seen as an immense dynamic work of art (Barrett 2004:27).¹⁰

That work of art is especially profound in its creating of human beings who can not only respond to divine love but also perceive and create beauty at many levels, physical, moral, spiritual and intellectual, and begin to understand a little of the costliness of it all.

The idea of a world of multi-levelled beauty, in nature and in human creativity, accords with the approach of Irenaeus, the second-century Bishop of Lyon. Of the early fathers of the church he did most to celebrate the goodness of the created order and, as Colin Gunton (1993:159) remarks, few later theologians have achieved so adequate an integration of time and eternity – of the *creatio continua* of history and the *creatio nova* thereafter. He writes:

What is to be found in that admirable theologian is an affirmation, for christological and pneumatological reasons, of the goodness of the created order (Gunton 1993:80).

On the christological side, the cosmic significance of “the Word made flesh” constantly invites theological exploration – yet it is an aspect of recent christology that has tended to be seriously underplayed, writes Kenneth Cracknell in his impressive advocacy of a new relationship between Christians and “people of other faith” (1986:76). Here, we shall be concerned with the pneumatological role in divine action, conscious of the idea in

¹⁰ In similar vein, John Haught elaborates AN Whitehead’s view that “the cosmos is a restless aim toward ever more intense configurations of beauty”. See the section “A Process Perspective” in *God after Darwin* (2000:126-132).

trinitarian theology that there is unceasing interaction between Logos and Spirit – the two “hands of God” in creation, as Irenaeus puts it.

In his acclaimed earlier book *The Go-Between God* (1972) John Taylor writes of the Holy Spirit as ever at work on the inside of creation, in the processes, not in the gaps, in nature, in history and in human living. Wherever there is a flagging or corruption or self-destruction in God’s handiwork, the Spirit is present to renew and energize and create again. (Taylor 1972:27,28). And a key idea in Gunton’s *The One, the Three and the Many* is that “a renewed doctrine of creation is possible on the basis of a doctrine of God which in some way writes plurality into the being of things” (1993:151). Indeed, the burden of the whole book is that what the present age needs, is a theology giving central place to particularity – a theology in which a special role of the Spirit of God is to affirm the particularity of each created being, establishing it in its true reality (Gunton 1993:181-182).

The work of the Spirit is labelled by Irenaeus as the *beautifying* and *perfecting* of the creation – creating beauty in nature and inspiring human beings as creators and perceivers of beauty. In *Spirit and Beauty* (2002), Patrick Sherry points to the comparative neglect of this role, especially in the more recent theology of the West where treatments of the Spirit’s activity have tended to be restricted to ecclesiology and the spiritual life. He quotes the claim of Benedictine theologian Kilian McDonnell that “if one loses sight of the relationship of the Spirit to creation and cosmos, it is then difficult to relate him to nature, and to moral, cultural, and political life” – the Spirit becomes “too sacralized, too tied to holy objects and events” (Sherry 2002:79).

We therefore require a broadening not only of the meaning of beauty, but also of our concept of the Spirit’s activity in the world. Informed by Christian tradition about the economic Trinity, we may then summarize the enterprise of cosmic creation thus:

The Lord God creates, redeems and perfects with utmost love in order to bring forth and share widely the good and the beautiful.

Referring to the image of the Lamb slain from the foundation of the world, John Taylor speaks of this as a forgiven universe (1972:180), but the perfecting work of the Spirit does not cease – the *creatio continua* continues into the eschatological *creatio ex vetere*.¹¹

This is a theological world-view that welcomes and includes the scientific picture, and can be brought to bear upon two aspects of the South African educational scene.

A Theological Contribution to Contemporary South Africa

One of the preliminary tasks in any development of natural theology is to address the epistemology involved in interdisciplinary discussion. It seems that through the process of recent science / theology engagement, each side has acquired a clearer view of the strengths and limitations of its own knowledge and, generally speaking, there has developed a sharper awareness that absolutely certain knowledge is not attainable since many cultural, personal and conceptual filters intervene between the knowing subject and that which is known. However, as Jesuit cosmologist William Stoeger explains, there is a lot more to be

¹¹ Much science-and-theology discussion has been devoted to the question of ongoing divine action, *creatio continua* - how does God act in the world and where within nature’s processes lies the causal nexus? The discussion is comprehensively summarized in Wesley Wildman’s paper “The Divine Action Project, 1988-2003”, *Theology and Science*, Vol 2, No 1 (April 2004), pp. 31-75. Also see my paper “Interpreting creation theologically: Some ideas of John Polkinghorne on divine action & eschatology” in: Du Toit, C (ed.): *Design, information and complexity in creation*. Pretoria: RITR, Unisa (2003).

done in devising a better, more precise and adequate philosophical bridge between science and theology¹² – and, we may add, between theology and the humanities.

Two other concerns seem especially relevant to the South African scene – two ways in which natural theology can play an educational role within the Christian community and beyond. The first is to act against the persistent widespread perception that science and Christian belief are incompatible – that one has to choose between believing in God and accepting the scientific accounts of cosmic and biological evolution. The second, in the words of my earlier paper, is to offer a genuinely inclusive Christian cosmology that sees other religions as a valuable part of the story of costly creation (1997:175). In both cases natural theology would aim at a widening of horizons and the building of bridges – between science and Christian belief on the one hand, and across racial, cultural and religious divides on the other. The two are intimately connected.

The common assumption that science and Christian belief are in conflict was the topic of the 1994 conference of Britain's Science & Religion Forum, from which physicist Russell Stannard wrote the following summary:

The trouble begins in childhood. Young people are not exposed enough to the idea that science is but one pathway to understanding. They are not introduced to the findings of modern Biblical scholarship, so they have problems reconciling Big Bang theory and Evolution with what they read in Genesis. Having formed these wrong ideas at an early age, they are unlikely to find any help in putting them right at a later stage. Thus, it becomes imperative to find ways of putting across theological and scientific ideas – in a concrete form – to young people, before their attitudes become too hardened.¹³

That situation is mirrored here in South Africa in the teaching of both Big Bang theory and Evolution. For example, over several years of a bridging-year course in astronomy at the University of the Witwatersrand, feedback from questionnaires shows that there is a significant level of confusion arising from the clash between African tradition and / or religious belief on the one hand, and the scientific account on the other. As one student put it, typically:

I used to go to church, but now after I have learned this course, I think I don't believe any more ... I don't know which one to believe. I'm confused ... it's very difficult.¹⁴

The lecturer concerned, Ann Cameron, has remarked that the predominant clash is between science and religious belief. She adds that the problem for these first year students is that there is not the opportunity for discussion – no supporting “philosophy of science” course, no resources such as parents or pastors who can help, or the confidence to speak out about their confusion.

¹² Interviewed in *Science & Theology News* (Brentwood, Tennessee) vol 5, no 2 (October 2004), p. 3.

Note: A useful background item for this task is a chapter by Langdon Gilkey on “The Pluralism of Religions” (1993:111-123) – a burning issue that is “unavoidable, awesome, fascinating, terrifying and potentially most creative” (1993:111). Here the parity of religions as fundamental viewpoints is weighed alongside the liberal empirical naturalistic epistemic stance that exists in much tertiary-level thinking. Gilkey does not deny the usefulness of this predominant academic paradigm but emphasizes the underlying, often unconsciously held, presupposition that it does not fall within the relativity of world-views but transcends them.

¹³ Quoted in Newsletter No. 3 (April 1995) of the South African Science & Religion Forum (Unisa, Pretoria). A notable essay on this topic is Colin Russell's “The Conflict Metaphor and its Social Origins”, *Science and Christian Belief*, vol 1, no 1 (April 1989), pp. 3-26.

¹⁴ Cameron A, Doidge M & Rollnick M, “Prior knowledge and collateral learning in Foundation Students in a South African university”, *Proceedings of the Eleventh SAARMSTE Conference*, January 2003, Swaziland.

Tension arises, too, in the teaching of biological evolution, whether from a disposition to embrace what Polkinghorne calls the farce of “creation science” (1994:44), or from outright ignorance as shown in the newspaper headline, “Many varsity students have never heard of Darwin’s evolution theory.”¹⁵

The all-important gift that Christian theology can bring to this situation is a coherent world-view that invites people to see what an amazing, beloved and costly “cradle of human existence” we are part of – necessarily an evolutionary world in the making. They need to know that there exists a well-grounded trinitarian account of the cosmic drama that can be held with intellectual integrity, and that it places biological evolution and the entire scientific world-picture within a wide context of meaning and purpose.

Such a theological world-view would no doubt ease the way for Christian teachers and thinkers to address the urgent question of how the church in South Africa, at all levels, can be encouraged to think theologically, and thence far more affirmatively, about other faiths. In this way a significant contribution can be made to inter-religious understanding in general and to the forthcoming programme of “religion education” in schools in particular.¹⁶

This is clearly a moment in world affairs that calls for profound rethinking on the relationships between Christianity and the other major religions. During the early 1980s Methodist theologian Kenneth Cracknell, for example, had extensive encounters with church leaders and theologians from almost all countries in the world and found that “everywhere we are wrestling with the question of how we are to be faithful to Christ in a religiously plural world” (Cracknell 1986:1). Likewise, former WCC theologian Wesley Ariarajah (1985:63) urged that the church is being called “to deal *theologically* with religious pluralism and come to a new understanding of the way to relate to, live and work with people of other faiths”. He strongly encouraged the church to see this as a new historical moment in its life, which could give it a new impetus and mark a new beginning.¹⁷ Both authors saw the challenge to the church as one of right relationship with other religions, especially the challenge to see and know them in the full strength of their otherness – and both address in detail the fact that Scripture can be read and interpreted from either a conservative stance that takes an exclusivist position about salvation, or from a more liberal inclusivist stance.

In his final subsection, on “God’s reign and God’s mission”, Ariarajah (1985:69) writes that the emphasis on the kingdom will result in an emphasis on the Spirit and this will “open up many possibilities for relationship with people of other faiths”. Indeed, it was on this point that a significant argument arose in 1994 between Lesslie Newbigin, church leader and missiologist, and Konrad Raiser, General Secretary of the WCC. Newbigin was critical of the shift within the ecumenical movement in the 1960s from a sharply

¹⁵ *Pretoria News*, 10 June 2002. “South African university lecturers say many students stare in wide-eyed disbelief when academic staff make reference to evolution, as many students have never heard of the concept.” The article then referred to a recent HSRC colloquium on science and evolution at Stellenbosch where Dr Jeffrey Lever explained that the topic of evolution first appeared in South African high school textbooks in 1947, but disappeared in the mid 1950s with the advent of Christian National Education. In the 1960s, the objectives of school biology included developing “a reverence of the Creator and an esteem for the wonders of the created universe”. The result was not so much an anti-Darwinism as a non-Darwinism.

¹⁶ This was announced in September 2003 and the intended launch date is January 2006.

¹⁷ A striking example of a theology of religious pluralism is that of S Mark Heim in *The Depth of the Riches: A Trinitarian Theology of Religious Ends* (Grand Rapids: Eerdmans, 2001), described briefly in Barrett 2004:29-30. Also note the magisterial work of Jacques Dupuis SJ, *Toward a Christian Theology of Religious Pluralism* (Maryknoll: Orbis Books, 1997).

christocentric to a more broadly trinitarian (theocentric) stance. Raiser, on the other hand, was convinced that a christocentric theology of salvation history is inadequate for the challenge of religious plurality and the challenges arising from the threats to all natural life systems. (Barrett 1999:69-70).¹⁸

Such ecumenical stirrings suggest that the time has come for “a vastly wider and more Spirit-centred theology of mission” (Taylor 1972:196). We conclude with a brief mention of the concept of “aesthetic existence”, considered as an aim of that mission.

A Concluding Idea

The ladder of complexity in Figure 2 sweeps upwards from the universality of physical particles to the uniqueness of the human imagination. Only recently has this aspect of human *being* begun to receive its due from theologians, says Patrick Sherry, adding that “those who depreciate imagination and poetry risk suffering what Claudel called the tragedy of a starved imagination”. (2002:112). This superb human faculty can, of course, exhibit negative or merely whimsical aspects; here we note that Sherry draws upon the thought of ST Coleridge (1772-1834) and George Eliot (1819-1880) to describe imagination as a unifying agent – as the whole mind working in a certain way, involving perception, reasoning, and feeling (Sherry 2002:113) – and as a vehicle of inspiration by the Spirit of God. We may assume that wherever possible the Spirit offers visions of the true, the good and the beautiful, especially in the realm of human creativity. Thus the imagination is a key category in all that we have discussed about natural theology – imagination inspired by the Spirit into new ways of thinking and living.

The aim of cross-cultural, inter-racial and inter-religious understanding – an often expressed hope in South Africa – will no doubt be promoted through intellectual and everyday discourse but also, more strongly perhaps, through a search for the beautiful. John de Gruchy has explored this question authoritatively in his book *Christianity, Art and Transformation* (2000), remarking that “we have begun to retrieve culture as a vital and positive ingredient in human and social well-being, and to revel in difference as a source of enrichment”. He adds later that Christians of European background and African Christians are more likely to discover one another at the aesthetic level than through doctrine or ethics (De Gruchy 2000:209, 251; see also Barrett 2004:25, 28). And what interested him particularly was Kierkegaard’s idea of “aesthetic existence” as aired briefly in Bonhoeffer’s *Letters and Papers from Prison* (De Gruchy 2000:147-158). I have summarized De Gruchy’s description thus (2004:28, 29):

Bonhoeffer tantalizingly raised the question of what it would mean if the church could again (as in the thirteenth century in particular) provide a broad area of freedom and creativity, relating art inclusively to the flowering of humanity’s inner being – seeking deliberately an aesthetic mode of living that gives space to the creating of friendship, formation (*bildung*), play, happiness. Here he was exploring the notion of a true “worldliness”, a way of being *Christian* in the world that is *fully human, truly of the earth*. Although Bonhoeffer wondered about the possibility of recovering “aesthetic existence” within the life of the church – as a vital step along the path of Christian formation – the concept lends itself to the development of art in society at large, helping to create a realm of freedom for creativity.

Such ideas may have been prompted by Bonhoeffer’s conversations with his English friend and confidant, George Bell, who later became Bishop of Chichester. Bell was long

¹⁸ The exchanges between Newbigin and Raiser appear in *International Bulletin of Missionary Research* 18, 1994, pp. 2-5 and 50-52.

convinced that the arts could make a major contribution to theology and the life of the church. In his final speech to fellow Anglican bishops (in 1958) he asserted that people paid:

...far too much heed to economists, bankers, engineers, directors, businessmen and politicians and far too little attention to poets, philosophers, painters, sculptors, novelists of imagination, writers, teachers, musicians, even ballet dancers and every form of artist (Gay 1997:66).

The notes sounded by Bell and Bonhoeffer and re-emphasized by Root, De Gruchy and others – highlighting the theological significance of the realm of art and imagination¹⁹ – provide a good starting point for Christian theology's crucial task of developing and promoting a generously inclusive Spirit-centred approach to religious pluralism.

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¹⁹ A key contribution to this topic is the recent work of David Brown (University of Durham, UK): *Tradition and Imagination* (1999) and *Discipleship and Imagination* (2000) (Oxford: Oxford University Press).

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