

## CHAPTER 3

### Historical and Biological Deism

#### 3.1 Introduction

If, as argued in the previous chapter, theism is a Biblically viable world-view, then creation from a theistic world-view must naturally follow from this argument. In this chapter, an exploration on the different scientific theories on creation will be undertaken, and compared to the Biblical account found in Genesis chapters 1-11.

Most people, writes Evans (1996:35) find the actual character of the universe even more mysterious and impressive than its bare existence. The existence of a universe in which one experiences “might-never-have-been” is surprising and mysterious.

Thus, the experience of a purposive order is so powerful that even philosophers, who are sceptical of the value of arguments for God's existence, cannot but acknowledge its force. Hume (1946:214), for example, who was a renowned critic of all the standard philosophical proofs of God's existence, wrote “a purpose, an intention, or design strikes everywhere the most careless, the

most stupid thinker; and no man can be so hardened in absurd systems, as at all times to reject it”.

In a strange passage, Kant (1965:20), often credited with having decisively refuted the argument from the order in nature to God’s reality, nevertheless confessed, “by one glance at the wonders of nature and the majesty of the universe”, reasons that, “at once aroused from the indecision of all melancholy reflection, as from a dream”.

### **3.2 Creation and Evolution, the Great Divide**

For many centuries in the western world, the accepted beliefs surrounding the idea of creation were taken from the Christian world-view, and required little from Christians regarding the defence of this view. However, with the post-modern era and new millennium, many pluralistic views now govern aspects of life leading often to criticism of the Christian view on creation. Thus, Christians have had to think carefully about stances on many present-day issues surrounding these views. The technological and scientific advances place increasing demands on society to provide an ethical framework about the existence of humanity. Although the Christian world-view is increasingly in conflict with the broader society, its world-view must remain that as revealed in Christ. Although the ethical challenges facing the church have grown over the

last decades, the approach by Christians has and should always remain consistent with the Biblical view of creation.

Therefore, one could say: If it is true that God is sovereign and righteous, then any approach to an ethical world-view on evolution must consider, according to Davies (1993:3), “Divine revelation, as found in the canonical Scriptures of the Old and New Testaments. This would then constitute the minimum requirement of the decision making process”. Thus, if the Christian approach is to be different from the current world-view on evolution, then an indication of that place can only be by starting from the ethical ideal embodied in Christ. One can then safely work out from that point, a code of morality for practical guidance of the Christian life regarding its view on evolution. However, the approach should be from a different starting point, and the initial and central reference of this Biblical ethic should be directed to God as the source of all moral requirements and as the highest value. A Biblical ethics world-view regarding anything begins with God and ends with Him (see Beach and Richard: 1973).

Unfortunately, the problem one immediately faces in developing an appropriate Biblical stance towards an evolutionary world-view is that the world is continually putting pressure on theologians to find answers. These specifically concern areas such as ways of conforming the evolutionary theory of humanity and the findings of science, to the Biblical accounts of creation. Thus the

realisation is that there is a great divide that has developed between the two disciplines on this issue, and if anyone hopes to reach consensus, dialogue must take place.

### **3.3 Theology and Science, the Great Divide**

Given this, Green (2004:168-169) correctly states that the pressures on the modern theologian in academic life are very powerful, and he lists several areas where this is taking place.

Firstly, the astonishing advances of the natural sciences and the technology deriving from them have in recent decades upstaged many arts subjects and none more than theology. Consequently, there are at least four attitudes in the successful world of science and technology. Firstly, there is optimism about humanity in scientific circles, which is induced by the success of the natural scientist. This stands in sharp contrast to the pessimism of humanity found in many circles, including the Christian doctrine of humankind both as creature and as fallen... Secondly, there is, at best, agnosticism about God. He is no longer needed to plug many of the *gaps* in scientific knowledge as previously suggested. Thirdly, there is impatience with miracles; this is unfortunately a world of observed and reliable uniformities where direct Divine intervention cannot be detected. And fourthly, in regard to the many disastrous debates with Darwinism in the last century over Genesis and evolution, it is

commonly held in scientific circles that the Bible is discredited, and is a farrago of myths which has now been outgrown by science. All of this, often uncritically assumed, rather than clearly stated, makes life difficult for theologians today.

Although the statement is very direct, all is not lost. There are many scientists who study nature and its impact on humankind, who are rethinking many of today's proposed evolutionary views, especially those being written in academic journals worldwide by natural scientists. Fortunately, there are many positive paradigm shifts taking place on both sides of the science and theology continuum about the reality of evolution. The need now is to bring these views to the fore, so that a correct world-view by both sides can be reached.

### **3.4 The Creation Evolution Dilemma**

Understandably, in the view of Peterson (2000:221), paradigm shifts are difficult yet stimulating experiences for those who endure through them. In the framework of Kuhn ([1962]1970), a paradigm shift occurs as a result of a crisis, when an old established theory becomes increasingly difficult to argue and must be overthrown by a newer, more intellectually discerning competitor. Although Kuhn limits himself to the fields of astronomy, physics and chemistry, one sees rivalry of this nature in almost every scientific discipline. In fact, within the last century, one has seen an *eternal steady state universe* give way to a *big bang model* in astrophysics. Further, the static continents have been replaced by

plate tectonics in geology, and cold-blooded models of dinosaurs now compete with newer, warm-blooded versions in palaeontology. Peterson (2000: 222) correctly submits that whether one adheres to the details of Kuhn's philosophy of science or subscribes to later variant versions, conflict is an important staple of scientific discourse and development. Through such conflicts new theories are born and old ones die, although it may take decades for the transition to take place.

Clearly, the historical emergence of modern science has marked a paradigm shift from a focus on the metaphysical question of being, to the epistemological question of knowing. In its descriptions of its knowing, modern science has claimed rational objectivity for its knowledge, and has developed a dualism that separated humans from non-human nature in the view of Clifford (1994: 64). According to modern science, theories were said to be objectively formulated from data derived from observations; an understanding that has proved to be inadequate. Thus, the post-modern understanding of science is now critical of a depiction of science which ignores the subjectivity of scientists. What has now emerged is a new form of *critical realism* recognising that the scientist who interprets data is not a detached, neutral spectator capable of objectivity. As Toulmin (1982: 252) has so succinctly expressed, "The scientist as spectator is dead." In contrast to the *Cartesian dualism* of modern science which separated mind from matter, reason from emotion, and humanity from

nature, the post-modern scientist reinserts into the cosmos as an embodied observer and participant in the universe he or she is observing.

Consequently, Pannenberg (1988:3) writes that from the eighteenth-century to the beginning of the twentieth-century, the relationship between science and Christian theology were marked by increasing mutual alienation. During the twenty-first century, however, there has emerged a series of efforts to bridge the gulf that had developed. Pannenberg also believes that in England these efforts started as early as the second half of the last century. This is when there was an attempt to make a theologically positive evaluation of the Christian doctrine of evolution, to integrate it into a Christian version of the world and salvation-history.

Given what has been said, in the following section a case study on Darwin's evolutionary theories will be explored and compared with the Biblical account of creation.

### **3.5 The Heart of Darwin's Theory**

The heart of Darwin's theory ([1859]1996: 67-68), *natural selection*, is presented in the fourth chapter of *The Origin of Species*. Thus, he begins the chapter:

How will the struggle for existence act ... in regard to variation? Can the principle of selection, which we have

seen is so potent in the hands of man, apply in nature? Let it be borne in mind in what an endless number of strange peculiarities our domestic productions ... vary; and how strong the hereditary tendency is.

Can it then be thought improbable, seeing that variations useful to man have undoubtedly occurred? That other variations useful in some way to each being in the great and complex battle of life, should sometimes occur in the course of thousands of generations? If such do occur, can we doubt (remembering that many more individuals are born than can possibly survive) that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind? On the other hand, we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favourable variations and the rejection of injurious variations, I call Natural Selection.

Speaking generally, Moore (1979:103) says that for some Christian anti-Darwinians the main theological objection to Darwin's theory lay in the perception that it undermined the idea of design in nature, thus bringing into question the very existence of God. For some, the turmoil was enough to bring loss of religious belief. There were many Victorians, steeped in Christian tradition, whose manuscripts and memoirs reveal a common struggle with the ideas and implications of Darwinism.

In all fairness to Darwin, he did base his theory on three reasonable assumptions according to Russell (1985:146). These are:

- *Hyper productivity* or (super-fecundity): Organisms produce more offspring than can reach maturity.



- *Variability*: A range of differences exist within any species (in anatomical details which can determine, for example, the ability to see, move, digest, hide from predators, etc); and
- *Natural Selection*: Environmental changes, food shortages, and the presence of predators, together create for a species a struggle for existence. This struggle gradually and inexorably weeds out the less well adapted members through successive generations, while allowing the better adapted to survive to the stage of procreation, and thus pass on their favourable characteristics.

According to Barrett (2004:92), it was combining *variability* and *natural selection* that was Darwin's key insight. Thus, the many slight differences within a species are highly important, Darwin explained. According to him, they afford materials for natural selection to work on, just as the breeder of domestic animals or birds can accumulate individual differences in any given direction by artificial selection.

Consequently, Gray (1878:61) assured that Darwin's theory of descent or any other such theory should not yet be accepted as true and perhaps might never become truth. He insisted, however, that the same care should guide any non-acceptance of such a theory, i.e. the claim that there are no secondary

causes which account for the existence of the manifoldness of plants and animals. With these assertions, Gray did not want to flee into aloof neutrality, but he wanted to make sure that scientific truths must rest on unambiguous proofs.

Apart from the question of how variability arises in a species, Darwin was aware of several other gaps and doubts in his theory. He knew challenges would come according to Barrett (2004:94), about the timescale of evolution. Darwin's theory rested on accepting the long timescale suggested by geological research. For example, Darwin estimated that rock strata in Southern England were about 300 million years old and he considered this but a moment in geological history. Although this theory was challenged by the formidable Scottish physicist Sir William Thomson who calculated that the cooling rate of the planet gave a reading of only about 100 million years, Thomson did lack according to Barrett (2004:94), 20<sup>th</sup> century knowledge. Current knowledge now states that the earth is about 4500 million years old, a figure well-established from measurements of the radioactive decay of the oldest rocks and from other data.

Doubtless, Darwin's theory was like a jigsaw puzzle with several pieces missing, however, it did have enough of the picture in place to account for a wide range of phenomena. Thus, it enabled him to explain, for example, many of his uniquely wide-ranging observations of the geographical distribution of animals. Above all, states Barrett (2004:95), it provided a reasonable explanation of the countless remarkable examples of adaptation in nature.

One could now ask: What was Darwin's legacy? As one who studied widely according to Barrett (2004:109), Darwin was remarkably successful in making accessible and understandable to a broad audience of readers, evidence that ranged over several disciplines, namely; geology, botany, taxonomy, and morphology for example. Consequently, the fertility, creativity and accessibility of his work, meant that its influence soon spread beyond the concerns of natural science to make its mark in philosophy, the social sciences and Victorian literature. So too, it raised fundamental questions for theology and Christian belief. Thus, it continues to inspire a broad range of academic endeavour – a veritable Darwinian industry.

### **3.6 Does Theology need Evolutionary Theory?**

According to Peterson (2000:223), many traditionally assume that evolutionary theory and especially the theory of natural selection, have profound implications for theology. Therefore, one interestingly notes that this is a nearly universally held assumption, wherever one may be on the theological and philosophical spectrum. According to Floyd (1999:24-31), atheists such as Dawkins (1986) and Dennett (1995), share with fundamentalists the view that evolution and theology are necessarily in conflict. Fundamentalists reject evolution because of religious commitment to the belief in a six-day creation. Atheists such as Dawkins assert that natural selection obviates the need for any designer.

Additionally evolution proceeds from the simple to the complex, and a giant, universal mind would be the most complex of all.

Thus, when one moves into the mainstream of theology, which generally does not hold to a literal interpretation of the six days of Genesis, according to Peterson (2000:223), one finds an almost equal interest in evolution albeit for two different reasons. Firstly, Darwinian natural selection is often perceived as undermining traditional design arguments for God's providence. This is also not only in the sense of replacing God with a purposeless process, but also in the sense that the process does not seem to be going anywhere in particular. One could further say that not only is there no room for a *God-hypothesis* as previously discussed in chapter 1, but there is also little evidence to show that the entire evolutionary process intended to lead towards emerging *homo sapiens*. For that matter, neither for any other particular organisms either. Secondly, because human beings are themselves products of evolution and natural selection, it follows that evolutionary theory has a potentially significant contribution to make with regard to ideas of human nature, a subject about which theology is deeply concerned. It is therefore not surprising, that many in the science-theology dialogue have turned their attention precisely to these kinds of issues (see Peacocke 1984, Ward 1998, Rolston 2004).

Inevitably evolution does matter to theology. Popper (1994:52), in one of his famous lectures stated, "There can be no doubt that Darwin's theory of

evolution by natural selection is of the greatest importance”. Accordingly, he did go on to say in the same lecture, “There can also be no doubt that this theory is, in many respects, in an unsatisfactory state.” Therefore, one could say that the only means of escaping this conclusion is to deny the implications of origins and historicity.

Doubtless, there are various forms of existentialism and existentialist theology that do succeed in doing this, but only at the expense of divorcing human spirit from biology. A question that one may now ask is: Why should theologians pay attention to alternatives in evolutionary theory? The answer: Because evolutionary theory often implies particular kinds of claims that are relevant to particular theological doctrines and theological schools. Evolutionary theory cannot say whether the universe or the appearance of humankind is merely the result of chance, or a necessary product of it, but it can say what roles contingency and causal laws play. Evolutionary theory can also say something regarding kinds of physical causes that drove human evolution, including something about the constituent of human nature.

Given this, the next question is: How does evolution matter to theology? Peterson (2000:224) believes that the evolutionary theory affects ideas of the origin of life, and thus the ideas of creation. It affects questions of human origins, and thus questions of original sin. Consequently, it further affects ideas of human nature and behaviour, as well as destiny. Thus, it even affects the

question of human uniqueness and ones understanding of the image of God. One may even speculate and say that it affects the formation and evolution of religious belief itself. One reason for saying this is because *Soteriology* and *Christology*, partly base themselves on these prior theological claims.

Consequently, the sciences do matter to theology. Yet, at the same time theology is distinct from the sciences and possesses its own norms, traditions and assumptions. Therefore, the choice is not between evolution and theology, but rather between epistemologies. Although this may be a difficult choice, it is ultimately an important one.

What follows, is an undertaking to further explore the interaction between science and theology on the origin of the universe, and the implications that both views hold for humanity.

### **3.7 Scientific and Metaphysical Theories regarding the Creation of the Universe**

In spite of all the biblical and scientific evidence, Gribbin (1986:392) argues that the new physics of creation leaves no place for the traditional metaphysics of creation, because new cosmological models eventually explain how the universe *created itself*, i.e. emerging from nothing at a certain moment. As a result, he said, metaphysicians “are out of a job”.

An opposite view defended by Isham (1988:405), contends that many intriguing problems related to creation and evolution of the universe are explainable in the cognitive framework of modern theoretical physics. Thus, in his view, one must rather look for explanations that do not belong to the physical science. Zycinski (1996:272) shares the latter opinion, and says;

I think that various metaphysical theories can be based on any physical theory of cosmic action. By determining which philosophical principles are implicitly assumed in the creation models accepted in the theory of vacuum fluctuations; we can better understand which important philosophical presuppositions are tacitly implied by these models. The analysis of these principles demonstrates both the fuzziness of many philosophical concepts and the illusory character of the methodological standpoint in which the physics of creation was supposed to eliminate traditional metaphysics. In fact, metaphysics is either duplicity accepted in new physical theories or explicitly introduced in a naive commonsense version.

Thus, the question that arises out of this statement is: How does a vacuum as apposed to nothingness affect the doctrine of creation *ex nihilo*?

Recognising this, Zycinski (1996:272) puts forward that in traditional metaphysics, the fundamental concept of non-being was defined in such a vague manner that many authors did not distinguish between *metaphysical nothingness* and *physical vacuum*. One understood a vacuum in *quantum electrodynamics* as the lowest energy state of a field in which no physical

particles exist. To argue against identifying the vacuum with philosophically conceived *nothingness*, one could claim that the vacuum possesses a rich mathematical structure that one can describe by the formalism of quantum field theory. But, despite the absence of particles, physical fields do not disappear, and their properties can still be characterized in the abstract language of mathematics.

Doubtless, new physical theories of creation do contribute to a better understanding of classical distinctions between the actual and the possible on the one hand, and being and nothingness on the other. One simply has to notice that the “nothingness” in these theories does possess rich mathematical structure which one can describe in the language of mathematics

But, how reliable is this theory of creation from a vacuum? Can one place faith in a mathematical equation to argue for creation *ex nihilo*? Could a mathematical cosmological theory provide a new set of arguments for the existence of God the creator and strengthen the standpoint of Christian theism?

According to McGrath (2004:51-52), the doctrine of creation *ex nihilo* primarily concerns itself with the ontological dependence of the cosmos upon its creator. The doctrine affirms that God, in creating the universe, was not constrained by the limitations of the already existing material from which that



universe was to be fashioned. Rather, God was free to bring into existence a universe in which the recognised Divine will was embodied and enacted.

Given this, Hawking (1993) who presented this quantum-mechanical description of the early stages of possible cosmological evolution with J Hartle in 1981, stated in an interview in 1992, that there are important domains of human experience that one cannot reduce to a physical level. He mentions love, faith, and morals, as three examples of experience that one cannot explain by reference to the laws of physics. Thus, in his later work one no longer finds the epistemological monism that inspired his early work in this area, where he thought that physics could replace theology.

In *The Moment of Creation*, the physicist James Trefil (1983:223) describes the search for unified laws in cosmology. In an epilogue he writes:

But who created those laws? . . . Who made the laws of logic? ... No matter how *far* the boundaries are pushed back, there will always be room both for religious faith and a religious interpretation of the physical world. For me, I feel much more comfortable with the concept of a God who is clever enough to devise the laws of physics that make the existence of our marvelous universe inevitable than I do with the old-fashioned God who had to make it all, laboriously, piece by piece.

According to Peterson (1999:284),

Versions of this scientifically uniformed account have been embraced by a number of theological thinkers, particularly those engaged in the theology of nature—most explicitly, Sallie McFague (1993). It is taken for granted in this scenario that human beings are a natural product of this process. Although exactly how mankind came to exist on this planet may be regarded in part as the result of Divine action of one form or another, from Gordon Kaufman’s “creative serendipity” (1993) to Arthur Peacocke’s “loaded dice” (1993). Such an approach is in contradistinction to much of what has passed before in theological thoughts which has either emphasised a supernatural dualism, or (more officially) recognized the psychosomatic unity of mind and body, but treated nevertheless, humankind as ontologically and theologically unique and separate from other forms of life.

In retrospect, one can now say that the challenge is: Can one complement sections of the Darwinian theory of evolution with a Biblical account of a continuing creation, in order to come to a comprehensive understanding of reality? Or, could one possibly present a case that accurately reflects a theistic God of creation who is *still* creating? Further, could one possibly speak of *creatio continua*, or that God is still creating through natural processes?

What follows is an exhaustive exploration of these questions with respect to their accuracy in light of the Biblical account of creation.

### 3.8 The Biblical Idea of Creation

#### 3.8.1 Genesis chapters 1-11: Truth or Myth?

Many evangelical scholars consider the events of Genesis as literal events, and foundational to all Christian doctrine. Accordingly, these scholars believe that all Biblical doctrines of theology ultimately have their basis in Genesis, whether directly or indirectly. Given what has been said, a believing understanding of the book of Genesis, coupled with faith, is a precondition to an understanding of God and His meaning to humanity. Thus, if Genesis is only a myth or allegory, then Christian doctrines have no foundation according to Ham (1987:71).

However there are those, according to Montgomery (1991:58), especially of the neo-orthodoxy persuasions who label the first eleven chapters of Genesis as mythological stories from which one can obtain no factual information on the history of the earth. Yet, for those who consider the Bible as the inspired, infallible Word of God, e.g. fundamentalists, Genesis is considered to be a historical record.

Others, according to Kelly (2004:41) suggest that the first eleven chapters of Genesis, and especially the first three chapters, are poetic writing, rather than chronological history. Many scholars have interpreted Genesis 1-3 (and the rest of Scripture) through the framework of the *Documentary Hypothesis*; one of the

central theories in German Higher Criticism. Although many scholars have found this methodology to be inaccurate as a working hypothesis (see Allis 1947; Young 1976 and Whybray 1987), many still question the Mosaic authorship and its historical significance in understanding the beginning of creation.

Furthermore, one also finds, in most classic formulations of Christian dogmatism, that the doctrine of creation is given a very high-profile, often being the first major doctrine explored within the system as a whole. Thus, two factors are of particular importance towards this development says McGrath (2004:52).

- The doctrine of creation is the first major theological statement faced by the reader of the Bible, as set out in the canonical form.
- Hence, the two most influential communal statements of Christian faith recognised by the Church, the Nicene Creed, and the Apostles' Creed, both open with an affirmation of God as creator. In this, many classic Christian discussions of systematic theology are more broadly likely to follow the Creedal ordering of doctrinal affirmations (see, for example, John Calvin's Institutes of the Christian Religion). Thus, the doctrine of creation is often foremost in theological analysis.

In the view of Barker and Burdick (1985:2), Genesis lays an important foundation for understanding the rest of the Bible. According to Marshall (1998:1), the stories told in Genesis also establish the foundation for ones own understanding of God. In this statement, one can agree with Psalm 11:3, “If the foundations are destroyed, what can the righteous do?”

However Fretheim (2005:29) rightly states, regarding the creation accounts found in Genesis 1-2, that they are among the most studied texts in the Bible. For him, these chapters have generated reflection from every conceivable viewpoint, and controversies regarding their interpretation continue apace. Among the many questions these chapters raise for the modern reader, perhaps none are more pertinent than this: Is Genesis 1-2 an adequate statement for one to reflect on about creation?

According to Fretheim (2005:29), in many ways these chapters will continue to provide readers with an indispensable foundation for reflecting on the image of God and the World, including the nature of human and nonhuman interrelationships. However, Fretheim (2005:30) also contends that Genesis 1-2 is not a fully adequate statement for contemporary readers regarding creation, as it has created more problems than solutions. One must not discount the long history of the negative effects of these texts contributing to the environmental crisis and to a second class citizenship for woman in Church society.

### 3.8.2 The Creation

In retrospect, one can rightly conclude from the creation story that nothing but God is self-sufficient and eternal - everything owes its existence to Him. Thus only God deserves humanity's worship according to Erickson (2001:410).

Hebrews 11:3 states that "By faith we understand that the universe was prepared by the word of God, so that what is seen was made from things that are invisible."

Many theologians and biblical scholars, according to Barbour (2000:48), share the view that one should take the Bible seriously but not literally and claim that Genesis witnesses to a fundamental and enduring relationship between God and the world. It does so, they say, by telling a symbolic and poetic story that assumes the pre-scientific cosmology of its day. But, he further states, Scripture conveys religious ideas that one can still accept independent of any cosmology, ancient or modern. Genesis makes three theological affirmations:

- (1) The world is essentially good, orderly, and coherent.
- (2) The world is dependent on God; and
- (3) God is sovereign, free, transcendent, and characterized by purpose and will.

These are characteristics of the world and God at every moment in time, not statements about events in the past. The question is: What does the post-modern scientist have to say about these events?

Although in the past scientists generally viewed “reality” as fixed, immutable, and unaltered by the scientific enterprise itself, Clifford (1994: 65) points out that in post-modern science, it is more realistic to speak of reality as partially created by the scientific community, a community affected by the broader society.

Indeed, one can say that as participants in society, scientists derive their theoretical models from their culture and from specific life experiences. Doubtless, the scientist’s view of the cosmos and its processes are affected by his or her societal attitude. Therefore, it is not only who is doing the research, but also the when and where of research, that have a direct bearing on forming scientific theories (see Harding 1986 & Bleier 1986). Put simply, post-modern science is not autonomous from a society’s social, political, and religious interests and values, according to Clifford (1994: 66). Without doubt, scientific theorising does affect them. This suggests that rigid boundaries between scientific communities and the broader society and its other communities no longer exist. Fruitful and transforming dialogue about the cosmos by the scientific and theological communities is now more possible than ever before.

### 3.8.3 Continuous Creation “*creatio continua*”

Is God still creating - *creatio continua* - or has He ceased as many have argued based on Genesis 2:2: “*And on the seventh day God ended His work which He had done, and He rested on the seventh day from all His work which He had done*”.

In the modern period, according to Clifford (1994:63), science’s claim to objective truth has posed a notable challenge to creation faith. In the minds of many, modern scientific rationality has, in their view, made it possible to affirm an autonomous self, without God. Many try to affirm the belief that even if God designed and set in motion the universe, its functioning does not need the Divine. Where cosmic process was concerned the theism of modernity contained an inherent atheism. The universe, envisaged as a grand machine could run properly on its own, there was not necessarily a need for a God outside the machine, and certainly not for a God active within the workings of the machine.

Given this, Peacocke (1984:66) writes that, “the natural causal creative nexus of events is itself God’s creative action.” He holds that processes of nature are inherently creative. One might consequently interpret this as a version of the idea that God designed a system of law and chance, through



which higher forms of life would slowly come into being. Needless to say, this would then be a sophisticated form of *deism*.

However, in what seems to be a contradiction of Peacocke's seemingly deistic view of creation, he also says that God is, "at work continuously creating in and through the stuff of the world He had endowed with those very potentialities." The images of an improvising choreographer or composer imply an active, continuing relationship with the world, and Peacocke specifically defends the idea of continuing creation according to Barbour (2000:114).

Further to this, Stoeger (1995:249) holds that God acts through the laws of nature, using them as instruments for achieving intended goals.

If we put this in an evolutionary context. . . we can conceive of God's continuing creative action as being realized through the natural unfolding of nature's potentialities and the continuing emergence of novelty of self-organization, of life, of mind and spirit.

God's purposes are undoubtedly, built into the potentialities of nature, according to Barbour (2000:102), but God also continues to sustain the whole system and holds it in being - without God it would cease to exist.

Needless to say, the world as now known did not come into being ready-made, but rather it has evolved over long periods of time. Thus, according to Polkinghorne (1989:80-81), to *creatio ex nihilo* one can comfortably add the idea

of *creatio continua*, or continuing creation unfolding throughout cosmic history. Simply put, God is present in the evolutionary process. However, one must be careful to say: Not as its sole determinant, for an evolving world is a creation allowed by its Creator to some degree to “make itself” through the shuffling explorations of contingency. Rather, one should say: As the source and guide of its fruitfulness. The work of the Creator continues, not least through the natural processes that are expressions of His will.

Besides, Polkinghorne (1998) believes that the idea of continuous creation reinforces the understanding that one cannot tie the Divine role of the Creator to any particular instant in time, but, on the contrary, is an enduring relationship. Thus, one can understand *creatio continua* as the work of the Creator, specifically in the mode of Divine immanence, just as *creatio ex nihilo* - preserving creation from ontological collapse - is the work of the Creator in the mode of Divine transcendence. These theological concepts are consonant with the scientific discernment of a universe of deep order and evolving fruitfulness.

#### **3.8.4 Creation Contingency and Process Theism**

According to *Big Bang Cosmology*, or the view that the universe had a central starting point - a singularity, Clifford (1994:76) puts forth that contingency, the view that there could be multiple outcomes, can rationally account for an expanding evolutionary process. One can specifically relate this to the dynamic

interrelatedness of space-time and matter-energy, and the *Uncertainty Principle*. Accordingly, each of these factors suggests that the physical universe does not have to be the way it is; it could have been otherwise. Yet, these very same factors suggest that the universe is contingently ordered. Thus there is a holistic orderliness to the universe that one can understand through theories like the Big Bang and the many interrelated theories that have contributed to it.

Traditionally, Christian theology has contrasted contingency to necessity, arguing that God is a necessary being, existing beyond time that brought into existence a material universe through an act of Divine freedom. *Creatio ex nihilo* made this perspective possible, because it provided the element of Divine freedom by avoiding the pitfalls of a universe conceived as emanating from a pantheistic God, and therefore part of the Divine essence. If God has the freedom to choose to create or not to create the world, God also has the freedom to choose among possible worlds or universes. By implication then, the contingency within the cosmos is logically accounted for, yet, nevertheless, God could have created a different world if He so chose.

Furthermore, according to Clifford (1994:77), the importance of contingency in any dialogue between theology and science is recognised by many theologians today. Take for instance Pannenberg (1988: 9), who argues that contingency is the first question on which any contemporary discussion about theology and science should focus. In Pannenberg's assessment

(1991:41), contingency points to how important it is to address *creatio ex nihilo* and *creatio continua* in tandem. Understandably, he argues that the conception of creation as *creatio ex nihilo* also applies to continuous creation. This Pannenberg conceives, not as preserving the created world in its original order as classical theology did, but as the continuous production of new forms of existence. Pannenberg (1991:41) asserts: “The element of contingency in the ongoing process of nature has become the mark of the creative activity of God in the history of the universe”.

Also, contingency in the cosmos is given a central focus in Barbour’s (2000:142) treatment of consonance between cosmology and theology. Barbour further believes that science will never eliminate contingency. He underscores its pervasiveness by raising the question he believes to be of special interest to the theologian: Why is there anything at all? He reasons that scientific cosmology cannot answer this question because the existence of the cosmos is not self-explanatory. Like Pannenberg, Barbour reflects on *creatio ex nihilo* and *creatio continua*, giving considerably more attention to the latter.

Regarding *creatio continua*, Barbour (2000:145) posits a twofold correspondence: (1) The laws of contingency can be identified with the orderly aspects of continuing creation. (2) There is also genuine uncertainty in cosmic history which corresponds to the novelty in continuing creation. Uncertainty in quantum processes reflects an indeterminacy that is not simply due to the

limitations of one's knowledge; it is basic to the dynamic of world process itself. The common roles of contingency in science and theology contribute to a fresh perspective on why science and theology need not be compartmentalised.

Emphasis on continuing creation is also evident in what Barbour draws from process theism in explaining what God is: (1) the primordial ground of order and novelty and (2) influenced by the events of the world (2000:230-231). It is unfortunate that Barbour's predisposition for process theism strongly influences his interpretation of *creatio ex nihilo* and *creatio continua*.

Thus, *Process Theology* or *Process Theism* as it is sometimes called, is the fundamental thesis according to Erickson (2001:305) that reality is *processive*. Thus, God, in His concrete actuality, responds and is affected by the processes of the world, and vice versa, according to Whitehead (1929:524-530). Therefore, according to Process Theology, God's knowledge processes with every new decision and action in the world. As a result, other traditional conceptions about God must also then be modified. Divine sovereignty for instance, is no longer regarded as absolute; rather, one views humans as partakers in determining the future. This post-modern world-view now called *Open-Theism* will be exhaustively studied in the next chapter.

To bring this particular point to a conclusion, process theology claims to view God as a personal being - unlike the impersonal Unmoved Mover of Greek

metaphysics. However, it is questionable whether this is really the case. God, according to Erickson (2001:306), seems little more than an aspect of reality in process theology. In what sense He is a personal, acting being, is unfortunately not made clear.

The author must emphasise at this time, that *creatio continua* is a strong theory, and has many merits that make it Biblically viable, however, creation is winding down. Although God sustains creation as needed, clearly there are laws that do govern creation, and one of these is the second law of thermodynamics. Doubtless, God did create at a specific instance in time, but there will also be a specific point when creation will cease to exist.

### **3.9 The First and Second Laws of Thermodynamics and their Relation to Creation**

According to Blanchard (2002:37), the universally accepted *First and Second Laws of Thermodynamics* do say that the cosmos could not have generated itself. Simply put, there had to have been a moment when energy, matter, time and space came into existence. Given this, if one rules out an eternal, infinite, transcendent and omnipotent God, where can science turn to explain the origin of these, when it cannot go any further back than the moment at which the laws on which it leans began to operate? Andrews (1980:35) takes this further, he correctly says:

No matter how close to the instant of origin one may be able to press the scientific model of the cosmos, it remains impossible for such an explanation to be applied at or before the time zero point.

Hence it follows that science, even at its most speculative, must stop short of offering any explanation or even description of the actual event of origin.

Based on these laws, creationists believe according to Rhodes (2004:158) that the universe is heading toward an ultimate *heat death*, in which no more energy will be converted. Consequently, the amount of usable energy will eventually deplete causing the universe to decay. Thus, in the view of Ratzsch (1996:91), it is eroding, and it is moving from order to disorder. The universe and everything in the universe, including the sun, humankind, the machines that have been built, are all running down. So, contrary to classical evolutionary theory, things are not ultimately moving upward but are running downward. Given this, Ryrie (1986:177) submits that the foundational principle of biological evolution, i.e. that things are moving from disorder to order, from chaos to complexity, is simply wrong. The principle of evolution is precisely the converse of the second law of thermodynamics, and therefore seemingly, both cannot simultaneously be true.

Overwhelmingly, the laws of thermodynamics do add strong support for the idea of a creation. If the second law of thermodynamics is true, then the

universe must not be eternal. Thus, the universe must have had a beginning, just as claimed in Genesis 1:1. Barnett (1950:102-103) writes;

If the universe is running down and nature's processes are advancing in just one direction [entropy], the inescapable inference is that everything had a beginning. Somehow and sometime the cosmic processes were started, the stellar fires ignited, and the whole vast pageant of the universe brought into being.

Similarly, Whitcomb (1979:12) notes that the second law of thermodynamics points to the reality that earth was once more orderly and organised than it is now. And this in turn points to "an infinite and personal God who alone could have infused order and high-level energy into the universe at the beginning".

In keeping with this, Sullivan (1930:240) points to the fact that the universe absolutely had to have a beginning:

The fact that the energy of the universe will be more disorganized tomorrow than it is today implies, of course, the fact that the energy of the universe is more highly organized today than it will be tomorrow, and that it was more highly organized yesterday than it is today. Following the process backwards we find a more and more highly organized universe. This backward tracing in time, cannot be continued indefinitely. Organisation cannot, as it were, mount up and up without limit. There is a definite maximum, and this definite maximum must have been in existence a finite time ago. And it is impossible that this state of perfect organization could have been evolved from some less perfect state. Nor is it possible that the universe could have persisted for



eternity in that state of perfect organisation and then suddenly, a finite time ago, have begun to pursue its present path. Thus the accepted laws of nature lead us to a definite beginning of the universe in time.

To say that the universe is eternal would be nonsensical. After all, all the stars are burning out. If time reached eternally into the past, the universe would have burned-out long ago. What the Bible says makes much more sense, that the space-time universe was created at a specific time (see Genesis 1:1; John 1:3; Colossians 1:16).

Unfortunately, the effect of Darwinian evolution on people's opinion regarding the trustworthiness of Scripture has been a very negative one. If there is no God who created humankind, and if one cannot know anything about God with certainty, then there is no supreme Judge who holds humankind morally accountable. Therefore, there can be no moral absolutes in human life, thus, the idea of "survival of the fittest" will ultimately drive all human decisions. Consequently then, evolution renders God unnecessary and ineffective, which is very different from the sovereign God described in Genesis.

### **3.10 Conclusion**

It was argued in chapter one that Theism is a very acceptable world-view today, when interpreting the metaphysical concepts of the world. It was also stated that creation from a theistic world-view must naturally follow from this argument. It

was then reasoned that for many centuries, the accepted norms regarding the idea of creation were taken from the Christian world-view. However, as science has progressed in its studies of creation, it has encroached many of its findings on the Biblical world-view of creation. Furthermore, it has started throwing doubts on the Scriptural validity of creation as a viable world-view. Following this, the pressures on the modern theologian in academic life to produce counter argument to scientific findings from Scripture, has put much pressure on them. Consequently, this has caused the relationship between science and Christian theology to be marked by increasing mutual alienation. Positively, it was shown that there are many scientists who study nature and its impact on humanity, who are rethinking many of the evolutionary views being proposed today in academic journals around the world. During this century alone, there has no doubt emerged a series of efforts to bridge the gulf that has developed between the two disciplines.

Furthermore, to expose this gulf, and to present a viable alternative to bridge this gulf, a case study of Darwin was undertaken to begin the process of showing that theism is still today a viable world-view about creation. It was also shown that Darwin himself was aware that his theory of evolution had some problems, but in all fairness to Darwin, it was established that his theory was based on three reasonable assumptions, that of: *Hyper productivity, Variability, and Natural Selection.*

Besides, it was shown that inevitably evolution matters to theology. Doubtless, Darwin's theory of evolution by natural selection is of great importance, and should be studied along a Biblical perspective, as some of Darwin's theories can be scripturally validated. One could go further and say: if interpreted theistically, it could even improve one's understanding of the magnitude of Divine creation. It is therefore not surprising, that many in the science-theology dialogue have turned their attention to precisely these kinds of issues.

Furthermore it was shown that the new physics of creation leave no place for the traditional metaphysics of creation, because new cosmological models ultimately explain how the universe *created itself* emerging from nothing at a certain moment. It was also presented that many theologians and Biblical scholars share the view that the Bible should be taken seriously but not literally. Some even claim that Genesis really only witnesses to a fundamental and enduring relationship between God and the world. However, it was argued that this view is false as Scripture conveys religious ideas that one can still accept independent of any cosmology, ancient or modern.

Finally, it was contended that any view which dilutes the impact of sin in a fallen world was not an option and that the fallen condition of humanity is very literal. The fact is that humankind cannot take care of itself, and God had to intervene through the coming of Christ. It is unfortunate that evolution makes

God unnecessary and ineffective, and as stated, this is very different from the sovereign God described in Genesis.

In the following chapter, an alternate view of God's sovereignty and omniscience called *open theism* will be evaluated in the light of a theistic world-view. Although this particular view sees God as theistic in His work, it also views God as diluted in power and knowledge of future events. Thus, the purpose of evaluating this particular view is to show, that even some academically accepted post-modern views on reality fail, in the author's view, as a viable theistic world-view. The problem is that it tends to have a negative outlook on creation, and even questions if God can truly bring to pass His plan and will on this earth. This certainly has an effect on how one views reality, and specifically, how one views God. As such, it is a necessary study, as it will show that the open view of God fails, in the author's view, the test of what comprises a traditional theistic world-view.