DIVINE ACTION AND MODERN SCIENCE

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CAMBRIDGE UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK
40 West 20th Street, New York, NY 10011-4211, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

http://www.cambridge.org

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First published 2002

Printed in the United Kingdom at the University Press, Cambridge

Typeface Baskerville Monotype 11/12.5 pt *System* LaTeX 2ε [TB]

A catalogue record for this book is available from the British Library

Library of Congress Cataloguing in Publication data

Saunders, Nicholas, 1974–
Divine action and modern science / Nicholas Saunders.
p. cm.
Includes bibliographical references and index.
ISBN 0 521 80156 7 – ISBN 0 521 52416 4 (pbk.)
1. Religion and science. I. Title
BL240.3 .S34 2002
231.7 – dc21 2002025680

ISBN 0 521 80156 7 hardback
ISBN 0 521 52416 4 paperback

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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).[1] 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

[1] 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.[2]

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

[2] 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.[3]

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

[3] 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 Dilley 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, Dilley argued, assert that all divine action accounts in the Bible

are fact and none mythical; less conservative theologians would assert a key core of miraculous special divine actions in conjunction with other accounts; while 'liberal' theologians would interpret Biblical accounts either as particularly fortunate natural events, or as instances of general divine action on a cosmic scale (Dilley 1983, 46–7). Dilley's spectrum of interpretative responses again covers the outcome of applying different criteria to evaluate Biblical accounts, but it does not help us to establish categorically what it is that constitutes a 'very' or 'less' conservative theologian and what methodology each would apply to the Biblical sources in question. Indeed it is slightly ironic that these widely discussed critiques of the Biblical Theology movement do not themselves explicitly identify the assumptions that lie behind each of these labels. Undoubtedly the status accorded to scientific explanation lies at the core of any rejections leading to a 'liberal' view of Biblical SDA, yet throughout the various discussions the natural sciences rarely receive a mention.

Langdon Gilkey in a widely cited paper made a similar but earlier contribution to Dilley's. He identified that the Biblical Theology movement, as expounded by Anderson and Wright, existed as an uneasy fusion of conservative and liberal interpretations of the Biblical account. However Gilkey moved on from a mere identification of these criteria and crucially insisted from what he identified as a 'causality condition' that the liberal denial of many of the Biblical accounts of special divine action is justified (Gilkey 1961). Unfortunately Gilkey does not go into too much detail concerning his motivations for advocating such a condition, however it is clear from his paper that the basis of his claim is a strongly deterministic and causally closed interpretation of science. Essentially it appears that Gilkey was articulating the feeling that science presents such a causally interconnected view of nature that some Biblical accounts can no longer be justified. Without pre-empting too much of the discussion below, it seems from our modern understanding of science that Gilkey's 'causality condition' may be significantly challenged by quantum theory or chaos theory. It does not thus necessarily follow that what Gilkey conceives as the 'Biblical point of view' should be stripped of its 'wonders and voices' because modern science simply rules them out.

Despite these criticisms there is much in Gilkey's paper that remains of considerable importance. He is surely correct to identify that the Biblical Theology movement was itself highly dependent on the Exodus covenant episode and that none of the proponents of the position had gone into sufficient exegetical detail to justify their claims. The large number of voice and wonder events are taken simply to be Hebrew

interpretations of their own historical past, and post-Exodus events are understood in terms of the Israelite focus on the Exodus itself.

Gilkey adopts an explicitly causal interpretation of special divine action and convincingly argues that for the concept of SDA to be coherent we need to establish objectively what it is that makes a divine act divine as opposed to 'natural'. Dilley, in a later more detailed response, proposes three different conceptions of special divine action: to take what he calls the 'Biblical view' that God openly abridges the natural order;[4] that we can interpret special divine actions as events which appear to be 'natural' except to those who can recognise them as such through an act of faith; and finally, that God and natural processes act simultaneously (Dilley 1983, 52–3). It is interesting to note that much contemporary discussion of SDA cannot be fitted into Dilley's discussion – what we shall consider in detail later in this book is whether it is coherent to add a fourth option, namely that God acts at certain times and places through a flexibility inherent in the natural processes of creation.

However, missing from these critiques of 'Biblical Theology' are other, equally fundamental, issues. It is certainly true that if we are to base our theology on an understanding of special divine acts in the Bible we must be explicit about what criteria we use to judge the authenticity of Biblical accounts. However, if we return to the two initial assumptions behind the 'Biblical Theology' movement, we see the importance of the claim that knowledge of God can only be obtained from the scriptures. An integral part of any critique of the Biblical Theology movement must accordingly address the status of religious experience and natural theology as means of divine revelation.

BIBLICAL AUTHORITY AND SDA ACCOUNTS

Maurice Wiles in a helpful discussion of the use of miracle accounts distinguishes three different theological applications of Biblical sources (Wiles 1999, 41 f.). His account is focussed on miracles conceived as violations of the laws of nature, but can easily be generalised to encompass the whole set of claims for SDA. The first use, Wiles argues, is that some accounts of SDA, and in particular the resurrection, have been used directly as evidence and cited with the aim of proving the truth of the Christian faith. The problem with these claims is that it is difficult

[4] In this statement Dilley is himself making an uneasy fusion of liberal claims onto the Biblical account – as we have already seen the conception of 'nature' as distinct from Yahweh is simply missing in the Hebrew Bible.

to establish whether or not a particular miracle or SDA has genuinely taken place, an issue we shall examine in more detail in chapter 3 below. Another very different use that Wiles identifies is that miracles (and more generally SDAs) are seen as expressions of God's personal love and providential care over his creation. As he puts it, 'If there is such a thing as a personal relationship between God and the world, then must not that relationship find expression in divine response to human prayers as well as in human prayer to God?' (Wiles 1999, 41). In this second sense, then, we see claims about an interactive relationship between God and mankind that is conducted on the basis of a dialogue – SDA on the part of God, and the act of praying on the part of man. The third role Wiles identifies for the use of miracles is, he argues, the most fundamental. This is the claim that miracles are in some sense integral to the very substance of faith, one which we have already met in the context of the Biblical Theology movement. When seen in the wider context of Schwöbel's work and translating the assertion away from miracles to more general notions of SDA, we find the claim that faith in SDA is a necessary part of a coherent belief in God. This view is, perhaps unsurprisingly, very commonly adopted in contemporary accounts of divine action. Put simply it is the belief that without a developed and credible account of God's localised and specific actions in the world, much other theological doctrine crumbles irrevocably.

Despite these persuasive theological needs to articulate something about the nature of SDA, what is nevertheless emerging is the realisation that the 'modern' concept of God's special divine action owes much to sources beyond the Biblical accounts on which it is supposedly based. Indeed by placing such a fundamental emphasis on these sources an extremely important legacy of the 'Biblical Theology' movement was that it did much to elucidate these differences. One consequence of this is that attempts to make theological abstractions on the basis of these Biblical accounts are inherently far more complicated than is widely appreciated. To cite a Biblical source and then make extensive claims that God is active in this or that way is simply a naïve hermeneutical approach. As we have seen, the Old Testament accounts of divine action are a product of their intellectual ancestors and consequently adopt a world-view that is far removed from our current scientific understanding. This is not to argue, however, that there is no value whatsoever in these accounts, but merely that a certain amount of care must be used in translating them into a modern scientific context as stimuli for a discussion of the relationship between SDA and science. Terence Fretheim in what he

terms 'A Constructive Statement', developed as a response to similar perceived difficulties, has identified several features of the Hebrew accounts of God's action, some of which can be appropriated unproblematically into a modern scientific context. Aside from general assertions about the extent of God's activity in the world, Fretheim identifies the following Biblical principles: that God's action occurs from within the relationships established through creation; that God generally takes the initiative in acting in the world; that His mode of action is always situationally appropriate to a particular time and place; and that God's activity is not always inevitably successful (Fretheim 1997, 8–12).

One potential aid to the determination of which elements of the Biblical accounts can be translated into a modern context can be found in Gilkey's helpful contribution that any attempt at a one-to-one correspondence between Biblical and modern scientific world-views is fundamentally flawed. He argued that in modern studies of divine action there are essentially two types of theological language that are used – one which is 'true' to the Biblical account and considers divine action in the context of divine will and human response and revelation, and one which is a modern scientific abstraction of that account and attempts to make divine action objectively special on the basis of its distinction with the 'normal' processes of nature. Given the radically different approach to natural phenomena in the Hebrew Bible as 'thou' rather than 'it', it is not at all surprising that this later scientific abstraction has resulted in a widespread rejection of much of the Biblical account. We would be wise, however, also to express some reservation over the value of the first of these uses of language when it is applied in a vacuum independently from the changes in understanding that have occurred since the Biblical texts were written. Even considerations of SDA in the context of human response and revelation cannot remain divorced from modern scientific understanding if they are to have any ongoing credibility. Theology must not operate exclusively on the basis of a two-thousand-year-old understanding of nature – just as God's message was itself appreciated by the Biblical authors in the context of their contemporary world-views and using the terminologies that were familiar to them, so the challenge to contemporary theology is to interpret SDA in the light of today's understanding of the natural sciences.

Would it be reasonable then to adopt Marcus Ward's assertion that the arguments behind an assertion that God is active are far weaker than our faith in it (Ward 1969, 10)? This is not necessarily the case – merely that a certain amount of caution is needed in simply appropriating Biblical

material or forming an undeveloped 'Biblical account' and translating it to our modern world-view. Another approach would be to consider the hypothetical question, 'Are Biblical citations used as support of objective divine action no longer convincing?' Again it would be wrong to argue that in the light of modern science we can no longer ascribe *any* authority to the Biblical accounts of God's action, but the fact remains that our use of Biblical material as a stimulus for discussions of the existence of SDA is severely challenged by the tremendously different world-view which we adopt. There have been several recent Christian theologies which assert that it is particularly significant that accounts of God's action in nature are largely missing from the New Testament and that this in some sense justifies the claim that a truer 'Biblical' account of God's action is that God is not active in natural processes but only in human minds. Not only do such approaches ignore the many references made to the Hebrew Scriptures in the New Testament, but they also fail to appreciate the fundamental change in the writers' focus that occurred as a result of God's incarnation. It is true that in the New Testament SDA in nature is hardly ever depicted (with the exception of Jesus' baptism and transfiguration), but this 'narrative modesty', as Ronald Thiemann has called it, should not lead us to conclude that SDA is not a necessary part of the New Testament account. God's power is established subtly in the narratives of the four Gospels and remains hidden behind the actions of Jesus who occupies the central focus of the accounts (Thiemann 1985, 89).

If we leave the primary Biblical accounts of divine action aside, the necessity of SDA is also bolstered by a secondary set of philosophical demands that it is needed to support other revealed attributes of God. The value of Schwöbel's work is that it makes explicit the extent to which so much theological doctrine relies on this notion of SDA and this requirement for coherence considerably strengthens claims for the existence of SDA. Yet we need a realistic acknowledgement that while the Biblical accounts remain as motivations, the more developed forms of SDA discussed by contemporary theologians move far beyond them and exist as a fusion of modern ideas and assumptions onto the 'Biblical' views of nature. One issue, which we shall return to at the end of this book, is the question of whether belief in SDA remains really sustainable in the light of recent scientific developments.

Rudolf Bultmann grappled with similar issues about translating accounts of divine action into a modern context as part of his programme of demythologising. In a response to critics who had asserted that special divine action remained wholly mythological, he argued that mythological

thinking interprets God's actions as interventions in the finite sequence of events. This led him to the essentially paradoxical position identified by Dilley above: namely that God's action is within the chain of natural events and yet remains visible only to the eye of faith. Special divine action, Bultmann argued, can be seen not as actions on a cosmic scale, but in analogy with personal relationships (Bultmann 1958). The crucial question which still remains, however, is whether this is really an *account* of SDA at all – is it possible to make serious claims that God acts in the world whilst asserting that there is no effect on the causal chain of nature whatsoever? If we are to attempt any reconciliation between SDA and modern science what we need, as Gilkey argued, is to be able to develop a coherent account of how God relates to the ordinary 'natural' events in nature, what God's relationship to his 'special' actions in nature might be, and to describe the extent to which God has foreknowledge of the consequences of these 'special' actions. These issues shall occupy us for the remainder of this book.