

THEOLOGY ENGAGING EVOLUTIONARY THEORY: FRESH INSIGHTS INTO THE NATURE OF GOD

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ABSTRACT

This thesis explores the work of three theologians, Arthur Peacocke, John Haught and Denis Edwards, each of whom has made a significant contribution to the dialogue between contemporary evolutionary biology and the Christian understanding of God. The thesis explores and analyses how evolutionary theory throws light on key theological themes such as the nature of God's providence, especially in relation to pain, suffering and evil, and the meaning of Jesus Christ. The thesis involves a critical reading of the selected theologians' works, with their respective emphases on classical, process and kenotic types of theological thinking, and also draws on resources from the classical theological tradition, primarily St. Thomas Aquinas.

The study gives a positive assessment of the contributions of the three chosen authors. It highlights the critical importance that theological methodology plays in formulating insights into the relationship of God to evolutionary processes. Peacocke emphasises the use of critical realism as the most credible methodology for theology, consistent with its use by science. Haught agrees with this approach stressing, however, that the data of theology is not the same as that for science. Consequently, he argues that theology ought to constitute the deepest layer of explanation for understanding reality and for understanding God as the *ultimate* explanation for evolution. Edwards argues that we must find a way of talking about God that is consonant with the reality of the world but that this God always remains ultimately Mystery.

Peacocke, Haught and Edwards explore the usefulness of kenotic theology for explaining how belief in an omnipotent and supremely loving God can be reconciled with the existence of

pain, suffering and evil in the creation. Although a kenotic approach can account for the scientific evidence of a “self-creative” and emergent cosmos along with the presence of suffering and evil, a more comprehensive theological viewpoint must include an understanding of how God is active in creation, sustaining it in existence and drawing it towards its divinely ordained end.

Haught's argument for the presence of genuine contingency in the cosmos as evidence of God's on-going creativity is critically examined. Genuinely new possibilities, in evolutionary terms, new species, cannot be explained by material causation alone. In his “metaphysics of the future”, Haught argues that, despite the enormity of pain and suffering evidenced in evolution, God continues to lovingly draw the creation towards a hopeful and promised future in God.

This thesis appreciates the value of Edwards’ trinitarian “God of evolution” for it combines a more classical theological approach with evolutionary theory. For Edwards, biological evolution is seen as a process within an ontologically relational creation that reflects the divine relations of the Trinity. The creation of being-in-relation flows out of, and reflects, the divine trinitarian relations of mutual love. Edwards’ insights into the nature of original sin and grace within an evolutionary context are also positively assessed. Both Peacocke and Edwards propose a Wisdom Christology as the most fruitful link between the biblical Sophia tradition and a creation theology, holding together insights on the divine Being, Wisdom and the Christ-event itself.

Aspects of process and kenotic theologies can be usefully combined with Aquinas' expansive notion of God as ultimate Being. Through this synthesis, the drama of evolution is more intimately related with the ultimate reality, the Mystery of God.

Throughout this thesis, gender-neutral language has been maintained except in some quotations of St. Thomas Aquinas.

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Chapter 1

INTRODUCTION AND BACKGROUND

The question

As a biologist and a student of theology I have been inevitably faced with the question of how science and religion might collaborate in promoting an understanding of both God and the world. Theories relating to the mechanisms of biological evolution raise an array of responses in religious people. These range from outright condemnation of evolutionary theory to a positive appreciation of its contribution to a doctrine of God. Since Charles Darwin proposed a mechanism for biological evolution in 1859, there has been continued discussion amongst theologians regarding its implications for theology. A number of contemporary theologians, working with a methodology involving a critical approach to Scripture, have appropriated the insights of biological science in their re-examination of classical theology. As a student of theology and science, I have observed this respectful appropriation of scientific data in reformulations of theology and in theology's intelligent critique of the scientific method itself. With this interest in mind the questions addressed by this thesis are:

What fresh insights into the nature of God emerge by bringing evolutionary theory into a dialogical relationship with theology? What are some possible future directions for theology's engagement with evolutionary theory?

This thesis, however, is limited by a number of factors. Of several authors writing in this field, only three have been selected for closer study. This excludes wider views within the scope of the question. Similarly, contemporary theological responses to the question have been compared to a limited sample of classical theology, albeit a highly respected one in the

work of Thomas Aquinas. Despite these limitations, we anticipate that this thesis will add to the fruitful dialogue that is already taking place.

The importance of the question

Both theology and evolutionary biology have a bearing on the meaning of the human person in the world. After Darwin proposed the theory of natural selection as one of the fundamental mechanisms of biological evolution, the understanding of the place of humanity in the creation went through its own Copernican revolution. Humanity no longer appeared to be the pinnacle of creation. According to evolutionary theory, human beings had evolved like all other forms of life on earth. The human was classified as one animal amongst many, subject, at least until the modern period, to all the same pressures that drove natural selection in all forms of life. In the century and a half since Darwin proposed his theory, further fossil discoveries, advances in the science of macro and molecular genetics and further data from several related scientific disciplines, have all come together in the modern synthesis of neo-Darwinian evolution. The neo-Darwinian theory of evolution currently forms the most intelligible scientific framework within which to study biology.

Christian theology has progressively engaged with the fruits of scientific research in the field of evolutionary biology. From a Roman Catholic viewpoint, the following statement by Pope John Paul II validates this engagement:

Today, almost half a century after the publication of (*Humani Generis*), new knowledge has led to the recognition of the theory of evolution as more than a hypothesis. It is indeed remarkable that this theory has been progressively accepted by researchers, following a series of discoveries in various fields of knowledge. The convergence,

neither sought nor fabricated, of the results of work that was conducted independently is in itself a significant argument in favour of this theory.¹

In addition, the question of how evolutionary science and theology inter-relate must throw light on the origin and future of humanity. Human beings are interested in where they “fit” in the larger scheme of things. People seek meaning for their existence. This search for meaning within the Christian Faith is to a large extent the theological enterprise. Theology as understood by Anselm of Canterbury (d. 1109) is *fides quaerens intellectum* or “faith seeking understanding.” Richard McBrien states that “theology is the articulation, in a more or less systematic manner, of the experience of God within human experience.”² Since studies of biological evolution have widened what constitutes the panorama of human experience, it is reasonable that some theologies articulate the experience of God within this evolutionary framework.

Emerging from the engagement of theology with the theory of evolution are key questions concerned with the meaning of pain, suffering and evil. This adds further to the importance of the question explored by this thesis, along with the larger considerations regarding the significance of human beings in the cosmos, and the nature of God’s providence.³ This thesis then, will examine the strengths and limitations of a sample of theological approaches which seek to incorporate different aspects of evolutionary biology. A consideration of the selected authors opens up new possibilities in theological understanding and method. This next section

¹ Martinez J. Hewlett, "A God for Evolution," *God and Nature* (University of Arizona, 2001, accessed 4 December 2002); available from <http://kukulkin.meb.arizona.edu/~mhewlett/hewlett/romepaper.html>; Internet.

² Richard P. McBrien, *Catholicism* (New York: Harper & Row Publishers, 1981), 26.

³ Providence here is understood to refer to God’s “foresight” or the way God shapes and directs history. Where the term “special providence” is used in this thesis, it refers to God’s capacity to direct particular events within history. For a concise and useful summary see McBrien, *Catholicism*, 321-5.

will briefly review some contemporary approaches to the question and justify the particular selection of the authors that this thesis will consider.

Contemporary approaches to the question

The question addressed by this thesis is located within the wider dialogue between science and theology. This dialogue between what might be termed empirical science and theology has been occurring in one form or another since around the time of Galileo (d. 1642). As James Wiseman notes, debates between science and theology have continued unabated through the closing decades of the twentieth century and the first years of the twenty-first.⁴ Classification of evolutionary science-theology interaction has been summarised by Ian Barbour.⁵ He states there are four positions within the debate. At one end of the spectrum, some argue that the two disciplines will always be in conflict; or if not in direct conflict, that the two disciplines study different domains of knowledge and should remain separated. As one moves across the spectrum, these adversarial approaches yield to various degrees of dialogue. At the opposite end of the spectrum, participants argue that the two disciplines can, to a degree, be integrated, complementing each other in the search for truth.

Scientist-theologians such as Ian Barbour, Arthur Peacocke and John Polkinghorne assert that, although the substance of reality occurs in different forms of organisation, the world is

⁴ See James A. Wiseman, *Theology and Modern Science: Quest for Coherence* (New York: The Continuum International publishing Group Inc., 2002), 13.

⁵ See Ian Barbour, "God and Evolution In Recent Thought," Spring 2000 Monday Night Lecture Series: Science and Religion (2000, accessed 26 July 2001); available from http://www.pendlehill.org/spring2000_529.html; Internet.

still one reality, one substance.⁶ Therefore, they assume that there ought to be a unity of knowledge and truth reflecting the belief in the oneness of the Creator. This unity of knowledge and truth means there can be active intercourse across the boundaries of science and theology. Polkinghorne, reflecting the view of these scientist-theologians, remarks, “Creation is not so distanced from its Creator that the character of its history and process affords no clue to the nature of God’s interaction with it.”⁷ While noting the large range of possibilities indicated in Barbour’s classification, this thesis must be limited in scope and reduced to some manageable terms of reference. We will now try to specify the terms and limits of our particular concerns.

Barbour employs four headings to classify the various approaches in the interaction of evolutionary biology-theology interaction. They are Conflict, Independence, Dialogue and Integration.⁸ What he terms a method of “Integration” is most appropriate to describe the theologians considered in this thesis, for they “seek a more systematic synthesis of science and theology, and they are willing to accept more far reaching reformulations of classical theological doctrines to achieve it.”⁹ Theologians in this category include William Pollard, Nancey Murphy, Robert Russell, George Ellis and Thomas Tracey, who in one form or another see God as the determiner of indeterminacies. Here God is understood to work through the indeterminacy of quantum events to determine the divine purposes. This

⁶ See Barbour, “God and Evolution In Recent Thought,” 23; Arthur Peacocke, *Paths from Science Towards God: The End of All Our Exploring* (Oxford: One World, 2001), 49-50 and John Polkinghorne, *Science & Theology: An Introduction* (London: SPCK/Fortress Press, 1998), 54.

⁷ John Polkinghorne, “God in Relation to Nature,” The 1998 Witherspoon Lecture (Center of Theological Inquiry, 1998, accessed 29 November 2001); available from <http://www.ctinquiry.org/publications/polkinghorne.htm>; Internet.

⁸ See Barbour, “God and Evolution In Recent Thought.”

⁹ Barbour, “God and Evolution in Recent Thought,” 23.

theological determinism involves no violation of physical laws and is undetectable by scientific measurement. Advocating various models of top-down causation are theologians such as Arthur Peacocke and Philip Clayton, who suggest that God's purposes may be achieved through influencing the patterns of events in the world. The achievement of such divine purposes occurs through processes analogous to higher levels of organisation in a total system influencing the workings of sub-systems. An example used by Peacocke is the ability of mental states generated by the working of the human brain to, in turn, influence the physical workings of the brain itself. Again, these theologians argue that such models involve no abrogation of the laws of nature and are undetectable by empirical science. Other theologians in the "Integration" category include Charles Hartshorne and John Haught who subscribe primarily to a process-theology approach. For his part, Denis Edwards combines elements of classical and process theology, along with a recognition of the usefulness of Peacocke's model of top-down causation. Despite the variety of contemporary approaches used to engage theology with the data of evolutionary biology, all have to deal with such key issues as the nature of God's providence, the meaning of pain, suffering, evil and sin, and the significance of Jesus Christ.

From the rather large number of theologians who have treated the data of evolutionary biology in their respective theologies, this thesis will examine just three, namely, Arthur Peacocke, John Haught and Denis Edwards. These are of particular interest, falling as they do within Barbour's category of "Integration", as each has produced a systematic synthesis of theology and science that has led, in varying degrees, to a reformulation of classical theology.

Arthur Peacocke proposes that dialogue between science and theology is possible. Indeed, he has been exploring the relation between science and theology for nearly three decades. Over that time, he taught and researched in the area of physical biochemistry in the Universities of Birmingham and Oxford. He worked closely, in fact, with those who discovered the structure of deoxyribonucleic acid (DNA).¹⁰ In 1971 he took Anglican orders; and in 1972 became Dean of Clare College, Cambridge, where he worked on the relation between science and theology. He was Director of the Ian Ramsay Centre (IRC) at Oxford for the study of religion in relation to the sciences and is currently Warden-Emeritus of the Society of Ordained Scientists (SOSc). In 2001 he was awarded the Templeton Prize for Progress in Religion for his contributions to the study of the relation of the sciences to religion and for his initiation of the IRC, SOSc and the UK and European societies in that field. He has written several books including his latest, *Paths From Science Towards God: The End of All Our Exploring*.¹¹ His familiarity with evolutionary theory has affected his thinking on the nature of the human person, pain, suffering and evil, and the person of Jesus Christ. He is particularly interested in the nature of what he terms the “causal joint” of God’s action within worldly events – the traditional theological area dealing with divine providence.

John Haught and Denis Edwards, both Roman Catholic theologians, have written at length on theology and evolution. John Haught is the Landegger Distinguished Professor of Theology at Georgetown University. He specialises in the area of systematic theology and has a particular interest in issues relating to science, cosmology, ecology, evolution and religion. He has

¹⁰ Peacocke, *Paths From Science Towards God*, xiii.

¹¹ Information drawn from “Boston Conference Featured Speakers,” *Science and the Spiritual Quest II* (Science and the Spiritual Quest II, accessed 5 November 2001); available from http://www.ssq.net/Coming_Events/Boston/Speakers/Extra_Bios/extra_bios.html; Internet.

written numerous books and articles in these areas and recently has established the Georgetown Center for the Study of Sciences and Religion.¹² His recent book, *God After Darwin: A Theology of Evolution*, has much to contribute to this thesis. He considers that theology after Charles Darwin can hardly remain the same as before. Our modern understanding of evolution has significantly changed our understanding of the world and the place of humanity in it. In this regard, Haught undertakes to do more than put theology into dialogue with evolution. He seeks to produce a theology of evolution. His purpose in writing *God After Darwin* is to attempt to engage theology with a fully informed understanding of evolutionary biology. A nuanced understanding of an evolutionary view of nature can help us to expand our sense of the divine. A theology of evolution, he argues, “Will take into account all of the deviancy resident in the post-Darwinian representations of nature.”¹³ At the same time, Haught insists that this theology must be grounded in the experience of the sacred as mediated through communities and traditions of living Christian faith. Our understanding of God needs to move beyond a Deity identified with “cramped notions of order and design” that belong to a previous era.¹⁴

Denis Edwards, a Roman Catholic theologian working at Flinders University in Adelaide, has contributed significantly in the area of evolution and theology. In his book, *The God of Evolution*, and other writings, Edwards sets out to explore the impact of the theory of evolution on a theology of God, and so, he is a significant point of reference for this thesis as

¹² See Robert John Russel, “John F. Haught” (Center for Theology and the Natural Sciences, 2000, accessed 5 October 2002); available from <http://www.meta-library.net/bio/jh-body.html>; Internet.

¹³ Haught, *God After Darwin*, ix.

¹⁴ Haught, *God After Darwin*, x.

he argues that “holding together the Christian view of God and the insights of evolutionary science does demand a rethinking of our theology of the trinitarian God at work in creation.”¹⁵

Both Haught and Edwards have each formulated a theology of evolution, with both commonality and differences in their respective approaches. Haught exemplifies a process theology approach while Edwards emphasises a more classical approach to the questions raised by evolutionary theory. The next section will describe the method within which this thesis will be developed.

Method of approach to the question

In the background of this investigation is Bernard Lonergan’s collaborative transcendental method, especially as he conceives such a method as “a framework of collaborative creativity.”¹⁶ Four operations constitute transcendental method. The first operation, “experiencing”, involves the subject being attentive to the data. The second operation, “understanding”, involves using intelligence to explore the potential meaning of the data. The third operation, “judging”, employs reason to weigh up the various potential meanings of the data to come to carefully judged conclusions about the truth or otherwise of the meaning of the data. The fourth operation, “deciding”, involves the subject deciding responsibly what the

¹⁵ Denis Edwards, *The God of Evolution* (New York: Paulist Press, 1999), 13. Edwards, in particular, draws on Richard of St. Victor for his trinitarian theology. See Grover A. Zinn, ed., *Richard of St. Victor: The Twelve Patriarchs, the Mystical Ark, Book Three of the Trinity* (New York: Paulist Press, 1979). His references to Bonaventure include *The Works of Bonaventure, Vols VI (Collationes in Hexaemeron)* (Franciscan Press, 1960).

¹⁶ Bernard J. Lonergan, *Method in Theology* (London: Darton, Longman & Todd, 1972), xi.

implications of our judgements are for the investigation. How might the findings contribute to the common good of humanity, which includes us as subject?

Australian theologian, Tony Kelly, summarises this process in the following passage:

To know any truth, I need to attend to all the pertinent data, to refine my sensibilities, to vitalize my imagination, to ask the unwelcome questions, to consider the possible answers in broad and differentiated fields of meaning, to ponder the emerging evidence in a disinterested commitment to truth; finally, to take my place as a trustworthy agent in the vast collaborative exercise of illuminating the manifold mystery of existence and of forming a more human world.¹⁷

Lonergan's method invites investigators to appropriate the data of consciousness itself, the better to grasp the genuine objectivity of any given investigation. Lonergan's axiom in this regard can be stated thus: "Objectivity is the fruit of authentic subjectivity."¹⁸ This thesis, though not specifically focused on Lonergan's work, will proceed with his notion of method and objectivity in mind. Our embodied and conscious self is both a product of, and, at the same time, a creative agent within the cosmological reality that is currently described by the sciences. We stand within this knowing as dialogical participants, striving with integrity to be attentive to our experience of the data of both the world that we perceive as external to ourselves and the inner world of our individual consciousness. We spiral through this data, attempt to understand and make judgements about its validity and come to decisions about both the nature of its meaning and our meaning within it.

As methodological background for this thesis, Lonergan provides a general, overarching and dynamic framework within which to examine both the theological and scientific data in

¹⁷ Tony Kelly, *An Expanding Theology: Faith In A World of Connections* (Newtown: E. J. Dwyer, 1993), 111-2.

¹⁸ Lonergan, *Method in Theology*, 265.

conjunction with the data of consciousness – the insights, judgments and concerns – of the authors concerned. Moreover, the four-fold dimensions of our activity in knowing and responding is applicable to the structure of the thesis itself as it unfolds. Experiencing will involve examining the data of the selected authors as well as the background to the study (Chapters 1-4). Understanding is developed through critical analysis and evaluation of each author and through the comparison and contrast of these authors within selected categories (Chapters 2-5). Judging and deciding become applicable in the evaluation of the work of the selected theologians and the possibilities posed for further investigation (Chapter 6). Coming to know, however, is never a matter of simply applying rules. The dynamic, spiralling and heuristic nature of such a method is its great strength.

Classical approaches to the question

This section will note the classical understanding of the themes examined in this thesis, namely, the nature of divine providence, creation, evil, free will and the human person.

The most significant contribution made to classical theology was by St. Thomas Aquinas (1225–1274). Aquinas lived before the advent of the Renaissance and The Enlightenment in which modern Western science emerged. Nevertheless, his rational approach to understanding God and faith, and his Aristotelian approach to knowing through the senses, provide useful insights for contemporary discussions relating to the question addressed by this thesis.

To understand much of Aquinas' argumentation on the themes noted above, one has to grasp his understanding of being (*esse*). According to Copleston, "Aquinas follows Aristotle in

defining metaphysics as the science of being as being.”¹⁹ According to McInerny, “Being may be defined as what is; that which exists; reality.”²⁰ Metaphysics is “after or beyond the philosophy of nature, which is concerned with material and changeable being. Only what enjoys positive or extramental existence has an essence, meaning by essence that whereby something can exist in the real order.”²¹ A metaphysician is concerned with positive being, that is, with whatever has essence and exists independently of human knowing. Being that has essence is subdivided into two categories – substantial and accidental being. A human is an example of substantial being whereas colour, size, motion are examples of accidental being as they are dependent on a subject. They are in what exists. Aquinas “concludes that any approach to immaterial substance from material substance falls short of perfect knowledge of the former.”²² However, no other approach is open to human beings. The metaphysician will only ever have indirect, analogical and always inadequate knowledge of immaterial substance.²³ For Aquinas, the object of metaphysics is knowledge of God. Since God lies beyond our natural experience, we can only know God in so far as we can understand the relation of the objects of experience to the ground of their existence.²⁴

God’s Providence

Fundamental to the arguments Aquinas puts forward for the existence of divine providence is the following: “God is the first and universal cause. Since divine simplicity excludes any

¹⁹ Frank C. Copleston, *Aquinas* (Ringwood: Penguin Books Inc., 1955), 80.

²⁰ Ralph M. McInerny, "Being," in *New Catholic Encyclopedia*, 2nd ed., 230.

²¹ McInerny, "Being," 230.

²² McInerny, "Being," 232.

²³ See McInerny, "Being," 232.

²⁴ See Copleston, *Aquinas*, 82

composition, God's intelligence and will are identified with this causality, and thus God knows and wills all things (ST 1a, 45, 5; 19, 4).²⁵

For Aquinas, providence was the order of the world to its end. This order pre-existed in the mind of God causing it (ST 1a, 22, 1).²⁶

Since, however, God is the cause of things by His intellect, and thus . . . the type of every effect should pre-exist in Him . . . it is necessary that the type of the order of things towards their end should pre-exist in the divine mind: and the type of things ordered towards an end is, properly speaking, providence.²⁷

For Aquinas, the will of God is always accomplished due to the universality of the divine will.²⁸ Aquinas argues that everything is subject to the providence of God including those things that happen by luck and chance. This understanding follows from his distinction between universal and particular causes. He argues: "A thing can escape the order of a particular cause, but not the order of a universal cause."²⁹ The universal cause here relates to the understanding of God as "incomprehensible Be-ing, life and goodness. The universe, in owing its being to Be-ing, participates in the divine reality, and thus stands forth from nothingness."³⁰ As Kelly argues:

God is the cause operating in all causality and creativity, a 'transcendent' cause as the philosophical tradition would name it. Be-ing is not a filler of gaps, but that original matrix in which 'we live and move and have our being' (Acts 17:28), to quote Paul (probably citing Epimedes), 'above all, through all, in all' (Eph 4:6).³¹

In this sense then, contingent effects are understood by Aquinas to fall within the range of the universal cause due to the nature of God's sheer Being and therefore can be considered

²⁵ E. J. Carney, "Providence of God (Theology of)," in *New Catholic Encyclopedia*, 2nd ed.

²⁶ See John H. Wright, "Providence," in *The New Dictionary of Theology*.

²⁷ Thomas Aquinas, *The Summa Theologica*, vol. 1, trans. Fathers of the English Dominican Republic (Chicago: William Benton, 1952), 1a, 22, 1.

²⁸ See Wright, "Providence."

²⁹ Aquinas, *The Summa Theologica*, 1a, 22, 2.

³⁰ Kelly, *An Expanding Theology*, 116.

³¹ Kelly, *An Expanding Theology*, 120.

foreseen, and hence providential. According to Davies, Aquinas would argue that no events are completely uncaused. Davies refers to the claims of modern physics that some events appear to be completely random and uncaused. However, for Aquinas, “Even if there are events which have no cause or causes in nature, there can be no coming into being and no change without the causal activity of God.”³² Davies states that Aquinas would not have thought that “every natural process must be the inevitable outcome of causes operating in a deterministic way.”³³ Aquinas, for example, believed in human free will. Contingent events in the natural world fall under God’s causality. They are, in this view, not random; they are part of God’s will.

The Power of God

This thesis is also concerned to explore the nature of God’s omnipotence or power in the light of evolutionary theory. Aquinas identifies a two-fold aspect of power or potentiality. Passive power, by which something is acted on, or reduced from potency to act, does not exist in God. However, active power is affirmed of God in the “highest degree.”³⁴ Thus, Aquinas understands God as an active principle rather than something that is acted upon. He equates the idea of active principle with active power, the principle of acting upon something else. In this regard, the power of God is infinite. Aquinas argues that “since the divine essence through which God acts is infinite . . . it follows that divine power likewise is infinite.”³⁵

³² Brian Davies, *The Thought of Thomas Aquinas* (Oxford: Clarendon Press, 1993), 161. With reference to modern physics, Davies would be referring to the indeterminacy of quantum events.

³³ Davies, *The Thought of Thomas Aquinas*, 161.

³⁴ Aquinas, *The Summa Theologica*, 1a, 25, 1.

³⁵ Aquinas, *The Summa Theologica*, 1a, 25, 2.

However, although infinite power can be attributed to God, this does not necessarily lead to infinite effect (ST 1a, 25, 2 ad 2). Walter Farrell summarises Aquinas' understanding of omnipotence as the "power to do all that can be done, to make all that can be made; or, more simply, to do whatever does not involve a contradiction. What does involve a contradiction is not to be classified as impossible to some created cause, not to God's power, but impossible to itself."³⁶ In other words, Aquinas suggests that it is better to say that some things cannot be done rather than God cannot do them.

Creation

Then, there is the question of God as Creator. Aquinas argues that God must create every being. If all existent things participate in the Supreme Being then they must be caused by this "essentially self-subsisting Being . . . the First Being, Who possesses being most perfectly."³⁷ Aquinas then asks whether primary matter is created by God. Primary matter is the material of the universe considered to be extremely imperfect by philosophers. This primary matter is material that results from the effect of creation and is not a prerequisite of creation.³⁸ Moreover, like God causes the existence of beings, so too God causes all that belongs to their being. "And thus it is necessary to say that also primary matter is created by the universal cause of things."³⁹

³⁶ Walter Farrell, *A Companion to the Summa*, vol.1 (New York: Sheed & Ward, 1941), 134.

³⁷ Aquinas, *The Summa Theologica*, 1a, 44, 1.

³⁸ See Farrell, *A Companion to the Summa*, Chapter VIII.

³⁹ Aquinas, *The Summa Theologica*, 1a, 44, 2.

For all creatures, including primary matter, to be brought into being by God it is necessary that the fundamental idea or form of all things which exists outside of the thing itself must reside in God. This is referred to by Aquinas as the exemplary cause. God is the “first exemplar of all things.”⁴⁰ For anything to exist an exemplar is necessary. Since all things that exist have forms then there must be an exemplary cause behind all things. Since the form of all things in the universe resides in divine wisdom then in the divine wisdom must exist the exemplary forms. Hence, God is the exemplar of all things. God, for Aquinas, is also the final cause of all things. Here Aquinas argues that “every agent acts for an end.”⁴¹ The First Agent, God, “Intends only to communicate His perfection, which is His goodness.”⁴² Every creature aims “to acquire its own perfection and goodness.”⁴³ Hence, Aquinas argues that God, the divine goodness, is the end of all things. That is, God is the final cause of all creatures and creation.

Aquinas argues that divine creation is *ex nihilo*, “from nothing”, emanating in its totality from the universal cause which is God. He considers that creation had a beginning in time and that time itself was created along with the rest of the world. In this context, Aquinas’ arguments for *creatio ex nihilo* are based on the more fundamental reason, namely, that “God as pure Being and giver of all existence . . . God’s creation presupposes nothing in the being that is created.”⁴⁴ Carroll explains: “For St. Thomas, creation is the reception of being from the giver

⁴⁰ Aquinas, *The Summa Theologica*, 1a, 44, 3.

⁴¹ Aquinas, *The Summa Theologica*, 1a, 44, 4.

⁴² Aquinas, *The Summa Theologica*, 1a, 44, 4.

⁴³ Aquinas, *The Summa Theologica*, 1a, 44, 4.

⁴⁴ Clifford, "Creation," 216.

of all existence.”⁴⁵ For Aquinas “nothing is the same as no being. Creation, which is the emanation of all being is from the not-being which is ‘nothing’.”⁴⁶ As Kelly argues, “God is not conditioned by anything already there, outside the Godself, to create. The imagination . . . tends inescapably to model God as the biggest factor in a world of doers and movers, in a cosmos of causes, principles and particular energies.”⁴⁷ It follows that divine creating is not just another category of causation but is a transcendent causality “enabling creation not only to be, but to act. Creation in this sense means that God acts in the acting of everything, and causes in the causality of every agent.”⁴⁸

There are two aspects to creation identified by Aquinas. Active creation is the production of something from its own nothingness, *productio rei ex nihilo sui nec subjecti* (ST 1a, 45, 2 ad 2). The radical nature of God’s creation “precludes any prior reality from which the new being is educed.”⁴⁹ The creation is a pure gift of being.

Creatio passiva is the second aspect of creation. This aspect of creation focuses on the reception of the gift of existence by the creature and is relational in nature. It is the relation of the “creature . . . to the Creator as to the principle of its being.”⁵⁰ For Aquinas, “Creation is a unilateral relation of dependence: the creature depends upon the Creator, but not Creator upon the creation.”⁵¹

⁴⁵ Denis Carroll, "An Emergent Tradition on Creation," in *The New Dictionary of Theology*. See also ST 1a, 45, 5. Only God as the universal cause is capable of creating – bringing being into existence. To create, as Aquinas understands the term, is “to cause or produce the being of things.”

⁴⁶ Aquinas, *The Summa Theologica*, 1a, 45, 1.

⁴⁷ Kelly, *An Expanding Theology*, 91-2.

⁴⁸ Kelly, *An Expanding Theology*, 92.

⁴⁹ See Carroll, "An Emergent Tradition on Creation."

⁵⁰ Aquinas, *The Summa Theologica*, 1a, 45, 3.

⁵¹ Carroll, "An Emergent Tradition on Creation."

For Aquinas, since creation pertains to God's essential being, it is common to the three Persons of the Trinity.⁵² However, creation, while common to the three Persons, belongs to them in a "kind of order", for the Son receives the power to create from the Father and the Spirit from them both. In the language of appropriation, "To be the Creator is attributed to the Father," because the Father does not receive creation from anyone else.⁵³ Of the Son it is said, "Through Him all things were made" (John 1:3), since he has the same power as the Father but from the Father. Likewise the Holy Spirit, who has the same power from both, acts in that 'he governs' what is created by the Father through the Son. So the Father is the Creator. To the Son is appropriated wisdom, through which the agent (Father) acts through the intellect. To the Holy Spirit is appropriated goodness "to which belong both government, which brings things to their due ends, and the giving of life – for life consists in a certain interior movement, and the first mover is the end and goodness."⁵⁴

The processions of the divine Persons are grounded in the divine intellect and will. "The Son proceeds as the word of the intellect, and the Holy Ghost proceeds as love of the will."⁵⁵

Aquinas argues that all creatures contain a trace of the Trinity, showing forth the character of the Ultimate Cause. Through a creature's created substance "it shows the Person of the Father."⁵⁶ Through its form it manifests the Word, the Son. Through its order towards something else it represents the Holy Spirit who is love which emanates from the will of the Creator.⁵⁷

⁵² Aquinas, *The Summa Theologica*, 1a, 45, 6.

⁵³ See Aquinas, *The Summa Theologica*, 1a, 45, 6.

⁵⁴ Aquinas, *The Summa Theologica*, 1a, 45, 6.

⁵⁵ Aquinas, *The Summa Theologica*, 1a, 45, 7.

⁵⁶ Aquinas, *The Summa Theologica*, 1a, 45, 7.

⁵⁷ See Aquinas, *The Summa Theologica*, 1a, 45, 7.

Aquinas presumes that not only has all of creation proceeded from God, but also the number and variety of creatures. As Aquinas argues:

He brought things into being in order that His goodness might be communicated to creatures and be represented by them; and because the divine goodness could not be adequately represented by one creature alone, it produced many and diverse creatures . . . so that what was lacking in one of the divine goodness was made up for by another.⁵⁸

In God, goodness is an undivided, simple unity. In creation, the divine goodness is diverse and hence the whole of creation participates in the divine goodness and represents it better than any single creature could alone.⁵⁹

Every part of creation is needed to perfectly constitute the whole, even if not every creature is of the same value or grade of being. Though all things flow from the divine wisdom, some creatures are to be considered to be “more good” than others. This is necessary, argues Aquinas, to constitute a perfect whole.⁶⁰ The perfect whole constitutes this one world, in the one divine creation. In this universe, the unity of order within creation is a result of things being ordered towards each other and to God. Since all things are ordered in such a way and flow from the one divine wisdom, all things belong to one world.⁶¹

On Body and Soul

With respect to the soul, Aquinas argues that the soul is not of the divine substance, but that it is made directly by God. It does not exist in itself but is a “being by participation.”⁶² Its

⁵⁸ Aquinas, *The Summa Theologica*, 1a, 47, 1.

⁵⁹ See Aquinas, *The Summa Theologica*, 1a, 47, 1.

⁶⁰ See Aquinas, *The Summa Theologica*, 1a, 47, 2.

⁶¹ See Aquinas, *The Summa Theologica*, 1a, 47, 3.

⁶² Aquinas, *The Summa Theologica*, 1a, 90, 1.

existence does not depend on corporeal matter and exceeds the capacity of such matter.⁶³ In Aquinas' view, "The soul and the intellect are one, that this intellectual soul can be and is the form of the body and yet transcends the body in its intellectual power."⁶⁴ Since the soul is naturally the form of the body, it is created, therefore, in the body and not before the body.⁶⁵

With respect to the creation of the first person, Aquinas argues that the first man is made from the earth by an immediate act of creation by God.⁶⁶ He goes on to state that since the "proximate end of the human body is the rational soul and its operations . . . therefore God fashioned the human body in that disposition which was best, as most suited to such a form and to such operations."⁶⁷

Divine Causality

St. Thomas argues from the general principle that wherever there is an intellect there must be a will. Hence, as an intelligent being, God must have a will (ST 1a, 19, 1).⁶⁸ The force of Aquinas' argument comes from the fact that all beings have an inclination towards the good, each according to its nature. Humans have a "special inclination to the good that their intellect knows, and this inclination in an intelligent being is called the will. Similarly, as an intelligent being God must have a will."⁶⁹ Aquinas concludes that God both wills Godself and all other

⁶³ See Aquinas, *The Summa Theologica*, 1a, 90, 2.

⁶⁴ I. C. Brady, "Soul, Human: Patristic and Medieval Writers," *New Catholic Encyclopedia*, 2nd ed. 456.

⁶⁵ See Aquinas, *The Summa Theologica*, 1a, 90, 4.

⁶⁶ See Aquinas, *The Summa Theologica*, 1a, 91, 1, 2.

⁶⁷ Aquinas, *The Summa Theologica*, 1a, 91, 3.

⁶⁸ T. C. Donlan, "Will of God," *New Catholic Encyclopedia*, 2nd ed. 914.

⁶⁹ Donlan, "Will," 914.

things as well. He argues that the nature of the will in inclining towards the good is to communicate this good to others, above all in the case of the divine will.⁷⁰ The will of God must therefore be the cause of all things even if it is uncaused itself.⁷¹ “Since . . . the will of God is the universal cause of all things, it is impossible that the divine will should not produce its own effect.”⁷² This same will is completely unchangeable, since both the substance and knowledge of God are unchangeable.⁷³

Divine causality and evil

The mystery of evil, especially given the positive nature of Aquinas’s creation theology, remains always a perplexing problem. As Richard McBrien explains, “That there is evil in the world is obvious. That such evil is often collective and at the same time very personalized is also evident. What this evil is in its core is not so clear.”⁷⁴ How does Aquinas approach this problem?

Aquinas reasons that God, considered as a wise provider, would not will evil or defect on those things for which God cares. However, since evil and defect exist in the world, then God either cannot prevent this and is, therefore, not omnipotent, or else “God does not have care for everything.”⁷⁵ Aquinas’ response to this problem is that, although this principle may apply in a particular created instance, God being the universal provider allows some defects for the

⁷⁰ See Aquinas, *The Summa Theologica*, 1a, 19, 1.

⁷¹ See Aquinas, *The Summa Theologica*, 1a, 19, 3.

⁷² Aquinas, *The Summa Theologica*, 1a, 19, 5-6.

⁷³ See Aquinas, *The Summa Theologica*, 1a, 19, 7.

⁷⁴ McBrien, *Catholicism*, 329.

⁷⁵ Aquinas, *The Summa Theologica*, ST 1a, 22, 2.

sake of the universal good. He argues that “if all evil were prevented, much good would be absent from the universe.”⁷⁶ As Davies states, God is not someone in charge of one particular thing. God is the Creator of the whole of existence and therefore has charge of everything in it. Since God has universal providence, God “has care for the goodness of more than one thing. And he exercises his providence by providing for some things at the expense of others.”⁷⁷ Evil that is suffered and evil that is done are not contrary to providence. They fall within it. Nothing acts independently of God.⁷⁸

Aquinas argues that evil is never sought after by the will. However, evil may be sought accidentally in as much as it accompanies good. So although there may be no intention of causing evil, evil may occur as a result of a natural act which is good, for example, when a lion kills a zebra for food. The gain of food for the lion is good but the killing of the zebra is evil. Thus, for Aquinas, evil is permitted only if the good that comes from the evil is greater than the good negated by the evil. Aquinas distinguishes between God never willing sin, which is the negation of our orientation towards the divine good, and God willing the evil of “natural defect” and “punishment”. God wills the good to which such evils are attached. For example, “In willing justice God wills punishment; and in willing the preservation of the natural order, God wills some things to be naturally corrupted.”⁷⁹ As a result, “God therefore neither wills evil to be done, nor wills it not to be done, but wills to permit evil to be done; and this is a good.”⁸⁰

⁷⁶ Aquinas, *The Summa Theologica*, 1a, 22, 2.

⁷⁷ Davies, *The Thought of Thomas Aquinas*, 162.

⁷⁸ See Davies, *The Thought of Thomas Aquinas*, 162.

⁷⁹ Aquinas, *The Summa Theologica*, 1a, 19, 9.

⁸⁰ Aquinas, *The Summa Theologica*, 1a, 19, 9 ad 3.

Divine causality and human free choice

How does Aquinas think about God's supreme causality and human free choice? In *The Summa*, Aquinas notes the objection that what is moved by another is not free. The argument cited is that since God wills everything, so God works in humanity "to will and to accomplish (Phil 2:13)."⁸¹ Hence humans have no free choice.

Aquinas argues, however, that humans do have free choice and that this is not incompatible with the reality of providence. Davies cites two instances that Aquinas uses to support this. Firstly, Aquinas argues that the Bible affirms that humans have freedom (Eccl15:14). Secondly, "People, as rational agents, have it in them to choose between alternative courses of action (unlike inanimate objects or animals acting by instinct) and they also have it in them to act or refrain from acting."⁸² In the following passage, Davies explains Aquinas' argument:

Human actions falling under providence can be free precisely because of what providence involves. . . . Human freedom is compatible with providence because only by virtue of providence is there such a thing as human freedom. God, for Aquinas, really does act in everything. And since 'everything' includes human free actions, he concludes that God works in them as much as in anything else.⁸³

In his account of Aquinas's position, Davies goes on to point out that some created things do not operate with freedom, since they are acted upon by other created things which determine what course they should follow. However, not all created things have their course of action determined by other things, including God, and human free agents fit into this category. The main objection to this argument is that if God ultimately causes human actions then people do not act freely at all. However, Aquinas argues that human actions are free if nothing created is

⁸¹ Aquinas, *The Summa Theologica*, 1a, 83, 1.

⁸² Davies, *The Thought of Thomas Aquinas*, 175.

⁸³ Davies, *The Thought of Thomas Aquinas*, 175.

acting on humans to make them perform such actions.⁸⁴ In summary, Aquinas' argument is that to be free as human beings means freedom from influence within the universe, but not to be independent of God. "God does not interfere with created free agents to push them into action in a way that infringes their freedom. He does not act *on* them . . . He makes them to be what they are, namely freely acting agents."⁸⁵

As both Haught and Edwards refer to the thought of Jesuit palaeontologist, Teilhard de Chardin, the next section will provide a brief sketch of his thinking on evolution and the cosmos.

One early approach to the question: the work of Teilhard de Chardin

Teilhard de Chardin (1881-1955) was a Jesuit philosopher and palaeontologist. His ideas were considered somewhat unorthodox and aroused considerable suspicion before a critical reception of his vision was possible, only after the publications of his works after his death in 1955. We will briefly sketch his views relating evolution and theology, relying for the most part on Alister McGrath's convenient summary. Teilhard viewed the universe as an "evolutionary process which was constantly moving towards a state of greater complexity and higher levels of consciousness."⁸⁶ Within this evolutionary process, he identified "critical points". Two significant examples were the origin of life on earth and the emergence of human consciousness. These were thresholds that led to new stages of development in the

⁸⁴ See Davies, *The Thought of Thomas Aquinas*, 176-7.

⁸⁵ Davies, *The Thought of Thomas Aquinas*, 177.

⁸⁶ Alister McGrath, *Christian Theology: An Introduction* (Malden: Blackwell Publishers, 2001), 290.

continuous evolution of the universe. The universe as understood by Teilhard was made up of multiple layers of organisation, with each layer dependent upon earlier levels. The emergence of later layers was an actualisation of the potential within these earlier layers. Consequently, there was a “natural progression from matter to life to human existence to human society.”⁸⁷ Teilhard argued that because matter had the potential to become conscious, then matter possessed some form of elementary consciousness. He described it as a “Within to things”. Teilhard considered that there were “no radical discontinuities or innovations within the evolutionary process,” that the existence of a biological layer within the very fabric of the universe was necessary.⁸⁸ How then did Teilhard understand God’s presence within the evolution of the universe?

In Teilhard’s writings, God is understood to be at work within the processes of cosmological evolution, as it heads towards its final goal, the Omega point. This Omega point came to be associated with a final unification with God. This scheme was built on Teilhard’s understanding that the consummation of the world would be in Jesus Christ (See Col 1:15-20; Eph 1:9-10, 22-23). Clearly, Teilhard believed there was a directionality and progress within evolution. There was an upward movement with Omega as the final destination of the cosmos. As McGrath notes it, “Omega is to be seen as a force which attracts the evolutionary process towards it. It is “the Prime Mover ahead”, the principle which “moves and collects” the process.”⁸⁹ The whole direction of the evolutionary process is thus defined by its goal, which is Omega. Thus, the New Testament idea that all things will be consummated in Jesus Christ, when combined with this understanding of the cosmos, sees it become the theological

⁸⁷ McGrath, *Christian Theology*, 290.

⁸⁸ McGrath, *Christian Theology*, 290.

⁸⁹ McGrath, *Christian Theology*, 291.

framework for evolution: “Christ is to be seen as the final goal of the evolving cosmos.”⁹⁰

This approach, like that of process theology, sees God at work ahead of the process, luring the cosmos towards its ultimate fulfilment. Though in many ways an extension of traditional categories, Teilhard’s writings are clearly leading into a new kind of theological comprehension of the reality of emergence and evolution.

Process theology

A theological approach that has emerged in reaction to the perceived problems of the static nature of classical theology is that of process theology. Since the authors examined in this study use elements of process theology in their theological engagement with evolutionary theory, it is necessary to briefly explain the main tenets of this theological approach and some of its attractions and criticisms. Process theology generally refers to any systematic theology which draws on philosophical categories that prioritise becoming over being. This type of theology is inspired by the philosophical thinking of Alfred North Whitehead, who conceived the world as dynamic rather than static.⁹¹ John Cobb explains that in this approach, each of the fundamental building blocks of existence is an “occasion of experience”, an activity that comes into existence and then disappears. Such “occasions” have a degree of freedom to develop and be influenced by their environment. Each becoming brings together past and future and is described as being dipolar, possessing a physical pole and a mental pole. In process theology, God is identified with a permanent background of order that acts as an

⁹⁰ McGrath, *Christian Theology*, 291.

⁹¹ See Joseph A. Bracken, "Process Theology," in *The New Dictionary of Theology*.

organising principle within the process of development of the creation. God provides the initial aim for every occasion of experience. God is also the final repository of each occasion once it perishes. This theological approach argues that causation in the universe is not a matter of an entity being coerced to act in a given manner but a matter of *influence* and *persuasion*. God, understood to be part of the process of the universe, lovingly persuades each “occasion” to develop towards Godself. God is in turn influenced by all “occasions” within the process and therefore this God “feels” every experience and is not aloof from the world. To use Whitehead’s phrase, God becomes "the great companion - the fellow-sufferer who understands." In this theological approach, God’s omnipotence is redefined in terms of persuasion or influence within the overall world-process. Moreover, God’s omniscience refers to God only knowing the future as possibilities, never as actuality.

On the surface, it is evident why some theologians adopt this approach in their engagement with evolutionary theory. One attraction to this theology, given the enormous suffering evident in evolution, is its argument that, not only are human beings free to disobey God, but that all parts of the cosmos are similarly free to disregard divine influence or persuasion. God is therefore absolved of responsibility for both moral and natural evil. Every component within the creation possesses a degree of freedom and creativity which God cannot countermand. Although this approach merits attention with respect to its approach to the problem of evil, critics of process theology argue that the traditional notion of the transcendence of God appears to have been forsaken. Since God is understood to be part of the processes of an emergent creation, God becomes one more cause alongside all causes. In other words, divine transcendence is understood to mean little more than that God outlives and surpasses other entities. A further criticism of process thought is that it compromises the

notion of God's perfection. If God can change, how can God be perfect? Charles Hartshorne has met this criticism by redefining the idea of God's perfection. Here, "God's ability to be influenced by other entities does not mean that God is reduced to their level. God surpasses other entities, even though God is affected by them."⁹² Traditional theists, however, are critical of the approach taken by process thought, particularly in that the God of process thought bears "little relation to the God described in the Old or New Testaments."⁹³

We turn now to examine the nature of the emergent universe as understood by modern science.

Scientific background to the question

William Stoeger, a Jesuit priest and astronomer, in an article titled *Cosmology and a Theology of Creation*, provides an excellent summary of the nature of the universe as understood by contemporary cosmology.⁹⁴ The modern theory of cosmogony originated with the work of Alexander Friedmann.⁹⁵ Working with Einstein's equations related to his theory of general relativity, he showed that all galaxies should be accelerating away from all other galaxies. This theory was substantiated many years later when Edwin Hubble, using a telescope, experimentally established that the universe was indeed expanding. Hubble's observations have since been verified numerous times, thus confirming the explanation of the expansion of

⁹² McGrath, *Christian Theology*, 288.

⁹³ McGrath, *Christian Theology*, 289.

⁹⁴ See William R. Stoeger, "Cosmology and a Theology of Creation," in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D. Regan and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 128-137.

⁹⁵ The current model of the universe and its origins is named "The Standard Model".

the universe by general relativity as one of the greatest intellectual achievements of all time. If the fabric of space is stretching and expanding then running this expansion backwards in time would see all the galaxies coming closer together. As the shrinking universe compresses all matter together, it gets hotter, producing hot plasma of elementary constituents. As the clock continues to run backwards, the universe increases in density and temperature until it compresses to a single point, in which all the matter in all the stars of the approximately one hundred billion galaxies is squeezed together. It is from this extrapolation backwards that the current image of the Big Bang originated. From this cosmic fireball the entire universe as we observe it today was born.

This event, however, did not happen *in space and time*. There was no space or time outside of the original point. Thirteen billion years ago at the Big Bang, time began and compressed space unfurled carrying with it all the matter and energy in the entire universe that we observe today.⁹⁶ At *Planck time*, 10^{-43} seconds after the bang, the temperature is calculated to have been around 10^{32} Kelvin. At approximately a hundred-thousandth of a second after the start, the cosmic plasma had cooled enough for quarks to join to form protons and neutrons. As the universe continued to cool, the lightest elements in the Periodic Table began to form. Over the next three minutes, the temperature cooling to around a billion degrees, allowed for the formation of hydrogen, helium, deuterium and lithium. This period is referred to as *primordial nucleosynthesis*. Around a billion years later, the universe had cooled sufficiently to allow galaxies, stars and planets to form under the influence of gravitation. Thirteen billion

⁹⁶ Penny Fannin, "Universe 13 Billion Years Old," *The Age* (Melbourne), 25 April, 2002. As recently as April 2002 the debate over how long ago the Big Bang occurred has been further reduced with NASA announcing that through the study of stars called white dwarfs orbiting our Milky Way galaxy, a group of astronomers from five universities had refined the universe's age to close to 13 billion years.

years after this Big Bang, humanity stands in awe at the magnificence of the cosmos and at our ability to have synthesised a critically realistic and experimentally testable theory of cosmic origin.⁹⁷ The universe over the period of its existence to date has been expanding and cooling and is thought now will end with what is described as a ‘heat death’. All of the stars will exhaust their fuel and the universe will eventually become a “vast, cold, dark and profoundly lonely place.”⁹⁸

With our present sophistication in technology, the predictions of general relativity continue to be borne out by experimental data. Presently it is our best approximate description of how nature actually works on a macroscopic scale. Nevertheless, it is fundamentally incompatible with another well-tested theory, quantum mechanics, which describes the nature and behaviour of elementary particles. It is considered the central problem of modern theoretical physics to resolve the conflict between these two theories.⁹⁹

Within this emergent universe life has appeared and evolved, at least on planet Earth, within the last three and a half billion years. For life to evolve on this planet the formation of heavier chemical elements such as carbon, oxygen, nitrogen, iron, phosphorous and magnesium was required. Everything that exists in this universe has been dependent on everything else in the universe; and it is all part of the same originating substance.

⁹⁷ See Brian Greene, *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* (London: Vintage, 2000), 82-3, 346-7.

⁹⁸ Michael D. Lemonick, "The End," *Time*, 25 June, 2001, 44-52. The latest evidence from astronomical studies supports the idea that the cosmos will end in black holes, burnt-out cinders of stars and dead husks of planets. The universe will be cold and black.

⁹⁹ Greene, *The Elegant Universe*, 84.

Having noted the current scientific model of the cosmos, it is also important background to this thesis to explain biological evolution as science models it currently. As with the scientific study of cosmology, the science of evolutionary biology is a complex one. The theory of biological evolution maintains that life has changed and continues to change. From some original self-replicating molecule to the modern day, where it is estimated that there are around thirty million species of organism on earth, life forms have changed. It is thought that this thirty million species represents perhaps only one percent of all the species that have ever inhabited this planet, that is, an estimated thirty billion species. Life on earth impresses us with its complex detail and extraordinary diversity.¹⁰⁰ Biological evolution can be defined as “the origin of life from prebiotic substances and the subsequent differentiation through time of all species from pre-existing species, this ongoing process being the result of changes produced by natural selection and/or mutation in the genetic makeup of a population.”¹⁰¹ There are two aspects to evolution. One is the fact of evolution, that is, that species of organisms have changed over time. Charles Darwin (1809-1882) was the first person to put this idea, which had been around for a long time, on a sound scientific foundation. Evidence for this fact comes from a wide range of areas including the geographical distribution of species, studies in embryology, comparative anatomy, biochemistry, palaeontology, DNA hybridization studies and immunological comparisons. The second aspect of the study of evolution relates to the mechanisms that drive it. Darwin, and independently, Alfred Russell Wallace, put forward the mechanism of natural selection to explain why species differ from each other.¹⁰² Since Darwin published his now famous book, *On the Origin of Species by*

¹⁰⁰ See Richard Dawkins, *River Out of Eden: A Darwinian View of Life* (London: Phoenix, 1996), 9.

¹⁰¹ F. J. Burrows and D. R. Selkirk, eds., *Confronting Creationism: Defending Darwin* (Kensington: New South Wales University Press, 1987), 19.

¹⁰² See M. B. V. Roberts, *Biology: A Functional Approach* (Melbourne: Nelson, 1971), 542-568.

Means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life in 1859, our understanding of evolution has undergone considerable modification, although Darwin's fundamental ideas still hold true. The modern understanding of evolution, incorporating studies in genetics, biochemistry, immunology and other areas, is frequently referred to as the neo-Darwinian synthesis. Evolutionary change can result from a number of different mechanisms, often in complex interaction with each other. There are basically five main concepts, however, which are thought to explain evolutionary change. The first is that organisms tend to overproduce numbers of offspring, some of which will not survive to maturity. Secondly, within the offspring that are produced, there exists variation. This variation is a result of the mixed inheritance of DNA from parents and/or from non-directed mutations (mistakes in the copying of DNA) of the parental organisms. These mutations are mostly harmful, sometimes useful, or of no consequence to the survival of the offspring. Thirdly, in addition to death of offspring due entirely to chance, some offspring will compete less successfully for the limited resources within an environment and thus will be eliminated from the population. In effect, the environment "selects" those individuals that are better suited to survive in that environment. This is what Darwin referred to as natural selection. Fourthly, over time, the genetic makeup of the population will change, with an increase in frequency of those genes that confer a survival advantage and a decrease in frequency of those genes that confer a lesser advantage. The genetic makeup of a population can also change due to an accumulation of random mutations that have no selective value. This random change in a population is referred to as genetic drift. Other events can also change the genetic makeup of a population such as catastrophic natural disasters leading to genetic bottlenecks or the random elimination of individuals and thus genes from a gene pool. No matter what the cause, all changes in the makeup of a gene pool constitute evolutionary change. The fifth concept

that contributes to evolution is that of speciation. Natural selection alone is rarely thought to lead to an entirely new species. Natural selection, in conjunction with isolation, is the mechanism thought to most often contribute to speciation. This is often the case when a population is split over long periods of time by a geographical barrier, often resulting in differential selection pressures on members of a single species living in two different environments. Over time, natural selection may lead to enough differences between the two isolated populations that, if they were to reunite, individuals would now be reproductively isolated from each other and therefore technically be members of different species.¹⁰³ It is these processes that have led to the extraordinary diversity and complexity of life on earth.

The origin of life is thought to have occurred sometime before 3.8 billion years ago with the emergence of a self-replicating molecule, such as a primitive form of ribonucleic acid (RNA). Based on the evidence of the fossil record, the first living creatures were simple prokaryotic organisms, bacteria and archaea. These are the only organisms in the record for the next two billion years. Around 1.9 billion years ago eukaryotic cells appear. These cells are considerably more complex, possessing a number of membrane-bound compartments including a nucleus for specialised functions. It is commonly thought now that these eukaryotic cells emerged from the communal living of bacteria. Over time, these unicellular eukaryotic cells gave rise to multicellular creatures around 580 million years ago. During the Cambrian period (545-495 million years ago) there was an enormous increase of life in the sea. The first vertebrate animals appeared on land around 375 million years ago. The

¹⁰³ See Burrows and Selkirk, eds., *Confronting Creationism: Defending Darwin*, 19-23. For two organisms to belong to the same species, they must be able to mate and produce fertile, vigorous offspring under natural conditions. For another excellent summary of the evolutionary process see Ian Tattersall, *Becoming Human: Evolution and Human Uniqueness* (Oxford: Oxford University Press, 1998), 78-108.

dinosaurs, marine and flying reptiles and mammals evolved during the Triassic (245-206 MYrs) and Jurassic (206-144 MYrs) periods. After the extinction of the dinosaurs and other animal groups around 65 million years ago, the mammals increased significantly in number and type. Around 7 million years ago an upright, bipedal apelike species evolved and by around 100,000 years ago modern human beings (*Homo sapiens*) had appeared.¹⁰⁴

This is merely a sketch tracing the evolution of an estimated thirty billion species over four billion years. An evolutionary biologist would stress that the process appears very much like an enormous branching bush with millions of dead ends representing the extinction of species along the way. The species alive today represent the most recent twigs in the bush although some species of bacteria have gone through little change over billions of years.

With respect to human evolution, Ian Tattersall, a prominent palaeoanthropologist, offers the following insights:

Human beings are the result of the same evolutionary process that produced the entire vast diversity of living things. Yet we cannot help but think of ourselves as somehow significantly “different” from the rest of nature. There’s plenty of justification for this, of course; for while our physical peculiarities are no more notable than those of many other organisms, our remarkable cognitive capacities place us in a league to which even our closest living relatives don’t belong. As far as we know, for example, we’re alone in nature in being able to contemplate our place in it.¹⁰⁵

Tattersall highlights two critical points. Firstly, the evolution of modern human beings as a species fits within the same framework of evolution that explains the appearance of all life that has existed on earth. The second is that our intelligence as a species seems to somehow

¹⁰⁴ Denis Edwards, “Evolution and the Christian God,” in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D. Regan and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 173.

¹⁰⁵ Tattersall, *Becoming Human*, 78.

negate our ability to accept that this is so. Since the idea of the human person is an important theme in this thesis, a summary of current thinking on human evolution will follow.

One of the major problems with reconstructing the evolutionary pathways of a terrestrial organism, such as human beings, is the paucity of fossil evidence. Nevertheless, over the last several years, the number of fossil remains of hominid ancestors has continued to increase. The latest evidence suggests that the first hominids appeared around six to seven million years ago in Ethiopia.¹⁰⁶ The oldest known hominid fossils before this were dated between 4.4 and 3.9 million years of age and were named *Ardipithecus ramidus*. The most significant defining feature of these creatures was their ability to walk partly or fully upright, that is, they were bipedal in their locomotion. This was a major shift in primate evolution and involved changes to the pelvic bone structure, muscle arrangements and the movement of limbs. At this stage, much of the rest of the body would have still been apelike. However, bipedalism achieved one very significant thing in that it freed up the hands to do things other than aid in movement. In the period between 4.2 and 3.5 million years ago, hominids classified as *Australopithecus anamensis* and *A. afarensis* appeared. These were considerably different from *Ardipithecus* and both lie much closer to what is now considered to be the main line of hominid descent. Branching out from here in the fossil record, through the process of adaptive radiation, is a further series of hominid species. Other Australopithecine species, *A. africanus* and *A. garhi*, emerged between 3 and 2.3 million years ago. At a similar time, a new genus branched off, that of *Paranthropus*, with at least three different species currently suggested: *P. aethiopicus*, *P. boisei*, and *P. robustus*. These date between 2.7 and 1.2 million years ago. At around 2.4

¹⁰⁶ See Paleo News, "Oldest Humanlike Fossils Found in Ethiopia," *Becoming Human* (The Institute of Human Origins, 2001, accessed 9 July 2002); available from <http://www.becominghuman.org>; Internet; and Stephen Cauchi, "Granddaddy Of Us All Checks In at a Ripe Old Age," *The Age* (Melbourne), 11 July, 2002.

million years ago a new group appeared, although the fossil evidence is highly fragmentary. This was the first group to be classified in the genus *Homo*. *Homo habilis* may have branched off from *A. africanus* but, more significantly, it was around this time that the first stone tools appear. *H. habilis* also shows an increase in brain size. A number of other species appear around this time and soon after, including *H. rudolfensis* and *H. ergaster*. It is in this slightly later period that significant improvements are found in the types of tools made and the first hints of fire making are seen. By around 1 million years ago, members of *Paranthropus* had essentially become extinct. Around 1.8 million years ago *Homo erectus* appeared. It continued the trend with increased brain size and more sophisticated construction and use of tools, including fire. This species has been found in Africa, Europe and Asia and shows a great deal of regional variation. Although it is impossible to know from the fossil record whether *H. erectus* had language or a degree of self-consciousness, it is quite possible that it did. Between 600,000 and 100,000 years ago, *H. heidelbergensis* appears and is thought to be the ancestor to *Homo neanderthalensis* and, along a different line, *Homo sapiens*. The Neanderthals lived between 135,000 and 34,000 years ago, inhabiting an area from Western Europe to Asia. The other group in existence at this time, *H. sapiens* appeared around 100,000 years ago and was capable of language, consciousness, artistic imagination and the capacity for complex technological innovation. Later forms were more gracile and modern than earlier forms. By 30,000 years ago, *Homo sapiens* were the only species of hominids left on earth.

Two hypotheses have been put forward to explain the distribution of modern humans around the world. In the multiregional theory, *Homo erectus* spread out of Africa around 2 million years ago and then slowly evolved into modern humans in different regions. Modern traits appeared in some populations and spread to others through interbreeding and gene flow. The

slightly more favoured hypothesis at the present time, the “Out of Africa” theory, suggests that modern humans evolved from an archaic group of humans in Africa between 200,000 and 100,000 years ago and then migrated out to Europe and Asia and replaced all existing human populations in the world.¹⁰⁷

Admittedly, the history of human evolution is vastly more complex and nuanced than any simple description. As Ian Tattersall has noted, despite the capacity of minor genetic changes to bring about significant morphological effects, “We have almost certainly underestimated the number of species actually present in the known human fossil record.”¹⁰⁸ He goes on to argue that consequently we have looked at human history as less eventful than it most likely was, and we have inappropriately made more central than is warranted the place of our own species in the history of our family’s evolution. One of the weaknesses of earlier reconstructions of human prehistory was the linear nature of the description of our evolution, inevitably placing *Homo sapiens* at the culmination of a line of steady improvement. A more truthful, revised description sees *Homo sapiens* as the only surviving species of an intricate pattern of speciations and extinctions in our biological past. Tattersall argues,

Such acceptance also obliges us to rid ourselves, once and for all, of the persistent notion that we are the final result, whether perfected or not, of a steady process of improvement. It’s also important for us to acknowledge very explicitly that, remarkable as we humans unquestionably are, we did not come by our special features as the result of a special process. We came by them honestly: through the workings of exactly the same mechanisms – poorly understood though some of them may be – that gave rise to all other living things.¹⁰⁹

¹⁰⁷ This summary derives from three sources: See “Lineages,” *Becoming Human* (The Institute of Human Origins, 2001, accessed 9 July 2002); available from <http://www.becominghuman.org>; Internet; Edwards, *The God of Evolution*, 56-60 and Tattersall, *Becoming Human*, 109-187.

¹⁰⁸ Tattersall, *Becoming Human*, 104.

¹⁰⁹ Tattersall, *Becoming Human*, 105.

One of the remarkable features that Tattersall refers to above is a highly developed consciousness. The details of how we acquired such an advanced consciousness are still very much open for debate. Our cognitive abilities, typified by our language capabilities, make us very different to the millions of other species inhabiting our planet. However, Tattersall emphasises the following:

The latent ability to form and manipulate mental symbols is clearly not the predestined result of an inexorable process over the aeons, even if the foundations for it were established over a long human evolutionary past. Rather, its acquisition was an emergent event that was probably rather minor in terms of physical or genetic innovation, that was comparatively sudden, and that came very late in our evolutionary history. Although the initial probability that all the components needed for modern human consciousness would come together precisely as they did was undoubtedly miniscule in statistical terms, so was the probability of *any* of the millions of specific outcomes of the evolutionary process. Viewed this way, the event itself is far less remarkable than its end product.¹¹⁰

Tattersall concludes his overview of human evolution by pointing out that it is not our large brain that makes us unique but the emergence of a fully developed mind. What makes this mind so complex is that “it is a product of ancient reflexive and emotional components, overlain by a veneer of reason.”¹¹¹ Despite the emergence of symbolic thought in *Homo sapiens*, we have not entirely disassociated ourselves from some of the behaviours that were exhibited by our early ancestors. It is the interaction of the old components with the new that makes us so unique.¹¹²

In the following three chapters, the work of Arthur Peacocke, John Haught and Denis Edwards will be examined in relation to the question put forward in this thesis.

¹¹⁰ Tattersall, *Becoming Human*, 233.

¹¹¹ Tattersall, *Becoming Human*, 234.

¹¹² See Tattersall, *Becoming Human*, 234.

Chapter 2

PATHWAYS FROM SCIENCE TOWARDS GOD: THE VISION OF ARTHUR PEACOCKE

This chapter will examine and evaluate the theological work of Arthur Peacocke, a physical biochemist and Anglican priest. Peacocke is of the view that dialogue and, to some degree, integration is possible between science and theology. He has written several books, including his latest, *Paths From Science Towards God: The End of All Our Exploring*, a useful source for this exposition.¹ His methodology, understanding of cosmology, biological evolution and theology will be reviewed.

Peacocke's work emerges from a deep desire to explore the intelligibility and meaningfulness of the universe. Our understanding of the universe has been expanded enormously through extraordinary discoveries in the disciplines of cosmology and astrophysics. Moreover, tremendous progress has been achieved in the field of evolutionary biology, due particularly to data from the field of molecular genetics. Scientists continue to learn more about how DNA and the influence of the environment shape the nature of human beings. Peacocke aims

to expound how science has opened up fresh vistas on God for human perception and life. All religious thinking, and notably Christian theology, is challenged by these new vistas, which afford a unique opportunity to weld together the human search for meaning through religion and the human quest for intelligibility through science.²

¹ Information drawn from "Boston Conference Featured Speakers," *Science and the Spiritual Quest II* (Science and the Spiritual Quest II, accessed 5 November 2001); available from http://www.ssq.net/Coming_Events/Boston/Speakers/Extra_Bios/extra_bios.html; Internet.

² Arthur Peacocke, *Paths From Science Towards God: The end of All Our Exploring* (Oxford: One World, 2001), xvi.

Peacocke envisages his task as rethinking Christianity's religious conceptualisations in the light of the perspective on the world afforded by the sciences.³ He writes for a primarily Western Christian readership. He argues that, in Christian civilisation, there has been an increase in emphasis on personal subjective experience. Many Christians are searching for both intelligibility and meaning in their experience of the world. Peacocke suggests, however, that human beings cannot find such a resource of meaning in the Christian religion (or anything else) unless it is consonant with their understanding of the world, as moulded by science.⁴ Peacocke seeks to share "a contemporary expression of the Christian experience of God in terms – metaphors, models, analogies and symbols – that might be believable and usable by . . . 'Western' humanity."⁵ His work is shaped by a clearly articulated methodology, to which we now turn.

Peacocke's theological methodology

Peacocke displays a deep and profound respect for theology. In much of his writing, his intention is to find greater consonance between theology and scientific discoveries. Peacocke describes himself as a critical realist in his approach to understanding both science and theology. He argues that both disciplines aim to depict reality in metaphorical language with the use of models, and these metaphors and models are always revisable "within the context of the continuous communities which have generated them."⁶ As for science, it is also the task

³ Arthur Peacocke, *Theology For A Scientific Age: Being and Becoming – Natural, Divine, and Human* (Minneapolis: Fortress Press, 1993), 3.

⁴ Peacocke, *Theology For A Scientific Age*, 5.

⁵ Peacocke, *Theology For A Scientific Age*, 7.

⁶ Peacocke, *Paths From Science Towards God*, 9.

of theology, he states, to “tell as true a story as possible.”⁷ He suggests that, as scientists and theologians examine the data that becomes available to them, they can postulate better and better approximate descriptions regarding the nature of reality. Peacocke strongly suggests that this approach has worked successfully in science and that this is evident through the ability of so much science to successfully predict future events. He argues the following:

A critical realism is also the most appropriate and adequate philosophy concerning religious language and propositions. Critical realism in theology would maintain that theological concepts and models should be regarded as partial and inadequate, but necessary, and indeed, the only ways of referring to the reality that is named as ‘God’ and to God’s relation with humanity.⁸

Thus, critical realism, from Peacocke’s perspective, can be applied as method to both science and theology.

Christian theology has been challenged on many occasions over the course of history.

Historically, Peacocke argues that, when faced with intellectual challenges, Christian theology has over the long term been reinvigorated. The Christian community as a whole, he suggests, has benefited from this. He argues that today the greatest challenge to theology comes from the scientific worldview, which challenges many of our received understandings of nature, humanity and God. Peacocke makes the following suggestion:

The credibility of all religions is at stake under the impact of: new understandings of the natural world, of the place of humanity in it and of the very nature of personhood; and – even more corrosively – the loss of respect for the intellectual integrity of religious thinking in general and of Christian theology in particular. The impact of science is a challenge primarily to theology, which is concerned with the articulation and justification of religious assertions about God and about God’s relation to nature and humanity.⁹

⁷ Peacocke, *Paths From Science Towards God*, 9.

⁸ Peacocke, *Theology For A Scientific Age*, 14.

⁹ Peacocke, *Paths From Science Towards God*, 15.

Peacocke insists that it ought to be the task of theology, like science, to search for intelligibility. Moreover, the theological task is to attempt to meet our human need for meaning. However, the meaning, we discern in the existence of the universe and all that constitutes it, must at least partially have a basis in an *understanding of the phenomena* that give rise to such meaning. For example, Peacocke accepts that many background assumptions of the Judaeo-Christian tradition, relating to the creation of human life, have to be replaced by what we have come to understand through the epic of evolution. Furthermore, our understanding of human nature is changing as the neurosciences discover more about the physical basis of our mental capacities. He recognises there is no easy way to reflect on the nature of the world, as revealed by the sciences, to arrive at some understanding of the nature of God.

Peacocke is thus not advocating a return to natural theology or a revised natural theology, where “it was thought possible to integrate science with what was claimed to be “revealed” theology, a procedure going back to at least Aquinas.”¹⁰ Nature, he argues, has been found to be too ambiguous as a “source of inference about God.”¹¹ Nevertheless, he assumes that reflection on the nature of the universe and humanity can assist our exploration towards the nature and attributes of God. He argues that the authority of claimed sources of divine revelation has been questioned “as a result of critical studies of the *actual* histories of religious communities and their sacred literature.”¹² Scientific endeavour, however, has produced “reliable public knowledge about the natural world, sufficient for prediction and control and for producing coherent, comprehensive, conceptual interpretations of that

¹⁰ Peacocke, *Paths From Science Towards God*, 16.

¹¹ Peacocke, *Paths From Science Towards God*, 16.

¹² Peacocke, *Paths From Science Towards God*, 16.

world.”¹³ Therefore, the best process for such reflection, he argues, is something akin to the scientific method. The path using inference to the best explanation (IBE), he suggests, provides good theological grounds for reflection on nature and humanity. Despite the authority such knowledge gives to the scientific community, this authority, he argues, can always be called into question if it goes beyond its sphere of competence. The scientific community, therefore, has a limited but never supreme authority.

If a method of inference to the best explanation (IBE) is to be used in theology, then the following criteria, he suggests, ought to be distinguished for deciding what the best explanation is.

1. *Comprehensiveness*: the best explanation should account for the widest variety of data available. For theology this would encompass human experience including those experiences described as religious.
2. *Fruitfulness*: the best explanation often suggests new observations and conceptual possibilities that are consistent with one another.
3. *General cogency and plausibility*: the best explanation should be consistent with established background knowledge.
4. *Internal coherence and consistency*: there should be no self-contradiction within the best explanation.
5. *Simplicity or elegance*: the best explanation should attempt to avoid undue complexity.¹⁴

¹³ Peacocke, *Paths From Science Towards God*, 16.

¹⁴ See Peacocke, *Paths From Science Towards God*, 28.

Peacocke acknowledges that these criteria represent broad brush strokes and that there is much greater complexity in exploring what is the best explanation than simply applying these criteria. He acknowledges that various elements such as experience, understanding, judgement and deciding are present in the processes of knowing the complexity that constitutes the “web of beliefs of the knowing consciousness.”¹⁵ To this degree, Peacocke acknowledges Lonergan’s transcendental method. Nevertheless, he insists that IBE is the process that leads to “public truth about the relation of nature, humanity and God which is both communicable and convincing by its reasonableness through reflection on our most reliable and generally available knowledge of nature and humanity.”¹⁶

Peacocke’s assumptions regarding the characteristics featured in contemporary theologies invites a critique as to precisely which theologians, ancient or modern, he is addressing. Nevertheless, he claims that much of theology today has the following characteristics.

1. Reliance on an authoritative book – the Bible, without recognising its limitations.
2. Reliance on an authoritative community such as the Church, the Fathers, the Creed or the Magisterium. Peacocke argues that even theology as *fides quaerens intellectum* can sometimes prescind from the rational justification of the “faith”. He argues that the “only defensible theology is one that consists of understanding seeking faith, *intellectus quaerens fidem*”¹⁷

¹⁵ Peacocke, *Paths From Science Towards God*, 28.

¹⁶ Peacocke, *Paths From Science Towards God*, 30.

¹⁷ Peacocke, *Paths From Science Towards God*, 31.

3. Reliance on *a priori* truth. Peacocke argues that any theology that relies on pure ratiocination to arrive at *a priori* truths regarding Christian faith would find it very difficult to relate with the world whose realities are described by the sciences.¹⁸

Peacocke argues that for any theology to meet the intellectual standards of our time by using something like IBE, it must take three things into account. Firstly, it must take into account the contemporary scientific understanding of the universe and humanity. Secondly, it must consider the Jewish and Christian inheritance of claimed revelatory experience, and thirdly, the perception of the world and traditions of the other world religions. He argues that the data of theology ought to be constituted by these three things. Peacocke argues that traditionally Christian theology has been equated with claimed revelatory experience. What we have to pursue now, he suggests, is a *revised theology*, constituted by the insights of science in conversation with claimed revelatory experience. In future we must develop a *global theology*. He argues here that we need to combine a revised Christian theology with the insights from other world religions.¹⁹

This revised theology will be very different from the traditional notion of natural theology which “sought to deduce the existence and attributes of God from natural phenomena.”²⁰ He argues that we must now be more nuanced in relating our understanding of nature to the task of theology and that no logical proofs can be argued in this process due to the nature of using IBE as the dominant procedure. According to Peacocke, using such a procedure will result in a “best”, but potentially revisable explanation, using the available theological and scientific

¹⁸ See Peacocke, *Paths From Science Towards God*, 32.

¹⁹ See Peacocke, *Paths From Science Towards God*, 32-3.

²⁰ See Peacocke, *Paths From Science Towards God*, 33.

data. Having explored Peacocke's critique of method in theology, we turn next to his understanding of cosmology.

Appropriating Cosmology

For Peacocke, the world as revealed by the sciences is an object of awe. He contends that scientific knowledge of the universe has come about through the application of a scientific method based fundamentally on the same application of reasoning that humans apply to other areas of human knowledge, that is, assessment of evidence, induction, deduction, and inference to the best explanation. Science, however, applies these processes more systematically to carefully designed experiments, that have revealed over time a reliable knowledge and understanding of the natural world that is open to empirical investigation.²¹ He accepts the standard model of cosmology as outlined in the background to this thesis.²² However the cosmos came into existence, Peacocke argues that “no scientific account is possible for the fact of its existence as such,” and neither is there an explanation for the existence of the laws of physics.²³ This will be explored further when Peacocke's understanding of God is considered.

Peacocke argues that everything we have come to know about the universe through the use of our intelligent judgement, based on our understanding of the empirical data, suggests a world that reflects a single reality. He summarises this point by stating that “reality, for the universe

²¹ See Peacocke, *Paths From Science Towards God*, 26.

²² See Arthur Peacocke, *God and Science: A Quest For Christian Credibility* (London: SCM Press Ltd, 1996), 7; and *Paths From Science Towards God*, 39-51.

²³ Peacocke, *Paths From Science Towards God*, 39.

discovered by the sciences, is an interlocking network of multifarious entities universally related by the same regularities and laws – it is indeed one world.”²⁴ These entities constitute all that exists, including the phenomenon of human consciousness.

Peacocke is particularly interested in two important scientific developments that have emerged in the last decade. One of these developments is the “increasing recognition that many dynamical systems – physical, chemical, biological and indeed neurological – that are governed by non-linear dynamical equations can become *unpredictable* for us in their macroscopically observable behaviour.”²⁵ These complex dynamical systems can take many forms, but one of their key characteristics is that, at some point, the way the system behaves becomes ineradicably unpredictable. He refers to the work of Ilya Prigogine and colleagues, who have discovered that, in these systems, order can emerge from the fluctuations in the system. Matter exhibits the ability to self-organise and self-make, “Thereby bringing into existence new forms entirely by the operation of forces and the manifestation of properties we already understand.”²⁶

The second development is related to the pattern of causality in the world. Causality, as it has traditionally been applied to systems, has assumed to be “bottom-up”. That is, the constituent units of a system have determined the properties and behaviour of the system as a whole. However, in complex systems the phenomenon of “top-down” causation or “whole-part constraint” as Peacocke refers to it, also has to be recognised. Here, as Peacocke explains, the state of the system as a whole influences the behaviour of its constituent units. A constraint is

²⁴ Peacocke, *Paths From Science Towards God*, 40.

²⁵ Peacocke, *God and Science*, 8.

²⁶ Peacocke, *God and Science*, 9.

exercised by the whole on its parts. Causal connection between different levels within the complex system, is perhaps not, as Peacocke explains, the most accurate way of describing the relationship between whole and parts. He suggests that the determination of form occurs more through a flow of information than some transmission of energy, with information understood in the wider sense of “that which gives form to”. He refers here to work done by neuroscientists linking whole brain function with the working of individual neurons.²⁷

One of the important principles that Peacocke emphasises is that “the concepts needed to describe and understand – and also the methods needed to investigate – each level in the hierarchy of complexity are specific to and distinctive of those levels.”²⁸ In many instances, the properties, concepts and explanations that describe higher levels of complex systems cannot be reduced logically to those used to describe the lower levels of complexity within the same system. Such non-reductionist assertions are epistemological in nature. He argues that the principles applied here in the science of complexity can be applied pragmatically in our world and be used to describe the emergence of genuinely new realities at the higher levels of complexity. This emergence of new realities occurs as we move up the hierarchy of complexity and also can be seen through cosmic and biological evolutionary history.²⁹ As Peacocke argues:

Real entities have effects and play irreducible roles in adequate explanations of the world. All entities, all concrete particulars in the world, including human beings, are derived from and constituted of fundamental physical entities . . . This is a ‘monistic’ view that everything can be broken down into fundamental physical entities and that no extra entities are thought to be inserted at higher levels of complexity to account for their properties.³⁰

²⁷ See Peacocke, *God and Science*, 8-10.

²⁸ Peacocke, *Paths From Science Towards God*, 48.

²⁹ See Peacocke, *Paths From Science Towards God*, 49.

³⁰ Peacocke, *Paths From Science Towards God*, 49-50.

Peacocke refers to this view as “emergentist monism” and finds it consistent with our understanding that we inhabit an emergent universe.³¹ According to Peacocke, the scientific approach of inference to the best explanation consistently builds an intelligible description of the reality of the world that allows it to be understood and manipulated in a consistent fashion. Next we turn to his understanding of biology.

Insights on biology

Peacocke’s close association with the science of biology also excites him with enormous wonder. As he states:

Biology at all levels (molecular, macromolecular, organismic, phenotypic, ecological) is delving more and more deeply into the structures of life. The intricacies of the interlocking mechanisms of the utilisation of food, of reproduction, of protection, of behaviour, of all that favours the survival of evolved living organisms seem to be inexhaustible.³²

As a biochemist, he is one of a few biologists who have consistently worked to further the dialogue between science and theology. Many biologists, who have published works for the general public, have difficulty with dialogue that engages biology with theology.³³ For these biologists, knowledge of how organisms function and evolve, appears to pose a greater rational leap to a Creator than for some scientists working with non-living entities and processes in the fields of physics, chemistry and mathematics. Peacocke, however, maintains that biology is as open to rational explanation as any area within fundamental physics and

³¹ See Peacocke, *Paths From Science Towards God*, 50.

³² Peacocke, *Paths From Science Towards God*, 41.

³³ Biologists such as Richard Dawkins, E. O. Wilson and Stephen J. Gould, all prominent writers in the field of biology, range from outspoken atheists to agnostics who strongly suggest that science and theology must remain separate domains of inquiry.

therefore can be connected to an Ultimate Reality who is the source of all existence, and “must be *supremely and unsurpassedly rational*.”³⁴ Along with accepting the physical, mathematical and chemical descriptions of our universe, Peacocke also accepts the biological understanding of life. Life has been described at almost every level of conceivable complexity, from quantum level reactions involving the extraordinary biochemistry of cellular life, right through the cellular level, to the organism, and to the ecological relationships that bind all of life and non-life into a complex web of inter-relationships. The ultimate explanatory framework into which life fits is now widely recognised by biologists to be that of evolution. Supporting this claim, Peacocke quotes Theodor Dobzhansky (an Orthodox Christian), who states, “Nothing in biology makes sense except in the light of evolution.”³⁵ Darwin’s theory of natural selection, according to Peacocke, provides the “best explanation, and makes most sense of, widely disparate data concerning the form, habitats, distribution and behaviour of an immense variety of living organisms.”³⁶ The evolution of modern human beings, *Homo sapiens*, fits completely within this framework.

Peacocke does not accept the recent arguments for intelligent design put forward by scientists such as Michael Behe.³⁷ Peacocke supports the position that the apparent irreducible complexity of some biochemical pathways can quite satisfactorily be explained by experimental and theoretical evidence for self-organisation in molecular systems, as well as the notion that evolution quite frequently changes the function of existing mechanisms for some other purpose. There is also considerable evidence of imperfection of “design in the

³⁴ Peacocke, *Paths From Science Towards God*, 41.

³⁵ Peacocke, *Paths From Science Towards God*, 67.

³⁶ Peacocke, *Paths From Science Towards God*, 66.

³⁷ See Michael J. Behe, *Darwin’s Black Box: The Biochemical Challenge To Evolution* (New York: Free Press, 1996).

features of many organisms”.³⁸ Likewise, he shuns the use of the anthropic principle, although he suggests that the term “biotic principle” would better describe what Brandon Carter, the originator of the anthropic principle, was trying to illustrate.³⁹ Peacocke does not agree that this principle can be used as evidence for a God who designed the universe, with the emergence of human beings in mind. His argument is based on the premise that this is the only kind of universe which we could be in and know. All that can be stated on the basis of the anthropic principle, he suggests, is that our emergence as a species “is at least consonant with the postulate of a Creator God who has the purpose of bringing into existence living and eventually self-conscious persons.”⁴⁰ We now turn to Peacocke’s understanding of God.

Insights on the nature God

It is evident that Peacocke believes it is possible to talk in positive terms regarding the nature of God and how God might operate in the world. He believes that the existence of a God or Ultimate Reality is the best explanation for the existence of the known universe. He argues there can only be one such Ultimate Reality, otherwise it could not be considered Ultimate, and this is consistent with our knowledge that there is only one world interlocked together by the same regularities and laws. He is also convinced that this God must be “supremely and unsurpassedly rational.”⁴¹ Science has shown the universe to be intrinsically rational and thus

³⁸ See Peacocke, *Paths From Science Towards God*, 68-9.

³⁹ The anthropic principle, at least in its weak form, states that the development of carbon based life (including human life) appears to be crucially dependent on certain physical quantities in the universe having the values that they do. See Peacocke, *Paths From Science Towards God*, 70.

⁴⁰ Peacocke, *Paths From Science Towards God*, 70-1.

⁴¹ Peacocke, *Paths From Science Towards God*, 41.

accessible to detailed analysis by the human mind. The simplest explanation for this, Peacocke argues, is that the source of all existence, the Ultimate Reality or God, must possess “something akin to, but far surpassing, human rationality.”⁴²

For the Originator of all-that-is to be able to give existence to such a reality, God must know all that it is logically possible to know, that is, God must be omniscient. Likewise, for God to have given such an existence to all-that-is suggests that God has the power to do whatever it is logically possible to do. In this sense then, God must be omnipotent.⁴³ Peacocke proceeds to argue that God must be other than what God has given existence to, and therefore must transcend matter-energy-space-time. God, then, could be described as omnipresent and eternal.

Applying his method of IBE to an understanding of such an Ultimate Reality, Peacocke argues that it should include the personal, “Since the personal is the highest level of unification of the physical, mental and spiritual of which we are aware.”⁴⁴ This Ultimate Reality then, or God, must be at least personal or supra-personal. Despite the limitations of language, he argues that a better explanation is given of such an Ultimate Reality, if personal descriptions are attached to it rather than not.

With respect to God’s relationship to time, Peacocke argues that the traditional idea of God transcending all time, and thus knowing all past events and the outcome of all future events, creates problems with the notion of human free will. He also argues this relationship suggests

⁴² Peacocke, *Paths From Science Towards God*, 41.

⁴³ See Peacocke, *Paths From Science Towards God*, 41.

⁴⁴ Peacocke, *Paths From Science Towards God*, 42.

a God who is responsible for human and natural evil. It would mean that we live in a determinate universe which, he argues, is not consonant with our knowledge that the universe is ontologically indeterminate as is evidenced in quantum-mechanical systems. His response to this perceived problem draws primarily on ideas from process theology. In this regard, he argues:

God is not timeless; God is temporal in the sense that the divine life is successive in its relation to us – God is temporally (and so personally) related to us; there is a dipolarity in God’s relation to time – God is transcendent but also experiences succession in relation to events and persons; God creates each segment of time in the created world; God transcends past and present created time; God is eternal in the sense that there is no time at which God does not exist; God is omnipresent – is present to all past events and will be to all future events.⁴⁵

Consequently, God is described as “continuously creating, as the eternal Creator, for God continues to give existence to processes that are inherently creative and producing new forms.”⁴⁶ This idea is supported by data gathered from the biological, astronomical and cosmological sciences. In the observable universe, novelty emerges through cosmic, physical, chemical and biological evolution. According to Peacocke, through the interplay of chance and law, the potential that God has built into the universe can emerge. Consequently, God can be seen to have changing relations with all events and entities as they unfold at the various levels of existence. In this way, God is not unchanging and timeless. Nevertheless, Peacocke maintains that God still exhibits “an unchanging purpose and disposition towards creation, including humanity, while reacting continuously to it in the time Godself goes on creating.”⁴⁷

Peacocke states that, within the Judaeo-Christian tradition, this unchanging purpose and disposition is the “steadfast love and faithfulness of God which intends the ultimate good,

⁴⁵ Peacocke, *Paths From Science Towards God*, 46.

⁴⁶ Peacocke, *Paths From Science Towards God*, 67.

⁴⁷ Peacocke, *Paths From Science Towards God*, 47.

welfare and fulfilment of creation, including humanity.⁴⁸ He associates this with the eschaton, the “End” where time will cease as we know it and God’s purposes for the creation will be consummated. Peacocke’s position is that this hope for fulfilment can only rest on what is believed to be the creative love of God. He argues that, although there has been much theological speculation as to the nature of this final end, it is an example of formulating a theory based on very little, if any, factual information. It would be better, he argues, to use the revelation of God as self-offering love in the person of Jesus Christ and let the source of Christian hope rest on this God who is revealed as Love.⁴⁹

Such a notion of God is, according to Peacocke, the best explanation for existence as it is currently understood. It neither entails “a God-of-the-gaps”, nor an interventionist deity.⁵⁰ Often gaps appearing in causal explanations associated with the way the world works have been filled by appealing to God’s direct intervention. However, science has steadily closed these gaps and discovered, in the process, that there is inherent unpredictability or permanent gaps in quantum level events in the natural world.⁵¹ The future of quantum events is ontologically unknown and, hence, God’s omniscience can only refer to what it is logically possible to know.

With this understanding of God, Peacocke makes an important contribution to the science-theology dialogue with his exploration of what he terms, the “causal joint”, a metaphor for how God might act in the world. Peacocke acknowledges that this term is not entirely

⁴⁸ See Peacocke, *Paths From Science Towards God*, 42.

⁴⁹ See Peacocke, *Paths From Science Towards God*, 47-8.

⁵⁰ For a detailed exposition of Peacocke’s arguments as to why God should not be seen as an interventionist God see Peacocke, *Theology For A Scientific Age*, 141-5.

⁵¹ See Peacocke, *God and Science*, 17.

appropriate “for a world in which influences operate through many, multiply-interlocked levels in complex systems that constitute it.”⁵² He criticises current theological thought in this area which seeks to explore links between “chaotic” systems and divine action, and quantum events and divine action.⁵³ He argues that, although these hypotheses are useful, they are also inadequate.

For his part, Peacocke postulates that God may holistically influence the state of what he terms the “world-System” in order to express divine intentions through a “whole-part constraint or influence”.⁵⁴ The divine omniscience entails an overall and supreme awareness of all the interconnected and interdependent states and patterns in the world-System. Consequently, God’s “input of information” into this whole system leads to a “trickle-down” effect. This in turn creates particular patterns of meaningful events that are an expression of the divine purpose. In this way, suggests Peacocke, God in no way abrogates the law-like nature of the world, nor is the Creator to be likened to some disinterested observer of a mechanistic universe. Rather, the nature of God’s Being can best be described in terms of pantheism, that is, the “Being of God includes and penetrates all-that-is, so that every part of it exists in God and (as against pantheism) that God’s Being is more than it and is not exhausted by it.”⁵⁵

In this pantheistic perspective, both the divine transcendence and immanence in the world can be respected. God then is seen as the “immanent creator creating in and through the

⁵² See Peacocke, *God and Science*, 19.

⁵³ See Peacocke, *Paths From Science Towards God*, 99-108.

⁵⁴ See Peacocke, *Paths From Science Towards God*, 130.

⁵⁵ Peacocke, *Paths From Science Towards God*, 57.

processes of the natural order.”⁵⁶ Hence, Peacocke argues, the ontological gap(s) between the world and God is/are everywhere. “Because the world is ‘in God’, God can influence the world in its totality, as a System-of-systems.”⁵⁷ The example, par excellence, of whole-part influence by God, he suggests, is personal agency. In this model, God communicates with human persons by imparting meaning and significance to patterns of events using the constituents of the world. What are referred to as mediated experiences of God are experiences that are mediated through human sense organs. Unmediated experiences, however, come through the more subtle and complex use of human conscious activity.⁵⁸ We move now to examine how Peacocke incorporates suffering and evil into his theology.

A theological response to suffering and evil

In addressing the problem of suffering and evil, Peacocke submits that the existence of natural evil “continues to challenge belief in a benevolent God.”⁵⁹ Within the classical tradition, he argues that God, as transcendent, is in a “space distinct from that of the world.”⁶⁰ In this scheme, God is detached from a suffering world and can only address suffering by intervening from the outside, invoking the accusation that “God is either not good or not omnipotent.”⁶¹ Biological evolution, he argues, further heightens the awareness of the enormity of pain and suffering present in the world. This leads him to the question: “If the Creator intended the arrival in the cosmos of complex, reproducing structures that could think and be free – that is,

⁵⁶ Peacocke, *Paths From Science Towards God*, 58.

⁵⁷ Peacocke, *Paths From Science Towards God*, 58.

⁵⁸ See Peacocke, *Paths From Science Towards God*, 121-5.

⁵⁹ Peacocke, *Paths From Science Towards God*, 141.

⁶⁰ Peacocke, *Paths From Science Towards God*, 141.

⁶¹ Peacocke, *Paths From Science Towards God*, 142.

self-conscious, free persons – was there not some other, less costly and painful way of bringing this about? Was that the only possible way?”⁶² Peacocke concedes, however, that consciousness could not have evolved without the evolution of sensitivity to the environment, which includes the ability to sense pain. Peacocke suggests that the “ubiquity of pain and suffering in the living world appears to be an inevitable consequence of creatures acquiring those information processing and storage systems (nerves and brains in the later stages of evolution) that are so advantageous in natural selection.”⁶³ In a finite universe, death is also necessary if the old is to give way to new in the creative emergence of novel forms of life.

Peacocke argues that, since pain, predation, suffering and death are intrinsic aspects of the process of creation through biological evolution, then God must bring about “new creation through suffering.”⁶⁴ If we believe that God established and sustains creation in existence, then God must be “deeply involved in the evolutionary processes of creation.”⁶⁵ Peacocke tentatively proposes that, if this is the case, “God *suffers in, with and under the creative processes of the world* with their costly unfolding in time.”⁶⁶ Such is a God who suffers with creation. This God, he conjectures, “Purposes to bring about a greater good thereby, namely, the kingdom of free-willing, loving persons in communion with God and with each other.”⁶⁷

Drawing on kenotic theology, Peacocke suggests that God’s power must be self-limiting if creation is to emerge autonomously. In this understanding, God makes “space” for the

⁶² Peacocke, *Paths From Science Towards God*, 85.

⁶³ Peacocke, *Paths From Science Towards God*, 83.

⁶⁴ Peacocke, *Paths From Science Towards God*, 88.

⁶⁵ Peacocke, *Paths From Science Towards God*, 86.

⁶⁶ Peacocke, *Paths From Science Towards God*, 86.

⁶⁷ Peacocke, *Paths From Science Towards God*, 86.

creation, suffering with creation as it unfolds towards its divine purpose and consummation. This image of divine kenosis, or the self-emptying of God, suggests Peacocke, is consistent with a God who is Love.⁶⁸ He argues that human beings, as free, self-conscious creatures, have “the ability to cause God to suffer in a distinctive way.”⁶⁹ Humanity, he states, is free “to reject God’s creative intentions, to mar God’s creation, and to bring into existence disharmonies uniquely its own.”⁷⁰

The insights of evolutionary theory, argues Peacocke, suggest that creation for God involved significant risk and cost. Given humanity’s potential for good and evil, he poses the question, “What is the meaning God is expressing in creating humanity?”⁷¹ He suggests that the self-consciousness that has evolved biologically through evolution has led to human beings who are not only increasingly independent of the environment they inhabit, but independent and free from God’s intentions as Creator. God, he suggests, must have had some overriding intention in taking the risk of creating free human beings who might not follow God’s purposes. Peacocke proceeds to argue the following:

God creates in order to achieve an overriding purpose, the emergence of free persons. Creation thus involves for God what we have called a ‘risk’, which God incurs lovingly and willingly, and with suffering, for the greater good of freely responsive humanity coming to be within the created world.”⁷²

This apparently anthropocentric view of creation raises questions to be addressed in our evaluation. We move now to review Peacocke’s theology of the human person.

⁶⁸ See Peacocke, *Paths From Science Towards God*, 87.

⁶⁹ Peacocke, *Paths From Science Towards God*, 88.

⁷⁰ Peacocke, *Paths From Science Towards God*, 88.

⁷¹ Peacocke, *Paths From Science Towards God*, 88.

⁷² Peacocke, *Paths From Science Towards God*, 89.

Peacocke's theology of the human person

Any theology of the human person, argues Peacocke, must consider the multileveled complexity of that which constitutes the human being. He identifies four levels of complexity that contribute to the distinctive and holistic qualities of the human person. These four levels are distinguished in terms of the matter-energy in space-time elements that constitute the physical world; living organisms; the behaviour of living organisms; and human culture.⁷³

The human person, states Peacocke, “fits” into these different levels of complexity, and at all levels is understood to belong completely to the natural world. He then sketches various perceptions of human beings emerging from scientific studies that are, broadly speaking, congenial to traditional theology. These perceptions include human beings as:

- part of nature and so,
- contingent, particularly with respect to their physical form, exemplifying the propensities in evolution to complexity, information-processing, and so to consciousness and self-consciousness;
- many-levelled;
- conscious and self-conscious persons;
- nevertheless ultimately mysterious in being “persons”.

There is further scientific data, however, that challenges some received Christian theology. He understands these data as suggesting:

- human behaviour has a greater genetic and evolutionary basis than previously thought.

This includes behaviour that has been described as “moral” or “sinful”.

⁷³ See Peacocke, *God and Science*, 47-65 for a full discussion of all four levels.

- human beings are very recent arrivals in the universe. Consequently, what is the theological significance of the existence of other organisms?
- biological death is not the “wages of sin”, but the means of creation through evolution;
- there never existed a time when human beings were perfect, from which there could have been a historical “Fall”.⁷⁴

Peacocke concedes that, in some senses, human beings are misfits to their environment.⁷⁵ The possession of self-consciousness, which enables human beings as “subjects” to be over against “objects”, puts them out of harmony with themselves, with other human persons and God. They are thus capable of “thwarting the divine purposes.”⁷⁶ Quoting the biblical scholar Alan Richardson, Peacocke suggests that the doctrine of Original Sin can be understood as an “empirical description of human nature”⁷⁷ when we put ourselves in the place of God, and so locate ourselves at the centre of the universe. Thus, Peacocke argues, the “Fall” is part of every moment of human life.⁷⁸ Peacocke therefore insists that Christian theologies of redemption, based on classical conceptions of the Fall, need to be revised to make sense in the contemporary world. He proposes that the “effect of the life, death and resurrection of Jesus the Christ now be regarded not as the restoration of a lost, past state of perfection, but rather as the potential transformation of humanity into a new, previously unattainable, one.”⁷⁹ The freedom we have as human beings allows us to make wrong choices and therefore leads to

⁷⁴ See Peacocke, *God and Science*, 65-6.

⁷⁵ See Peacocke, *Paths From Science Towards God*, 172-4 and *God and Science*, 66-7 for a more detailed discussion of this thinking.

⁷⁶ See Peacocke, *God and Science*, 67.

⁷⁷ Alan Richardson, ed., ‘Adam, Man,’ in *Theological Wordbook of the Bible* (London: SCM Press, 1957).

⁷⁸ See Peacocke, *God and Science*, 66-7 and *Paths From Science Towards God*, 78-9.

⁷⁹ Peacocke, *Paths From Science Towards God*, 79.

sin, that is, alienation from God, other human beings and nature.⁸⁰ This now calls for a closer examination of Peacocke's Christology.

Wisdom Christology

In the process of human "becoming", what should humanity become? What is the "environment" of humanity with which it needs to be in harmony?⁸¹ Peacocke explores these two questions in the context of the relationship between Jesus Christ and God. He suggests that the answer to the second question "extends beyond the biological, personal and social to that circumambient, creative and creating, transcendent but immanent, Reality we have named as 'God'."⁸² If God is the ultimate environment that humanity belongs within, how can we know God's meaning for humanity? Here, Peacocke argues, the meaning and role of Jesus of Nazareth in our world must be further explored. To know what humanity should be becoming, he maintains we should look to the Christian challenge that "human beings have a potentiality, not yet realised, of being in the image and likeness of God; and that the figure of Jesus Christ poses a basic initiative from God concerning the actualisation of this potentiality."⁸³ He understands that the "Christian experience of God is not only as transcendent and immanent, but also as incarnate in the historical Jesus – a threefold experience and manifestation of God in God's encounter with humanity."⁸⁴ This encounter is

⁸⁰ See Peacocke, *Paths From Science Towards God*, 79.

⁸¹ See Peacocke, *God and Science*, 71.

⁸² See Peacocke, *God and Science*, 71.

⁸³ See Peacocke, *God and Science*, 72-3.

⁸⁴ Peacocke, *Paths From Science Towards God*, 167.

reflected in the Trinitarian character of God. Accordingly, Christians find in Christ the fulfilment and summit of what is possible for the human. As Peacocke argues:

Jesus the Christ is thereby seen . . . as the paradigm of the self-offering love that God intends for all human beings to embody. Human beings are thereby revealed to have the potential to respond to, be open to, and become united with God who is Love. In this perspective, Jesus the Christ represents the consummation and apogee of the divine creative process which God has been effecting in and through the world in the process described by the epic of evolution.⁸⁵

Moreover, as the incarnation of God, Jesus shows us what God is like and what God calls humanity to become.

In explaining his understanding of God's relation to the creation, Peacocke draws on images from the Wisdom literature, such as Job, Sirach, Proverbs and others. In these writings the feminine figure of *Sophia* (Wisdom) is used to speak of the divine activity in creation, revelation and salvation. This wisdom is "imprinted as a pattern on the natural world and in the mind of the sage," even though it remains a pale image of the divine Wisdom, that activity characteristic of God's relation to the world.⁸⁶ Peacocke associates this scriptural idea of Wisdom with panentheism in his effort to suggest an appropriate theological response to the scientific world-view. He also links this Wisdom to Jesus the Christ, drawing on references by St. Paul to Jesus as "the wisdom of God." Thus, according to Peacocke, Jesus is the human form of the Wisdom of God active in creation. In this sense, Jesus is the divine Word or *Logos*.⁸⁷

⁸⁵ Peacocke, *Paths From Science Towards God*, 168.

⁸⁶ Peacocke, *Paths From Science Towards God*, 156-7.

⁸⁷ Peacocke, *Paths From Science Towards God*, 158.

Identifying Jesus with the divine Logos, as expressed in the prologue of John's Gospel, Peacocke develops his Christology further. Consistent with much current scholarship, he finds that the Word of John's prologue conflates two concepts. First is the "Hebrew usage of the 'word of the Lord' for the will of God expressed in utterance to the prophets . . . and in creative activity."⁸⁸ The second concept of *Logos* Peacocke identifies, as expressed by Philo of Alexandria (c. 20BCE – c. 50CE) "is the meaning, plan, purpose of and principle of reality in the universe, as the thought of God, and also as the creative power by which the universe came into being and is sustained."⁸⁹ Peacocke argues that these two concepts, existing as background to the Gospel of John, enter into the Johannine notion of the divine Logos. The *Logos* existing "eternally as a mode of God's being, as active in creation and as the self-expression of God's own being . . . is clearly congruent with panentheism."⁹⁰ For Peacocke, "In the concept of the divine Word/*Logos* active in creation, in shaping the patterns of the world, including that of the human person, we rediscover a fusion of images that enrich the notions of Christian sacramental panentheism and theistic naturalism."⁹¹ In this way, then, Peacocke associates this understanding of God's providence with the concept of Jesus Christ as the Wisdom and *Logos* of God.

An assessment of Peacocke's theological insights

Peacocke's background as both scientist and theologian affords him a most useful perspective on the science-theology dialogue. This perspective allows him to bring to the general public

⁸⁸ Peacocke, *Paths From Science Towards God*, 158-9.

⁸⁹ Peacocke, *Paths From Science Towards God*, 159.

⁹⁰ Peacocke, *Paths From Science Towards God*, 159.

⁹¹ Peacocke, *Paths From Science Towards God*, 159.

the insights that science and theology offer to each other. Such reciprocal insights often provide a consonant view of reality. The main thrust of Peacocke's work, however, is to seek a reformulation of elements of theology, in the light of science's perspective on the world. His effort at shaping a contemporary expression of the Christian experience, intelligible for Western humanity, has borne significant fruit. A strong point in Peacocke's approach is that he situates himself within the mainstream of both scientific and theological knowledge and thus he avoids more tenuous proposals for combining science and theology that are dependent on the speculative extremes of these two disciplines. In some instances though, his critique of methodology in religion and theology appears to focus on what is arguably a narrow expression of the tradition.

Peacocke's critique of theological methodology warrants careful attention. It is not always clear which style of theology he is critical of when he makes unqualified claims that much contemporary theology relies on the uncritical authority derived from the Bible, a community, the Creed or reliance on *a priori* truths. He queries theological approaches that do not recognise the limitations of such authoritative sources.

However, Peacocke's insistence that using inference to the best explanation provides the most reliable avenue to truth has merit. Such "best" explanations in theology, as in science, are constructed using analogies, metaphors and models. The strength of this methodology is that these explanations are always revisable. Critical realism involves a *dynamic* process of coming to know.

A cursory examination of the history of theology, however, reveals that theology has often responded, albeit slowly at times, to the challenges of surrounding culture. In its historical development, theology often develops in a dynamic way, involving significant and extended debate before any reformulation of belief is proposed. Examples of such dynamism include the appropriation of Neo-Platonic philosophy into the theology of Augustine. In an earlier period, Tertullian argued against the appropriation of pagan classical philosophy into theology. Another example of such dynamism is evident in the liveliness of the Christological debates of the 4th and 5th centuries, between the theological schools of Alexandria and Antioch, on the nature of Jesus' divinity. In the modern period, as a result of the Enlightenment, much good theology has emerged in response to the challenges of science. This response has been aided by the renewal of Biblical studies through the 20th century, particularly within the Roman Catholic tradition. The critical and historical perspectives brought to this renewed understanding have promoted fruitful theological responses to various elements of the scientific worldview. Hence, Peacocke's insistence that theology should employ the method of critical realism using inference to the best explanation ought to be seen as an affirmation of what good theology has always done and continues to do. This dynamic process of coming to know coheres closely with Lonergan's transcendental method. Although Peacocke alludes to this method, it does not feature explicitly in Peacocke's engagement between science and theology.⁹²

Using inference to the best explanation, Peacocke provides a sound argument for the existence of God as Ultimate Reality. His argument, in part, is not dissimilar to that made by Thomas Aquinas. This is not surprising, given Aquinas' reliance on Aristotelian

⁹² See Peacocke, *Paths From Science Towards God*, 28.

epistemology, with its emphasis on knowledge through the senses. Observing that much of the world works due to cause and effect, the extension of such reasoning by Peacocke, like Aquinas, to a First Uncaused Cause, the Creator God, is plausible. Yet Aquinas is careful to distinguish the First Cause, God, from all other causes. God's Being is distinct from all created being. Peacocke's understanding of God is, to some extent, consistent with this view. However, Peacocke, in contrast to Aquinas, does not view God as immutable Being. Alternatively, God is understood to be both transcendent and experientially present to every created moment in the dynamic unfolding of creation. Here, Peacocke draws primarily on process rather than classical theology for his understanding of God. This understanding is developed principally in the context of God's relationship to time.

Peacocke diverges from Aquinas in his understanding of God's relationship to time. He suggests that the traditional understanding of God, who transcends time and, consequently, knows all past, present and future events, is problematic for understanding both human free will and a contingent universe. For Peacocke, belief in a necessary and immutable God is more consistent with the existence of a determinate universe. He has a point in noting that this traditional understanding of God appears to conflict with contemporary cosmology. Such a cosmology poses a best model for the universe as contingent, self-emergent and creative, which at the subatomic level, at least, shows signs of ontological indeterminacy.

On the face of it, Peacocke's use of process theology, in response to this perceived problem of God's relationship to time, has much to recommend it. In this scheme, God is both transcendent and temporal, experiencing each segment of time God creates. In this view, God is understood to change with time, in response to an unfolding and emergent universe. As

God both influences and is influenced by the dynamic unfolding of the universe, God persuasively moves it towards the Ultimate Good, Godself. What is timeless, according to Peacocke, is God's ultimate "purpose and disposition towards the creation."⁹³ In the traditional Christian formulation, God must necessarily be utterly distinct from that which God has created. In this view, God can be seen as very distant and uninvolved in what is a dynamic and emergent creation. God's transcendence is emphasised over God's immanence. Whether Peacocke's theological approach preserves the necessary distinction of God from the created order is arguable. His approach does enable, however, an understanding of God who seems much closer to creation in general and to humanity in particular.

Aquinas, although obviously not cognisant with modern cosmology or biological evolution, considered this same problem of God's supreme causality and human free choice. For Aquinas, human free will was not incompatible with the reality of divine providence. According to Davies, Aquinas considered that human beings are free, not in spite of God, but because of God. As Davies explains:

Human freedom is compatible with providence because only by virtue of providence is there such a thing as human freedom. God, for Aquinas, really does act in everything. And since 'everything' includes human free actions, he concludes that God works in them as much as in anything else.⁹⁴

In this account of Aquinas's position, Davies points out that some created things do not operate with freedom since, in Aquinas' terms, they are acted upon by other created things which determine what course they should follow. However, not all created things have their course of action determined by other things. There is genuine contingency in the universe.

⁹³ Peacocke, *Paths From Science Towards God*, 47.

⁹⁴ Davies, *The Thought of Thomas Aquinas*, 175.

Human free agents fit into this category. Aquinas considers an objection to his own argument, which is that if God ultimately causes human actions, then people must not act freely at all. However, he argues that human actions are free if nothing created is acting on humans to make them perform such actions.⁹⁵ To be free as human beings means freedom from influence within the universe, but not to be independent of God. “God does not interfere with created free agents to push them into action in a way that infringes their freedom. He does not act *on* them . . . He makes them to be what they are, namely freely acting agents.”⁹⁶ As Kelly emphasises, divine creating is not just another category of causation but is a transcendent causality “enabling creation not only to be, but to act. Creation in this sense means that God acts in the acting of everything, and causes in the causality of every agent.”⁹⁷

In this theological approach, God is understood as “incomprehensible Be-ing, life and goodness. The universe, in owing its being to Be-ing, participates in the divine reality, and thus stands forth from nothingness.”⁹⁸ As Kelly explains:

God is the cause operating in all causality and creativity, a ‘transcendent’ cause as the philosophical tradition would name it. Be-ing is not a filler of gaps, but that original matrix in which ‘we live and move and have our being’ (Acts 17:28), to quote Paul (probably citing Epimedes), ‘above all, through all, in all’ (Eph 4:6).⁹⁹

In this sense, then, contingent effects are understood by Aquinas to fall within the range of the universal cause due to the nature of God’s sheer Being and therefore can be considered foreseen, and hence providential. Although Peacocke’s employment of process theology appears to relate a transcendent God to a contingent and thus openly creative universe, it

⁹⁵ See Davies, *The Thought of Thomas Aquinas*, 176-7.

⁹⁶ Davies, *The Thought of Thomas Aquinas*, 177.

⁹⁷ Kelly, *An Expanding Theology*, 92.

⁹⁸ Kelly, *An Expanding Theology*, 116.

⁹⁹ Kelly, *An Expanding Theology*, 120.

might be that a fuller and more nuanced understanding of Being may account more coherently for the same relationship.

Whether one draws on process or a more nuanced understanding of classical theology to situate God more intimately in relationship with creation, the question arises as to how God interacts with the created order. For Peacocke, the Christian revelation of a God active in creation poses difficulties given the contemporary scientific worldview. Using inference to the best explanation, he argues convincingly that God does not simplistically intervene in an autopoietic creation. This raises the question for theology as to how a God, believed to be active in the creation, can interact with a seemingly causally closed world. Peacocke's response to this question involves a creative and potentially fruitful theological model for this "causal joint" between God and creation. Analogous to scientific models relating to complexity, his theological model, however, raises further questions. Although in Peacocke's model, God does not abrogate the laws of physics, that God influences the world-System from the "top down" through a flow of "information" seems only to suggest a more subtle form of intervention. If Peacocke claims that the world-System is causally closed, and that God is not an interventionist God, how then can God "influence" the world-System even through a flow of "information"? Although, at one level, the model provides insight on the revelatory claim that God can "act" in the world, it still does not fully account for the non-alleviation of suffering and natural evil in the cosmos, except in some final eschatological state of being.

In addressing the problem of suffering and evil in the world, Peacocke draws on a blend of process and kenotic theology. Human evil, resulting from the emergence of free-willed persons, is less problematic for Peacocke than the existence of "natural" evil. An

understanding of the extent of “natural” evil is amplified by the insights of evolutionary biology. If one accepts Peacocke’s use of process theology to image a God who is both influenced by, and influences, an emergent creation, then some consolation might be found in knowing that God too experiences the world’s suffering. That is, the temporal nature of the “dipolar” God of process theology experiences suffering as the creation freely unfolds. Hope is found in a cosmos ultimately drawn towards the Supreme Good. Peacocke contrasts this process view with his understanding of the classical tradition wherein God is seemingly detached from a suffering world. Peacocke argues that with the classical view suffering has not been addressed by any divine intervention, and thus, quite reasonably leads to the conclusion that God is either not good or not omnipotent.¹⁰⁰

Peacocke’s subdued criticism of classical theology’s image of God fails, however, to appreciate the panentheistic implications of created being existing only from and within the limitless being of God. Aquinas’ understanding is that creation participates in the divine Being, and thus the divine Being is present to every aspect of the creation. In this sense, although God is not seen to suffer with creation, God is not as distant from suffering as some criticisms might lead us to believe. Still, it is fair to say that this classical theology does not address the why of suffering as well as the more recent kenotic theologies.

Peacocke suggests that kenotic theology might offer the best understanding for the existence of suffering and evil. The fruit of this theological approach is its ability to hold together belief in a supremely loving God, with the observed reality of a world full of suffering. Such an approach seems particularly helpful in understanding why suffering might exist in an

¹⁰⁰ See Peacocke, *Paths From Science Towards God*, 142.

emergent, self-creative cosmos. Theologically, in the *creatio continua* (God's on-going creation), God's self-emptying of power leaves space and freedom for the creation to unfold.

These approaches do not, however, fully satisfy questions relating to the ultimate *why* of the existence of evil. Although kenotic and process theologies go some way towards explaining the presence of suffering and evil in the world, the larger question remains focused on *creatio originalis* and God's overall purpose for the creation. Kenotic theology, pointedly imaged in Jesus' abandonment on the cross, seems not to acknowledge adequately or consider God's power, evidenced in and through Jesus' resurrection.

Peacocke's employment of process and kenotic theology, however, allows him to relate the divine purposes to the emergence of free persons. His rather anthropocentric view suggests that God incurs the risk of evil within creation, for the greater good of a freely responsive humanity emerging in the world. A tension seemingly exists, however, between this theological approach and the implications of biological evolution. If humanity is the purpose of a self-emergent creation, as Peacocke suggests, what of the probable evolutionary outcome of humanity's future extinction? Within Peacocke's theological approach, an understanding of the divine purposes seems to remain an open question.

Peacocke identifies several important implications for theology that emerge from studies of human evolution. The genetic and evolutionary basis for human behaviour opens up interesting and important questions for moral theology. An example of such a question might be: Can human behaviour that is a product of our biological functioning ever be understood as

sinful? Additionally, the biological imperfection of human beings and the importance of death in evolutionary processes may provide avenues of fruitful research in soteriology.

Peacocke's theology of the human person relates closely to his Christology, which builds upon the premise that humanity's ultimate environment is that "circumambient, creative and creating, transcendent but immanent, Reality we have named as God."¹⁰¹ This understanding of the purpose and place of humanity in the creation displays something in common with Rahner's transcendental anthropology, where the human person is understood as transcendentally oriented to God through the presence of grace.¹⁰²

Peacocke affirms the Christian experience of God as not only transcendent and immanent, but as also incarnate in the person of Jesus. In this Christology, Jesus represents the nexus between God and humanity. To know what humanity ought to become, one is to look to God incarnate in the person of Jesus of Nazareth, the Christ. This approach provides a fruitful and pragmatic insight into God's divine purpose for humanity, based on Christ as the "paradigm of self-offering love."¹⁰³ Moreover, it invites further research into the ministry of Jesus of Nazareth and the meaning of the Christ, so that humanity might know better how "to respond to, be open to, and become united with God who is Love."¹⁰⁴

¹⁰¹ Peacocke, *Paths From Science Towards God*, 85.

¹⁰² Richard P. McBrien, *Catholicism* (New York: Harper & Row Publishers, 1981), 129-130. In Rahner's theology, anthropology is transcendental "when the human is seen, not simply as a collection of biological and behavioural responses, but as a being whose meaning is to be found beyond the purely corporeal and beyond the satisfaction of physical, social, psychological, political, economic, and cultural needs. The person is transcendental insofar as the person is oriented beyond himself or herself towards God as the source, sustainer, and final perfection of the person's existence."

¹⁰³ Peacocke, *Paths From Science Towards God*, 168.

¹⁰⁴ Peacocke, *Paths From Science Towards God*, 168.

In considering the meaning of Jesus Christ, Peacocke suggests that Jesus is the fulfilment and summit of creation as effected through evolution. This proposition is consistent with a teleological understanding of evolution. In such an understanding, Jesus of Nazareth appears in history due to God “influencing” the creation in a manner akin to Peacocke’s “whole-part constraint” model. The following questions, however, might be put to this view. Was it inevitable that both cosmic and later biological evolution, would lead to the appearance of Jesus of Nazareth? If God “needed” to “send” his Son to save humanity, how might this “need” have been foreseen before the emergence of human beings? How is this relationship between Jesus and evolution consistent with the scientific insight that human beings emerged as part of a process and are not in any way “perfect”? What would be the purpose of Jesus of Nazareth if humanity was to become extinct? How does the Chalcedonian formulation of the hypostatic union of the divine and human natures of Christ in the one *prosōpon* find a meeting point with the contemporary biological understanding of human life and consciousness? Such questions, along with others, lend themselves to further research.

We have noted that Peacocke develops his Christology within the framework of the biblical Wisdom tradition. This theology provides a coherent framework in which to situate God as Creator, God’s self-limitation in love, and Jesus Christ, in relation to the creation. Jesus-Wisdom, identified as the pre-existent Word of God (the divine *Logos*), is part of the nature of the triune God in and through which creation has its being. However, this image of divine *Logos*, active in creation and shaping the patterns of the world, seemingly provides little response to some questions, noted above, that refer more specifically to the relationship between evolutionary processes and Jesus of Nazareth. An exploration of the meaning of

Jesus of Nazareth in relationship to biological evolution may provide fruitful avenues for further research.

In conclusion, Peacocke makes a significant contribution to the science-theology dialogue. Although his work does not focus on theology and biological evolution as such, his critique of theological methodology and his model for imaging the nature of God's providence merit attention. Nevertheless, this analysis suggests further questions that might be put to Peacocke's model for divine providence. For example: What is the importance to God that a being, consciously aware of Godself, evolve somewhere in the universe? From an evolutionary point of view, is there any evidence to suggest that increased complexity and consciousness will serve a species any better in terms of survival value than not having such attributes? Is there any association between the biological notion of survival and eternal life? Given science's prediction that the universe will come to an end in a slow "heat death", where no life will exist, what then is eternal life in the kingdom of God? If extinction of human and other life occurred due to the collision of a giant asteroid with the earth, what of God's "special providence" and ability to influence patterns of events by whole-part influence on the world-System? Since all such events are possible, as predicted by science, a contemporary theology must account for such possibilities. In the next chapter, another approach to appropriating evolutionary insights into theology, through the work of John Haught, will be reviewed.

Chapter 3

JOHN F. HAUGHT: A THEOLOGY OF EVOLUTION

John Haught, a Roman Catholic theologian, is the Landegger Distinguished Professor of Theology at Georgetown University.¹ His recent book, *God After Darwin: A Theology of Evolution*, has much to contribute to our study.² Haught's purpose in writing *God After Darwin* is to engage theology with a fully informed understanding of evolutionary biology. Haught sees that a nuanced understanding of an evolutionary view of nature can help us to expand our sense of the divine. At the same time, he insists that this theology must be grounded in the experience of the sacred as mediated through Christian faith communities and traditions. He also argues that our understanding of God needs to move beyond a Deity identified with "cramped notions of order and design."³ According to Haught, a theology of evolution "will take into account all of the deviancy resident in the post-Darwinian representations of nature."⁴

Beyond Design

Haught's intention is to engage with evolution and all of its implications in the development of his theology. His belief is that "theology has fallen short of the reality of evolution . . . as

¹ See "John F. Haught" (Center for Theology and the Natural Sciences, 2000, accessed 5 October 2002); available from <http://www.meta-library.net/bio/jh-body.html>; Internet.

² See John F. Haught, *God After Darwin: A Theology of Evolution* (Boulder: Westview Press, 2000).

³ Haught, *God After Darwin*, x.

⁴ Haught, *God After Darwin*, ix.

has the world of thought in general.”⁵ He is convinced that much of theology and contemporary religious thought “has yet to make a complete transition into a post-Darwinian world. The nuances of biology or, for that matter, of cosmology, have not yet deeply affected current thinking about God and God’s relation to the world.”⁶ The science-theology dialogue is, however, a rapidly expanding area of contemporary thought and some theologians and scientists have engaged more fully than previously in exploring the implications of biological evolution for theology. Haught is one of these theologians and his essential thesis is that “Darwin has gifted us with an account of life whose depth, beauty, and pathos - when seen in the context of the larger cosmic experience of evolution – expose us afresh to the raw reality of the sacred and to a resoundingly meaningful universe.”⁷ Haught acknowledges that today most evolutionary biologists agree with the fundamental tenets of what is described as the neo-Darwinian synthesis, which combines the original ideas of Darwin with modern-day genetics. Although debate continues on the application of evolutionary mechanisms to a range of issues within evolution, most scientists agree that life evolved essentially along the lines that Darwin described.

Given the role of contingency and blind selection by the environment in the evolution of life, as evolutionary biology understands it, Haught makes the following point:

The Darwinian picture makes traditional ideas of a caring and almighty God seem superfluous and possibly incoherent. . . . After weighing the now well-founded accounts of life’s lumbering journey on Earth, any subsequent talk about a ‘divine plan’ sounds unbelievable. And the theological claim that life can be explained adequately by divine ‘intelligent design’ is especially suspect.⁸

⁵ Haught, *God After Darwin*, 1.

⁶ Haught, *God After Darwin*, 2.

⁷ Haught, *God After Darwin*, 2.

⁸ Haught, *God After Darwin*, 3.

Haught strongly criticises the theological proponents of “intelligent design”, arguing that many ignore the genuine novelty found in life that has emerged as a result of the underlying laws of physics and chemistry. He argues that the proponents of design ignore “the fact that living systems require the continual *breakdown* of fixed order.”⁹ A theology built on notions of “intelligent design” tends to ignore “the *dissolution* that inevitably accompanies the appearance of extensions of life.”¹⁰ Such a theology, Haught states, exonerates an ultimate reality of any responsibility for the chaos – it “removes God from the flow of life itself.”¹¹ A theology such as this, argues Haught, is also unable to deal well with the experience of suffering in evolution. Darwin’s “gift to theology” says Haught, is to “challenge religious thought to recapture the tragic aspects of divine creativity. Evolutionary science compels theology to reclaim features of religious faith that are all too easily smothered by the deadening disguise of order and design.”¹²

Haught also observes that “scientific materialism leaves out everything that common wisdom means by ‘life’.”¹³ Haught identifies materialism as the underlying philosophy for most evolutionary science.¹⁴ Throughout his writing, Haught often uses the term “scientific materialism” when referring to any scientific process in general or to biological evolution in particular. Darwin himself gives us a sense of this life with all the “novelty, disturbance, and drama it involves.”¹⁵ He insists that evolutionary theory should not be smothered by a sterile

⁹ Haught, *God After Darwin*, 5.

¹⁰ Haught, *God After Darwin*, 5.

¹¹ Haught, *God After Darwin*, 5.

¹² Haught, *God After Darwin*, 5.

¹³ Haught, *God After Darwin*, 5.

¹⁴ Materialism or scientific materialism refers here to “a theory that physical matter is the only or fundamental reality and that all being and processes and phenomena can be explained as manifestations or results of matter.” See “Materialism,” *Encyclopædia Britannica* (Copyright © 1994-2003 Encyclopædia Britannica, Inc., December 20, 2002). Haught tends to use this understanding synonymously with metaphysical materialism.

¹⁵ Haught, *God After Darwin*, 5.

materialist metaphysics but should add depth and richness to the mystery into which Christians are initiated.¹⁶

Quoting David Hull, Haught describes the evolutionary process as “rife with happenstance, contingency, incredible waste, death, pain and horror.” Any God who oversees such a situation, states Haught, must be “careless, indifferent, almost diabolical.”¹⁷ These characteristics of evolution, he argues, seem to provide the greatest challenge for theology. This will only upset theology if God is seen as a source of order or design. God, however, could be viewed as not only a source of order but a “disturbing wellspring of novelty and the cosmos as an unfinished process. The undeniable evidence is that the universe is still being created.”¹⁸ From this perspective, God allows the universe to participate in its own creation and is not concerned with imposing a design on the process. In this way, Haught suggests, our idea of God becomes compatible with evolution and even goes so far as to “logically anticipate the kind of life-world that neo-Darwinian biology sets before us.”¹⁹

Haught is convinced that a serious engagement between evolution and theology can bring us to a “fuller and more satisfying understanding of the many religious references to an ‘ultimate reality’ than we might have otherwise ever attained.”²⁰ For Haught, this understanding of ultimate reality is informed by his Roman Catholic background and conviction that there can be no real conflict between scientific truth and religious faith. Like Arthur Peacocke and

¹⁶ See Haught, *God After Darwin*, 5.

¹⁷ Haught, *God After Darwin*, 6, quoting David Hull, “The God of the Galapagos,” *Nature*, 352 (August 8, 1992): 486.

¹⁸ Haught, *God After Darwin*, 6.

¹⁹ Haught, *God After Darwin*, 6.

²⁰ Haught, *God After Darwin*, 6.

others, he understands that there is a single reality in which we exist. Haught subscribes to a critical understanding of Scripture. In responding to E. O. Wilson's criticisms of religious revelation, he points out that "revelation" in science is different to "revelation" as understood by religious believers. Haught's understanding of religious revelation is that it can only be experienced by "allowing oneself to be grasped by it, not by grasping it."²¹ Scientific revelation, he suggests, involves humans grasping nature, through the use of scientific method, to reveal nature's secrets. Alternatively, religious revelation draws believers into the transcendent mystery of existence. Haught sketches the following synthesis of evolution and theology:

The mystery-oriented mission of theology in no way conflicts with science's effort to unfold – at its own level and according to its own distinctive method – the boundless secrets of nature. A wholesome expansion of our sense of divine mystery can exist in complete harmony with the scientific disclosure of previously hidden aspects of nature. And irrespective of continuing developments in Darwinian science's grasp of life's hitherto unmanifested intricacies, we can trust that there abides in the depths of the universe a forever fresh wellspring of novelty, unthreatened by the ongoing accumulation of scientific knowledge. It is to this faithful source of endlessly *novel* forms of life that a theology of evolution points, and to which the word "God" most appropriately refers.²²

For Haught, the God of evolution "is an inexhaustible and unsettling source of *new* modes of being."²³ A theology of evolution highlights the "presence of a promise and power of renewal," that lives deeply within creation.²⁴

Haught acknowledges that neo-Darwinian science adequately explains the history of life on Earth. He argues, however, that the good materialist science that constitutes the nature of evolutionary theory suffers when it is extended as an ideology into other realms of our

²¹ Haught, *God After Darwin*, 8.

²² Haught, *God After Darwin*, 8-9.

²³ Haught, *God After Darwin*, 9.

²⁴ Haught, *God After Darwin*, 9.

understanding of human existence. Like all good science, ideas relating to evolution continue to be refined and revised as new evidence comes to hand. Haught insists that "theology should . . . deal with all the untidiness of the Darwinian picture of life and not work with cleanly edited versions of it."²⁵ A theology of evolution, he argues, must in particular account for the three features of biological evolution that provide a challenge for theology: suffering, common ancestry and the discarding of the "weak" in natural selection. We move now to examine this challenge.

The Challenge to Theology

Haught identifies the integral place that suffering has in the evolutionary view of life. The processes of evolution are insensitive to the pain experienced by those living things that are capable of sensing it. This raises important questions that any theology of evolution must try to address. How could a powerful and compassionate Creator permit all the suffering, aimless wandering, and waste that we behold in surveying the millennia of evolution? How could a lovingly concerned God tolerate the struggle, pain, cruelty, brutality, and death that lie beneath the relatively stable and serene surface of nature's present order?²⁶ Human beings, he notes, have long recognised the pain and suffering that are part of life, but evolutionary history highlights that this pain and suffering has existed for millions of years. Haught, citing Mattill, suggests that many scientists and Christian believers share a sense of dismay in regard to this problem:

²⁵ Haught, *God After Darwin*, 15.

²⁶ See Haught, *God After Darwin*, 20.

Could an Almighty God of love have designed, foreseen, planned, and created a system whose law is a ruthless struggle for existence in an overcrowded world? Could an omnipotent, omniscient, and omnibenevolent God have devised such a cold-blooded competition of beast with beast, beast with man, man with man, species with species, in which the clever, the cunning, and the cruel survive?²⁷

This is not to imply that all of evolution involves struggle and competition. It is well recognised that evolution also involves co-operation as an effective means of survival. Haught also reminds us that there is an "inspiring beauty in the life-story" which should not be overshadowed by the painful aspects of the process.²⁸

The second challenge to theology comes from the scientific evidence suggesting that all life that has ever existed on Earth has a common ancestry and is interconnected genetically.

Haught suggests that this continuity of life "seems to challenge the traditional religious sense of sharp ontological discontinuity between humans and the rest of nature. Evolution blurs the lines separating what we used to think of as distinct levels of being."²⁹ Haught observes that, although this is disturbing for some people, for others this continuity confirms the "biblical sense of the unity of creation and the interrelatedness of all members of the Earth community."³⁰

The third significant challenge to theology identified by Haught is posed by three aspects of natural selection, a fundamental mechanism of evolution. One aspect is that natural selection relies on contingent mutations within genetic material to provide the variety upon which selection relies. This contingency within evolutionary processes "suggests that the universe is

²⁷ A. J. Mattill Jr., *The Seven Mighty Blows to Traditional Beliefs* (Gordo: The Flatwoods Press, 1995), 32 in Haught, *God After Darwin*, 21.

²⁸ Haught, *God After Darwin*, 21.

²⁹ Haught, *God After Darwin*, 23.

³⁰ Haught, *God After Darwin*, 24.

not governed by a divine providential intelligence after all."³¹ Secondly, in the competitive struggle to survive, the reproductively unfit individuals tend to be eliminated from the gene pool. This aspect of evolution raises questions regarding whether the universe is superintended by a compassionate Creator. The third aspect of natural selection that challenges theology is that it operates in a completely "disinterested" way, suggesting that life inhabits an impersonal universe, one that is not governed by a personal God.

Haught, in surveying theological responses to these challenges, classifies these into three categories: opposition, separatism, and engagement. These three categories echo Ian Barbour's classification of theological responses to evolution.³² For the purpose of this exposition, only those approaches classified as separatist and engagement will be examined, as opposition between evolution and theology presumes there can be little or no dialogue between an evolutionary view of life and theology, and our thesis assumes that fruitful dialogue is possible between these two areas. Haught's own theology of evolution falls within the engagement classification. His assessment, however, of those theologies categorised as separatist has relevance. Such theologies pertain to the more classical theological tradition characterised by the thinking of Thomas Aquinas.³³

Haught's theology of evolution is a partial response to more traditional theology which, he claims, tends towards separating the science of evolution from theology. He describes the

³¹ Haught, *God After Darwin*, 24.

³² See Ian Barbour, "God and Evolution In Recent Thought," *Spring 2000 Monday Night Lecture Series: Science and Religion* (2000, accessed 26 July 2001); available from http://www.pendlehill.org/spring2000_529.html; Internet.

³³ See, for example, Thomas Aquinas, *The Summa Theologica*, vol. 1, trans. Fathers of the English Dominican Republic (Chicago: William Benton, 1952).

divide between the two by explaining that science "is self-consciously limited to dealing with questions about the physical or mechanical causes of events, whereas theology, by definition, is more concerned with questions about the meaning and ultimate explanation of things."³⁴ As science methodologically excludes theistic explanations of nature, any "inference from evolutionary biology that the universe is purposeless or Godless cannot possibly be categorised as scientific."³⁵ Since there can be no real competition between evolutionary science and theology in this separatist view, conflict is excluded. By keeping Darwin out of theism and theology out of evolutionary science, the two are compatible. From the "separatist" point of view, contingency and randomness "do not imply a Godless universe. They are simply terms we use to name events that are humanly and scientifically unintelligible, but that may still make good sense from the point of view of God's wider vision and wisdom."³⁶ Since science limits itself methodologically to the interpretation of empirical data from the natural world, it is not surprising, according to Haught, that it has trouble seeing the deeper meaning of life's contingent events.³⁷

Haught argues that theologians who take this approach do not see struggle and suffering in evolution as inconsistent with God's existence. For new life to emerge, for life to be creative, suffering and death may be essential. Evolution, as described by Darwinian science, is as good a setting as can be imagined for the "nourishing of life and the building of the 'soul' in humans."³⁸ The point is that, from the separatist stance, there is no conflict between

³⁴ Haught, *God After Darwin*, 28.

³⁵ Haught, *God After Darwin*, 28.

³⁶ Haught, *God After Darwin*, 29.

³⁷ See Haught, *God After Darwin*, 29. "Those in science who claim that the world can only be made intelligible through the use of the scientific method are from a 'separatist' theology's point of view working out of a narrow materialist ideology."

³⁸ Haught, *God After Darwin*, 29.

Darwinism and a belief in God. Separatists, Haught considers, would not find the impersonal “law” of natural selection any more theologically problematic than the laws of physics. The laws of physics governing the universe may just as likely lead to indiscriminate suffering as the laws of biology. It may even be argued that the consistency and intelligibility of these laws is a good example of the fidelity and non-capriciousness of God. Haught concludes that, for theology classified as separatist, evolutionary thinking would only be problematic if it were equated with philosophical materialism.

Haught's own theology of evolution falls within the category he describes as “engagement”. He appreciates the separatist’s *distinction* between science and ideology. Nonetheless, he argues that the “separatist” theological position, although it acknowledges an evolutionary theory of life, does not celebrate it. The “engagement” position attempts to place evolution at the centre of its theological reflections on life's meaning, God, and God's relationship with the cosmos. Such engagement has led to a number of “evolutionary theologies”, including those proposed by Haught, and by Denis Edwards, reviewed later in this thesis. From this perspective, Haught explains, "Evolutionary theology claims that the story of life, even in its neo-Darwinian presentation, provides essential concepts for thinking about God and God's relation to nature and humanity."³⁹ This theological engagement with neo-Darwinism, he argues, must, however, take place within the wider context of cosmic evolution which informs us of the conditions that ultimately led to the emergence of life.

³⁹ Haught, *God After Darwin*, 36.

Haught is careful to distinguish evolutionary theology from an understanding of natural theology which, he suggests, looks for evidence to prove God's existence from nature.

Evolutionary theology is not particularly interested in “intelligent design” arguments. What this theological engagement attempts is rather to "show how our new awareness of cosmic and biological evolution can enhance and enrich traditional teachings about God and God's way of acting in the world."⁴⁰ In the following sections we examine Haught’s survey of how theological understandings relating to creation, eschatology, revelation, grace, divine power and redemption have changed in response to the neo-Darwinian vision of life and its evolution.

Creation

Traditional theology speaks of three dimensions of creation: *creatio originalis* (original creation), *creatio continua* (ongoing or continuous creation), and *creatio nova* (new creation or the fulfilment of creation).⁴¹ Our current understanding of a 13 billion year old universe and a 3.8 billion year period for the evolution of life has strengthened the theological understanding of *creatio continua* in particular. Haught quotes Teilhard de Chardin: In an evolving universe, "Incessantly even if imperceptibly, the world is constantly emerging a little farther above nothingness."⁴² The idea of an instantaneously completed creation, perfect and complete from the beginning, is not consistent with what we know of our evolving and emergent universe. Haught’s argument is summarised in the following passage:

⁴⁰ Haught, *God After Darwin*, 36.

⁴¹ See Haught, *God After Darwin*, 37.

⁴² Teilhard de Chardin, *The Prayer of the Universe* (New York: Harper Perennial, 1958), 120-121, in Haught, *God After Darwin*, 37.

If this universe is still unfinished, then we cannot demand that it should here and now possess the status of finished perfection. And if the universe is not perfect, then this can mean only that it is now imperfect. Moreover, if ours is an imperfect world, the appearance of evil (including the struggle and suffering depicted by Darwinian science) is not inconceivable . . . To say that suffering is a logical possibility in an evolving universe, however, is not to claim that it is tolerable. For this reason faith and theology cry out for the completion of creation (*creatio nova*).⁴³

This idea of the new creation is one that Haught focuses on in his own theology of evolution and will be examined later in this analysis.

Eschatology

Eschatology is the branch of theology that reflects upon the ultimate fulfilment of the creation, including what awaits humanity as its final destiny. This ultimate hope, argues Haught, must be set within the context of *creatio continua*. Humanity's expectations must include a future that involves the whole cosmos and the evolution of life within it. We have an opportunity, he states, to "enlarge upon the ancient religious intuition - expressed so movingly by St. Paul - that the *entirety* of creation 'groans' for ultimate fulfilment. After Darwin we may speak more assuredly than ever about the inseparability of cosmic and human destiny."⁴⁴

The notion of a God who comes to us from the future plays a central role in Haught's own theology. He argues that this image of God fits more closely with the biblical image of God as "the One who 'goes before' the people, leading them to liberty. This is the one God who turns the eyes of faith toward the future and 'who makes all things new,' as depicted by

⁴³ Haught, *God After Darwin*, 38.

⁴⁴ Haught, *God After Darwin*, 38.

Second Isaiah and the Book of Revelation (Isa. 43:19; Rev. 21:5)."⁴⁵ For Haught, an evolutionary understanding of life and the universe fits comfortably with this Biblical eschatology.

Revelation

In discussing the impact of evolution on a theology of revelation, Haught refers to Karl Rahner, who suggests that the idea of revelation "already anticipates an evolving cosmos."⁴⁶ Revelation, states Haught, is fundamentally "the communication of God's *own selfhood* to the world."⁴⁷ Drawing further on Rahner, Haught uses the image of God pouring God's infinite self without reservation into the creation. However, the divine infinity cannot be instantaneously received by a finite creation; and so this reception takes place gradually. This is consonant with the idea of an evolving cosmos that gradually expands and experiences ongoing self-transcendence into the infinite love of God. The external manifestation of this, states Haught, "Is what might appear to science as cosmic and biological evolution."⁴⁸

Grace

Haught suggests a theology of grace makes sense of the randomness, struggle and selection that are at the heart of neo-Darwinian evolutionary processes. For Haught:

⁴⁵ Haught, *God After Darwin*, 39.

⁴⁶ Karl Rahner, trans. by William Dych, *Foundations of Christian Faith* (New York: Crossroad, 1984), 78-203 in Haught, *God After Darwin*, 39.

⁴⁷ Haught, *God After Darwin*, 39.

⁴⁸ Haught, *God After Darwin*, 39.

The doctrine of grace claims that God loves the world and all of its various elements fully and unconditionally. By definition, however, love does not absorb, annihilate, or force itself upon the beloved. Instead it longs for the beloved to become more and more 'other' or differentiated. Along with its nurturing and compassionate attributes, love brings with it a longing for the independence of that which is loved. Without such 'letting be' of its beloved, the dialogical intimacy essential to a loving relationship would be impossible.⁴⁹

Not only does God grace humanity with this unconditional love, but also the whole of creation. God lets the creation be. Drawing on the thinking of Wolfhart Pannenberg and Elizabeth Johnson, Haught states that, "Theologically interpreted . . . the epic of evolution is the story of the world's struggle - not always successful or linearly progressive - toward an expansive freedom in the presence of self-giving grace."⁵⁰ Haught argues that a world full of contingency reflects a God whose grace lets the world be. He refers to Aquinas' view of the contingency found in the world as necessary for a world that is to be distinct from God.⁵¹ The randomness, struggle and selection found in the evolutionary view of life thus emerge as essential features of a world created by a God of infinite grace.

Divine power

The notion of divine power that Haught explores in relation to an evolutionary world is what he describes as a persuasive power rather than a coercive power. Divine power must be consistent with the idea of divine grace, a power that lets the creation evolve independently. He suggests that process theology has attended most closely to the redemption from evil and

⁴⁹ Haught, *God After Darwin*, 39-40.

⁵⁰ Haught, *God After Darwin*, 40. See also Wolfhart Pannenberg, *Systematic Theology*, 2 vols. trans. by Geoffrey W. Bromiley (Grand Rapids: Eerdmans, 1994), 127-136, and Elizabeth A. Johnson, "Does God Play Dice? Divine Providence and Chance," *Theological Studies* 56 (1996): 3-18 [journal on-line]; available from <http://www.aaas.org/spp/dser/evolution/perspectives/johnson.htm>; Internet; accessed 10 September 2002.

⁵¹ See Haught, *God After Darwin*, 40 with reference to Thomas Aquinas, *Summa Contra Gentiles*, III: 47.

suffering that are part of evolution and notions of divine power. Process theology suggests that a God, who loves persuasively or invitingly, rather than coercively, allows for a world that can be autonomous and self-coherent. A world that eventually sees the emergence of human consciousness and freedom has greater integrity, argues Haught, than a world determined in every aspect by a “divine designer”. Such a world is also consistent with human freedom and spontaneity and consistent with the indeterminate nature of quantum events and random mutations. This notion of divine power is entirely consistent with God's infinite love. According to process theology, evolution occurs because God is not only the source of order in the cosmos but also of novelty. It is the introduction of novelty in the world that makes evolution possible. Novelty is consistent with the necessity of instability and disorder that is essential for the functioning of life.⁵² Hence, this understanding of divine power sees a world created in freedom, characterised by lawfulness and contingency, ever open to fulfilling its potential.

Redemption

Haught poses the following question regarding redemption: how is it possible to be redeemed in an evolutionary world where life perpetually perishes as part of the cosmic process? Again, he appeals to process theology as offering a position consistent with the biblical image of a God who is infinitely responsive to the world. He considers that an infinitely loving God

⁵² See Haught, *God After Darwin*, 41-3.

"intimately 'feels' the world, as the biblical narratives affirm over and over."⁵³ Hence, God is deeply influenced by what happens in the processes of evolution:

Everything whatsoever that occurs in evolution - all the suffering and tragedy as well as the emergence of new life and intense beauty - is 'saved' by being taken eternally into God's own feeling of the world. Even though all events and achievements in evolution are temporal and perishable, they still abide permanently within the everlasting compassion of God.⁵⁴

A theology of redemption subsequently sees all things prevented from perishing absolutely by God's own compassionate relationship to the world. Given "the definitive importance and meaning that religions encourage us to believe in - always without seeing clearly," all things are ultimately "saved" into the transcendent, divine compassion of God.⁵⁵

Haught argues that evolutionary science has rendered obsolete and unbelievable the assumption of an original cosmic perfection "spoiled" by original sin. Evolution, he argues, has thus "abolished, at least in principle, the whole cosmological framework in which motifs of reparation and expiation have become so deeply entrenched in our cultures and our classical spiritualities."⁵⁶ Haught's theology instead incorporates a not-yet perfected universe. The ideal world in this scheme is located not in the past but in the eschatological future. Redemption, in this view, situates the mystery of Christ "more comfortably in an evolving, unfinished world open to the future than in cosmologies that posit eternal perfection that hovers judgementally over and paralyses our current projects."⁵⁷ In this understanding of redemption, Christ points forward to a future of promise and hope where "all beings – including, in a special way, us humans – are gifted with the opportunity of making unique and

⁵³ Haught, *God After Darwin*, 43.

⁵⁴ Haught, *God After Darwin*, 43.

⁵⁵ Haught, *God After Darwin*, 43.

⁵⁶ Haught, *God After Darwin*, 141.

⁵⁷ Haught, *God After Darwin*, 142.

unrepeatable contributions to an ever innovative cosmic adventure."⁵⁸ Haught's survey of a range of theological responses to various aspects of the evolutionary story anticipates some aspects of his own fuller theology of evolution. He then moves more deeply to consider how a theology of evolution might respond to a theodicy more attuned to the enormous suffering and struggle inherent in the evolutionary process.⁵⁹

Evolution and theodicy

Haught's theology of evolution seeks to reconcile a powerful, compassionate and infinitely loving God with the "aimless wandering and waste that scientific portrayals of evolution have laid out before us."⁶⁰ To deepen this engagement Haught returns to one of the central images of God as portrayed in the Christian tradition. He suggests that "the data of evolutionary science can be . . . intelligently situated within a theological metaphysical framework centred on the biblical picture of 'the humility of God'."⁶¹ Christian faith, he reminds us, invites us to put our trust in a God who submits to crucifixion, a self-giving God, and that "Christianity . . . made the crucifixion of Jesus an inner dimension of God's experience rather than something external to the Deity."⁶² This Trinitarian and paschal understanding of God is re-emerging as fundamental to Christian faith. He cites the work of theologians such as Jürgen Moltmann and

⁵⁸ Haught, *God After Darwin*, 143.

⁵⁹ See T. W. Tilley, "Evil, Problem of," in *The New Dictionary of Theology*. A theodicy is a theological explanation as to why God allows evil in the world.

⁶⁰ Haught, *God After Darwin*, 45.

⁶¹ Haught, *God After Darwin*, 47.

⁶² Haught, *God After Darwin*, 47.

Hans Urs von Balthasar, and refers to Schillebeeckx and Moltmann in their emphasis on a God who exercises power through humility and love.⁶³ The reality of the total self-abandonment of God is presented to us through the passion and crucifixion of Jesus. St. Paul's reference to Jesus Christ "emptying" himself to take the form of a servant for all forms the basis of an understanding of God undergoing "kenosis" or "emptying". This "kenotic" characteristic of God, argues Haught, may help us to bring new meaning to the "unfathomed epochs of wandering experimentation, struggle, apparent waste, and suffering that occur in the larger story of life as the result of evolution by natural selection."⁶⁴ Suffering, in this context, emerges as an inevitable dimension of a world left free to create itself by the divine self-abandonment. The idea of divine suffering love, imaged most explicitly in the life, death and resurrection of Jesus, emerges, for Haught, as central to a theology of evolution.

How then can a "providential, personal, and intelligent God" relate to such a self-creative (autopoietic) world? Such "self-creativity" can be considered both from an evolutionary standpoint, and also as described in studies of chaos and complexity.⁶⁵ Haught's response is again essentially consistent with a process theology model. He suggests that ultimate reality is best imagined fundamentally in terms of self-emptying, suffering love. Such an image allows for a theological explanation of the spontaneity and self-creativity evidenced in nature. It goes

⁶³ Haught refers to the following references: Jürgen Moltmann, *The Crucified God*, trans. by R. A. Wilson and John Bowden (New York: Harper & Row, 1974) and Hans Urs von Balthasar, *Mysterium Paschale*, trans. by Aiden Nichols, O.P. (Edinburgh: T & T Clark, 1990). See also Anne Hunt, *What Are They Saying About the Trinity?* (New York: Paulist Press, 1998).

⁶⁴ Haught, *God After Darwin*, 49.

⁶⁵ Haught, *God After Darwin*, 53.

beyond a conception of the cosmos as mindless impersonal physical matter. Haught argues that, in the light of this kenotic theology, “Nature will give every appearance of being in some sense autonomously creative (autopoietic).”⁶⁶ In a key passage, he summarises his position:

In the presence of the self-restraint befitting an absolutely self-giving love, the world would unfold by responding to the divine allurements at its own pace and in its own particular way. The universe would then be spontaneously self-creative and self-ordering. And its responsiveness to the possibilities for new being offered to it by God would require time, perhaps immense amounts of it. The notion of an enticing and attracting divine humility, therefore, gives us a reasonable metaphysical explanation of the evolutionary process as this manifests itself to contemporary scientific inquiry.⁶⁷

Haught recognises the strength of this kind of theological metaphysics, with its critical acknowledgment of divine humility and allowing room for true novelty to emerge. This, he argues, is not possible in deterministic materialist interpretations of reality. Nor does it accord with the idea of a universe that is simply the unfolding of an eternally fixed divine plan. While superfluous from a scientific viewpoint, such a metaphysics of divine humility, he argues, provides the best ultimate explanation for a spontaneous, self-creative universe. It also provides the best explanation for an evolutionary process that has seen countless experiments with living forms in a process that explores an endless range of potentialities as the world moves towards “becoming itself”.⁶⁸ We turn now to examine what Haught suggests a “God for evolution” might be like.⁶⁹

⁶⁶ Haught, *God After Darwin*, 53.

⁶⁷ Haught, *God After Darwin*, 53.

⁶⁸ See Haught, *God After Darwin*, 54-5.

⁶⁹ See Haught, *God After Darwin*, 81.

A God for evolution

In exploring what a God for evolution might be like, Haught draws on the work of Teilhard de Chardin. He considers that one of Teilhard's most significant contributions to the science-theology dialogue was the call for a metaphysics that encompassed all of the data of evolution, particularly the fact of emergent novelty.⁷⁰ Haught argues that all scientists have at least an implicit metaphysics; that is, their scientific ideas are presented within a particular understanding of reality. This metaphysics is often associated with absolute materialism. As a result, Haught argues, scientists are incapable of taking into account the most obvious features of evolution, namely its ability to bring about new forms of being or "novelty". Haught commends Teilhard for proposing that a "metaphysically adequate explanation of any universe in which evolution occurs requires . . . a transcendent force of attraction to explain the *overarching* tendency of matter to evolve toward life, mind, and spirit."⁷¹

Haught supports Teilhard's view that Christian theology has been dominated by a metaphysics of *esse* (or "being") which was appropriate to a static and classically hierarchical understanding of the world. This, however, has obscured the contemporary understanding of the world as one of "becoming", constantly moving towards the future. Teilhard sketched a vision of reality in which "all things are drawn perpetually toward deeper coherence by an ultimate force of attraction, abstractly identified as Omega, and conceived of as an essentially *future* reality."⁷² Evolution, suggests Haught, seems to require a divine source that resides in the future, or "up ahead" – the goal of a world not yet finished. In support of this notion, he

⁷⁰ See Haught, *God After Darwin*, 83.

⁷¹ Haught, *God After Darwin*, 83.

⁷² Haught, *God After Darwin*, 84.

refers to theologians such as Moltmann, who refers to God as “Future,” to Rahner, who speaks of God as “Absolute Future,” and to Pannenberg and Peters who refer to God as the “Power of the Future.”⁷³

Haught proposes that the novelty that emerges out of the processes of evolution comes about because of the “arrival of the future” rather than the “grinding on of an algorithmic past.”⁷⁴

An open and undetermined future allows evolution to produce new possibilities through all of the contingencies in natural history. In a programmatic text, Haught explains:

Contingent events, then, are not themselves ultimately explanatory of evolutionary novelty, for their own occurrence is itself dependent fundamentally on time’s opening toward the future. It is not the occurrence of contingency that brings about the future; rather, it is the arrival of the future that allows events to have the status of contingency, that is, to be more than just the inevitable outcome of past deterministic causes.⁷⁵

Haught’s “metaphysics of the future” is central to his formulation of a theology of evolution.

Haught understands such a metaphysics to mean “the philosophical expression of the intuition – admittedly religious in origin – that all things receive their being from out of an

inexhaustibly resourceful ‘future’ that we may call ‘God’.”⁷⁶ This metaphysics, argues

Haught, best explains the emergence of new forms of being in evolutionary history. Such

novel emergence, particularly the emergence of the human experience of “subjectivity”,

cannot be fully explained by materialist metaphysics, which is simply unable to explain this

emergence of truly new being. As Haught explains:

⁷³ See Haught, *God After Darwin*, 84, and Jürgen Moltmann, *The Experiment Hope*, trans. by Douglas M. Meeks (Philadelphia: Fortress Press, 1975), Karl Rahner, *Theological Investigations*, 6 vols., trans. by Karl & Boniface Kruger (Baltimore: Helicon, 1969), Wolfhart Pannenberg, *Faith and Reality*, trans. by John Maxwell (Philadelphia: Westminster Press, 1977) and Ted Peters, *God - The World's Future: Systematic Theology For A Postmodern Era* (Minneapolis: Fortress Press, 1992).

⁷⁴ Haught, *God After Darwin*, 87.

⁷⁵ Haught, *God After Darwin*, 87.

⁷⁶ Haught, *God After Darwin*, 90.

Materialism is closed a priori to the prospect of there arising in evolution truly new being, since by definition it has identified being with mindless “matter” already present prior to life’s evolution. Most materialists, of course, will allow that *unprecedented* arrangements of mindless matter appear in evolution constantly. But the underlying being or *reality* of all such configurations, including entities endowed with a high degree of subjectivity, consists of lifeless and mindless atomic constituents rather than of the elusive informational patterns by which they are ordered and in which novelty is realised.⁷⁷

Haught deliberately leaves somewhat vague the precise character of his metaphysics of the future. He avoids situating this metaphysics in the classical notions of *esse* and the current metaphysics of the past.⁷⁸ Instead he suggests that such a “power of the future”, in its absolute depth, is “God”, who calls people of faith to a promise of hope. This God of the future “grasps” those of faith and leads them into promise. This same God also “grasps” the whole of the creation, the entire universe, and draws it into a divinely renewing future. This kind of thinking, Haught argues, does not fall readily into science’s conceptualisation of reality, because science relies on causality that flows from the past. He insists, however, to find the ultimate source of new species, one has to look to the future. In contrast, scientific materialism, he argues, would have it that all cosmic and biological evolution is merely the unfolding of past events. Within this view of reality, however, nothing truly new could emerge or even in principle be anticipated. No truly new information could surprise scientific prediction or “let new creation occur in our lives.”⁷⁹ True novelty or, in theological terms, new creation cannot be explained by a scientifically materialist view of the world. True novelty, Haught would persuade us, can only appear through the arrival of the future.

⁷⁷ Haught, *God After Darwin*, 88.

⁷⁸ See Haught, *God After Darwin*, 86. Haught suggests it is a metaphysics of the past that scientific materialists use to read evolution. This materialism “locates the source and substance of life’s diversity in the purely physical determinism that, allegedly, has led, step by fateful step, out of the dead causal past to the present state of living nature in all its profusion of complexity.”

⁷⁹ Haught, *God After Darwin*, 91.

Haught thus contrasts his “metaphysics of the future” with the more traditional theological position of a metaphysics of *esse* and the modern scientific grounding in a metaphysics of the past. He argues that neither the traditional hierarchical vision, where “all finite levels of being are held up from above and sacramentally permeated by an eternal, timeless *arche*,” nor modern materialism, which Haught equates with a reality composed of lifeless units of matter, are adequate to an understanding of an always arriving, unprecedented and renewing future.⁸⁰ In the following section we turn to examine Haught’s posit that a “metaphysics of the future” provides an ultimate explanation for evolution.

Evolution – “an ultimate explanation”⁸¹

Haught argues that a “metaphysics of the future” best accounts for the cosmic qualities of chance, lawfulness and temporality that provide the backbone of biological evolution. His arguments are constantly grounded in a biblical vision of a “saving future” which “invades the present unpredictably and opens up the world to undreamed possibilities.”⁸² As Haught argues:

These biblical accounts empower us to expect . . . that the cosmic process will finally be redeemed from the insignificance that alternative metaphysical outlooks logically expect.

It is to such an anticipated but not yet fully actualised coherence that a metaphysics of the future points. And this anticipated integration is the goal and ground not only of our human hopes but also of cosmic and biological evolution.⁸³

Anything that happens within the universe, including biological evolution, happens because

⁸⁰ Haught, *God After Darwin*, 91-3.

⁸¹ Haught, *God After Darwin*, 104.

⁸² Haught, *God After Darwin*, 94.

⁸³ Haught, *God After Darwin*, 95.

God comes toward the universe out of an incalculable future. Haught then examines how contingency, lawfulness and time can be understood within a “metaphysics of the future”.

Contingency argues Haught, is what we ought to expect in a universe that is unfinished in its creation and will only become fully intelligible in the fullness of time. Haught argues the following:

As pictured by science since the time of Newton, the world *should* be dominated completely by necessity and therefore devoid of inherent uncertainty. It *should* be ruled by linear processes captured easily by mathematical reasoning. Thus, when novel, unpredicted events do occur they are considered absurd, or the result of inaccurate measurements and scientific ignorance.⁸⁴

The unpredictability of the world, suggests Haught, explodes such materialist assumptions by science. Through contingency, the universe opens itself to the future and to evolutionary novelty. This is precisely what we ought to expect “in a world whose ultimate ground and source favours the world’s emerging independence as it opens itself to the future.”⁸⁵

In regard to lawfulness, Haught suggests that science’s reliance on the inflexible nature of the laws of physics closes it off to an understanding of novelty ever emerging in the cosmos. He places natural selection as an evolutionary process in this category, a process characterised by a “mindless determinism”. He concedes, however, that this view does not necessarily reflect how many evolutionary biologists view the processes of evolution. He argues, however, that laws governing the working of the universe are necessary, otherwise, the novelty that emerges would not be distinguishable from the chaos. Such laws allow the world to work in a

⁸⁴ Haught, *God After Darwin*, 101.

⁸⁵ Haught, *God After Darwin*, 102.

consistent way. Without such consistency, the world would not have a future in which to situate a God who comes from the future.⁸⁶

The phenomenon of time as irreversible, argues Haught, can also be given a satisfying explanation by a metaphysics of the future. It is the arrival of the future that allows the present to be pushed back into the past so that new moments can arise. It is this understanding that provides “a temporal sequence of moments in which evolution could occur.”⁸⁷

Haught insists that any ultimate theological explanation of evolution must take into account the phenomena of contingency, law and time, three aspects that, combined, make evolution possible. They find their most plausible metaphysical foundation in the biblical vision of a world sustained by the promise of an Absolute Future, named as God. This vision of reality, he argues, provides an *ultimate* explanation of evolution.⁸⁸ The final section of our exposition of Haught’s theology of evolution focuses on the connection between evolutionary processes and the nature of God’s action in the creation.

Evolution and divine action

A theology of evolution, Haught insists, acknowledges that the ultimate explanation for evolution is God. He proceeds to investigate how, from a Christian perspective, God influences or works within the processes of evolution. What is the causal link, he asks, that

⁸⁶ See Haught, *God After Darwin*, 102-3.

⁸⁷ Haught, *God After Darwin*, 103.

⁸⁸ See Haught, *God After Darwin*, 104.

conceptualises the way God moved the unconscious universe in the direction of life and consciousness?⁸⁹

To answer these questions Haught defers primarily to the philosophical thinking of Alfred North Whitehead and Teilhard de Chardin. Haught argues that no meaningful theology of evolution can be developed in a cosmos devoid of “mind, inwardness, or subjectivity.”⁹⁰ For Haught, subjectivity is an objective fact within nature. Following Teilhard and Whitehead, he suggests that a “withinness” exists in all material aspects of the cosmos in proportionate degree to their complexity. According to Haught, matter is never mindless or spiritless. “Spirit” for Haught, “Designates the opposing disposition of evolution toward increasing unity and consciousness. It cannot be said accurately, therefore, that the cosmos, at any point in its evolution, is essentially spiritless or devoid of ‘withinness’.”⁹¹ Teilhard, Haught observes, avoids dualism of mind and matter by arguing that this inner “responsiveness” of all matter is “a property attributable to states of more or less complex makeup involving atomic particulars.”⁹² Haught suggests this “withinness” provides a “responsiveness” that allows nature to be influenced by God.

Haught’s argument for subjectivity or “withinness” in matter clearly stands in opposition to the scientific materialist view. According to this view, since such subjectivity is inaccessible to scientific objectification, it does not exist. A theology of evolution must, Haught argues, include mentality, subjectivity and consciousness as objective aspects of nature. Here Haught

⁸⁹ See Haught, *God After Darwin*, 170.

⁹⁰ Haught, *God After Darwin*, 178.

⁹¹ Haught, *God After Darwin*, 178.

⁹² Haught, *God After Darwin*, 178.

refers to Whitehead who states that there is “a “subjective” quality at the heart of every occasion in the cosmic process that . . . permits the interaction of God and nature.”⁹³ It is this inwardness or subjectivity in all material aspects of the cosmos that is influenced by God, who draws it into the future towards eschatological fulfilment of the divine promise.⁹⁴ In this scheme, Haught also stands in opposition to other modern theological attempts that link ideas regarding God’s interaction with the world with purely mechanistic explanations of the cosmos, for example, Arthur Peacocke’s approach. He criticises these attempts for giving way to the impersonal and abstract scientific explanations of the workings of nature, and leaving aside “nature’s ‘subjective’ capacity to receive God’s influence.”⁹⁵ We now move to assess the strengths and limitations of Haught’s theology.

An assessment of Haught’s theology

Haught’s theology of evolution is undoubtedly a useful contribution to the dialogue. Although the Roman Catholic tradition accepts the modern scientific account of biological evolution, Haught goes further in engaging theology with the data of evolution and synthesises a new theological understanding. In so doing, he draws on a mixture of classical, process and kenotic theology and biblical eschatology to develop a “metaphysics of the future”, whereby he attempts to hold both evolutionary and theological data together. There is much to be appreciated in what Haught proposes. There are, however, elements of his theology that raise further questions.

⁹³ Haught, *God After Darwin*, 177.

⁹⁴ See Haught, *God After Darwin*, 180-4.

⁹⁵ Haught, *God After Darwin*, 177.

One strong point in Haught's approach is the close attention he pays to both the data of biological evolution and the data of theology, and his consequent attempt to bring them together in a theologically and biologically consistent way. He is convinced that theology after Charles Darwin cannot remain as it was before. It is not that theologians prior to this period never engaged with issues relating to contingency in nature, suffering or God's interaction with the world. Until Darwin, however, Christians generally accepted that God had directly created humans, along with all life. Darwinism, and the later modern synthesis of biological evolution, has since provided a fully naturalistic explanation for the appearance of life on earth and, conceivably, in any other place where it may be found in the universe. Although biology can provide such an explanation for the evolution of life, only a *theology of evolution*, argues Haught, can provide an *ultimate explanation* for why evolution occurs at all. Haught's achievement is to provide a metaphysical explanation for the evolution of life, the existence of suffering, and emergent novelty that accommodates the data of our experience in the cosmos.

In developing his own theology of evolution, Haught persuasively criticises the arguments of the "intelligent design" theorists. For Haught, as for most scientists and theologians, the notion of God as an intelligent designer is simply inadequate to explain both the endless source of novelty in life's emergence and the enormous suffering, destruction and pain that are intrinsic to the continued emergence and maintenance of new life. Arguments referring to apparently irreducibly complex phenomena are sometimes cited as evidence for a God who

works through “intelligent design”.⁹⁶ Haught’s convincing counter-arguments, however, allow that, at the level of biological explanation, the methods used by biological science are demonstrably reliable. Haught’s criticism of biological science relates to its apparent failure to recognise the vibrancy of the phenomena of life and its openness to novel forms. For Haught, Darwin’s own description imbues the evolution of life with more drama than modern science ascribes to it. The drama and vibrancy of life opens, for Haught, possibilities for God’s creative involvement in the process. In making this point, however, Haught is possibly too critical of the approach of modern scientific materialism and it would appear that the view of scientific materialism he criticises is more closely associated with its extremist proponents, such as Richard Dawkins, Stephen Gould, Steven Weinberg and Edward Wilson. Nevertheless, this criticism allows him the opportunity to offer his own imaginative theology of evolution as an explanation for the ultimate meaning of evolution.

An admirable aspect of Haught’s approach is that it meets head-on the challenges of the militantly atheistic opponents of theology. In *God After Darwin*, he devotes space to the views of the American philosopher Daniel Dennett and the English scientist Richard Dawkins and their highly vocal and articulate objections to a theological response to evolution. As Haught explains, their fundamental arguments target the apparent meaninglessness and purposelessness of the universe. They claim that the entire universe and the life within it can be fully explained by science and that no appeal needs to be made to a God who has ultimate control and responsibility for it all. Haught, however, accepts the adequacy of a materialistic

⁹⁶ The modern example often cited here refers to the apparent irreducible complexity of the biochemical pathways involved in human blood clotting mechanisms. See Haught, *God After Darwin*, 3-4 and Martinez J. Hewlett. "A God for Evolution," *God and Nature* (University of Arizona, 2001, accessed 4 December 2002); available from <http://kukulkin.meb.arizona.edu/~mhewlett/hewlett/romepaper.html>; Internet, 8-10.

scientific methodology to explain the immediate workings of the universe, including life. His criticisms are more pointedly directed against the extension of this *methodological* materialism into the realm of *metaphysical* materialism.

In the dialogue between theology and biological science, the truth may be better served in the middle ground of biology, which is less militant in its views. Here, scientists such as Kenneth Miller and Arthur Peacocke are more open to the possibilities beyond materialism. Many biologists, including the more extreme scientific materialists such as Dawkins, stand in awe at the complex beauty they find in the biological world.⁹⁷ For many of them, knowledge of life's workings at all its levels of existence, from the intricate complexity of the subatomic reactions that keep every cell alive, the millions of events requiring co-ordination for an organism to function, to the complex and delicate balance needed for millions of organisms to survive in their intricately woven environments suggests a numinous aspect to life. Although those in this middle ground of biology do not necessarily ascribe this sense of the numinous character of life to an ultimate reality or God, this sense may open the way to more constructive dialogue between science and theology.

Haught's option for an "engagement" position between theology and evolutionary biology provides useful contrasts with what he describes as a "separatist", more classical theology, rooted more strongly as it is in a theology of *esse*. Haught claims this engagement strengthens the theological understanding of *creatio continua* by acknowledging the scientific data for a universe that includes life evolving into new forms over vast periods of time. Haught's

⁹⁷ See Richard Dawkins, *Unweaving the Rainbow: Science, Delusion and the Appetite for Wonder* (London: Penguin Books, 1998).

theology thus plausibly incorporates the on-going emergent nature of the creation. However, as Kelly puts it, when one engages with a more expansive and subtle interpretation of Aquinas, it is possible to interpret the “to be” of every creature as a process of becoming.⁹⁸

Haught’s engagement also provides a useful and credible account of the extraordinary pain and suffering evidenced within the processes of evolution and in the wider context of cosmic evolution. Haught sets this biological and physical data within the context of a theology of grace, which is understood here as God’s unconditional and compassionate loving of the world, leading to its independent but not disconnected existence from God. This understanding helps to provide meaning, if not consolation, in a cosmos characterised by contingency, apparent freedom and suffering. Grace, according to Haught, lets the world be.

Haught’s suggestion of a theology of grace is closely associated with a kenotic theology that images a God who empties Godself of coercive power. Haught’s argument is founded on the premise that only a truly omnipotent, omniscient and omnibenevolent God is capable of divesting Godself of God’s power so as to let creation be. Such an argument contributes to a more cohesive understanding of the struggle and pain, contingency and catastrophe experienced in the evolutionary process than the classical approach allows. The existence of suffering, resulting from the divine self-abandonment, is also arguably consistent with an expression of divine humility and unconditional love. In this formulation, kenotic theology has merit. A gap seemingly exists, however, between a God who lets the world be and the biblical image of God who is “active” in history. A formulation is required that holds together

⁹⁸ See Tony Kelly, *An Expanding Theology: Faith in a World of Connections* (Newtown: E. J. Dwyer, 1993), 117 for a detailed exposition of this point.

both an explanatory and active principle for God's relationship with the creation. This will be examined more closely later in this thesis.⁹⁹

Although such a theology is useful to the degree that it is consonant with the data of our experience, it seems to shed little illumination, however, on the ultimate *why* of suffering in the first place. In this sense, it is not an understanding of *creatio continua* that is problematic but an understanding of *creatio originalis*. What emerges as a particularly useful image from Haught's theology is the consonance between a world of suffering and pain and a world of becoming, a world not yet perfect or finished. It may yet prove that cosmic and biological evolution will make further significant contributions to the dialogue that relates evil, suffering and dissolution in the cosmos with explorations of theodicy.

In exploring a theology of evolution, Haught poses the important question concerning how a providential, personal and intelligent God can interact with a world that is autopoietic. His response, in part, flows from the kenotic theology which images God as self-emptying, suffering love. This theology of divine humility, he argues, allows for the emergence of true novelty in the cosmos. This novelty, he argues, is characteristic of a self-creative cosmos. Haught strongly emphasises the existence of true novelty in the cosmos as it provides one of the keys to his formulation of a "metaphysics of the future". The very existence of novel life forms resulting from evolutionary processes, argues Haught, is evidence that God has brought into being a self-creating world.

⁹⁹ See page 192 below.

In the overarching movement from simple to complex, and the movement from inanimate matter to consciousness and mind, Haught identifies a pattern whereby a God, located in the future, draws the cosmos towards its final fulfilment. Here Haught's argument is essentially based on the view that evolution is progressive and directional. While this is true in regard to the appearance of human beings, however, many branches on the "tree of evolution" do not show this directional trend. Science tells us that there is little evidence in the multifarious branching of the evolutionary tree that there is any overall trend from simple organisms to complex, conscious beings. Here, Haught draws on Teilhard's thinking that there must be a metaphysical transcendent force of attraction, a divine source that exists in the future, drawing the world to its final goal.

Haught's argument that the novelty found in evolution results from the "arrival of the future" rather than the "grinding on of an algorithmic past" invites a number of questions. He puts his position as follows:

Theologically speaking, we may surmise that evolution occurs at all only because in some analogous sense all of nature is being addressed by the future that we call God. Evolution happens, ultimately, because of the "coming of God" toward *the entire universe* from out of an always elusive future.¹⁰⁰

Although Haught is speaking in an analogous sense when he refers to the coming of the future as the fundamental force that drives evolution, the idea that the arrival of the future accounts for the emergence of novelty in evolution deserves careful attention. It is actually well within the scope of a materialist understanding of evolution to account for emergent novelty. In fact novel adaptations in life forms result from imperfections in the replication of DNA and the existence of such imperfections, or mutations, are a result of numerous historical

¹⁰⁰ Haught, *God After Darwin*, 99.

contingencies in the past. Moreover, such mutations usually result from genuinely indeterminate quantum level events.

But Haught's fundamental argument is that scientific materialism cannot account fully for the emergence of novel forms of being, particularly the emergence of the human experience of "subjectivity". He suggests that subjectivity cannot be accounted for by the belief that entities are constructed from mindless atomic constituents but, instead, may result from elusive informational patterns that flow from the nature of complexity. Yet the human mind itself is believed to be an emergent phenomenon flowing from the interactions of mindless atomic constituents in the human organism. Although the nature of subjectivity may still be essentially unexplained, in principle it is reasonable to assume that it might be part of consciousness, which is currently understood as an emergent phenomenon of brain function.

It is not materialist metaphysics that is problematic here, but a lack of data regarding the nature and origin of subjectivity. It is not necessary to postulate a metaphysical explanation for the emergence of subjectivity. Nevertheless, Haught drawing on Alfred North Whitehead's process philosophy, believes that some degree of subjectivity can be found in all aspects of the cosmos. There is no doubt he is correct in stating that subjectivity is an objective fact of nature, but the degree to which Haught suggests it is present in all material aspects of the cosmos is questionable and seems to find little basis in scientific fact. Haught would argue, though, that scientific method is incapable of measuring or discovering this subjectivity. If subjectivity is a product of consciousness, then it may be safe to assume it is present to some degree in many species of organisms, but it is highly speculative to suggest that it may be present in inanimate entities, as Haught claims.

The “withinness” Haught postulates, which is conferred on all entities in the universe by the presence of subjectivity, is what, he argues, allows nature to be influenced by God. But, it seems to be a somewhat circuitous argument that postulates the presence of a metaphysical “withinness” in something like an electron because something needs to be “in” the electron upon which God can act. If the presence of subjectivity in all aspects of the cosmos is questionable, so too is the validity of Haught’s claim that God is able to influence the entire cosmos, even in its inanimate forms, and draw it towards its fulfilment in the Absolute Future of God.

Despite the question noted above, namely whether there is subjectivity within all aspects of the cosmos that God is able to “influence”, Haught’s theology of evolution is an emphatic reminder that as Christians we believe in a God of promise and hope. This image of God is firmly rooted in the biblical tradition, throughout both Old and New Testaments. God, as Alpha and Omega, beginning and end of all being, and is the source of Christian hope. His reminder that all things are ultimately taken back into God also offers some consolation in response to the pain, suffering and waste evidenced in evolution. It may have served Haught’s theology better, though, if his exposition of this Scriptural image of God were elaborated in more detail. His notion of a “metaphysics of the future” may have benefited from a more detailed exegesis of the biblical narratives, particularly with closer reference to Jesus of Nazareth, the Christ. There in the biblical tradition we find both images of God “absent” and God “active” in history. Indeed, the hope evidenced in salvation history, born out of the day-to-day experiences of God’s people, is often a hope beyond hope. In the biblical narratives, experiences of God’s “absence” are often experiences of abandonment. Conversely,

experiences of God's presence were most often liberating. A greater emphasis on the liberating presence and action of God, through Jesus Christ, may have seen Haught's theology of evolution offer greater consolation than that offered by his mixture of kenotic and process theology. A type of liberation theology in dialogue with evolutionary theory may have produced further fruitful insights. This approach offers itself for further exploration.

Haught's fundamental premise is sound. A theology of evolution, *qua* theology, necessarily acknowledges that the ultimate explanation for evolution and the underlying physical processes that allow it to occur is God. Haught has made an intelligent, plausible and sustained attempt to synthesise a coherent theology of evolution built upon a "metaphysics of the future". Ultimately though, his theology of evolution is not entirely satisfying. Although it claims to fully engage with and encompass the full range of the biological and theological data, in the final analysis it falls short in demonstrably achieving that explicit goal.¹⁰¹ There is no doubt, however, that Haught's attempt provides much valuable input into the on-going dialogue between biological evolution and an adequate theology for our time. We now move to consider another approach in the work of Denis Edwards.

¹⁰¹ See page 83 above.

Chapter 4

DENIS EDWARDS: THE GOD OF EVOLUTION

Denis Edwards, an Adelaide Roman Catholic priest and theologian, has also made a significant contribution to the science-theology dialogue. Pertinent to this thesis is his contribution in the area of evolution and theology. In his book, *The God of Evolution* and other writings, Edwards sets out to explore the impact of the theory of evolution on a theology of God. This chapter will examine his understanding of cosmology, biological evolution and the theology he develops in relation to it. Edwards argues that “holding together the Christian view of God and the insights of evolutionary science does demand a rethinking of our theology of the Trinitarian God at work in creation.”¹ Questions emerge from this exposition of his work for consideration in this thesis.

Edwards’ development of a theology of evolution springs from his question: “What difference does acceptance of the theory of evolution make to a Christian theology of God?”² He suggests that a Christian with intellectual integrity would accept the broad outline of evolutionary theory and that this acceptance in turn impacts on the Christian understanding of God. He argues that theology must be reformulated to take into account the evolutionary view of life. A reformulation is necessary so Christians can meaningfully talk about God in an evolutionary context.

¹ Denis Edwards, *The God of Evolution* (New York: Paulist Press, 1999), 13.

² Edwards, *The God of Evolution*, 3.

Like Haught and Peacocke, Edwards accepts the broad outline proposed by the current Neo-Darwinian theory of evolution as outlined in the background to this thesis.³ He also situates his exploration of a theology of evolution within the standard cosmological model of the universe as outlined in the background.⁴

Edwards approaches his theology building on a critical interpretation of Scripture. He observes that theologians, generally speaking, are not fundamentalists and have little difficulty in exploring the insights of both evolutionary biology and the biblical stories of creation. For example, Augustine (354-430) had highlighted the need for a careful reading of the creation stories in Genesis and pointed out the need to respect their use of figurative language. Modern biblical scholarship distinguishes clearly between cosmological worldviews that a biblical text assumes and the religious insights that it tries to communicate.⁵

Edwards suggests that, for many people, there is an apparent conflict between the theory of evolution and the biblical stories of creation in Genesis. From a critical perspective, however, he maintains that the teachings of Genesis are a “deep and profound heritage of the Jewish and Christian communities. This is theological ‘truth for our salvation’. We should not look to Genesis for scientific teaching about the history of the early universe or the emergence of life.”⁶ He argues that the revelatory truth of the creation narratives should be taken seriously

³ See Edwards, *The God of Evolution*, 4-7 and above, Introduction, pages 39-46.

⁴ See Denis Edwards, "A Response to William R. Stoeger SJ," in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D. Regan and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 146-152 and above, Introduction, pages 36-38

⁵ See Denis Edwards, "Evolution's Challenge to Theology," *Australasian Science* 23, no. 3 (2002): 22 and Edwards, *The God of Evolution*, 7-13, where Edwards summarises the critical interpretation of the Creation stories in Genesis, outlining the 'Yahwist' and 'Priestly' sources underlying the two Creation accounts.

⁶ Edwards, *The God of Evolution*, 12.

and that “there is every reason for a Christian today to embrace *both* the theological teachings of Genesis *and* the theory of evolution.”⁷ He suggests that much of the current debate related to religion and evolution centres not so much around a poor understanding of science, although this is present, but on a literalist interpretation of biblical literature. Edwards advocates that there is no conflict between an evolutionary view of life and modern critical understandings of biblical texts.

A God of mutual friendship

Edwards asks how the Christian concept of God relates to the contemporary scientific view of a universe that emerged from the Big Bang and is now approximately thirteen billion years old, and where life on Earth evolved over the last three and a half billion years through mutation in genetic material and natural selection. Edwards situates himself amongst those theologians who take the best insights from biology and Christian theology and “show that it is reasonable, coherent, and enlightening to hold both sets of insights together in one unified view.”⁸ He sets out to develop a theology of God that is both faithful to biblical data and the data of science, and develops a way of thinking about a God who creates through the evolutionary processes of random mutation and natural selection. Unlike Peacocke and Haught, Edwards’ theological response draws on the “trinitarian vision of God, as a God of mutual relations, a God who is communion in love, a God who is friendship beyond all comprehension.”⁹ This theology is developed from two sources. Firstly, it draws on the

⁷ Edwards, *The God of Evolution*, 13.

⁸ Edwards, *The God of Evolution*, 14.

⁹ Edwards, *The God of Evolution*, 15.

“theology of mutual relations” found in the Gospel of John and secondly, the theology of the Trinity, as developed by Richard of St. Victor.¹⁰

Edwards situates this theology of mutual relations against recent theologies of evolution by Philip Hefner and Gerd Theissen that emphasise altruism in nature. These theologians, according to Edwards, argue that “the evolution of altruism” is “grounded in the fundamental character of reality, which they identify with God.”¹¹ In response to Hefner, Edwards suggests that it is love of mutual relations rather than altruism, which “holds the status of a cosmological and ontological principle.”¹² Edwards agrees with Hefner and Theissen that altruism is a key feature of the gospel, particularly in Jesus’ own death on the cross. But he queries whether altruism is an adequate description of the “Christian understanding of divine and human love.”¹³ He suggests there are two reasons why “Persons-in Mutual-Relations” is the better candidate for an understanding of divine and human love.

Firstly, drawing on theological anthropology through the lens of feminist scholarship, he argues that, although a self-sacrificial love may provide a corrective to the sin of self-centeredness and pride in groups of powerful people, it may also act to continue oppression in groups of already oppressed persons. He suggests that “in some circumstances, indiscriminate calls to altruism and self-sacrifice can function to maintain oppression.”¹⁴ He argues that theologians should be guarded in uncritically and indiscriminately calling for self-sacrifice and altruism. The Christian form of altruism, states Edwards, “Involves self-love as well as

¹⁰ Edwards, *The God of Evolution*, 15.

¹¹ Edwards, *The God of Evolution*, 15.

¹² Edwards, *The God of Evolution*, 15.

¹³ Edwards, *The God of Evolution*, 15.

¹⁴ Edwards, *The God of Evolution*, 16.

love of the other.”¹⁵ The second reason he suggests altruism is not the best description of divine and human love, is that love “is revealed most radically in the trinitarian relations of mutual, equal, and ecstatic friendship. The Christian ideal of love . . . concerns self-possession as well as self-giving, love of self as well as love of the other.”¹⁶

In arguing that Persons-in-Mutual-Relations is the better description of divine and human love as a cosmological and ontological principle, Edwards, as we have noted, draws primarily on the Gospel of John and the theology of Richard of St. Victor. It is in the Gospel of John, states Edwards, that we find the most developed theology of the trinity within the biblical tradition. Here we find “a presence to the disciples of the ‘Paraclete’, a return of Jesus himself to the disciples, and a presence to the disciples of ‘the Father’ along with Jesus.”¹⁷ Using several references from the gospel, where John links the transliterated phrase, “abiding in” (*menein en* in Greek) with the Holy Spirit, Jesus and the Father, and the disciples, Edwards develops the idea of the disciples being “caught up in the dynamic union of the mutually shared divine life.”¹⁸ This “abiding in” reflects the trinitarian circle of love into which the disciples are invited. Referring to John 15:14-15, he states that “those who practice this love are called *friends*. According to John, the love of Jesus and the Father and the Spirit, is a dynamic relational life of mutual indwelling, which reaches out to embrace us, catching us up in the open circle of divine love.”¹⁹

It is from this biblical basis, centred on John’s Gospel, that Edwards draws his conclusions

¹⁵ Edwards, *The God of Evolution*, 16.

¹⁶ Edwards, *The God of Evolution*, 16.

¹⁷ Edwards, *The God of Evolution*, 17.

¹⁸ Edwards, *The God of Evolution*, 17.

¹⁹ Edwards, *The God of Evolution*, 20.

regarding the primacy of the image of Persons-in-Mutual-Relations to describe divine and human love in mutual indwelling. He argues that this trinitarian and relational image of God can be applied to both the “life of grace” and to the “divine presence to all things in the relationship of ongoing creation.”²⁰

Edwards’ second source for developing his image of Persons-in-Mutual-Relations is the work of the Western theologian Richard of St. Victor (d. 1173) and his emphasis on the “mutual love of friends as a way of understanding the trinitarian relations.”²¹ This notion of mutual love of friends, states Edwards, is built on the idea that divine love is imaged as a “circle of *koinōnia* (communion) and of *perichōrēsis*.”²² *Perichōrēsis*, states Edwards, means being-in-one-another, the mutual indwelling of the trinitarian Persons. This term, as understood by Edwards, encompasses both the importance of individuality and of shared life with another. “Perichoresis expresses the ecstatic presence of each Person to the others, the being-in-one-another in supreme individuality and freedom.”²³

Edwards explains that “Richard sees the self-transcending love of friendship as the high point of human life and argues that such friendship must be found in God.”²⁴ Such human love, suggests Richard, always goes beyond itself and the same can therefore be said of the divine love of God. Edwards then builds his image of the God of evolution as a God of mutual friendship, on this understanding of relationality through interpersonal or self-transcending

²⁰ Edwards, *The God of Evolution*, 21.

²¹ Edwards, *The God of Evolution*, 21.

²² Edwards, *The God of Evolution*, 21. According to Edwards, the word *perichōrēsis* means to encompass and describe “reciprocal relations of intimate communion.”

²³ Edwards, *The God of Evolution*, 21.

²⁴ Edwards, *The God of Evolution*, 21.

love. By using analogy and drawing on the insights of Richard, Edwards argues that if we understand relationality as fundamental to human experience of the world, then this relationality must be integral to the nature of God. Likewise, if our most profound experience as human beings is friendship based on self-transcending love, then this also may reflect an aspect of the nature of God. From this basis, he argues that if such mutual love exists in the nature of God, then God must be more than one Person. The divine mutual love between at least two Persons would be eternal and so radically equal, “That their unity would be beyond human comprehension – the unity of the divine substance or nature.”²⁵

Edwards explains that Richard then develops this argument further to suggest that such divine love needs to flow outwards to another, to a third Person, who Richard terms the *condilectus* – literally meaning “one who is loved with” another.²⁶ Edwards states that this term has been translated as “a common friend.”²⁷ It is Richard’s notion of friendship as being at the heart of the Trinity and this image of divine friendship that Edwards draws on to develop his understanding of the God of evolution. He also draws on the work of Sallie McFague and Elizabeth Johnson, coming from the perspective of feminist theology, who both use the image of friend and friendship in describing the essence of God.²⁸ He acknowledges that, since such a concept of divine mutual friendship is built using analogical language, this divine mutual love must infinitely transcend all ideas of limited human friendship.

²⁵ Edwards, *The God of Evolution*, 22-3.

²⁶ Edwards, *The God of Evolution*, 23.

²⁷ Edwards, *The God of Evolution*, 23. Here Edwards is referring to Yves Congar, *I Believe in the Holy Spirit, Vol. 1: The Experience of the Spirit* (New York: Seabury Press, 1983), 87.

²⁸ See Edwards, *The God of Evolution*, 23.

Nevertheless, he argues that it is still most accurate to talk in terms of the love of friendship being the very essence of God.²⁹ The idea of mutual love as central to the Christian understanding of God, he argues, is found “in all the great mainstream Christian theologies of God,” but it is Richard of St. Victor who bases this image on the “analogy of human friendship. For him, it is friendship that enables all creatures to be and to become.”³⁰ With other trinitarian theologians, explains Edwards, Richard provides a basis for understanding that the cosmological and ontological principle of the universe is “personal, relational, and communal.”³¹ From this foundation, Edwards builds his understanding of the God of evolution, an image of God that accommodates our human understanding of biological evolutionary processes.

Noting modern biological science’s understanding of life as interconnected at every level of its existence, Edwards suggests that this is a point of contact with the relational view of God as outlined above. From the complex workings and interdependent relationship of multiple cellular components to the complexity of whole ecosystems built on the interdependence of multiple species, life is communal. This, suggests Edwards, is the way a “communal, relational God might create.”³² An understanding of God’s Being as radical, relational friendship is not only congruent with the biological understanding of nature, but also suggests that the whole of reality is “ontologically relational. The very *being* of things is relational being.”³³ Edwards builds on the argument that “if the essence of God is relational, if the very foundation of all being is relational,” then this points to “a fundamental understanding of

²⁹ See Edwards, *The God of Evolution*, 24.

³⁰ Edwards, *The God of Evolution*, 24.

³¹ Edwards, *The God of Evolution*, 24.

³² Edwards, *The God of Evolution*, 26.

³³ Edwards, *The God of Evolution*, 26.

created reality which might be called an ontology of ‘being-in-relation’. In such an understanding of reality, not only is God Persons-in-Relation, but each creature can be understood as being-in-relation.”³⁴ Here, Edwards emphasises the distinct difference between the divine communion and being-in-relation. From this point he elucidates the theological concept of *creatio continua* to mean “that created being-in-relation always springs from, depends upon, and in a creaturely way participates in, the being of divine Persons-in-Relation.”³⁵

Flowing out of this theology, it is not surprising, argues Edwards, that the universe that God has created and continues to create is relational and interdependent in all its aspects. The life that emerges through evolutionary processes, always interconnected and interdependent, “Fits with the way God is.”³⁶ Moreover, this relational being is not only characteristic of life, suggests Edwards, but of the entire cosmos.

Relationship between the divine communion and the community of creatures

How does the divine communion interact with the universe? The only way we can think about such a question, states Edwards, is with the imaginative faculties we possess. Although Edwards accepts that God transcends “all our concepts and all our imaginative constructs,” it is necessary, using analogical language, to think about how God “fits” “somewhere in relation

³⁴ Edwards, *The God of Evolution*, 27-8.

³⁵ Edwards, *The God of Evolution*, 28.

³⁶ Edwards, *The God of Evolution*, 28.

to the universe.”³⁷ He states that, in a world with the Hubble telescope, it is essential that theology finds the least inadequate way of talking about God’s place in relation to the creation that draws on the best insights of both science and the Christian tradition. God, argues Edwards, can no longer be thought of as a unipersonal being, located up in the sky, over and above the universe, reaching into the universe to act at particular moments. The interventionist image of God acting in the world is not the most adequate image we can use today. The least inadequate image, suggests Edwards, is one where “*the universe can be understood as unfolding ‘within’ the trinitarian relations of mutual love.*”³⁸

Edwards refers to the work of Hans Urs von Balthasar who uses the following image: “The begetting of the Word is an eternal act of letting go, of divine *kenosis*, of creating space for the other.”³⁹ Edwards suggests that “the ‘place’ of the universe is *within* God. The shared divine life is the ambience in which the universe is brought to life and enabled to unfold.”⁴⁰ Edwards also draws on theology developed by Bonaventure, who “sees creation as the free ecstatic overflow of the fecundity of the divine trinitarian love.”⁴¹ Edwards also supports Jürgen Moltmann’s suggestion “that we need to think of the creation of the universe as involving a ‘withdrawal’ of God to make space for creation. God makes space for the emergence of a universe and for the evolution of living creatures.”⁴² At the same time, Edwards argues that “God is radically interior to everything God creates, enabling it to be and become. The relation of creation means that the transcendent God, Persons-in-Mutual-

³⁷ Edwards, *The God of Evolution*, 30.

³⁸ Edwards, *The God of Evolution*, 30. The italics represent Edwards’ emphasis.

³⁹ Edwards, *The God of Evolution*, 31.

⁴⁰ Edwards, *The God of Evolution*, 31.

⁴¹ Edwards, *The God of Evolution*, 31.

⁴² Edwards, *The God of Evolution*, 32.

Communion, is immanent to every creature, with a wonderfully differentiated interior relation to each of them, constantly luring each to be and become.”⁴³ The position Edwards is taking is similar to that of Arthur Peacocke. It is an understanding of God’s relation to the world in terms of *panentheism*, whereby all things are in God, yet God still transcends all of creation. He then develops this image of panentheism and kenosis and applies it to one understanding of suffering and the mechanisms involved in biological evolution.

A God of free self-limitation in love

Edwards states that “Christian theology celebrates the diversity and beauty of life as a gift of the creator. But it cannot afford to take a romantic view that obscures pain and death.”⁴⁴ Pain and death are part of the nature of biological life. Edwards suggests that all that constitutes natural evil, as opposed to human evil, has always been a problem for Christian theology. This problem, he argues, is not uniquely raised by the processes of biological evolution, but these processes bring natural evil into clear focus. Although Edwards maintains that theology has no satisfying answer to the issue of suffering in nature, he does suggest that the cross reveals a divine love of unthinkable compassion. Through the death of Jesus, God enters into the pain of the world and reveals Godself to be one with the suffering creation. He goes on to argue that, through the resurrection, the Spirit brings new life and promises new life. Those who live in this new life believe that “forgiveness, liberation and new creation have already taken hold at the heart of this world.”⁴⁵

⁴³ Edwards, *The God of Evolution*, 33.

⁴⁴ Denis Edwards, "Evolution and the Christian God," in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D. Regan and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 187.

⁴⁵ Edwards, "Evolution and the Christian God," 189.

Evolution and divine kenosis

Along with other theologians, including Haught and Peacocke, Edwards argues that there is a way of understanding God in relation to the suffering observed in this world. Edwards, like Haught, argues that we must attempt “to understand the natural world, and especially its evolutionary character, in terms of the outpouring of compassion and the corresponding sense of world renewal associated with the God of Jesus the crucified and risen Christ.”⁴⁶ In the “Christ-event” Christians recognise the self-emptying or *kenosis* of God. St. Paul, in writing to the Philippians (2:5-11), depicts Christ as “one who ‘though in the form of God’ did not ‘cling’ to his divine status, but instead ‘emptied himself’ (*ekenosen seauton*) and took the ‘form of a slave’.”⁴⁷ It is this image of God, suggests Edwards, which Christians need to remember when we talk about God’s relationship to the world and the evolution of life.

He suggests that the best way of understanding the suffering that is part of the evolutionary process is grounded in a theology of a self-limiting God.⁴⁸ Drawing on the Book of Job, he reminds us that human beings in their limited capacity to understand the fullness of creation cannot know the mind of God in creating through natural selection. It is also important, suggests Edwards, that natural selection is treated in a “nonmythological and nonanthropological way.”⁴⁹ As Edwards argues, natural selection is not “cruel” or “selfish” and one should not impose a way of speaking about human moral behaviour on what emerges from the operation of laws in the material universe. Edwards proceeds to argue the following:

If natural selection is approached in a nonanthropomorphic way, then the problem of the goodness of God in the light of evil and suffering (theodicy) is not more intense with

⁴⁶ Haught, *God After Darwin*, 110.

⁴⁷ Haught, *God After Darwin*, 111.

⁴⁸ See Edwards, *The God of Evolution*, 36.

⁴⁹ Edwards, *The God of Evolution*, 37.

regard to natural selection than it is with regard to other dimensions of existence, particularly death itself.⁵⁰

Edwards reaffirms what he terms the “non-negotiable data of revelation,” that God, as revealed in Jesus of Nazareth, is “inclusive and compassionate.” This God, revealed on the cross, “identifies with the pain of the world.”⁵¹ This is seen through the crucified Christ who defines an understanding of divine power as radical and unconditional love. It is this foolish wisdom of living by radical love that is to be lived out in Christian community. Edwards extends this image of kenotic love to God’s presence in the creation through the Spirit. The genuine expression of God’s divine transcendence is God’s capacity for free self-limitation in love. This, he argues, goes beyond the human ability to comprehend such a capacity. It is this omnipotent love that allows God to enter the vulnerability of loving. Radical and unconditional loving involves both self-communication to the other but also self-limitation. This kind of love respects the freedom and autonomy of all creatures and the creation itself.

Edwards then suggests that “the qualities found in God’s action in Jesus are also operative in God’s action in and through natural selection.”⁵² For those who accept the revelation of God through the Bible, God must be trusted “in the process of creating through natural selection.”⁵³ The crucial point though, he argues, is to hold the revelatory data of a radically compassionate God together with scientific data from evolutionary biology that natural selection involves significant suffering and costs.

⁵⁰ Edwards, *The God of Evolution*, 38.

⁵¹ Edwards, *The God of Evolution*, 39.

⁵² Edwards, *The God of Evolution*, 39.

⁵³ Edwards, *The God of Evolution*, 40.

Edwards acknowledges that it is very difficult to hold these two strands of data together if God is understood as being *absolutely* omnipotent, without limits.⁵⁴ He suggests, however, that within “the perspective of God as a God of mutual relations, it can be argued that God is not absolutely unlimited, but is rather a God who freely accepts the limits of loving finite and created beings.”⁵⁵ With a relational understanding of the trinitarian God, Edwards states “that God must be understood in terms of the limitations that are freely accepted in loving relationships.”⁵⁶ He suggests that, due to its emphasis on the Trinity, divine transcendence and divine freedom in creation, this theological understanding of God’s free self-limitation differs from that espoused by process theology.⁵⁷ It does, though, have two connections with process theology. Firstly, its emphasis on a relational view of God and, secondly, its emphasis “that this relational theology involves a real, two-sided, but differentiated relation between God and creatures.”⁵⁸ Edwards sums up his understanding of this image of God with the following:

The God of natural selection is the liberating, healing and inclusive God of Jesus. This suggests a God who freely accepts the limits of the process of emergence, a God who creates through the losses and gains of evolutionary history. It suggests a God engaged with creation, a God who respects the process, who suffers with creation, a God whose on-going action is adventurously creative in and through the unfolding of evolutionary history.⁵⁹

In summary, Edwards believes that the data of random mutations and contingent events of the evolutionary process can be upheld alongside the Christian view that God has created purposefully. God achieves these purposes in a way that is beyond human comprehension, where, from a human perspective, events appear as contingent. The pain and suffering that are part of this evolutionary process can best be accommodated within a theology that sees God

⁵⁴ See Edwards, *The God of Evolution*, 39.

⁵⁵ Denis Edwards, "Evolution and the God of Mutual Friendship," *Pacifica* 10 (1997): 196.

⁵⁶ Edwards, "Evolution and the God of Mutual Friendship," 196.

⁵⁷ See Edwards, "Evolution and the God of Mutual Friendship," 196.

⁵⁸ Edwards, "Evolution and the God of Mutual Friendship," 196.

⁵⁹ Edwards, "Evolution and the God of Mutual Friendship," 196-7.

as freely self-limiting with respect to the creation. Both the natural processes that govern this world and the integrity of every living thing are respected through the expression of this self-limiting, unconditional love. Through the Spirit, God is intimately close to every creature, “Drawing all into the divine life in a healing and liberating new creation.”⁶⁰ In this understanding, Edwards brings together aspects of both classical and process theology to find an image of God that is consistent with the best insights of theology and evolutionary biology.⁶¹ Using this image of God, Edwards goes on to explore how we might integrate a theology of creation with two key characteristics of the evolutionary process, the interplay of chance and lawfulness.

Creation through the interplay of chance and lawfulness

The science of evolutionary biology fits within the larger model of an emergent universe. Life has emerged on Earth and may well have emerged elsewhere in the cosmos. The apparent functional “design” evidenced in the myriad of life forms that have emerged through the mechanisms of biological evolution were once considered as proof of the existence of the Creator. This type of argument was put forward by theologians, such as William Paley, who reasoned that the exquisite complexity in organs such as the human eye could only be explained with reference to an omnipotent divine designer. Edwards takes the position, adopted by evolutionary biologists, that this apparent design in living things is now explained adequately by the process of natural selection.⁶² As Edwards points out, not only does Neo-

⁶⁰ Edwards, “Evolution and the Christian God,” 193-4.

⁶¹ See above, Introduction, pages 19-32, 35.

⁶² See Edwards, *The God of Evolution*, 5.

Darwinian biology challenge the necessity of a designing God, but it also gives a prominent role to chance in the process of evolution.

Edwards explores the interplay between chance and lawfulness in the emergence of life on Earth. Drawing on the thinking of biologists, such as Stephen Jay Gould, he acknowledges that the pattern of evolution is very much like a branching bush, rather than a straight line from simple to complex forms of life. Many life forms have become extinct yet, at the same time, extraordinary life forms have emerged into existence. All organisms that have ever existed have come into existence through chance working within the law like nature of natural selection.⁶³ Edwards acknowledges that randomness is built into the evolutionary process. Genetic mutations provide the fundamental raw material for evolution, introducing variation into populations. Mutations, which are mistakes in the copying of DNA, are most often the result of indeterminate quantum events and are completely random in character. Kenneth Miller, in his book, *Finding Darwin's God*, explains that, due to these quantum level events that bring about genetic mutations, "We can never know with perfect certainty whether a particular mutation will take place."⁶⁴ As Miller puts it, a cosmic ray in colliding with the DNA in a particular cell, may or may not alter one of the bases. An evolutionary pathway can depend on the quantum state of one subatomic particle. Mutations are most often harmful to the organism in which they occur, but occasionally confer a beneficial adaptation that improves the chances of survival. Natural selection acts on these phenotypes and differentially selects those that confer a greater ability to survive for an individual organism. It is natural selection that acts in a law-like way. Therefore it is contingent mutations, natural selection

⁶³ See Edwards, "Evolution and the God of Mutual Friendship," 197, and *The God of Evolution*, 45.

⁶⁴ Carl Zimmer, *Evolution: The Triumph of an Idea* (New York: HarperCollins Publishers, 2001), 338.

and isolation mechanisms working together that have produced the extraordinary variety of life on earth including the modern species of hominids, *Homo sapiens*.

Edwards points out that a number of biologists such as Jacques Monod, Ernst Mayr, Richard Dawkins, Stephen Gould and the philosopher Daniel Dennett, argue that it is this feature of apparent pure chance in evolution that rules out any teleological mechanisms in the process. They would argue that there is no evidence of overall purpose in the evolution of life. All would claim that neo-Darwinian biology is the ultimate explanation of life.⁶⁵ In response to this position, Edwards points out that there are also biologists, such as Charles Birch, who do believe in a creative God and find reason for awe in the wonder and diversity of life.

Edwards' position is that, while scientists such as Mayr have very legitimate things to say in the field of biology, they move beyond their expertise when they comment on ultimate purpose and meaning in the universe.⁶⁶

Edwards argues that the idea of a Creator God, creating in and through natural processes, is not in conflict with the Darwinian view of evolution. He refers to Aquinas' idea of primary causality to describe how God can act in the world consistent with the "whole network of cause and effect in nature (secondary causality). God's work is achieved in and through creaturely cause and effect. It is not in competition with it."⁶⁷ God, suggests Edwards, can be imaged as being involved in an open-ended creative process. With reference to D. J. Bartholomew, he suggests that chance leads to a richer environment than would have been possible in a strictly deterministic universe. Bartholomew, argues Edwards, believes that a

⁶⁵ See Edwards, "Evolution and the Christian God," 181.

⁶⁶ See Edwards, "Evolution and the Christian God," 181-2.

⁶⁷ Edwards, "Evolution and the God of Mutual Friendship," 198.

Creator who wished to see the appearance of intelligent creatures, might have chosen to reach such an end by a random, but creative process. Edwards also refers to Arthur Peacocke who, he states, “Sees God as the ultimate ground and source of law and chance. Peacocke sees the Creator unfolding the potentialities of the universe in and through the natural processes which are inherent in nature itself.”⁶⁸ Peacocke, like Bartholomew, explains Edwards, sees the role of chance as a necessity if the potential of the cosmos, especially for life, is to be fulfilled.⁶⁹

Edwards, in exploring the notion of divine action, agrees with Keith Ward, who argues that God’s action in the cosmos is physically undetectable. Consistent with Aquinas’ position, what we sense, explains Edwards, are the “interrelated causes and effects of creaturely existence.”⁷⁰ God does not operate alongside, or in addition to, natural selection, but should be understood as acting through it. This acting through the indeterminate role mutations play in natural selection is the way God achieves purpose in the creation. The link between terms, such as unpredictability and purpose, may appear tenuous, Edwards suggests, unless we remember we are using the terms analogically based on our own limited human experience. A transcendent God, he argues, may achieve purposes in a way beyond human understanding of purpose that, within the horizon of human sensibility, articulated in scientific language, may be understood as contingent and purposeless. In this way, Edwards holds together the data of evolutionary biology and the theological datum of purposefulness of divine action. He acknowledges that this is not a completely satisfying synthesis, but that it does bring together

⁶⁸ Edwards, "Evolution and the God of Mutual Friendship," 198.

⁶⁹ See Edwards, "Evolution and the God of Mutual Friendship," 198.

⁷⁰ Edwards, *The God of Evolution*, 52.

the idea of a transcendent God working “creatively, adventurously, and purposefully in and through processes that are unpredictable.”⁷¹

Referring to the thought of Karl Rahner, Edwards reinforces the notion that God can act “creatively and purposefully in and through human actions that are yet completely free.”⁷²

Rahner argues that, the more humans grow in authentic freedom, the more they are dependent on God and in authentic union with God. “God’s purposes are accomplished through the contingency of human freedom.”⁷³ Edwards agrees with the thought of John Haught in his suggestion that God may act persuasively rather than coercively, and that this may be consistent with the indeterminate aspect of nature. This is consistent with God having created an autonomous self-creative world. However God is imaged, insists Edwards, it must always be acknowledged that this thinking is exploratory and provisional, in line with what Peacocke argues ought to be a critical realist methodological approach to theological exploration.

Humanity before God in an evolutionary world

Working out of his evolutionary theology that is grounded in the idea of a God of Mutual Friendship, Edwards explores a theological anthropology which puts forward a new way of understanding grace and original sin. In developing a theology of original sin in an evolutionary context, Edwards draws primarily on the work of Philip Hefner. Hefner “sees

⁷¹ Edwards, *The God of Evolution*, 53.

⁷² Edwards, *The God of Evolution*, 53.

⁷³ Edwards, *The God of Evolution*, 54.

original sin first in terms of the *discrepancy* we experience between information coming from our culture, and second in terms of the *fallibility* and limitation that are essential to human evolution.”⁷⁴ Edwards links this evolutionary perspective of original sin with the existential struggle humans experience in the world, described by thinkers such as Paul, Augustine and Luther. This struggle refers to “the gap between what we would do and what we do, the sheer weight that opposes our best intentions, our seeming inability to give ourselves completely, our incapacity to love with our whole hearts.”⁷⁵ Edwards, however, puts a critical question to Hefner’s position. “Granted that we do experience discrepancy between information coming from genes and culture and that we experience ourselves as intrinsically fallible, are these experiences to be equated with sin?”⁷⁶ Edwards’ response is that these experiences should not be equated with sin. He offers three theses on this position. Firstly, that these disorderly and mutually opposed drives and impulses are not sin but in fact “intrinsic to being an evolutionary human.”⁷⁷ He sees this position as being in line with Rahner who distinguishes disorder that comes from sin and the disorder that is part of being a “*limited* and *finite* human being.”⁷⁸ In agreement with Gabriel Daly, Edwards says these kinds of disorders are the raw materials of holiness.

His second thesis is that original sin is that inner dimension of each person that has come from participating in a cultural history of personal and communal sin. This sin is not our own personal, actualised sin, but “the inner impact on each human person’s free situation of

⁷⁴ Edwards, *The God of Evolution*, 64.

⁷⁵ Edwards, *The God of Evolution*, 64.

⁷⁶ Edwards, *The God of Evolution*, 64-5.

⁷⁷ Edwards, *The God of Evolution*, 65.

⁷⁸ Edwards, *The God of Evolution*, 65.

previous human rejection of God. We are still free to choose between love and hate, between sin and grace.”⁷⁹

Edwards’ third thesis is that original sin impacts upon the whole person, that is, both the biological and cultural dimensions. “It involves our free response to both our genetic inheritance and our cultural conditioning.”⁸⁰ He argues that “rejection of God may involve the distortion, denial, repression from consciousness, or the lack of integration of either side of our heritage. Both forms of denial can twist and distort the human before God.”⁸¹ Original sin, then, does not originate from just one side of the human “but rather from the history of human free decisions which enters in to the inner place of our own decision making.”⁸²

God’s grace also enters into the freedom of every human life, argues Edwards. How is grace to be understood in an evolutionary context? Here again, he draws on Rahner’s theology. Grace, as the self-communication of God, is always present as “self-offering love to every human person. The triune God surrounds and embraces every human person in radical nearness, so that this divine self-offer is a constitutive dimension of human existence. We live in a world of grace.”⁸³ Edwards suggests that our human ancestors would have evolved to a point of self-consciousness in a world that was already graced. It was also a world of fear and danger and, he suggests, the rituals and myths of our ancestors may have been an attempt at “taming the terrors of life, and . . . an attempt to give expression to the experience of grace.”⁸⁴

⁷⁹ Edwards, *The God of Evolution*, 67.

⁸⁰ Edwards, *The God of Evolution*, 68.

⁸¹ Edwards, *The God of Evolution*, 68-9.

⁸² Edwards, *The God of Evolution*, 70.

⁸³ Edwards, *The God of Evolution*, 71.

⁸⁴ Edwards, *The God of Evolution*, 71.

There is no evidence of any ritual or act before around 100,000 years ago that might have alluded to a self-reflective consciousness. Although it is highly improbable that we will ever pinpoint the stage at which a reflective consciousness emerged in human evolution, it is possible to say, Edwards argues, that, when it did, it emerged in a world that had been graced by God from the origin of the universe.⁸⁵

Edwards moves from this theological understanding of human consciousness evolving in a gracious world to the question of the creation of the soul by God. Theologians, he states, have resisted the idea that God specifically intervenes in the “emergence of the human species as self-conscious and spiritual beings,” yet affirm that this emergence occurs “through the action of the Creator God.”⁸⁶ It is neither a satisfactory scientific or theological response to suggest that there was a “particular divine *intervention* at the origin of the human species, or of a particular divine *intervention* for each individual person.”⁸⁷ Theologically, argues Edwards, this would reduce God to one more secondary cause amongst other secondary causes.

Drawing on the thinking of Zoltan Alszeghi, Michael Schmaus and Karl Rahner, Edwards proposes the following:

God should not be thought of as creating individual human beings through a series of interventions, but as creating in one divine act that embraces the whole process. It is this one divine act that enables what is radically new to emerge in creation. Above all it enables the emergence of self-conscious and spiritual human beings. Each of them is created in radical uniqueness in the image of God. Each of them is invited into a unique interpersonal relationship with the triune God in the gift of grace. Each of them is destined for eternal life, which is a participation in the divine perichoretic life of friendship beyond comprehension. The creation of each spiritual being is individual, unique, and personal, but can be thought of as brought about through God’s one divine action of continuous creation.⁸⁸

⁸⁵ See Edwards, *The God of Evolution*, 71-2.

⁸⁶ Edwards, *The God of Evolution*, 74-5.

⁸⁷ Edwards, *The God of Evolution*, 75.

⁸⁸ Edwards, *The God of Evolution*, 76-7.

In this view, Edwards does justice to the transcendence of God and ties the notion of God's on-going act of creation (*creatio continua*) with the emergence of the spiritual nature of human beings in connection with the emergence of self-consciousness. It is consistent with a God who is imaged as sheer Being who invites creation, and humanity in particular, into the participation of on-going creation.⁸⁹

Evolution and Jesus, the Wisdom of God

Denis Edwards addresses one of the fundamental questions for a Christian in asking how Jesus Christ is to be thought of within an evolutionary context. He suggests that a useful approach to this question is found through a Wisdom Christology. In *The God of Evolution*, he surveys the evolutionary Christologies proposed by Teilhard de Chardin, Karl Rahner and Jürgen Moltmann. All three theologians have made useful contributions to the conversation relating Christ to theologies mindful of an evolutionary view of the world. Nevertheless, argues Edwards, each theologian's thought requires further development in some areas. He acknowledges that, in developing his own Wisdom Christology, he draws primarily on the thinking of Karl Rahner. Edwards sketches a biblical Wisdom Christology built around six statements and associated commentary. Firstly he states that Sophia (the personification of the Wisdom of God according to Jewish Wisdom Literature) dwells amongst humanity. Edwards here draws on textual images from the books of Job, Proverbs, Sirach and the Wisdom of Solomon to provide support for the notion that Sophia works with God in establishing the

⁸⁹ See Edwards, *The God of Evolution*, 77.

creation. Drawing on the same sources, he juxtaposes the transcendent image of Sophia as a cosmic principle with Sophia immanent amongst humanity.⁹⁰

The second statement he uses to build his Christology draws on the proclamation of the early Christian community that “*Wisdom has made her home amongst us in Jesus of Nazareth.*”⁹¹ Edwards draws a parallel between Jewish texts, that see Wisdom coming amongst humanity through God’s self-revelation in the Torah, with Christian believers “who saw Wisdom as God’s self-revelation in Jesus of Nazareth.”⁹² He cites a number of texts from the Gospels of Luke, Matthew and John to show that Jesus “does the compassionate deeds of Wisdom” (Lk 7:22) and is known by and reveals the Father.⁹³ Edwards observes that Matthew sees Jesus as “the Wisdom of God who is justified by her deeds (Mt 11:19).”⁹⁴ From John’s Gospel, he points to the “Word’s descent to dwell among us, the great ‘I am’ statements, the ‘living water’ theme of John 4 and the ‘bread of life’ theme of John 6.”⁹⁵ According to Raymond Brown, explains Edwards, “Jesus is ‘personified Wisdom’ and ‘incarnate Wisdom’.”⁹⁶

His third statement in constructing this Wisdom Christology is that “*the most radical expression of Wisdom come among us is found in Paul’s identification of divine wisdom with the crucified one.*”⁹⁷ Edwards, drawing on Paul’s letter to the Corinthians, puts forward the image of Christ, the power of God, identified as the wisdom of God. It is in the crucifixion of

⁹⁰ See Edwards, *The God of Evolution*, 113-5.

⁹¹ Edwards, *The God of Evolution*, 115.

⁹² Edwards, *The God of Evolution*, 115.

⁹³ Edwards, *The God of Evolution*, 116.

⁹⁴ Edwards, *The God of Evolution*, 116.

⁹⁵ Edwards, *The God of Evolution*, 116.

⁹⁶ Edwards, *The God of Evolution*, 116.

⁹⁷ Edwards, *The God of Evolution*, 116.

Christ, an occasion of absolute vulnerability, that “*is* the power of God. This apparent foolishness *is* divine wisdom.”⁹⁸ Edwards understands Paul’s reference to this foolishness of God as “the foolishness of love beyond understanding.”⁹⁹ The wisdom at work in creation is made evident in the “vulnerable love expressed in the crucified one.”¹⁰⁰ As Edwards explains:

An evolutionary Christology will see the evolution of life and consciousness as the work of divine Wisdom. Our universe expands and unfolds in and through Wisdom. The diversity of life on Earth emerges through evolutionary process and all of this occurs in divine Wisdom. Each creature is in some way the self-expression of divine Wisdom.¹⁰¹

Edwards connects this foolishness of the cross with the notion of divine kenosis mentioned previously. God’s connection with creation is thus characterised by God’s self-emptying and self-limitation of divine love.

Edwards’ fourth point states that “[i]n the light of the resurrection experience, the early church could come to say that all things are created in Jesus the Wisdom of God.”¹⁰² Here, he refers to Ian Barbour, who suggests that Jesus Christ represents “a new stage in evolution and a new stage in God’s activity.”¹⁰³ Linking this idea with Rahner’s theology, Edwards suggests that “Jesus can be imaged both as the self-transcendence of the universe into God,” and “as God’s self-giving to the evolving universe.”¹⁰⁴ It is in this way that he links Jesus theologically into an evolutionary framework. Drawing on texts from Hebrews, John’s Gospel and Colossians, he suggests that the early Christian communities had made the connection

⁹⁸ Edwards, *The God of Evolution*, 117.

⁹⁹ Edwards, *The God of Evolution*, 117.

¹⁰⁰ Edwards, *The God of Evolution*, 117.

¹⁰¹ Edwards, *The God of Evolution*, 117-8.

¹⁰² Edwards, *The God of Evolution*, 118.

¹⁰³ Edwards, *The God of Evolution*, 118.

¹⁰⁴ Edwards, *The God of Evolution*, 118.

between Jesus Christ and Sophia that alluded to the belief that all things are created in Jesus, identified as the Wisdom of God. Having made the connection between Jesus and Sophia, Edwards argues that this “points simultaneously toward a cosmic Christology and theology of pre-existence and incarnation.”¹⁰⁵

Edwards asks how such an understanding, that all things are created in Jesus the Wisdom of God, fits with what we know about biological evolution. He suggests that God’s communication of self through creation is directed towards the incarnation, and “that everything that comes to be in our evolutionary history is an expression of the abundance that is already in some way in Divine Wisdom.”¹⁰⁶ He refers to the theology of Bonaventure who identifies the Word as the “perfect self-expression of God” or, as Bonaventure terms it, the *ars suprema, ars Patris* or “divine art.”¹⁰⁷ For Bonaventure, explains Edwards, “All creatures are the work of art produced by divine Wisdom.”¹⁰⁸ Creaturely nature is a likeness and resemblance, or reflection of divine Wisdom. For Edwards, Bonaventure’s insight into the connection between divine Wisdom and creatures is useful as a way of imaging evolution as “unfolding ‘in’ Christ. Evolution is the unfolding of the potentialities that are in matter.”¹⁰⁹

A contemporary understanding of evolution recognises the important role chance plays in bringing about novel forms of life through the process of mutation. Edwards, applying Bonaventure’s insights to the partly indeterminate nature of evolutionary change, suggests that divine Wisdom “is present in every cosmic event as pattern, archetype, and innovative

¹⁰⁵ Edwards, *The God of Evolution*, 119.

¹⁰⁶ Edwards, *The God of Evolution*, 120.

¹⁰⁷ Edwards, *The God of Evolution*, 120.

¹⁰⁸ Edwards, *The God of Evolution*, 120.

¹⁰⁹ Edwards, *The God of Evolution*, 120-1.

possibility.”¹¹⁰ This presence is not that of the architect of a predetermined plan but that which works “*in and through* the indeterminacy that is built into the process.”¹¹¹ Here, Edwards sees Wisdom working purposefully in the interplay between lawfulness and chance that are part of evolutionary processes. In this Christological view, he sees that every aspect of evolution occurs *in* Wisdom.

Edwards’s fifth assertion in the development of his Wisdom Christology is that “[*i*n the resurrection, Jesus-Wisdom becomes a power of transformation for the whole of creation.”¹¹² Drawing on Colossians, he reminds us that not only are all things created in Jesus Christ, but all things are also reconciled in him. With reference to this text, Romans 8:21 and Ephesians 1:10, 20-23, he argues that a Wisdom Christology asserts that Jesus raised from the dead, “is the dynamic power at the heart of cosmic processes. In the resurrection, Jesus of Nazareth becomes the Cosmic Christ.”¹¹³ Christ’s humanity is then brought into a new relation with the material universe. “Jesus-Wisdom, risen from the dead, is the irrevocable promise and reality of salvation at work within the evolving universe.”¹¹⁴

Edwards’ sixth foundation for his Wisdom Christology states that “*the world is a Sacrament of Divine Wisdom – Wisdom Christology as ecological theology.*”¹¹⁵ Here again, he refers to Bonaventure, who sees that the variety and diversity of life is an expression of the Wisdom of God. All of life points to its Creator. Edwards asserts that this diversity of life, bound together

¹¹⁰ Edwards, *The God of Evolution*, 121.

¹¹¹ Edwards, *The God of Evolution*, 121.

¹¹² Edwards, *The God of Evolution*, 122.

¹¹³ Edwards, *The God of Evolution*, 122.

¹¹⁴ Edwards, *The God of Evolution*, 123.

¹¹⁵ Edwards, *The God of Evolution*, 123.

in the complexity of interrelated ecological relationships, is to be considered as a “sacrament of divine Wisdom.”¹¹⁶ Imaging God as the divine artisan, Edwards suggests that this God is not only expressed in the beauty and diversity of life, but is present as “the creative power which enables it to be. Creation is a *sacrament* of the divine presence.”¹¹⁷ As an extension of this understanding, he maintains that this manifestation of the self-expression of God in each form of life gives it intrinsic value, value within itself, rather than the extrinsic value laid upon it flowing from its value to humanity. This intrinsic value flows from the very existence of creation as it is “held in being by the divine Persons-in-Mutual-Communion.”¹¹⁸ Drawing on the thought of Thomas Berry, Edwards argues that, due to this relationship of God with creation, when humanity destroys any aspect of it irresponsibly, then humanity destroys a mode of divine presence. As Edwards concludes, all those who do the work of Wisdom contribute to the building of the reign of God. All such people build up the relationships amongst the community of life, created by God who is Persons-in-Mutual-Love.¹¹⁹

An assessment of Edwards’ theology

Denis Edwards’ synthesis of classical, kenotic and process theology and the theory of biological evolution has much to offer the current dialogue in this field. He manages to engage the data of theology, with particular in reference to the Trinity, with the current scientific data of evolution, to articulate an image of God who is deeply interwoven in the creativity of the evolutionary process.

¹¹⁶ Edwards, *The God of Evolution*, 124.

¹¹⁷ Edwards, *The God of Evolution*, 124.

¹¹⁸ Edwards, *The God of Evolution*, 124.

¹¹⁹ See Edwards, *The God of Evolution*, 125.

Edwards' methodology sees him working from an essentially classical position, through the filter of the transcendental Thomistic approach of Rahner. Edwards always acknowledges that God is "Ultimate Mystery". Yet he acknowledges that some reworking of trinitarian theology is necessary to bring it into closer conversation with the best insights of evolutionary biology. Like a number of theologians working in this dialogue between evolution and theology, he is a strong advocate for not only dialogue, but a degree of engagement and integration between these two fields of human thought. This position is reflected in the title of his book on the subject: *The God of Evolution: A Trinitarian Theology*.

Edwards' argument for Persons-in-Mutual-Relations as a cosmological and ontological understanding of divine and human love is, as he suggests, better than altruism as an explanatory image of God. His argument for this is basically sound and rightly includes the dimension of self-love, in addition to love of another. Persons-in-Mutual-Relations is we suggest, a more expansive image than altruism alone, and reflects the shared nature of communion amongst friends. Divine love, imaged in terms of *koinōnia* and *perichōrēsis*, the mutual indwelling of the trinitarian Persons, emphasises both individuality and shared life. It is important, and Edwards consistently emphasises this point, that whenever we are talking about God, we are using analogical language. Edwards acknowledges that this applies to the image of friendship with respect to the description of trinitarian relations.

Edwards' understanding of the relationship between the divine communion and the community of creatures is built around the image of the universe unfolding within God. Rightly, he moves away from an interventionist image of God which sees God as one cause alongside other causes. God is not one more secondary cause but the "original matrix in

which ‘we live and move and have our being’ (Acts 17:28).”¹²⁰ He sketches an evocative image of the trinitarian God as “the ambience” in which the creation is brought into being and continues to unfold. It is within this ambience that God is seen to “make space” for creation. It is out of this mixture of divine kenosis and panentheism that he comes to an understanding of suffering, particularly as it is manifested in the processes of biological evolution.

Through this same combination of divine kenosis and panentheism, he also manages to hold together the transcendence and immanence of God. While the transcendent God “withdraws” to make space for an autonomous creation, at the same time God is radically interior to every creature. Like Haught, Edwards argues that our understanding of biological evolution brings what has traditionally been termed natural evil into very clear focus. Acknowledging that there is no truly satisfying theodicy to account for this suffering, he nevertheless subscribes to the view that a kenotic theology best relates the theological and biological data. Like Haught, a strong point in Edwards’ theological approach is his attempt to understand the presence of the enormous pain and suffering evident in evolutionary history. This theology, which draws on the image of a self-limiting Creator God to account for the suffering and pain present in an autopoietic creation, strengthens our understanding of *creation continua*. As stated, however, in the critique of Haught’s use of kenotic theology, it does not illuminate greatly the ultimate *why* of suffering in the first place. Nevertheless, Edwards makes a strong statement in reminding Christians that the nature of God’s omnipotence, omniscience and omnibenevolence is revealed through the cross.

¹²⁰ Tony Kelly, *An Expanding Theology: Faith In A World of Connections* (Newtown: E. J. Dwyer, 1993), 120.

Edwards makes an important contribution to the evolution-theology dialogue by arguing that natural selection ought to be treated in a non-mythological and non-anthropological way. It should not be described as selfish or cruel. He is right to point out that theodicy in relation to natural selection is *no more* problematic than in relation to any other process in the cosmos that operates in a law-like way. This is an important point because it widens the discussion beyond the pain and loss experienced in evolutionary processes to all pain and suffering experienced in the cosmos. This includes the nature of potentially catastrophic events for planet Earth, such as a proximate supernova, comet collision or ultimately the destruction of the whole planet as our sun is extinguished. Whatever theodicy is used to help understand the presence of pain and loss through natural selection and other evolutionary mechanisms, it must also be compatible with the presence of suffering and pain experienced anywhere in the cosmos.

Edwards' mixture of classical, process and kenotic theology goes some way towards shaping an understanding of why the world is the way it is: an emergent cosmos in which various forms of life are capable of experiencing pain, suffering and death and allows an understanding of the transcendent divine Being within *creation continua*. It does not clarify any further why a God, who is the Supreme Good and Primary Cause of all that is, would will such conditions that have the potential to unfold with such enormous suffering in the first place. In addition, it does not clearly address how such a God of self-limiting love can act within creation in line with the revelatory data of special providence. Edwards, though, draws our attention back to the ultimate foundation, that God is "Mystery", and that our analogical imagination as finite creatures is always limited.

He writes with a balanced approach in examining the interplay between contingency and lawfulness in evolutionary processes. Consistent with his acknowledgement of biological science's ability to adequately explain the evolution of life on Earth, he accepts the creative role that chance plays within the law-like nature of natural selection. Like theologians such as Haught, he argues that it is not necessary to appeal to a designing God to account for such intricate organs such as the human eye. He rightly, though, challenges the claims of some biologists that neo-Darwinian biology provides an ultimate explanation for life. Although biology provides a convincing explanation for the evolution and diversity of life on earth and potentially in the cosmos, it can never answer the question as to why there is something rather than nothing. It cannot, within the scope of its methodology, provide an *ultimate* explanation for life in the universe.

Edwards is correct in stating that there is no conflict between the neo-Darwinian explanation of life and the idea of a Creator God. A question does need to be put, however, to his agreement with Bartholomew that a Creator God, who wished to see the emergence of intelligent life, might have chosen to create using the open, random process that science attests is operative in the cosmos. The question is how, through such an open-ended, random and creative process, intelligent life is guaranteed to appear, even if its appearance is highly probable? However small, the chance that such intelligent life, as manifest in modern human beings, may not have appeared, is always a possibility. Edwards acknowledges that his synthesis is not completely satisfactory, but argues that it does allow some concatenation between the concept of a transcendent Creator and contingent processes that may be teleological in nature. The other query that needs to be put to this position regards the highly probable outcome of such a creative and open ended process leading to the extinction of such

intelligent life. Edwards does not address this scenario specifically, nor its theological implications.

His discussion regarding humanity within an evolutionary and theological context offers some useful insights and a reformulation of an understanding of original sin and grace. Drawing on the work of Hefner, he manages to situate original sin within a genetic and evolutionary context. His modification of Hefner's position, where he suggests that the discrepancy between genes and culture is not sin, is worth noting. Edwards' position is strengthened through his reference to Rahner's distinction between disorder that derives from sin and the disorder that flows from being a limited and finite creature. It is an affirmation of the integration of human beings, within an evolutionary view of life, that allows Edwards to suggest that the mutually opposed impulses that derive from genes and culture are not sin, but part of being an evolutionary creature. Having argued what he thinks original sin is not, his positive thesis on the nature of original sin sits comfortably within a dynamic view of the world. The idea that original sin is that inner dimension of the individual human person which is influenced by those instances of rejection of God through all human culture across time, appears to have some merit within a theology of evolution. Within the current debate as to the nature of original sin, Edwards' position does not sit within the traditional formulation of the doctrine, which "is inescapably tied in with a static and essentialist view of humankind."¹²¹ It more appropriately sits within a contemporary anthropology which is characterised by "the dynamic and changing relationship between human beings and their culture down the ages."¹²² Edwards' formulation follows Schoonenberg's and Rahner's situationist theology

¹²¹ Gabriel Daly, "Original Sin," in *The New Dictionary of Theology*.

¹²² Daly, "Original Sin."

which sees the human person as a historical being able to relate to his/her environment through personal freedom. The strength of this position, suggests Daly, is that it gives the necessary import to “the social and historical dimension of sin.”¹²³ What one has to be careful of in the current debate, suggests Daly, is that the theologian does not just work with “a complacent acceptance of the world as it is, coupled with a post-Freudian and post-Darwinian tendency to reduce phenomena which were formerly described as sin to the physical and psychological determinism of human nature.”¹²⁴ It would seem that Edwards has tried to avoid this tendency by emphasising that sin is one way of freely responding to both our genetic and cultural conditioning. That is, sin is something distinct from either of these dimensions of the human person. Yet the claim by Edwards, that we are, despite original sin, still free to choose between sin and grace, may encounter a deeper problem in the question on the authenticity and nature of human freedom itself. To what degree is the human person truly free in the light of his/her genetic inheritance and cultural conditioning? The answer to this may partly be found in “the elucidation of the Christian claim that authentic freedom is always theonomously grounded.”¹²⁵ Persons are only truly free in a society that is free. This notion of freedom is intimately tied to a theology of grace.

There is a further query to put to Edwards’ first thesis stating what sin is not. How does one distinguish the difference between a disorder that results from sin and disorder which results from our limited and finite human nature? Is the answer to this to be found at some “level” of our self-reflective consciousness? If it is, then all we can say, suggests Edwards, is that, at whatever level of reflective consciousness this distinction becomes apparent, it occurs within

¹²³ Daly, "Original Sin."

¹²⁴ Daly, "Original Sin."

¹²⁵ Michael J. Scanlon, "Grace," in *The New Dictionary of Theology*.

the ambience of a world already graced by God from the very beginning of the cosmos. Grace, as God's self-communication in the knowing subject, is effused throughout the creation, drawing all humanity to that "eschatological realm of freedom in Godself."¹²⁶

Edwards' treatment of the human soul also fits within a Thomistic understanding of creation. He is right to avoid the idea of God intervening within the creation of human beings, either at the species or individual levels of existence. Although Edwards does not clearly state what the soul is, he situates our understanding of it within God's one divine act of creation, through which God's grace becomes present uniquely to every aspect of the creation. This gift of grace destines each human being for that ultimate participation, in what Edwards previously describes as the perichoretic life of friendship in the triune God. Within this anthropology, Edwards follows Rahner, and argues that the soul provides that orientation between the human subject imbued with the gift of grace, and the transcendent "Mystery" of God.

Edwards' outline of an evolutionary Christology, developed within the framework of the biblical Wisdom tradition, is also useful in providing the link between a transcendental theology of evolution and Jesus the Christ. Edwards' six foundational theses, upon which he builds his Wisdom Christology, provide a coherent and progressively reasonable connection between the idea of God as sheer Being, God's Wisdom and the Christ-event. This theology provides a coherent framework in which to situate God as Creator, God's self-limitation in love, and Jesus' place within an ultimate explanation of evolution. His Christology is essentially integrationist. That is, using the Jesus-Wisdom tradition, it enables the integration of Jesus as the Christ into the transcendental theology of evolution, as sketched by Edwards.

¹²⁶ Scanlon, "Grace."

It is a transcendental anthropology of the Christ using the Sophia tradition. Jesus-Wisdom, identified as the pre-existent Word of God, is part of the ambience of the triune God in and through which creation has its being.

In conclusion, Edwards' theology of evolution offers an important contribution to the current dialogue between theology and biology, providing a coherent synthesis of several strands of theological and biological data, and bringing one to a more appreciative position of how classical theology can more fully engage with the implications of evolutionary theory.

Chapter 5

ANALYSIS OF THEMES

The three theologians, Peacocke, Haught and Edwards, examined in this thesis, have each made a significant contribution to the dialogue between evolutionary biology and theology. Each has responded to the challenges put by science to theology, with Haught and Edwards examining the challenges from evolution in particular. This chapter will present their respective contributions under six headings, namely, theological method, evolutionary perspective, divine providence, the human person, suffering and Christology.

Theological method

Of the three authors examined in this thesis, Peacocke gives the most sustained attention to a method for theology. He argues strongly for a critical realist approach as it moves from data to the best explanation of the nature of reality. In science, this method, based on empirical observation, leads to continually better models that describe the natural world and these models are always revisable. In theology, he suggests, this method can lead to continually better descriptions of the nature of God and God's action in the world. He also notes that this methodology, particularly in science has led to reliable and publicly acceptable knowledge of the world, and publicly acknowledged legitimacy of the method, is further reason for Peacocke to expand its application to theology.

Haught would agree with Peacocke that the use of critical realism, or a critical consciousness, is required to engage us more fully with reality. Nevertheless, for him critical realism within

the scientific domain “holds that our ideas and convictions are in touch with reality only if they are ‘verifiable’ or ‘falsifiable’ according to publicly accessible methods of knowing.”¹

The methods of scientific reasoning become the measuring rods of the validity of all human ideas.

According to Haught, scientific method attempts to remove the subjective element of human personality from the process of knowing and hence to open our consciousness to the real world. Critical consciousness has so elevated reason and scientific method that it is accepted “as the only valid ways of determining the truth-status of our ideas.”² Haught is critical of this scientific or metaphysical materialism. He maintains that it should remain aware of its own limited scope of reference. Such methods are appropriate for assessing the validity regarding many propositions made about the world. In the sphere of revelatory promise and hope, however, there is a notion of “reality” that may not be subject to such critical consciousness. In a similar vein, Kelly describes the consequence of attempting to remove subjectivity from our judgements in the following statement. “Where does mass gullibility yield up the whole domain of human experience to the mathematical physicist . . . who can speak of the universe without any mention of death or love, of art or grace, of scholarship or revelation, or beauty or morality.”³ Haught makes it clear that critical consciousness, or realism, is fundamentally oriented towards only that which is scientifically verifiable in the present or the past.

In contrast, within Haught’s methodological approach, ultimate reality is always located in the dimension of the future. He departs from Peacocke and Edwards in emphasising that

¹ John F. Haught, “Revelation,” in *New Dictionary of Theology*.

² Haught, “Revelation.”

³ Tony Kelly, *An Expanding Theology: Faith in a World of Connections* (Newtown: E.J. Dwyer, 1993), 94.

revelation arrives from the future in the form of promise. This orientation in hope, towards the realm of the divine, is what Rahner refers to as the Absolute Future. Haught explains, “This promise contains a foretaste of the future; but the future is not yet fully present, and so it remains beyond the limits of what is critically verifiable or publicly accessible.”⁴

Haught would certainly agree with Peacocke that reason is necessary to avoid illusions regarding reality. He also insists that a critical consciousness is necessary in testing private revelations in the context of a community’s sense of reality. But in the evolution-theology dialogue, Haught, more than Peacocke or Edwards, draws our critical awareness to the nature of the data under investigation. Haught would agree with Kelly who reminds us that theology, like science, “Deals with some specialized band of data, forms it into imaginative models, locates its questions in a world of meaning, weighs the evidence for the most probable position, and seeks applications of its findings in accord with a certain scale of values.”⁵ Kelly states that the difference for theology is in the type of data examined. The mystery of God, as the ultimate reality, will always be beyond comprehension and scientific verification. Working essentially within the framework of process theology, Haught attempts to be faithful to both the data of revelation, particularly biblical revelation as interpreted within the Catholic tradition, and the scientific data of evolution.

Edwards is closer to Haught in his recognition that revelatory data flows essentially from a God described as “Mystery”. He basically works within the framework of classical theology, following Rahner, with elements of process and kenotic theology used in aspects of his

⁴ Haught, “Revelation.”

⁵ Kelly, *An Expanding Theology*, 95.

explorations. He develops his theology of evolution within an explicitly trinitarian framework. Edwards, like Peacocke and Haught, wishes to find a way of talking about God that is consonant with the reality of the world as science understands it. He accepts the use of the scientific method as a way of developing models of reality, particularly those applicable to cosmology and biological evolution. Edwards' methodology involves being faithful to both the biblical and scientific data. For Edwards, part of theology's role is to critique and bring to light false and misleading theology. He achieves this by critically correlating the biblical/revelatory data with the biological data of evolution to find the least inadequate way of talking about God.

Understandings of biological evolution

Peacocke is less interested than Haught or Edwards in developing a theology of evolution per se. Yet, he argues that an understanding of biological evolution, as a sub-discipline of biology, and more generally, of science, raises significant challenges for theology. He affirms that, as a sub-discipline of science, biology is as open to rational explanation as in any area of science. For Peacocke, this opens the connection to a supremely rational Ultimate Reality, God. Using methodology based on inference to the best explanation (IBE), he understands the best explanatory framework, accounting for data concerning all aspects of life, to be neo-Darwinian evolution. For Peacocke, like Haught and Edwards, human beings fit within this evolutionary understanding of life. For Peacocke, however, the main challenge for theology flowing from the study of biological evolution is the vast scale of pain, suffering and death inherent in the process, traditionally termed, "natural evil". How Peacocke thinks theology ought to respond to this challenge is discussed later in the chapter.

In comparison to Peacocke, Haught and Edwards have developed a much closer dialogue between theology and biological evolution, bringing data from each field of knowledge into close engagement. For Haught, the neo-Darwinian account of evolution has radically altered our understanding of the biological world and the place of humanity in it. Haught insists that such an understanding of biological evolution can expand our sense of God. Like Peacocke and Edwards, he is critical of “intelligent design” arguments. He counters these arguments by referring to the data regarding the existence of genuine novelty found in life, due to the inherent unpredictability of the quantum mechanical nature of mutations – the source of raw material for natural selection. He further counters these arguments with reference to the enormity of pain and suffering evident in the natural order. The tragic aspects of divine creativity pose a challenge to any theology by evolution. For Haught, however, evolution is more than a challenge; it is a gift to theology. All three theologians agree that a theology of God’s activity in the creation must account for the contingency, pain and death resulting from the process of natural selection. Haught departs from Peacocke and Edwards, however, in emphasising the central importance of novelty resulting from evolutionary processes. This novelty points to a God of promise and hope who comes towards the creation out of the future. Haught’s theology of evolution highlights the presence of promise and power of renewal that exists within creation.

Like Peacocke and Haught, Edwards uses the neo-Darwinian model of biological evolution in the development of his theology. He suggests theology needs rethinking in view of what science tells us about the evolution of life. For him, the factor that most closely integrates evolution and a theology of God is the idea of relationship. The created universe of being-in-relation reflects and flows from the divine trinitarian relations of mutual love. It would

persuade us that an emergent creation is brought into being within the ambience of the trinitarian God. This notion of panentheism is congruent with Peacocke's understanding of the relationship between God and creation.

All three theologians agree that the scientific account of biological evolution does not and cannot provide an ultimate explanation for life. It describes only that which it can measure and observe. Christian faith, for all three, provides the framework for an ultimate explanation of evolution.

Providence and God

Peacocke, using inference to the best explanation, assumes that God is the self-existent Ultimate Reality. His argument is that the God who gives existence to the whole creation and sustains it must be deeply involved in the processes of evolution. The rationality of the world, governed by a set of laws and regularities, suggests something of the unsurpassable rationality of God.

One of Peacocke's key interests is in the nature of God's general and special providence. Here he concentrates on what is termed, the "causal-joint", that is, how God acts to influence the world. Like Haught and Edwards, Peacocke understands God to be omnipotent, that is, God has the power to do whatever it is logically possible to do. God is also omniscient, knowing whatever it is logically possible to know, and is omnipresent. God is both separate from the creation and within it. No theologian examined here understands God to be a "God of the

gaps”, a God who intervenes in some simplistic manner to tinker with the creation. As Haught explains:

Theology should by now have learned – perhaps the hard way – to avoid seizing territory that may belong more appropriately to scientific or naturalistic modes of explanation. It must not appeal to any ‘God-of-the-gaps,’ but instead allow science to push naturalistic explanations as far as it can go – *etsi deus non daretur* (as if God were not a factor).⁶

Similarly, all three theologians reject the notion of God’s special providence as one more cause alongside other causes operating in the creation.

Peacocke’s model of God’s special providence is analogous to the scientific phenomenon of whole-part constraint. In this regard, it is one aspect of a top-down model of causation. In this context, Peacocke has produced the most specific model suggesting how God might “influence” the created world. Although this is a subtle and imaginative model, it still portrays a God who “intervenes”, albeit in a way that appears not to abrogate the laws of physics. There also appears to be a degree of incongruity between this kind of action and the notion of divine kenosis, discussed later within the context of suffering and evil.

Haught’s thinking in relation to divine providence is also subtle. He does not subscribe to the belief that God has a “divine plan” which represents some sort of “intelligent design” for creation. At the basis of Haught’s understanding of divine providence or revelation is the notion that “most phenomena admit of more than one level of explanation.”⁷ Haught’s position is as follows:

Theology . . . does not strive for the same kind of understanding as scientific consciousness seeks with respect to natural causes. Theology . . . can demonstrate its explanatory relevance only if it is first able to show that there can be a plurality of non-

⁶ John F. Haught, “Science, Theology, and the Origin of Life,” *Theology Digest* 49, no.4 (2003): 339.

⁷ Haught, “Science, Theology, and the Origin of Life,” 334.

conflicting levels of explanation for any phenomenon and that theology has a legitimate explanatory role as the deepest level in an extended hierarchy of explanations.⁸

Within this epistemological framework, science should push naturalistic explanations of life as far as possible and theology should not attempt to locate divine action in the spaces left by science. Theology, however, can find room within layered explanation for understandings at a deeper level than science can offer. Haught thus argues that theology should never compete with science, as if there were only one available explanatory slot to fill. He submits that “the illogical assumption of evolutionary materialists, for example, is that the more room we make for theological explanation, the less room there will be for Darwinian explanation.”⁹

Explanations of divine providence, argues Haught, should therefore never compete, but complement naturalistic explanation. Suggestive of Lonergan’s transcendental method, Haught points out that science and mathematics can only ever grapple with “a vanishingly minute aspect of the full causal depth operative in nature.”¹⁰ Causality that cannot be explained by science and mathematics, including divine influence, can only ever be referred to through analogical and symbolic language.

Critical to Haught’s understanding of divine action is his notion of God coming to us out of the future. Evolution provides support for accepting that creation is still unfinished and unfolding. It is an emergent universe. Both Peacocke and Edwards would agree with this. The evolving cosmos is gradually expanding and experiencing on-going self-transcendence into the infinite love of God. For Haught, God’s providence is bound to God’s grace. Grace, as divine unconditional love, lets the creation be. Here Haught uses process theology to image a

⁸ Haught, "Science, Theology, and the Origin of Life," 336.

⁹ Haught, "Science, Theology, and the Origin of Life," 342.

¹⁰ Haught, "Science, Theology, and the Origin of Life," 343.

God who loves persuasively rather than coercively, allowing for an autopoietic world that emerges freely. God, in this understanding, acts as source of order and novelty, making evolution possible. In the context of process theology, God is “deeply influenced” by what happens in the processes of evolution. All events in evolution are taken into the everlasting compassion of God.

With respect to an understanding of divine action, Haught primarily draws on process theology. Haught, using the idea of “withinness” suggests that this subjective element, present in all created entities, is the point of interaction between these entities and God. Here, he diverges from Peacocke and Edwards. He is critical of the attempted harmonising of God’s interaction with the cosmos with mechanistic explanations of the cosmos. As he explains:

Ever since the birth of modern science, a fatal temptation for theology has been to move away from analogies that protect and enoble the mystery of divine action and to emulate science more and more by trying to be scientifically precise about how God acts in the world. However, attempts to make the idea of divine causal influence palatable in terms congenial to scientific consciousness have generally been abject failures, both apologetically and spiritually.¹¹

Such proposals that suggest divine action is operative in an observationally concealed way, he argues, implicitly “attempt to locate divine action in an explanatory nook that belongs properly to physics.”¹² Models of divine action proposed by theologians such as Peacocke appear to be the object of such criticism. Peacocke, however, clearly acknowledges his model of divine action is both metaphorical and analogical in its description of the so-called “causal-joint”.

¹¹ See James Wiseman, *Theology and Modern Science: Quest for Coherence* (New York: Continuum, 2002), 124-6, referred to in Haught, "Science, Theology, and the Origin of Life," 343.

¹² Haught, "Science, Theology, and the Origin of Life," 343.

Edwards understands divine providence and purpose as it originates in God who is “Source of all being and all life, the Fountain Fullness from which all things spring.”¹³ For him, the secondary causes that participate in and flow from the divine Being, the Primary Cause, can be articulated in scientific language. The discernment of God’s purposes only happens through the eyes of faith. In the one reality of creation, the data of science ought to be consonant with the data of revelation. It therefore ought to be possible to hold the two together intelligibly within a theological framework. Edwards refers to Haught’s notion of God acting persuasively rather than coercively as something that might lead us to expect indeterminacy and contingency in nature. Edwards refers to Haught’s description of God’s “extravagant Generosity”, which “allows the universe its own autonomy and its own role in contributing to the unfolding of creation.”¹⁴

Ultimately, for Edwards, God is not one cause alongside other causes, such as natural selection. God as Primary Cause, or Ground of all being, operates through natural selection. How God achieves this is beyond human knowing. In this respect, Edwards would agree with Haught, acknowledging that the ultimate explanation for evolution lies at a level deeper than what science is capable of revealing or verifying through its use of empirical method. Despite not proposing a specific analogical model for divine providence, Edwards does acknowledge that Peacocke’s notion of top-down causation is a useful analogy. He emphasises, however, the importance of the analogical character of causality in this context.¹⁵

¹³ Denis Edwards, *The God of Evolution* (New York: Paulist Press, 1999), 127.

¹⁴ Edwards, *The God of Evolution*, 54.

¹⁵ See Denis Edwards, "Evolution and the Christian God," in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D Regan and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 186-7.

Suffering and evil

All three theologians attempt to make sense of the pain, suffering and evil evident in the natural world by employing a kenotic theology. The understanding of divine omnipotence in this theology images a God who “empties” Godself of manipulative power. A God who is unconditional love and Supreme Good lets the whole creation “be”, to unfold its own potentiality. Evolution, governed by law and contingency in interaction, has thus brought into existence a myriad of life forms. The same evolutionary processes have brought into existence nervous and endocrine systems of varying degrees of complexity. Such physiological systems account for the experience of pain and suffering in human persons. In a kenotic theology, built on the experience of the cross, the image of God is one who limits God's own power to intervene. God “withdraws” and makes “space” for the creation to be free. In this theology, God suffers with the creation (analogously speaking). For Peacocke, bringing into existence "the kingdom of free-willing, loving persons in communion with God and with each other" is the higher purpose of such suffering.¹⁶

For Haught, the same problem arises, as for Peacocke and Edwards, with respect to the presence of pain and suffering in the creation. How does one reconcile an omnipotent, compassionate and infinitely loving God with the enormity of pain, suffering and waste that is particularly evident as a result of evolution, but is also evidenced in many other ways, for example, extinction, cataclysm and genocide? Haught, like Peacocke and Edwards, suggests the image of divine kenosis best accounts for the presence of pain and evil in the world. For Haught, God's defencelessness and vulnerability is the result of exercising divine power

¹⁶ Peacocke, *Paths from Science Towards God: The End of All Our Exploring* (Oxford: OneWorld Publications, 2001), 86.

through humility and love. For these three theologians, this image is firmly rooted in the biblical tradition. For Haught, working within a methodological framework of process theology, all things that occur in the creation, including evolution, are ultimately taken into God's own experience. Hence, God suffers with the creation, as God lovingly draws it into the future towards divine perfection and fulfilment. For Haught, the ultimate explanation of the apparent spontaneity and self-creativity in the cosmos is this purpose of divine fulfilment in God. This means the cosmos is not mindless or impersonal material matter.

Like Haught, Edwards recognises that the study of evolution brings to the forefront for theology the phenomenon of pain, and suffering in life. Like Peacocke and Haught, the incarnation and cross provide the pivotal image of divine suffering love. Edwards, like Peacocke and Haught, suggests that kenotic theology best accounts for pain and suffering in creation. Russell sums up Edwards' position: "The God of natural selection is thus the liberating, healing, and inclusive God of Jesus. This God is engaged with and suffers with creation; at the same time, creatures participate in God's being and trinitarian relationships."¹⁷

Edwards draws on the book of Job to make the point that we ultimately cannot know the mind of God. Hence, the existence of suffering will always remain to some degree a mystery.

Edwards also warns against the inappropriate application of human moral behaviour to evolutionary processes, arguing that we should be cautious about the term "natural evil" and recognise that those phenomena that constitute such "evil" do not in fact involve any moral element. Evolution is not cruel, selfish or in any way evil, in the sense that evil constitutes a

¹⁷ Robert J. Russell, "Theodicy," *Theology and Science: Current Issues and Future Directions* (Center for Theology and the Natural Sciences, 2000, accessed 11 June 2003); available from <http://www.counterbalance.net/rjr/theod-body.html>; Internet.

willing rejection of God. For Edwards, “Theodicy is no more intense a problem for natural selection than it is to all such processes, including death when understood as essential to evolution and life.”¹⁸

For all three authors the challenge is to hold the theological data of a radically compassionate God together with the scientific data that natural selection involves significant suffering and cost. God appears to be a self-limiting God, although we cannot know why God achieves the divine purposes in this way.

The human person

For Peacocke, a theology of the human person must take into account the multileveled complexity of a human being. The nature of the human person can be located within four categories: the physical world, living organisms, the behaviour of living organisms, and human culture. At all levels, the human person belongs entirely to the natural world. For Peacocke, like Edwards, what we have come to learn about human beings through the study of biology and psychology both partly supports, and challenges, traditional notions of the human person. With respect to evolution and genetics, we have come to understand that much human behaviour has an underlying genetic basis, which has implications for moral theology. Both environmental and genetic factors determine biological death and ought to now be understood as a means of creation through evolution. In addition, at no time has humanity been in some “perfect” state, thus calling for a new understanding of The Fall. Peacocke’s

¹⁸ Russell, "Theodicy."

understanding of original sin is that it is part of human nature. The life, death and resurrection of Jesus show us the potential for transformation in humanity rather than restoration of a lost paradise.

Haught's exploration of a theology of evolution focuses more on the metaphysical implications of evolution for theology. He says little about the nature of the human person specifically. Like Peacocke and Edwards, however, Haught would understand that humanity fits completely within what science describes as biological evolution.

Edwards explores in greatest detail a theology of the human person in relation to evolution. Like Peacocke and Haught, he accepts that human beings are fully part of the natural world and evolved according to the processes of biological evolution. Edwards' main thrust is to explore a new way of understanding grace and original sin in the light of biological evolution. He develops, much more fully than Peacocke, an understanding of original sin. Whereas Peacocke acknowledges that genetics challenges our theology of original sin, Edwards teases out the implications. Peacocke, and I suspect Haught, would agree with Edwards, who follows Rahner, when he argues that that the evolutionary limitations and finitude of being human cannot be equated with sin.

Edwards also develops a theology of grace within an evolutionary context, again drawing primarily on Rahner. For Edwards, the world has always been graced by the presence of God. Evolution happens in a world of grace. The evolution of human self-consciousness eventually reached a point of complexity where it could apprehend the presence of grace and could respond to it. Edwards also explores the notion of the human soul within an evolutionary

context. In line with Peacocke and Haught, he agrees there is no particular divine intervention regarding the soul, either at the origin of the human species or in individuals. Instead, the emergence of self-conscious, spiritual human beings occurs as part of one divine act embracing the whole of the creative process. In this process, each radically unique human being is created in the image of God.

An evolutionary Christology

Peacocke situates his understanding of Jesus the Christ within a response to two questions: What is humanity becoming? What is the environment within which humanity needs to be in harmony? His response to the second question is that humanity's ultimate environment is God. To sketch out the meaning of that answer he looks to Jesus of Nazareth to see what humanity should be becoming. For Peacocke, Jesus Christ is the paradigm for interpreting the human person. Through self-offering love, Christ provides the potential for every person to "respond to, be open to, and become united with God who is love."¹⁹ God shows us through Jesus Christ how that potential can be realised. Peacocke sees God's creative processes present in the processes of biological evolution. These processes, he suggests, have led to Jesus the Christ as the pinnacle of God's creation. Although Edwards develops the idea in greater detail, Peacocke also draws on the biblical image of *Sophia* (Wisdom) as the personification of God's revelation to the world. He sees this panentheistic revelation of God to the world in the association of Wisdom with Jesus the Christ.

¹⁹ Peacocke, *Paths from Science Towards God*, 168.

Like Edwards, Peacocke sees divine Wisdom as a kind of pattern imprinted on the world. This divine “pattern”, understood partly through the concept of the *Logos*, is the creative power that brought the creation into being and sustains it in its unfolding. This presence of divine Wisdom, identified with Jesus as the *Logos* of God, works in and through both the law-like and contingent nature of the universe. This *Logos*/Wisdom Christology identifies Jesus Christ with God as Creator who shapes the pattern of the world and all that is within it. For Peacocke, this shaping of the creation would be effected analogously through his idea of whole-part constraint, a form of top-down causation.

Haught, unlike Peacocke and Edwards, develops little in the way of a Christological component to his theology of evolution. For Haught, Jesus the Christ provides a particularly critical insight in relation to his understanding of divine kenosis, as has been discussed more fully in a previous section.

Edwards presents the most highly developed Christology in relation to evolution and creation. Like Peacocke, Edwards finds that a Wisdom Christology is the most useful way of relating Jesus Christ to a theology of evolution and, similarly, he roots this Wisdom Christology firmly in the biblical tradition. Each, however, begins with a different question. Peacocke begins with the broader question of humanity's environment, and uses Wisdom Christology as a response. Edwards, drawing primarily on the transcendental Christology of Rahner, asks how Jesus Christ can be thought of in an evolutionary context. Although both theologians begin with a different question, both appeal to a transcendental Christology as the most useful response. Both identify Wisdom with the *Logos* of God. In the tradition of a high-descending Christology, Wisdom is imaged as coming “down” to dwell amongst us in the person of Jesus

of Nazareth. It is their identification of the Christ with the *Logos* and *Sophia* that makes the Christ symbol expansive enough to encompass the whole of creation, including the evolutionary process. More inclined than Peacocke to draw on classical theology, Edwards portrays creatures as the "work of art produced by divine Wisdom."²⁰ For Edwards, Wisdom works purposefully as archetype or pattern, using lawfulness and chance as part of the evolutionary process. Therefore, he can say that every aspect of evolution occurs in Wisdom.

One of the difficulties exposed in this cosmic Christology is how to bring together divine Wisdom as God's self-disclosure, with the previous argument for a self-limiting God. How can God be in and through creation as pattern, "influencing" it in some kind of analogous top-down causation, yet leave it to be autonomous?

Having surveyed and forwarded tentative assessments of the theologies proposed by Peacocke, Haught and Edwards, we move now to a conclusion for this thesis.

²⁰ Edwards, *The God of Evolution*, 108.

Chapter 6

CONCLUSION

The aim of this thesis was to explore and assess the significance of the contributions of Peacocke, Haught and Edwards, since each seeks to bring contemporary evolutionary biology to bear on the Christian understanding of God. This kind of dialogue further elucidates the meaning of the human person in the world and also raises important theological issues on the nature of God's providence, human freedom, the significance of human beings in the cosmos, and the meaning of pain, suffering and evil. We find that theology, in dialogue with evolutionary science, awakens us to the presence of the transcendent Mystery *in life*. As Haught eloquently explains:

Awareness of religious revelation . . . entails a sense of our being drawn into a great mystery that liberates the human spirit in a radical way from imprisonment in the mind's own sphere of competence, and in so doing places us in the clearing horizon of unending transcendence.

Theology's fundamental task . . . is that of awakening us to the infinitely liberating openness and generosity of this mystery.¹

This concluding chapter will offer some tentative assessments of the theological insights offered by Peacocke, Haught and Edwards.

Common to all three theological approaches is the conviction that creation is a single, unified, yet multidimensional reality. As Edwards contends, "There is a long tradition in Christian theology that sees the capacity for scientific inquiry into creation as a God-given gift. The universe and the human capacity to explore it scientifically are understood to come from the

¹ John F. Haught, *God After Darwin: A Theology of Evolution* (Boulder: Westview Press, 2000), 8.

same source as biblical revelation.”² Hence, despite theology and science using their respective methodologies to probe different sets of data, this convergence of disciplines can offer fruitful insights on the nature of reality. The consideration of evolutionary data can only enrich our understanding of the nature of God and the creation. We first turn to assess Peacocke’s contribution.

Arthur Peacocke: Science and an understanding of the nature of God

Peacocke has made a highly significant contribution to the dialogue between theology and science. One motive for such a contribution is found in his following statement:

I would urge those of all faiths, or of none, to join in a more cooperative, common search by humanity for a clearer and more intimate apprehension of that Ultimate Reality, the God ‘in Whom we live and move and have our being’. Everyone needs to recognise that, though we each have our own distinctive cluster of symbolic, conceptual and imaginative resources, we are all attempting to peer into the depths of that same creative Ultimate Reality.³

Although not specifically developing a theology of evolution, Peacocke’s theological insights have provided especially important material for other theologians in this field. Appropriating a contemporary scientific cosmology, he provides fresh insights into the nature of God. His use of critical realism, utilising the method of “inference to the best explanation”, sees him expand the traditional understanding of God to better fit this perspective. This cosmology proposes a “best” model for the universe as emerging within the confines of a set of physical

² Denis Edwards, "Evolution and the Christian God," in *Interdisciplinary Perspectives on Cosmology and Biological Evolution*, eds. Hilary D. Regan, and Mark Worthing (Adelaide: Australian Theological Forum, 2002), 172.

³ Arthur Peacocke, *Paths From Science Towards God: The End of All Our Exploring* (New York: Oneworld Publications, 2001), 170.

laws and yet, is at the same time, contingent, at least at the subatomic level. In one sense, the emergence of the cosmos is understood as a form of “self-creativity”. According to theologians such as Peacocke, this “self-creativity” may be a manifestation of the traditional understanding of *creatio continua* (God’s on-going creativity). This insight into the nature of the universe is intriguingly congruent with biblical revelation on the nature of God’s creation, as is reflected in the following passage, by way of example.

All of these look to you
to give them food in due time.
When you give to them, they gather;
When you open your hand, they are well filled.
When you hide your face, they are lost.
When you take away their breath
they perish
and return to the dust from which they came.
When you send forth your breath,
they are created,
and you renew the face of the earth. (Psalm 104:27-30 NAB)

Bringing elements of process theology to bear on an understanding of the nature of God, Peacocke both preserves the transcendent nature of God, while also imaging God involved in the dynamic unfolding of creation. This approach allows a more dynamic image of God than the classical understanding affords, one more consonant with a dynamic and emergent universe. For Peacocke, the concept of panentheism, where creation is within God yet does not exhaust God, captures this nexus between divine transcendence and immanence. God, as Ultimate Reality, is the transcendent divine Mystery. This transcendent aspect of God’s nature is seemingly consistent with the traditional understanding of God who is totally other than what God has created and is utterly distinct from created being. However, in contrast to the classical conception of God as immutable Being, Peacocke suggests that God’s immanence

finds expression in the temporal, dynamic and rational unfolding of the universe. In this theological approach, God influences the creation and, in turn, is influenced by the creation.

Contrasted with classical theology's understanding that God transcends time, process thought views God as experiencing each segment of time as it unfolds. Peacocke suggests this view of God is more consonant with an indeterminate contingent universe and human free will. At one level, this approach to understanding God's nature is helpful, in that it provides a more intimate association between God and creation. However, as noted in Chapter 2, a more nuanced appreciation of Aquinas' theology, principally the nature of Being, provides a similar consonance between the transcendent timeless omnipotence of God and the contingent nature of creation.⁴

A major contribution by Peacocke to the science-theology dialogue relates to the nature of the so-called "causal-joint". In a more traditional formulation, this refers to the means of God's providence. Consistent with the view of many theologians in this dialogue, he understands that God does not simplistically intervene in the creation to fulfil the divine purposes. How then does God "influence" the creation to fulfil the divine purposes? Peacocke's theological model, analogous to the scientific notion of whole-part constraint in complex systems, suggests that the creation is influenced through something analogous to a flow of information. The attractiveness of this model is that divine "influence" involves no abrogation of the laws of physics and no exchange of energy, and hence is not detectable through empirical measurement. The flow of information is from the transcendent ambient reality that is God to

⁴ See p. 28-30 Chapter 2 for a more detailed exposition of this argument.

the created order. The model finds further appeal in its ability to meet the contemporary human need to explain the world using a primarily empirical epistemology. However, even within the limits of this analogy, that God “influences” the creation at all is seemingly still a subtle form of intervention. Consequently, this theological model remains somewhat exposed to the same questions that Peacocke puts to more traditional understandings of God. That is, if God is capable of “influencing” the creation towards the Supreme Good, why is there no apparent alleviation of suffering? We move now to assess Peacocke’s response to this question.

A contemporary response to suffering and evil

Peacocke’s treatment of this question is consistent with the approaches taken by Haught and Edwards. For these theologians, the epic meanderings of biological evolution highlight the extraordinary extent of pain and suffering experienced by life, an experience traditionally termed, “natural evil”. The seeming possession of free will in human beings leads to the more easily comprehended, but nevertheless disturbing, consequence of human evil. Still, the existence of suffering and evil of any kind has posed the central problem for any theodicy, that “God is either not good or not omnipotent.”⁵

The traditional Augustinian-Thomistic approach to theodicy has been criticised by theologians such as Peacocke.⁶ This criticism refers particularly to the seeming inadequacy of

⁵ Peacocke, *Paths From Science Towards God*, 142.

⁶ See B. Whitney, “Theodicy,” in *New Catholic Encyclopedia*, 2nd ed., 867-9.

a notion of God, detached from a suffering world, who appears to not intervene to alleviate suffering and evil. Theologians such as Peacocke, Haught and Edwards incorporate some aspects of process and kenotic theology in presenting a contemporary theological response to the problem.

There are two features in this response that are especially worthy of attention. Firstly, since the temporal nature of the God of process theology is intimately present to every new moment in the on-going creation, then God experiences the suffering of the world. This image provides some consolation that God “understands” the suffering and pain *life* experiences, as the creation is drawn towards an Absolute Future in the Supreme Goodness of God. Secondly, the concept of divine kenosis reminds us that we believe in a supremely loving God, who by nature will not countermand the freedom of creation. Both these features can be reconciled with a contemporary cosmology that portrays a self-creative emergent universe. Nevertheless, given the reality of suffering and evil, a theology of divine kenosis does not appear to address the revelation of God’s power as witnessed in the resurrection. Out of suffering, death, humility and abandonment, Christ is raised to new life. Through the experience of the resurrected Christ, the disciples move from fear to courage, despair to hope. A further response to the problem might be found in a Christological approach focusing on liberation praxis. In this approach, Christians liberated in Christ work to help usher in the Kingdom of God, acting with hope, forgiveness and love to overcome injustice and suffering.

A subtle, more nuanced understanding of the Augustinian-Thomistic synthesis, however, appreciates that created being exists only from and within the sheer limitless Being of God. Contingency and freedom in creatures and creation does not threaten an understanding of God

as First Cause from which all created being comes. Although in this traditional understanding God is not understood as suffering with creation, God is not as distant from suffering as theologians, such as Peacocke and Haught, might suggest. Despite these various theological approaches, however, there appears to be no single solution to the problem of the existence of suffering and evil. All approaches noted provide valuable insights into the nature of God, and yet also have their limitations. Although classical, process and kenotic theologies go some way towards explaining the presence of suffering and evil in the world, the larger question remains focused on *creatio originalis* (traditionally *creatio ex nihilo*). Why might a supremely loving God allow for the possibility of suffering in the first place?

Peacocke's response to suffering and evil and his explorations of the "causal joint" opens up an interesting question. How is the image of God who "influences" the creation according to the "whole-part constraint" model consistent with the image of God who makes "space" for the creation to unfold? How does God let the creation be free, and simultaneously, lovingly persuade it towards fulfilling the divine purposes? That is, how does God exercise general and special providence without abrogating the freedom afforded to the creation? This question highlights the impenetrable mystery located at the juncture between the infinite Being of God and the finite being of the created order. The classical tradition, as Kelly suggests, offers a penetrating insight in response to such questions. As Thomas Aquinas states,

Since God is by nature sheer Be-ing, it must be he who causes be-ing in creatures as his characteristic effect . . . God has this effect on created realities not only when they first begin to be, but as long as they are kept in being . . . So God must be in everything and in the most interior way.⁷

⁷ Thomas Aquinas, *Summa Theologica*, 1a, 8, 1.

As Kelly explains:

Created autonomy does not set the creature against the Creator, but is a deeper manifestation of the creative presence of God. The more autonomous and self-transcendent the created reality, the more the intimate presence of the divine is implied. In other words, the Creator truly gives being and action to creation, enabling it to act.⁸

As Kelly suggests, if the “to be” of creatures, noted above, is understood as a process of becoming, then “you have the modern form of the doctrine of continuous creation.”⁹

Nevertheless, the modern yearning for an empirical knowing begs the further question of how the interiority of God to every creature acts in the case of special providence. Here, Haught, using Tillich’s words, may provide a salutary response, and one which Edwards would appreciate:

Revelation is not the uncovering of information at all, but rather the unfolding of a relationship. Revelation mediates to us the mystery of God’s love and promise for the world, not data that we might easily gather by our own rational and scientific efforts. Revelation, especially as a disclosure of mystery, may be interpreted by faith as opening up and continually extending the horizon within which human consciousness is set free to pursue its various disciplinary objectives.¹⁰

We are reminded that God’s very Being remains as Absolute Mystery. We turn next to assessing Haught’s contribution to the dialogue between theology and evolution.

John F. Haught: God as “ultimate explanation” for evolution

Haught has also made a significant contribution to the dialogue between theology and biological evolution. This contribution is most explicitly articulated in the development of his

⁸ Tony Kelly, *An Expanding Theology: Faith In A World of Connections* (Newtown: E. J. Dwyer, 1993), 117.

⁹ Kelly, *An Expanding Theology*, 117.

¹⁰ John F. Haught, "Revelation," in *The New Dictionary of Theology*.

own theology of evolution in *God After Darwin*.¹¹ According to Haught, such a theology of evolution is necessary for providing an “ultimate explanation” of evolution. His achievement is to provide a metaphysical explanation for the evolution of life, the existence of suffering and emergent novelty.

Haught grounds his methodology using the notion of layered non-conflicting explanation. We are reminded of Haught’s position in the following passage:

Theology . . . does not strive for the same kind of understanding as scientific consciousness seeks with respect to natural causes. Theology . . . can demonstrate its explanatory relevance only if it is first able to show that there can be a plurality of non-conflicting levels of explanation for any phenomenon and that theology has a legitimate explanatory role as the deepest level in an extended hierarchy of explanations.¹²

Within this epistemological framework, science should explore naturalistic explanations of life as far as possible and theology should not attempt to locate divine action in the spaces left by science. Explanations of divine providence, argues Haught, should therefore never compete with, but complement naturalistic explanation. In this scheme, theological explanation provides the deepest understanding of reality. Since the deepest understanding probes the Absolute Mystery of God, one can only ever speak of such ultimate reality using analogies, metaphors and symbol. As Haught states, the critical consciousness, or realism, used by science “demands quite properly that we ‘face reality.’ But it holds that our ideas and convictions are in touch with reality only if they are ‘verifiable’ or ‘falsifiable’ according to publicly accessible methods of knowing.”¹³ Haught provides a helpful and necessary reminder that, in the sphere of revelatory promise and hope, an understanding of reality may not be subject to the same kind of critical consciousness that science applies to the material world.

¹¹ John F. Haught, *God After Darwin: A Theology of Evolution* (Boulder: Westview Press, 2000).

¹² Haught, "Science, Theology, and the Origin of Life," *Theology Digest* 49, no. 4 (2003): 336.

¹³ Haught, "Revelation," 896.

His approach, using layered non-conflicting explanation, respects the limitations of the use of critical realism as method.¹⁴

Haught provides a most fruitful insight when he notes that an unfolding, emergent universe is still *unfinished*. In his view, this explains the “imperfections” in the universe and in life, including the existence of suffering. In this theological understanding, the expanding cosmos is still experiencing on-going transcendence into the infinite love of God. For Haught, this power of renewal in creation is profoundly congruent with the biblical revelation of a God of promise and hope. In this “metaphysics of the future”, Haught refocuses our attention on God intimately involved in the *creatio continua*.

As the central element of Haught’s theology of evolution, his “metaphysics of the future” deserves very careful assessment. In harmony with Teilhard’s thinking, Haught’s theology asserts the presence of a metaphysical transcendent divine force of attraction that draws the world to its final goal. Haught suggests that this fundamental force, the “arrival of the future”, drives evolution. Science’s reliance on material causation is not adequate, according to Haught, for explaining the emergence of genuine novelty and hence, in evolutionary terms, new species. This tenet is the foundation of Haught’s “metaphysics of the future”, the basis of his theology of evolution. It is this “‘coming of God’ toward *the entire universe* from out of an always elusive future,” that is Haught’s *ultimate* explanation for evolution.¹⁵ Seemingly, in this theological formulation, evolution could not happen without God, as Absolute Future, creating through the provision for genuine novelty. Furthermore, Haught synthesises this

¹⁴ For a fuller discussion of reason and revelation see Haught, "Revelation," 896-9.

¹⁵ Haught, *God After Darwin*, 99.

metaphysical explanation with Whiteheadian process theology to postulate a means of divine interaction for this transcendent force. In Haught's synthesis, God draws the creation to its fulfilment by "influencing" a postulated subjectivity within all entities in the universe.

This theological model of an *ultimate explanation* for evolution clearly offers a visionary synthesis between theology and biological evolution. That genuine novelty in the world is, from this perspective, evidence of God's on-going creativity, is in one sense congruent with the biblical image of a God of promise and hope. Here, God is always "ahead", bringing about a divinely renewing future. Two examples, in the Exodus and the Resurrection, both witness to this hope-filled future. Yet, as noted in Chapter 3, Haught's theology of evolution must contend with some significant issues.

The central issue here for a biologist relates to his assertion that genuine novelty cannot be explained by scientific materialism. Yet, genuine novelty in evolution results from mutations in DNA. Mutations are of multiple types; however, all are the result of some alteration to an existing nucleotide sequence along a DNA molecule. Several factors may cause, but not allow prediction of, such mutations. Radiation from outer space, chemical mutagens or random quantum mechanical fluctuations, might all lead to nitrogen base substitutions, deletions, additions or block changes in the DNA sequence. Although such mutations are unpredictable, and hence are truly contingent and thus genuinely novel, they *can be explained* without recourse to metaphysics. On a cosmic scale, ontological contingency due to quantum level events, or contingency resulting from highly complex, and hence unpredictable chains of cause and effect are all explicable within the framework of scientific materialism. Hence,

evolutionary processes such as natural selection, geographical isolation and polyploidy do not require the positing of divine “influence”.

Here, Haught’s own theological methodology of layered non-conflicting explanation might suggest a critical insight on his own formulation. In applying such epistemology to other attempts at harmonising the means of God’s providence with mechanistic explanations, he provides a salutary reminder of the ultimately impenetrable mystery of God. The following summary reminds us of his position:

Ever since the birth of modern science, a fatal temptation for theology has been to move away from analogies that protect and enoble the mystery of divine action and to emulate science more and more by trying to be scientifically precise about how God acts in the world. However, attempts to make the idea of divine causal influence palatable in terms congenial to scientific consciousness have generally been abject failures, both apologetically and spiritually.¹⁶

Although Haught does not try to be scientifically precise in postulating a form of divine influence, his theology of evolution, in part, is not always consistent with his own epistemology. This tentative assessment may provide further reflection on his insightful proposal of a “metaphysics of the future”.

An extension of Haught’s theology of evolution acknowledges that much of the creativity witnessed in the universe comes through an associated dissolution, often involving death, pain, suffering and destruction. The processes of evolution offer profound evidence of such dissolution. For Haught then, evolution’s “gift to theology” is its challenge to recapture the tragedy implicit in divine creativity. Haught’s response to this challenge is consistent with

¹⁶ See James Wiseman, *Theology and Modern Science: Quest for Coherence* (New York: Continuum, 2002), 124-6, referred to in Haught, "Science, Theology, and the Origin of Life," 343.

Peacocke's use of a mixture of aspects of process and kenotic theology. Similarly, the following question might be put to this approach. If God is "lovingly persuading" the creation towards its final fulfilment, how is this consistent with conceptions of divine kenosis? How does God both "influence" the proposed subjectivity within creation, while leaving it to be "free"?

While Haught's theology of evolution raises further important questions, his essential reminder that God is the ultimate explanation for evolution is most important. Although his "metaphysics of the future" is not entirely satisfying, his theology, like Peacocke's, re-engages us with a God whose presence is revealed in a marvellous, dynamic, creative yet suffering world. The grandeur of the evolution of life is held within the infinite love and compassion of God. We turn now to an assessment of Denis Edwards' contribution to the dialogue.

Denis Edwards: Insights on the trinitarian God of evolution

Like Peacocke and Haught, Edwards has made an enormously valuable contribution to the dialogue between theology and evolutionary biology. His unique contribution is to engage a trinitarian theology of God with the insights of evolutionary theory. In this theological approach he holds together a more classical conception of God with insights gained from kenotic and process theology.

Edwards articulates a key guiding principle underpinning this dialogue between theology and evolution. This principle affirms that there is no conflict between belief in a Creator God and

the neo-Darwinian explanation of life. This position is consistent with the following statement by Pope John Paul II:

Today, almost half a century after the publication of (*Humani Generis*), new knowledge has led to the recognition of the theory of evolution as more than a hypothesis. It is indeed remarkable that this theory has been progressively accepted by researchers, following a series of discoveries in various fields of knowledge. The convergence, neither sought nor fabricated, of the results of work that was conducted independently is in itself a significant argument in favour of this theory.¹⁷

Despite acknowledging that evolutionary theory provides the best scientific explanation for life, Edwards, like Haught, affirms that only a doctrine of God can provide an *ultimate explanation* for evolution. In Haught's terminology, God provides the deepest layer of explanation for the existence of something, rather than nothing. Edwards' approach to this "ultimate explanation", however, is arguably more satisfying than Haught's theological approach.

Part of this satisfaction derives from Edward's reluctance to describe in detail how God might "influence" the creation. Although acknowledging Peacocke's analogical model of whole-part constraint, he nevertheless leaves the mode of God's influence as an open question. This approach, more so than Peacocke's and Haught's, seemingly preserves the absoluteness of the mystery of God and would seem to emerge out of Edwards' closer engagement with classical theology. Edwards understands divine providence to originate in God who is "Source of all being and life, the Fountain Fullness from which all things spring."¹⁸ Biological evolution is part of created being, ruled by secondary causes that participate in, and flow from, the divine Being. This classical theology is brought into a more contemporary setting, however, as

¹⁷ Martinez J. Hewlett, "A God for Evolution," *God and Nature* (University of Arizona, 2001, accessed 4 December 2002); available from <http://kukulkin.meb.arizona.edu/~mhewlett/hewlett/romepaper.html>; Internet.

¹⁸ Denis Edwards, *The God of Evolution: A Trinitarian Theology* (New York: Paulist Press, 1999), 127.

Edwards combines the concepts of divine kenosis and panentheism to hold together the transcendence and immanence of God. In this approach, the transcendent God “withdraws” to make space for an autonomous creation, while, at the same time, God is radically interior to every creature. This understanding is consistent with Aquinas’ statement that “God must be in everything and in the most interior way.”¹⁹

Edwards provides a most fruitful insight by setting biological evolution within a creation that is understood to reflect the divine relations of the Trinity. He connects a trinitarian theology of God with evolution, through an understanding of being and relationship at its foundational level. For Edwards, the creation of being-in-relation flows out of, and reflects, the divine trinitarian relations of mutual love. That is, creation results from the overflowing of love from the sheer fecundity of the divine relations. Using the concepts of *koinōnia* and *perichōrēsis*, he provides a compelling insight into the nature of divine love in the trinitarian relations. Such notions of communion and being-in-one-another emphasise both individuality and shared life.²⁰ It is within such a theological setting that an emergent and dynamic creation is understood as brought into being within the ambience of the Trinitarian God.

Consistent with the approaches of Peacocke and Haught, Edwards also affirms the insights that a kenotic theology can provide for understanding the enormous pain and suffering evident through the processes of biological evolution. In Edwards’ trinitarian theology, the very Being of God, who is Supreme Love, is *in, through* and *under* the whole of the created order. This love “makes space” for the creation to be freely self-creative and thus opens the creation to all

¹⁹ Aquinas, *Summa Theologica*, 1a, 8, 1.

²⁰ See Edwards, *The God of Evolution*, 21.

possibilities that might lead to suffering. Edwards contributes two important insights. Firstly, that the suffering and pain that is associated with nature ought not to be understood as natural evil. Evolutionary processes are not selfish and cruel. The experience of such pain is a natural consequence of the evolution of complex nervous systems and consciousness. His second insight, shared by Haught, is that the death of one organism always contributes to the emergence of life elsewhere. Death is an essential part of the great ecological cycle of life and is not to be viewed as something evil. In the biological world, life comes out of death. In a theological perspective, Jesus' death on the cross is consistent with the notion of divine kenosis and reminds us that God's omnipotence is associated with profound humility. Christian faith also understands death as passage to new life in the Resurrection.

Edwards also contributes fresh insights into the nature of original sin. The recognition of humanity's evolutionary history leads to his thesis that original sin is that inner dimension of the individual human person, influenced by those instances of rejection of God through all human culture across time. This insight, which draws especially on the work of Philip Hefner and Karl Rahner, moves sin out of a static and essentialist view of humankind into a dynamic and evolutionary view of the world. In this view, Edwards carefully distinguishes disorder in human beings derived from sin and that derived from genes.

Edwards' formulation is an important reminder that the human person always relates to his/her historical environment through personal freedom. As noted in Chapter 4, this re-emphasis on "the social and historical dimension of sin" must not be lost in what Gabriel Daly notes is the "post-Freudian and post-Darwinian tendency to reduce phenomena which were

formerly described as sin to the physical and psychological determinism of human nature.”²¹ Edwards avoids this tendency by understanding sin as a phenomenon distinct from human genetic and cultural conditioning. However, Edwards’ claim that humans maintain the freedom to choose between sin and grace raises deeper questions on the nature of human freedom itself. To what degree is the human person authentically free in the light of his/her genetic and cultural conditioning?

Edwards, and Peacocke to a lesser extent, provides an important contribution in the form of Wisdom Christology. Drawing primarily on the transcendental Christology of Rahner, Edwards synthesises ideas of God as Creator, divine kenosis and Jesus Christ, in an ultimate explanation of evolution. His achievement here is to find a nexus between the biblical Sophia tradition and a creation Christology, holding together insights on God’s Being, God’s Wisdom and the Christ-event. In this Christology, Jesus-Wisdom, identified as the pre-existent *Logos* of God, is a divine person of the Trinity, in and through which creation has its being. In this approach, Edwards provides the insight that Wisdom works purposefully as archetype or pattern, using lawfulness and chance as part of the evolutionary process. Therefore, he can conclude that every aspect of evolution occurs in Jesus-Wisdom. One question seemingly remains open though. In this synthesis, how can God “influence” creation, and more specifically evolution, as archetypal pattern, yet leave it to be autonomous? Nevertheless, Edwards opens up a more appreciative approach as to how a modified classical theology can fully engage with the implications of evolutionary theory. In conclusion, we turn to some tentative overall insights and some possibilities for moving forward.

²¹ Gabriel Daly, “Original Sin,” in *The New Dictionary of Theology*.

Conclusions and possibilities

Our deliberations in this thesis have necessarily been limited; however, the exploration and assessment of theological approaches by Peacocke, Haught and Edwards, has both affirmed and expanded opportunities for theological conversation. The “framework of collaborative creativity” has led to a deeper appreciation of the insights that evolutionary theory affords theology.²² This dialogue between theology and evolution tentatively probes the nature of being and becoming, gently teasing at the meeting point between transcendence and immanence.

Balthasar, in *Man in History*, highlights an essential consideration for the modern theologian:

The late classical point of view saw the basic philosophic question (‘Wherein consists the being of that which exists? Why does anything possess the quality of being, according to the data presented to us by experience?’) as indissolubly linked with the basic theological question (‘what does God’s word tell us of God?’).²³

Balthasar, in lamenting the decline of the philosophical question in the face of the seeming exactitude of the scientific approach, reminds theologians of the following important point:

The incomprehensibility of divine revelation remains the basic phenomenon. The ‘exact’ scientist urges the philosopher to move on from the unprofitable question of being, while the ‘exact’ theologian . . . insists that we return to those areas of knowledge where certainty can be attained and tangible results arrived at.²⁴

This tension between the philosophical expansiveness of being and scientific empiricism is partly evident in the contrasting approaches of Peacocke, Haught and Edwards.

²² Bernard J. Lonergan, *Method in Theology* (London: Darton, Longman & Todd, 1972), xi.

²³ Hans Urs von Balthasar, *Man In History: A Theological Study* (London: Sheed and Ward Ltd., 1968), viii.

²⁴ von Balthasar, *Man In History*, ix.

In keeping with the contemporary cosmological view, evolutionary theory highlights the essential nature of life as one of becoming. As part of an emergent universe, life is also a dynamically creative and emergent phenomenon. That an estimated 30 billion species has evolved and become extinct,²⁵ with all the associated pain, suffering and death, challenges an understanding of the very nature of a compassionate, supremely loving and omnipotent God. However, this flux of emergence and dissolution is consistent with the nature of the whole cosmos. The cosmos also sees the “birth” and “death” of stars, planets and galaxies. Here, the theological model of divine kenosis provides a fruitful and helpful insight into the mystery of our Creator God. The meaning of the human person, in part, is located in this 13 billion year history. Whether the unfolding of the cosmos and the evolution of life are teleological in nature, however, remains an open question. The biological data is ambiguous as to whether there exists an overall trend towards increased complexity and consciousness in life. Even if this trend was accepted to be true, the historical fact of mass extinctions, and the future possibility of more in the future, would appear to negate any underlying teleological purpose in the evolution of life. Scientific inference towards the high probability of future human extinction especially poses an on-going challenge for theology.

Integrating some aspects of process thought in their reformulations of classical theology, Peacocke and Haught in particular provide some consolation that God “feels” intimately the pain of the world, through God’s “experience” of suffering. In their understanding, all things are ultimately taken into the infinite compassion of God as Absolute Future. Yet, as present as we can be to the present moment, the *immediate* experience of pain, suffering and death continues to feed the eternal lament of “why”?

²⁵ See Richard Dawkins, *River Out of Eden: A Darwinian View of Life* (London: Phoenix, 1996), 9.

Yet, for all this probing, one returns to the philosophical question: from where does *being* come? An understanding of the relationship between being and becoming, originating in the different philosophical views of Heraclitus and Parmenides, and developing further through the formulations of Plato and Aristotle, developed in Christian theology through Augustine and Aquinas.²⁶ In *The Confessions*, Augustine addresses God thus:

To you, being and living are not two separate things, because, in the highest meaning of both words, they merge into one. For you are pre-eminent and unchangeable. In you today does not come to an end, and yet it does since all things are in you, and they would have no means of moving on unless you contained them.²⁷

For Augustine, being and becoming are part of the same reality. For Aquinas, the universe, in owing its being to the incomprehensible Being of God, participates in the divine reality. As Edwards has argued, “It is this divine community that constitutes reality as it is and as it becomes. It is divine love that enfolds all creatures and enables them to be. It is this sheer relationality, this communion in diversity, which sustains and empowers biological evolution”²⁸ Kelly emphasises that divine creating is not just another category of causation but is a transcendent causality “enabling creation not only to be, but to act. Creation in this sense means that God acts in the acting of everything, and causes in the causality of every agent.”²⁹

The approaches explored in this thesis suggest that the classical view of an immutable God is inadequate for a theological understanding of evolution. However, it may well be possible to hold together notions of a cosmos of dynamic being within the eternal unchanging

²⁶ For an overview of these philosophical positions see Frederick Copleston, *A History of Philosophy Volume I: Greece & Rome Part I* (New York: Image Books, 1962), 54-70.

²⁷ E. M. Blaiklock, *The Confessions of Saint Augustine: A New Translation with Introductions* (London: Hodder and Stoughton, 1983), 20-1.

²⁸ Edwards, *The God of Evolution*, 128.

²⁹ Kelly, *An Expanding Theology*, 92.

transcendent Being of God. Since the dynamic being of material reality flows from, and participates in, the Universal Being of God, then God is interior to all created being. Such a panentheistic view of being and becoming holds evolution within the ambient reality of the transcendent Creator God.

Although Peacocke and Haught are reluctant to use a metaphysics of *esse*, such a metaphysics provides some insight into the *why* of existence. Admittedly, however, the insights of materialist science seemingly support Heraclitus' view of the world that "becoming" is a reality that underlies all things.³⁰ Becoming is not an illusion. While, with Dag Hammarskjöld, we can affirm a resounding *yes* to the *why* of existence, the modern, post-Enlightenment consciousness urges us persistently towards the *how*.³¹ Here, the drama of evolution meets the drama of salvation. Peacocke's notion of the "causal-joint" and Haught's posit of divine attraction to subjectivity probe the juncture between God's transcendence and immanence. In this nexus, we find the mystery of the Incarnation. A further study might explore this mystery, and probe more deeply the meaning of Jesus of Nazareth in the epic of evolution. This future work might appropriate further evolutionary insights in developing a theological link between divine kenosis, special providence, Jesus of Nazareth and liberation praxis.

Evolution is a story of life's creativity through pain, suffering and death. It is a story of dis-solution and re-solution. In the Christian story of salvation, dis-solution meets re-solution

³⁰ See Copleston, *A History of Philosophy Volume I*, 54-5.

³¹ See Dag Hammarskjöld, *Markings*, trans. by W. H. Auden and Leif Sjöberg (London: Faber and Faber, 1964), 169 in Kelly, *An Expanding Theology*, 9.

through the passion, death and resurrection of Jesus Christ. Reflecting the fruitful insights of a kenotic theology, Balthasar suggests the following:

Nicholas of Cusa sees . . . that the superabundance of the Word is expressed not as a gigantic shout, but in the dying cry of a man brutally cut off from living and speaking. . . . But in the same sense in which the cry is the end of the articulated Logos on earth, it is, as the cry of redemption, the new beginning of true speech on earth. As Omega, this cry becomes Alpha, the cry of birth with which the new man breaks through to the light of the world.³²

For all the grandeur of evolution, it is frequently the smallest of things, such as a sub-atomic quantum fluctuation, which changes the course of history. The life, death and resurrection of one man, Jesus of Nazareth, the Christ, led to re-solution in the disciples and moved them to a new history, a praxis of freedom, compassion and hope.

This study reminds us that, despite the mystery of the *how* of all existence, all of creation moves in the compelling love and limitless Being of God. It reminds us that God is first and foremost, paradoxical Mystery, an image captured poetically in the words of Augustine:

For who is the Lord apart from the Lord, and who is God apart from our God? You are our absolute, the ultimate good, the most powerful and omnipotent, the most merciful and most just, deeply hidden and yet intimately present, the most beautiful and most strong, firmly fixed and yet out of reach, immutable and yet changing everything, never new nor old, yet renewing all things and leading the proud unaware into the weakness of age.

You are always active, always at rest, holding all together but not out of need, supporting and filling and protecting, creating and nourishing and perfecting.³³

³² von Balthasar, *Man In History*, 282-3.

³³ Saint Augustine, *The Confessions of St Augustine*, trans. Carolinne White (London: Frances Lincoln, 2001), 16.

For *Homo sapiens*, being becomes aware of itself and thus constantly seeks its source, since, as Augustine prays, “Our heart is restless until it find rest in you.”³⁴

³⁴ Blaiklock, *The Confessions of Saint Augustine*, 15.

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