

## CHAPTER ONE

*Motivations*

On the day of his consecration the Patriarch Elect of the Coptic Orthodox Church of Egypt is traditionally led to the cathedral, having spent the previous night in chains keeping vigil by the dead body of his predecessor (Butler 1884, vol. II, 309). When he arrives at the cathedral he is taken to the altar and stands between two bishops as his deed of election is read aloud to the congregation:

we besought the Spotless Trinity with a pure heart and an upright faith to reveal unto us him who (was) worthy of this meditation . . . Therefore, by an election from above and by the working of the Holy Spirit and by the assent and conviction of us all, it was revealed unto us to have regard unto N for the Apostolic Throne of the divinely-prophetic Mark. (Khs-Burmester 1960, 58)

What is particularly interesting is the procedure adopted by the Copts to manifest most reliably God's choice and revelation of their new Pope – the election from above and working of the Holy Spirit is invoked by means of a very ancient tradition. In the election of their sixty-fifth Pope, HH Shenute II (1032–1046), the Copts adopted a process analogous to the Nestorian custom of choosing their patriarch by means of picking lots. Throughout the next nine hundred years this process was only used occasionally until it became accepted as the standard method of selection in the twentieth century with the election of the current patriarch, HH Shenouda III, on 31 October 1971 (Atiya 1991, 1999).

HH Pope Shenouda III was chosen by the process of *al-Qur'ah al-Haykaliyyah*, which literally means 'the choice of God from the Altar'. The names of the final three candidates for election are written on identical slips of paper and placed into a sealed box. During the Mass a very young boy is selected from the congregation. He is blindfolded and the priest opens the box. As the congregation pray the Lord's Prayer and chant 'Lord have mercy' the boy chooses one of the slips inside. The name picked is that of the new Patriarch.

Of course there are certain things we can say about how God brings about this revelation. Central to the modern Coptic ceremony is the belief that God helps to form the intentions of all of those involved in the selection of the three names that will be written on the lots and many intercessionary prayers are made to ask for God's guidance in this matter. In the ceremony of the young boy choosing the slip there are two further implicit statements about God – both of which have strong Biblical parallels: that God has knowledge of the configuration of the slips in the box and knows which slip has which name written upon it; and that God can make his specific intention known to the mind of one child who then chooses in accordance with that intention without himself knowing which slip to choose. Both of these are essentially claims about the extent of God's knowledge of the natural world – the exact configuration of the slips in the box, and the nature of the boy's thought processes. The latter element also includes a claim that God is capable of acting in the world on the level of human mental processes and accordingly instigates the child's movements.

A strong element of the selection of the Coptic Patriarch is that God is capable of guiding a chance-like process and has knowledge of how to effect that process in a suitable way to effect a desired result. Put another way, God acts with intention to determine an otherwise random selection by virtue of knowledge and foresight of the implications of that determination. These are claims that will recur many times in our discussion of attempts to link quantum theory and chaos theory to divine action.

The Coptic concept of invoking God's choice by means of casting lots is, of course, not without earlier precedent. Lots were cast by Israelite priests to perform predictions and oracular consultations long before they began to undertake altar and sacrificial work. When consulted on a particular issue, priests 'asked' God using objects called Urim and Thummim to make express his decision in the form of a 'yes' or 'no' answer. In some cases it was possible for an answer to be completely withheld, and occasionally written lots could be used when it was necessary to decide between a number of options (Huffmon 1983). There is no way of knowing exactly what the Urim and Thummim looked like, but it is clear that they formed part of the priest's breastplate and were worn even as late as David's time as an icon of priestly function. Indeed, this emphasis on the role of lot casting and the determination of chance-like events by God is not restricted to the Hebrew Bible. Early in the Book of Acts, for example, we see the Apostles attempting to decide

on who shall join them by casting lots to decide between Joseph and Matthias:

Then they prayed and said, 'Lord, you know everyone's heart. Show us which one of these two you have chosen to take the place in this ministry and apostleship from which Judas turned aside to go to his own place.' And they cast lots for them, and the lot fell on Matthias; and he was added to the eleven apostles. (Acts 1:24–6 NRSV)

The lot 'fell' on Matthias, but this was no neutral or random process – it is clear from the Greek text that it was God himself who chose the appropriate lot; the parallel with the Coptic ceremony is particularly clear.

In each of these examples we have specific occasions when God is perceived to act in the world. The part of God's creation in which these actions occur is distinguished from all others by virtue of this action, and it is common for this mode of action to be called special divine action (SDA). The immense particularity of God's activity is found in even a cursory reading of the Bible. Not only does God originally create and continuously sustain the universe in existence, but we see a God who acts in particular times and places to determine the outcome of lots, admonish, and more generally guide the process of history. Indeed Christoph Schwöbel has demonstrated just how fundamental this concept of special divine action is to Christian belief: he identifies several key concepts such as thanksgiving, confessions of faith, petitionary prayer and proclamation in scripture, and emphasises their dependence on God's particular actions. Schwöbel argues that divine action is *constitutive* of many of these doctrines and emphasises that without a coherent account of God's actions the status of much theological doctrine is under question (Schwöbel 1992, 23–4). Theodor von Haering has argued even more strongly that a sustained belief in providence, in the broad sense in which he understands it, actually constitutes religion itself. On his account it is belief in divine action which is primary and other theological claims are merely subsidiary manifestations of that core belief (von Haering 1913, vol. II, 514). Von Haering's attempts to synthesise *all* theological doctrine into the context of divine action may be somewhat ambitious, however it is clear that, even if we deny such strong claims, a coherent account of divine action is a theological necessity. This need becomes particularly acute in any discussion of a personal God and is of particular significance for modern fundamentalist and apologetic theology with its corresponding emphasis on the workings of the Holy Spirit.

The aim of this book is to consider how coherently we can relate the theological assertion that God is active in particular times and places in creation to the demands raised by the natural sciences. Is there any truth, for example, in the common argument that science is such an accurate predictive tool that there is no flexibility within nature for the actions of God? As we shall see the answer to this question is deceptively complex and is reliant on developed understandings of the laws of nature, determinism and assumptions about the relationship between epistemological investigation and ontology. In the discussion that follows we shall focus in particular on the relationship between SDA and the description of the natural world which is offered by the relatively new disciplines of quantum theory and chaos theory. The importance of these two sciences is that they are widely claimed to be intrinsically indeterminate, or to contain enough inherent flexibility to accommodate the actions of God. However before we begin to discuss this relationship in detail it is crucial to clarify the status of Biblical material as a motivation and partner in our discussions about divine action.

#### THE STATUS OF BIBLICAL SOURCES

Even a cursory reading of the contemporary literature on the subject of SDA reveals it to be steeped in Biblical quotation, and these quotations are often used to support very specific and detailed notions of SDA like those identified above. Oliver Quick is a precursor of the sentiments of many of these authors with his assertion that ‘the most obviously distinctive characteristic of Hebrew theology is its belief in God’s guidance of history. We owe the familiar idea of providence to the religious legacy we have received from Israel’ (Quick 1938, 69).<sup>1</sup> It would be wrong, however, to assume that this ‘distinctive characteristic’ is restricted to Hebrew theology because belief in SDA is a common feature of several major religions. Aside from Judaism upon which much of the Christian understanding is based, there are also analogous assertions of God’s providential control of nature in Islam and Hinduism (Parrinder 1969). Indeed, even before we begin to examine the Old Testament conception of SDA in any detail, it is helpful to set it within the broader context of the ancient Near Eastern conception of nature and its understanding of providential control by the gods. It is remarkable that, given the appropriation of so much Biblical material into modern discussions of the

<sup>1</sup> Quick’s terminology is that of providence, rather than special divine action. We shall discuss the relationship between these two concepts in more detail in chapter 2 below.

relationship between SDA and science, there has been relatively little detailed study in this context of the Biblical conception of nature. As we shall see, the Hebrew understanding of natural processes and the relationship between God and these processes owes much to its intellectual ancestors.

Man in the ancient Near East was daunted by the power and ferocity of nature – there are many surviving texts in which Near Eastern writers express that they feel battered by the enormity of the storms, winds and rain of the climate. Yet it is not true to say that they saw nature as utterly irregular and disordered. Underlying natural processes there existed a collection of powerful individual personalities and intentions that had the potential to conflict and contradict (Frankfort et al. 1977). Each of these wills was associated with a deity whose goals and actions had to be continually placated by man. Consider, for example, the following invocation from the Babylonian New Year's festivals:

Asari, who grants the gift of cultivation,  
 My Lord – My Lord, be calm . . .  
 Planet Mercury, who causes it to rain,  
 My Lord – My Lord, be calm!  
 Planet Mars, fierce flame,  
 My Lord – My Lord, be calm . . .  
 The Star Numushda, who causes the rains to continue,  
 My Lord – My Lord, be calm!

(Pritchard 1969, 333)

Here we see a prayer to the various deities controlling the harvests, storms and fire. Each of the forces of nature was personified into a deity who is addressed by name and implored to stay 'calm'. It is particularly clear that the author of this prayer was concerned about the capricious personalities of these deities. In turn, the natural processes of the world were each associated with the expression of these personal wills, and just as human beings could be difficult and unpredictable, so too could the intentions of the different Babylonian gods. The consequence of this was the view that natural processes were fickle and that order and regularity were not things to be taken for granted – man felt precariously balanced at the apex of many divergent intentions, most of which he could only implore to remain calm and regular. It would be incorrect, however, to conclude that Near Eastern man saw nature as totally unpredictable. Just as human beings regulated their activity, so too did the gods, by integrating their wills in a social order and hierarchy.

It is clear that for the vast majority of Near Eastern writers the modern notion of causality within nature was largely explicable by reference to

the personalised powers of the various deities and their respective spheres of influence within the universe. In certain cases this power was derived from Enlil, the highest authority. Accordingly the cosmic 'state' mirrored social relations on Earth – it too had minor power groupings that had responsibility for particular physical entities and peoples (Frankfort et al. 1977, 148). The problem was that the groups sometimes came into conflict, with dire results for the workings of nature. It thus followed that, for the Near Eastern peoples, there was no fundamental partitioning of entities into either animate or inanimate – essentially, if the rain had not fallen, then it was because it had *decided* not to fall.

As a result of these many deities the universe was ordered as a society or state in which the authority of certain entities had power over certain others. The god Enlil, for example, was seen in the power to rage in a storm, and the power to destroy a city in an attack by barbarians (Frankfort et al. 1977, 150). However Enlil's supervision and control were limited in scope and accordingly the cosmos on a human scale remained mostly regular and predictable. His authority was, however, not unchallengeable and could be upset or usurped by other gods with the result that anarchy could break out in the same way as a war amongst humans. When these political power struggles between the Gods took place there was very little that human beings could do. The place of mankind in this universal hierarchy was very low and he had no 'political' influence with the gods and similarly no share whatsoever in the government of the natural processes in the world.<sup>2</sup>

Although this account has glossed over many of the complexities in the Near Eastern approach to natural phenomena, appreciating the broad nature of this background is crucial to understanding the various highly specific claims made about God's action in the Hebrew Bible. The claims for SDA that are so widely cited in contemporary science and theology literature must be seen in their original context both as products of the ancient Near Eastern world-view, and as highly dependent on the understanding of natural processes at that time. What made the Hebrews' account fundamentally different from its contemporaries was its radical insistence on monotheism. The Hebrews did not assert any form of competitive political polytheism but rather a conception of the divine in which

<sup>2</sup> A detailed cosmogony appears to have been absent until the development of the *Enuma Elish* or 'When on High' around the middle of the second millennium BC. It details the origin of the basic components of the universe from chaos and the establishment of the existing world order (Pritchard 1969, 60–72). There are very close parallels between the *Enuma Elish*, the Epic of Gilgamesh and the cosmogonies seen in Genesis chs. 1–3 – for a particularly clear exposition see John Romer (1988).

God was undivided and had supreme authority over everything in the world. While this assertion constituted a radical theological distinction from the other Near Eastern texts, the conception of nature employed in the Old Testament is, nevertheless, not so far removed. The Israelite account of nature is steeped in the terminology of other Near Eastern peoples, but the Hebrews did not view regularity in nature as the product of a balancing of many personal wills, but as an expression of the faithfulness of the one supreme Yahweh. Under the governance of the one God all of the same natural phenomena are described – He is the same God who gives breath to the people of Earth, brings rain and storms and provides bounteous harvests, and when He withdraws his breath causes death and destruction. Israelite belief in Yahweh thus represented a form of security and dominance over these natural processes that was almost unique in the context of other Near Eastern religions. Nonetheless, if Yahweh's constant power and guidance were withdrawn for even a second, the world would lapse into chaos and disorder. Underlying this is an interestingly dualistic aspect to the Hebrew conception of the world. Indeed, the victory of Yahweh over the forces of chaos is even sometimes seen as recurring – chaos was simply restrained rather than totally admonished (e.g. Job 26:12, 38:1–15).

Another crucial change that Israelite monotheism introduced was an elevation of the status of man in this cosmic scheme. In the Mesopotamian creation myth, the *Enuma Elish*, man is almost created as an afterthought because the primary explanation that the myth seeks to address is the establishment of the political hierarchy of the gods and their relative spheres of influence over natural phenomena. In the Hebrew Bible, however, the conquering of chaos and disorder by Yahweh has the focus of making the world ready for occupation by man. This aspect is particularly clear in the cosmogony presented in the Book of Genesis (itself heavily influenced by other Near Eastern sources) where the creation of man forms the climax of all God's creation. Accordingly, because of the central locus that mankind occupies in the Hebrew account of creation, it followed that human beings could naturally claim that Yahweh was providentially concerned with their future (Baker 1975, 98–102).

When seen in the context of this background it is unsurprising that there are strong claims that Yahweh has absolute power over the workings of nature – where once there existed a Near Eastern belief of clashing personalities and power struggles within nature, the Hebrews had one supreme God under whom *all* natural processes existed as expressions of



his personality and will. To make the claim that the workings of nature were amoral would, for the Israelites, have been analogous to implying that Yahweh himself was morally neutral. It is in this context that we see so many Old Testament accounts of Yahweh governing natural phenomena and using them as vehicles for his righteousness and judgment. Nothing in nature happened separately or in contradiction to Yahweh's will and consequently where natural events are described in the Old Testament they are usually described in the language of Yahweh's emotions and intention – from shaking the mountains when displeased to sending rains when satisfied.<sup>3</sup>

It is thus reasonable to argue that natural phenomena are highly personalised in Israelite religion – as Henri Frankfort has put it, for ancient man the surrounding world was not an 'it', it was a 'thou' (Frankfort et al. 1977, 4–8). Indeed, in the ancient Near East there is not even a word that can be translated into 'nature' and similarly there was no Hebrew term directly equivalent to 'nature' when taken in the modern sense of the word. This fact has a number of important implications for our study of the relationship between SDA and science.

The first and most obvious of these is that the modern conception of Biblical miracle as being objectively special because it is a violation of a closed system of causal laws is simply not found in the Old Testament because the basic presupposition is missing. There is simply no assertion of a closed or autonomous set of causal laws which God could violate, and the whole concept of the 'violation' or contradiction of some rule by Yahweh stands at odds with Hebrew claims about his absolute power. Indeed, given the 'thou' conception of natural events inherent in the Hebrew Bible, it is not at all surprising that the development of the natural sciences has made vast changes to our understanding of a Biblical world-view in which Yahweh continually admonishes, saves, and directs the workings of nature. What has been rarely appreciated, however, is that this challenge to the continual workings of God has at its root a primarily *conceptual*, rather than predictive, nature. To put this another way, the principal difficulty is not, as has been frequently assumed, that the natural sciences rule out any concept of special divine action because they so closely predict future events and thus deny any 'space' for God to act. The source of the problem is that the interpretation of nature which modern philosophy of science adopts distinguishes natural phenomena as fundamentally 'it', rather than 'thou'. Underlying this is an

<sup>3</sup> For a detailed discussion of illustrations of God's direction of the physical universe see Davies (1992).



assertion that natural laws are an autonomous creation of God. Indeed the very basic subject–object distinction that underpins much of the modern methodology of science is simply missing in the Old Testament. There is no conception of a universal law of nature, no parallel to the idea of an individual event, and in a sense the closest Hebrew thought comes to a modern notion of causation is simply ‘being’.

This is not to argue that the Old Testament conception of nature was in any sense crudely animistic or personalistic. Consider, for example, the description of the parting of the Red Sea in the Book of the Exodus. In one account we are told that God chose to drive the seas back with a strong east wind (14:21), and in another, that the waters were made to stand up in a heap and ‘the deeps congealed in the heart of the sea’ (15:8 NRSV). The first account offers an explanation on the basis of God controlling the winds which in turn part the seas, whereas in the second God fundamentally transforms the behaviour of the water itself. It is a paradigmatic expression of Yahweh’s continuing victory over the forces of chaos that he can transform the behaviour of water in this second sense, and this is implicitly contrasted with the normal behaviour of water. As modern readers it is tempting to push this comparison further and thus to conclude that what made this a remarkable episode for the Hebrews was solely the fact that God overrode the normal ‘natural’ behaviour of water or that God overruled a law of nature. To do so is, however, a radical reinterpretation of the text – Yahweh is principally depicted as a storm God whose power is measured in contrast with the Egyptian gods and is found to be vastly superior (15:11–12). The focus of this passage is that all nature is under His control and guidance, and accordingly there is simply no assumption that the processes of nature are somehow self-sustaining or independent to Yahweh and overridden by him on this occasion.

#### THE BIBLICAL THEOLOGY MOVEMENT

A different reappraisal of Biblical accounts of divine action formed the basis of the so-called ‘Biblical Theology’ movement of the 1950s and 1960s. A common thread in this often diverse school of thought can be found in the following two theological assertions: firstly, a rejection of modern criticisms of the plausibility of special divine action as described in the Bible; and a parallel claim that the Biblical account of divine action remains the most appropriate language in which to describe God’s activity.

G. Ernest Wright, one of the main proponents of the Biblical Theology school, based his position on the claim that any confession of belief in God is composed of two distinct stages: an act of story-telling and identification that the story consists of genuine historical facts; and secondly an interpretative attempt on the part of the believer to make sense of this history. Where his proposal became more radical was with the stronger assertion that the latter of these stages could not take place independently from the former with the result that *all* of our claims about the nature of God's being are grounded in these action accounts. Accordingly Wright claimed that any concepts of justice, love, wrath, faithfulness and coherence that we may choose to apply to God are not abstract principles of divine behaviour but are rooted solely in the Biblical accounts we have of divine action (Wright 1952). The basis of these assertions is the deceptively simple claim that we can know nothing about God other than how he chooses to reveal himself to us. Theology, as Wright conceived it, consists of a confessional description of the historical events of God's action which finds its climax in the actions of God incarnate as Jesus. All of our other claims about the nature of the divine are parasitic on this basic description of God's action.

Unfortunately the strength of Wright's approach is also its weakness – while it describes and articulates what many practise as theologians, it does not attempt to explain the methodological criteria we need to understand and evaluate the Biblical description that lies at its core. As we have already seen, the vastly different world-view of the ancient Near East makes any direct translation of the language of the divine acts in the Bible into a contemporary scientific context extremely hazardous. Hence, although this notion of 'Biblical Theology' was widely heralded as a 'solution' to the contemporary problem of God's action in the world, it simply rephrased and made more acute the same basic question – namely the question of what methodological criteria we should use to interpret these Biblical accounts of SDA. In order to be a substantial attempt at a solution to the contemporary problems concerning divine action, the Biblical Theology approach needs nothing short of a comprehensive account of the criteria theologians can adopt in order to analyse Biblical SDA accounts in a modern scientific context.

This need for an interpretative framework was made explicit soon after the publication of Wright's thesis. Frank Dillely emphasised that the basis of the controversy lay in the extent to which Biblical divine action could be explained as mythical or legendary. Very conservative theologians, Dillely argued, assert that all divine action accounts in the Bible