

# Faith and Thought

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AND  
THOUGHT**

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or Philosophical Society of Great Britain

**THE VICTORIA INSTITUTE**  
OR  
**THE PHILOSOPHICAL SOCIETY OF GREAT BRITAIN**

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# FAITH AND THOUGHT

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GENERAL EDITOR: Dr. A. B. Robins



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## Editorial

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The papers in this issue are short and quite diverse. We are pleased to be able to publish some thoughts of our late Editor, Robert Clark, on the light which modern chemical insights may throw on the Genesis story. Readers will see that Robert was a very original thinker, and his passing has deprived us of much more than he had to give. At the time of his death he was working on the book of Revelation, applying his scientific insights to its interpretation. David Burgess has been active in preparing Robert's work for publication, and it is hoped that later this year we shall see the result in print.

Stuart Judge's article is a critique of 'Not in our genes', which in turn was a counter-blast to the sociobiology 'cult'. Stuart has attempted to be more objective than Rose *et al*, and to redress their, to him, somewhat biased view of the nature-nurture debate. Kenneth Greet's contribution is really a lecture, given this May, and expounds his views on Christian ethics, particularly as they apply to AIDS and other matters related to our sexual life. Kenneth has appeared many times on radio and television in an advisory capacity in this area, and has a wide experience of counselling. Finally, the paper by John Haas, Jr., takes us back to the issue of the science-faith debate. In this case, the position of Einstein's thought in the early years of the century is explored, with the suggestion of its re-emergence today.

Readers will know that the image of *Faith and Thought* is about to change. From next year a new journal is to be published, entitled *Science and Christian Belief*. This will be a joint effort between the Victoria Institute and Christians in Science (as the RSCF is now called). It is too early as yet to speculate about the future, but those of us who have been concerned with the planning are confident that this new venture will continue the work that *Faith and Thought* has carried out over many years. The new journal will meet a need among those Christians who are scientists, and papers may well become more scientific, but we interpret this quite widely. Apart from the change in title, we do not plan any major alterations. There will be joint Editors, and Dr. Oliver Barclay and I will be working together. All matters relating to membership and subscriptions will be separately notified by the secretary. The *Newsletter* will continue to be published, and contributions are always welcomed (and eagerly sought).

Please give this new venture your prayerful support. May God's



blessing rest upon our efforts to make the Christian faith relevant to meet today's challenges.

### **Annual General Meeting 1988**

The AGM of the Victoria Institute was held at 6 p.m. on Friday, May 13 at the London Institute for Contemporary Christianity, St. Peter's Vere Street, London. The Chairman, Terence Mitchell, presided, and about 25 members were present. No apologies for absence had been received. The minutes of the 1987 AGM were taken as read, since these had appeared in *Faith and Thought*, 113 (2), October 1987.

The council had nominated the President, and Vice-President for further terms of office, and David Burgess, M. W. Poole and A. B. Robins who were eligible for re-election were so elected, in the absence of any further nominations. The meeting also elected Brian H. T. Weller to the office of Treasurer following the retirement of David S. Williams. The resignation of Professor C. A. Russell and David Mitcheson from the council were regretfully accepted.

The financial report was presented by the treasurer, who underlined the serious financial state of the Institute, and the need to act upon this. It was hoped that the forthcoming joint publication with Christians in Science (formerly RSCF) would alleviate the situation. The meeting did not appoint auditors, but suggested that an honorary auditor, probably from within the VI, should be sought.

Some members felt that 6 p.m. was too early for an evening meeting, and perhaps Friday not the best day. It was proposed that the 1989 meeting be held on Tuesday, May 16, together with a public lecture, the time to be decided. Consideration must be given to further changes in the Constitution to delete the requirement that the AGM be held on the Saturday nearest to May 24, and to relax the audit requirements.

The chairman, Terence Mitchell, then gave his report, dealing particularly with the future of the Institute and the financial situation. It is proposed that we continue as at present, until we see how the joint journal will be received by our members. The *Newsletter* will continue, and may well fulfil a new role, but we need contributions from our readers. The Chairman then went on to deliver his lecture, entitled 'Archaeology and the Bible'.

This lecture was a fascinating account of the relevance to OT studies of the Hebrew inscriptions which have been discovered, particularly in recent years. We are able to match much of our current calendar with the Hebrew months of 'barley', 'flax' and 'olives' etc. The symbols used in the old texts possibly arise from sounds borrowed from the Egyptians. These symbols are seen gradually to

evolve into letters which appear familiar to us today. Recent finds have included a stone, discovered within the last 10 years, which throws light on the interpretation of the Moabite stone, known since the 19th century. A door lintel, which originated in Siloam and known since the last century also, has only been interpreted in the last 20 years as the 'tomb of . . . iah, who . . . over the house' (steward?). Similarly, a seal found in Ur has led to information about the 'servant of the King' referred to in Sennacherib's prism. Seals at present in the British Museum yield much information which correlates with the period of the captivity (see Woolley's investigations).

Many inscriptions have been found which line up with OT words, even complete phrases. One example of this is 'What is your servant but a dog, that the Lord should remember him?'. Many inscriptions appear as scarabs and winged figures, on vessel handles, etc. Much has been discovered in the area of Judea dating from before the captivity but post Israel's captivity. One puzzle is that jars have been found in places other than the area of origin, raising the question of whether these were transported to Jerusalem, say, and then distributed as needed when filled with oil or wine. Parallels can be traced between Persia, Qumran scripts and those from the 9th century AD (Pentateuch). Links with Greek scripts can also be seen.

The lecture emphasized the fact that discoveries are still being made, perhaps even more assiduously today, and that much more remains to be unearthed which will throw light on the background to the scriptures.

### NEW MEMBERS

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# Our Contributors

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**Robert E. D. Clark** *Genesis and Geophysics* was the previous Editor of Faith and Thought. He died in 1984.

**Stuart J. Judge** *Ideology and the Nature of Man* is lecturer in physiology in the University of Oxford.

**Kenneth G. Greet** *Eden Revisited* was for many years Secretary of the Methodist Conference, and a past-President.

**John W. Haas, Jr.** *Relativity and Christian Thought* is Professor of Chemistry and Department Chairman at Gordon College, Wenham, Massachusetts.

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Robert E. D. Clark

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## Genesis and Geophysics

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The beginning of the book of Genesis is one of the most awe-inspiring and influential of all writings. Alone among ancient myths of creation it can still be read with profit, after the lapse of thousands of years. All other creation myths of antiquity are bedevilled by fighting gods, 'vulgar, spiteful and cantankerous, perverse and cruel—all as men made them, after the likeness of their own weak and erring flesh'. They tell of the jealous love-making of the gods and of bloody triumphs on a cosmic field of battle, while man himself is enmeshed in a tangled web of fetishism and sorcery.

In Genesis all is different. God is at the centre: nature itself is God's creation and it is good. God has no serious rivals while man, made for fellowship with a companionable and loving Creator, has his destiny placed safely in his Creator's hands. As a result, the book of Genesis has taken possession of the minds of men. It has evoked beauty, truth and wit, but also folly and fanaticism. It has been instrumental in moulding language, literature and civilization.<sup>1</sup>

Yet how far is the Genesis story true? Does it accord with the findings of science? There are, of course, those who would argue that science—not by any means always right—cannot be used to interpret the Bible: to check the truth of what God has said by a merely human yardstick is presumptuous folly.

Many will feel sympathy for this view, yet it is two-edged. If the scientist is often wrong, so is the biblical interpreter, as history shows all too clearly. As knowledge of the ancient world increases, scholars learn more about the meanings of words and of the canons of interpretation. The older doctrine that there are two books of God—the Bible and nature—has much to commend it.

### The early earth and science

Earth scientists are slowly building up a picture of what our planet must have been like in its early days. Although the origin and very early development are ill-understood, it is generally believed that it

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1. Solomon Goldman, *In the Beginning*, 1949.

was slowly built up by accretion of debris in space, as it travelled round the sun. This debris may have been thrown out by a nova (exploding star) at some earlier stage and certainly much of it was radioactive. According to this view, the earth was not at first hot; however, there seems no doubt that at some stage, whether very early as was once supposed, or later, as the result of gradual heating due to radioactivity, it became very hot indeed: the crust at least was molten. Molten rocks dissolve water, which is forced out as they cool and this, it is believed, is the origin of much of the water in the oceans.

### **Water**

But at first there was no sea, only very hot steam above the so-called *critical temperature* (374°C for water), where there is no difference in density between hot liquid and hot steam or vapour. When the molten rocks forming the earth's crust began to solidify at the surface and the steam to cool somewhat, then rather suddenly a water surface must have formed—for this is what happens with all liquids if they are heated above their critical temperature (when they cannot be condensed) and then cooled.

As condensation begins, a fog appears because the liquid droplets weigh very little more than the vapour, so that they fall slowly and do not readily coalesce. In the early earth, when once the water had separated in this way, its density would have been little greater than that of the steam above its surface. We may be sure, then, that even small disturbances raised enormous waves. Not only was there wind, caused by the sun's heat at the top of the atmosphere, but the outgassing of the gases dissolved in the cooling crust must have disturbed the ocean to an almost unbelievable degree. Everywhere the seas were in turmoil, covered with ever-moving mountainous waves.

The situation for the cooling earth is even more complicated! Cooling takes place only from the top of the atmosphere, the lower part being kept heated by the hot rocks below. This being so, the lower layers would have remained above the critical temperature much longer than those higher up. Under such conditions, we should expect liquid to form first of all quite high up in the atmosphere, and for a time this liquid would have floated on the much more highly compressed, and so heavier, steam below. It is difficult to imagine the scene of chaotic violence which must have ensued—not only at the upper surface, but at the lower surface of the pristine sea as well! Only when the surface of the solidified crust of the earth reached the critical temperature of steam was it possible for the ocean to come down from the sky!

## Light

For a long time, the newly forming ocean was enshrined in the blackest night. While the bulk of the water of the oceans was still in vaporous form no ray of light could have penetrated the dense clouds, to lighten the sea below, for water, whether as liquid or its equivalent in steam, does not allow light to penetrate far. Today, in clear water it is almost dark a few hundred feet down, and at first much more water must have been in the atmosphere than the equivalent of this in its liquid form.

An interesting point arises in connection with electric discharges. Water, especially at high temperature, is a fairly good conductor of electricity. It would be impossible for high voltages to develop in steam at a high pressure, so that corona discharges and lightning flashes would not occur. Only at a later stage, when the atmosphere consisted mainly of gases other than water vapour, would such discharges be possible. We may be fairly sure that at a very early stage, when the ocean had only partly condensed, it would be in darkness.

Gradually, very gradually, the surface of the sea rose as more and more steam condensed, and yet more came welling up out of the rocks below. It is possible, too, that comets colliding with the earth added a substantial amount of water.<sup>2</sup>

All this time we may be confident that violent discharges of electricity were common. Boiling water separates electrical charges: older books describe how electrical machines can be made by the boiling or fine spraying of water. In the thick darkness of the early days, the light would not have penetrated far, but soon a diffuse, intermittent light, like continuous sheet lightning, would have been present everywhere. The darkness had gone and there was light. But there were still thick vapours: the light of the sun had not yet penetrated to the surface of the earth.

Eventually, as steam condensed and the ocean cooled, electrical discharges declined and the light of the sun began to penetrate the thick layer of cloud. For the first time, day and night were distinguishable, perhaps as they are today in cloudy weather, although the sun remains hidden by day and the moon by night.

In the early stages of the condensation, the surface of the ocean must have been covered with a fine spray, as ever-new droplets of water condensed and fell slowly into the waters below. But at some point, while the sea was still hot, this stage of affairs must have ceased

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2. Christopher Chyba, *Nature*, 1988, 330, 632.



when the bulk of the oceans had condensed, and the temperature was well below the critical temperature, the cloud layer would have begun to rise in the air. From henceforth there was clear, moist air between the surface of the water and the clouds above, from which fell rain as at the present time.

Again, it is widely believed by scientists that the moon was not originally a satellite of the earth, but was captured from outer space. If so, the ocean tides raised by the event may have risen to a height of miles, as the moon settled into its new orbit.<sup>3</sup>

It has been recognized for some time that in the early days the earth must have been covered completely by ocean, before the continents (Gondwanaland and Eurasia) appeared. It was earlier supposed that the world-wide ocean persisted for perhaps 1000 myr. A more detailed study suggests that this state of affairs may have lasted a good deal longer.<sup>4</sup>

### Land

Meanwhile, what was happening beneath the waters? After the earth's crustal rocks, to a considerable depth, had melted, they separated into a lighter layer about 12 km thick—called sial—of which continents are made, and a heavier, lower layer of basalt. As the earth cooled at its surface, the upper layer began to solidify from the top downwards, so that the crust gradually increased in thickness. At first the crust, still hot and thin, was extremely brittle. Below, as cooling continued, the still hot sial and basalt gave rise to great numbers of volcanic eruptions as gases were discharged into the atmosphere. Basalt, which remains liquid longer than sial, was often forced up into fissures and found its way to the surface, as happens with present day volcanoes.

We can well imagine what happened when the upper (sial) crust had completely solidified (the temperature at the bottom would then have been about 750°C) with molten basalt forced up through the cracking crust in great quantities, solidifying under the sea in the form of mountains. The thin crust of sial could not support the weight so, as a mountain grew larger, the further it descended into the liquid basalt. When the sea had condensed, its depth was about 2.5 km, but for a mountain to break the surface it is calculated that it would have had to be about 15 km in height.

Over a large fraction of its life—perhaps up to as late as 1000 myr

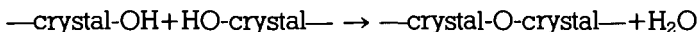
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3. D. E. Turcotte et al., *Nature*, 1974, **251**, 124.

4. P. M. Hurley & J. R. Rand, *Science*, 1969, **164**, 1229.

ago—the earth was entirely covered with ocean. Not until sufficient magma had solidified, was the crust able to take the weight of land masses. Probably a single, large continent—Gondwanaland—came into being at first.<sup>5</sup>

The early ocean was hot and for a long time afterwards it must have remained warmer than it is today. In recent years a natural thermometer has been found, which leaves a record of sea temperatures in ancient times. By reason of the many substances extracted by both hot water and steam from ancient rocks, whether solid or molten, the sea is a complex chemical mixture. Through the ages its cooling waters have deposited many chemical substances, which geologists study today. One of these is silica which, in a form known as chert, consists of minute crystals covered with hydroxy groups, -OH. They are very firmly attached and even the hydrogen atoms are not displaced by 'heavy' hydrogen (deuterium) when the ore is boiled with heavy water (deuterium oxide, D<sub>2</sub>O). When the crystals are heated to a high temperature, however, the hydroxy groups link up together and water is removed:



This water can be studied.

A small proportion of the hydrogen atoms in sea water, like all water found on earth, is present as deuterium atoms. Likewise, a small proportion of the oxygen present is heavy oxygen (0-18 instead of the more common 0-16). It is found that, when silica crystallizes from sea water, the ratios of heavy to ordinary hydrogen and of heavy to ordinary oxygen atoms depend on the temperature at which crystallization takes place. In this way, by dating the minerals and fossils mixed with the cherts, it has proved possible to measure the temperature of the sea at different geological ages. Results confirm the view that, despite minor variations with ice ages, the sea was fairly hot in pre-Cambrian times (2 billion years ago). No fossils are found when the temperature was higher than about 50°C. In the early pre-Cambrian (3 billion years ago) it seems to have been about 70°C. Above that temperature cherts probably did not form.<sup>6</sup> For comparison, the average temperature today is 13-15°C.

Even with the low temperature prevailing today, about half the earth is covered with cloud, on average. The vapour pressure of

5. R. B. Hargreaves, *Science*, 1976, **193**, 363.

6. L. P. Knauth & S. Epstein, *Geochimica et Cosmochimica Acta*, 1976, **40**, 1095.

water rises rapidly with temperature and the earth would not have to be warmed much for the cloud cover to be virtually complete. Geologically speaking, the appearance of sun, moon and stars through pockets of cloud-free areas in the atmosphere is probably quite recent. Since the formation of a continental land mass must have been associated with violent volcanic activity, it is not unlikely that the appearance of the heavenly bodies was delayed to a later stage.

### **Summary**

We have seen how the early development of the earth was conditioned by the ordinary laws of nature. The earth, it is believed, like the other planets in the solar system, was formed from colliding pieces of rock—the so-called planetesimals. As the proto-planet grew in size, gravity became increasingly important. Growth of the earth ceased only when the earth and her sister planets had swept their orbits clear of debris.

It is not known how long it took for the earth to reach its present size. If this happened rapidly—say, within a few thousand years—the energy lost by the planetesimals when scooped up might have been sufficient to keep the earth in a molten state. If the falls were less frequent, the earth may have remained fairly cold for a time, but later it would have heated up and melted, for radioactive energy was intense at that time. As they cooled and solidified, the rocks gave up vast quantities of water vapour, together with nitrogen and carbon dioxide (and, some would add, methane). Although volcanoes liberate these gases today, it is believed that a sizeable fraction of the water of the sea was liberated at a very early stage in earth's history.

By taking note of what happens in laboratory experiments with rocks and steam etc. under pressure, scientists can gain a good idea of what was likely to have happened in the early stages of the earth and, to a considerable extent at least, find their expectations realized when working backwards in time from the present state of the earth. The facts that the earth was once much hotter than it is today and that it was once covered with oceans are, for instance, confirmed by isotopic ratios in rocks and by the measurable recession of the moon.

In broad outline these are the findings of scientists over recent decades. It is fascinating to compare these findings with what we are told in Genesis about the early history of the earth.

### **The Genesis account**

How far is the Genesis story true? This will depend on how we interpret Genesis; this is the subject of a separate paper. Meanwhile

it seems reasonable to assume that the Genesis account is concerned with appearances—with phenomena—rather than with their scientific interpretation. Thus, the fact that day and night are mentioned before the sun was 'made', makes sense only if phenomena are in focus: it refers to what an imaginary observer on earth might have seen, for day and night do not depend on the visibility of the sun. Moreover, as Clerk Maxwell pointed out, 'both light and darkness imply a being who can see if there is light but not if it is dark'.<sup>7</sup>

Keeping firmly in mind that the Genesis account of the early earth is written as the record of an imaginary eye witness, it is remarkable that the biblical and scientific descriptions run closely parallel.

At first 'the earth was formless' (Gen. 1:2)—a chaotic mass of broken rocks. An ocean covering the entire planet formed early 'and darkness was upon the face of the deep'. Here, the book of Job (38:8, 9) gives further detail—'the sea . . . burst forth from the womb when I made clouds its garment, and thick darkness its swaddling band'.

Next we are told that the 'spirit' or 'wind' of God moved 'over the face of the waters'. The expression 'of God' in the OT usually means 'mighty'<sup>8,9,10</sup> and commentators, some writing many centuries ago (with no modern scientific axe to grind!), have often translated 'a mighty wind [that] swept over the face of the waters' (NEB). A huge commotion of the sea is clearly indicated.

'God said, "Let there be light" and there was light.' (Gen. 1:3). Light which is independent of the day and night (which follow later) again fits the scientific picture. Next, God separated the light from the darkness: again there is agreement. With the penetration of the sun's light and heat, the mists lift from the ocean and clear air—the 'firmament' through which birds fly at a later stage (1:20)—separates the waters below from the waters (clouds) above. Once more the interpretation is very odd and in no way concocted to make the passage fit with science.

'Let the waters under the heavens be gathered into one place, and let the dry land appear' (Day 3, Gen. 1:9-10) is given as the next event. In accordance with geophysics once again, this happens before the appearance of the heavenly luminaries on Day 4 (Gen. 1:14-18). This could happen only when Earth's cloud cover fell below 100 per cent.

7. Lewis Campbell & William Garnett, Letter to Bp. C. J. Ellicot, p. 394 in *Life of James Clerk Maxwell*, 1882.

8. J. M. P. Smith, *Old Testament Essays*, 1927, p. 166f.

9. F. F. Bruce, Question 1729, *Horizon*, Sep. 5, 1970.

10. Gerhard von Rad, *Genesis: A Commentary*, 1972, (SCM, Eng. Trans.).

When once sufficient oxygen had collected in the earth's atmosphere, life became possible in the sea and geologists are agreed that animals of the sea preceded those of the land—which is once again the order given in Genesis. But from a scientific point of view it is not possible to say whether advanced marine life began to appear before or after the clearing of the clouds. In any case, there is no reason for thinking that the order given in Genesis is incorrect.

In view of this remarkable agreement, it is difficult to think that early Genesis can be dismissed as mythical. It can of course be objected that these events, as scientists picture them, took place over long epochs of time, whereas Genesis might give the impression that the entire physical creation took a mere four days. But the passage can hardly mean this. Nowhere is it said that God created *on* the specific days which are mentioned; only that 'there was evening and there was morning, one day' etc. That creation did not take place in six literal days of 24 hours seems obvious from the fact that the days are mentioned before the appearance of the sun and moon.

Again, if plant life had not had time to spread abroad, which could hardly have happened in a matter of hours, there would have been no food for animals and man when these were created on Day 6. Similarly, if sun, moon and stars were created on Day 4, why is it said that the heavens were created on Day 1? If the heavens contained no sun, moon or stars, what else was there to create?

There is no need, however, to suppose, as did St. Augustine, that the 'days' stand for millions of years. A widely held view is that they stand for literal days of revelation.<sup>11</sup> Later references to the creation in connection with the Sabbath day strongly suggest this view. 'In six days the Lord made (or 'did', 'revealed', 'shewed', etc—the word is translatable in nearly a hundred ways) heaven and earth and on the seventh day he rested and refreshed himself' (in older versions 'was refreshed') (Ex. 31:17). It seems clear that a theophany is in view. The Lord appeared in human form, perhaps to Adam (if we take Adam literally) in the Garden of Eden. He worked day by day to explain how the world had been created in ages past, and after six days he rested and refreshed himself. God himself had no need of rest but he rested for man's sake: for as Jesus taught, the Sabbath was made for man. Adam, then, was taught by example. This lesson would hardly have sunk home if Adam appeared freshly created on the sixth literal day, having seen nothing of what had transpired!

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11. D. J. Wiseman (Ed), *Clues to Creation in Genesis*, 1977, (Reprint of *New Discoveries in Babylonia About Genesis* (1936) and *Creation Revealed in Six Days* (1948), by P. J. Wiseman).

## Conclusion

Such then is a comparison between Genesis and the views of today, and the question arises as to how the agreement we see could possibly have come about. Without a fairly up-to-date knowledge of science it does not seem at all obvious why the dry land and sea should not have existed from the very beginning—or at least since there was any water on the earth. After all, continents are much higher than the ocean basins and as water condensed it would surely have flowed at once into the latter. Then again, what is the meaning of the statement that there was a vast commotion on the surface of the deep? Why should the sea have been much rougher than it is at present? The writer can hardly have been in a position to study the critical properties of liquids or the moon's origin!

Why, again, was the early ocean in darkness, and why should there not have been a firmament, or clear sky, from the very beginning of the time when the oceans began to condense? Then, too, it is hard to see why an ancient writer, using his commonsense, should necessarily put light with day and night before the appearance of the sun. Had he indeed an inkling that the world was once covered with vapour, having been very hot, and that the vapours would at first obscure the sun? And how did he guess that the clear sky would come once light from the sun had appeared on the earth? Surely these points would not be at all obvious to one who shared the ignorance of physical principles possessed by the ancients. Furthermore, why did the writer of Genesis place the plants after the light but before the actual appearance of the sun and moon? (Direct sunlight is not necessary for photosynthesis to take place.) And why did he introduce plants before animals, seeing that he could have had no inkling of the fact that the plants supplied the oxygen of the atmosphere, which was necessary for other forms of life?

There are many points here which seem to defy any kind of explanation in terms of coincidence or guesswork. But is there any other way of regarding them? As the facts stand they strongly support the traditional view of Genesis, which has been so widely abandoned in the light of modern biblical criticism. According to the traditional view, the facts should be exactly as we have found them to be, but if the passage consisted of mere tradition or guesswork by an ignorant ancient writer, the events described should bear no obvious relationship with the results of scientific enquiry.

It is difficult to see how any more direct test of the traditional view of the Bible could be made, and the fact that this view has been more than ever substantiated is not one which ought to be quietly ignored.

Is it possible that, even if the human element did enter at times into the Hebrew scriptures, their writers may yet have had a source of information not available to us at the present time—a source which we wholly fail to understand? That at any rate seems to be the natural conclusion to be drawn from the facts we have been considering.

S. J. Judge

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## Ideology and the Nature of Man

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According to Rose, Kamin and Lewontin, the authors of *Not in our genes*, the recent history of the relationship between Christian Faith, Science and Society runs something like this:

'Darwinism wrested God's final hold on human affairs from his now powerless hands and relegated the deity to, at the best, some dim primordial principle whose will no longer determined human action. The consequence was to change finally the form of the legitimating ideology of bourgeois society. No longer able to rely on the myth of a deity who had made all things bright and beautiful and assigned each to his or her estate—the rich ruler in the castle or the poor peasant at the gate—the dominant class dethroned God and replaced him with science. The social order was seen as fixed by forces outside humanity, but now these forces were natural rather than deistic. If anything, this new legitimator of the social order was more formidable than the one it replaced.' (p. 50–51) "Science" is the ultimate legitimator of bourgeois ideology.' (p. 31—Double quotes are the authors' own, not mine.)<sup>1</sup>

What do the authors mean by this? What they principally have in mind is the political application of what they call *biological determinism*:

'Biological determinists ask, in essence, Why are individuals as they are? Why do they do what they do? And they answer that human lives and actions are the inevitable consequences of the biochemical properties of the cells that make up the individual; and these characteristics are in turn uniquely determined by the constituents of the genes possessed by each individual. Ultimately, all human behaviour—hence all human society—is governed by a chain of determinants that runs from the gene to the individual to the sum of behaviours of all individuals. The determinists would have it, then, that human nature is fixed by our genes. The good society is either one in accord with a human nature to whose fundamental characteristics of inequality and competitiveness the ideology claims privileged access, or else it is an unobtainable utopia because human nature is in unbreakable contradiction with an arbitrary notion of the good derived without reference to the facts of physical nature.' (p. 6)

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1. Rose, S., Kamin, L. J., and Lewontin, R. C. *Not in our genes: biology, ideology and human nature*. Harmondsworth, Penguin (1985). Also published under the same title in New York by Pantheon in 1984—with Lewontin as first named author.)



The sort of statement that makes Rose *et al.* 'see red' is that attributed to Patrick Jenkin (British Minister for Social Services) when he said in a 1980 TV interview:

'Quite frankly, I don't think mothers have the same right to work as fathers. If the Lord had intended us to have equal rights to go to work, he wouldn't have created men and women. These are biological facts; young children do depend on their mothers.' (p. 6)

Their book has a two fold task:

'we are concerned first with an explanation of the origins and social functions of biological determinism in general . . . and second with a systematic examination and exposure of the emptiness of its claims vis-a-vis the nature and limits of human society with respect to equality, class, race, sex and "mental disorder".' (p. 8)

### **Origins and social functions of biological determinism**

I pass over quickly their attempt to carry out the first part of that task, because the authors content themselves with a flamboyant piece of pseudohistory that they themselves would be the first to characterize as unscholarly and ideologically-motivated if it were to come from the pens of their political opponents. This is a shame, for they touch on material which is worthy of more careful attention. For example, on the social consequences of the belief that schizophrenia has a genetic component they say:

'The father of psychiatric genetics, Ernst Rudin, was so convinced of this that, arguing on the basis of statistics collected by his co-workers, he advocated the eugenic sterilization of schizophrenics. When Hitler came to power in 1933, Rudin's advocacy was no longer merely academic. Professor Rudin served on a panel, with Heinrich Himmler as head, of the Task Force of Heredity Experts who drew up the German sterilization law of 1933.' (p. 207)

Certainly this is disturbing reading—but it is only the starting point for anything in the way of a serious study of the relationship between geneticism and its social consequences and you will look in vain in the book for anything more than this sort of argument by shocking example.

It may well be, as Bateson<sup>2</sup> says in a balanced review of the book, that 'it is very convenient for those who have great power, prestige and possessions to attribute their good fortune to some unchangeable aspect of their natures' but Rose *et al.* have certainly not given us a

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2. Bateson, P. Review of *Not in our genes*. *New Scientist*, January (1985) p. 24.

serious historical and social study of the extent to which genetic determinism has played such a role.

### **Is there evidence for genetic determination of social behaviour?**

The second part of the book tries to show that

'no one has ever been able to relate any aspect of human social behaviour to any particular gene or set of genes, and no-one has ever suggested an experimental plan for doing so. Thus all statements about the genetic basis of human social traits are necessarily purely speculative' (p. 251).

This is at last something that we can 'get our teeth into'. The authors address three areas: the notion of 'IQ' and its heritability, the notion that schizophrenia is genetically determined, and sociobiology.

*Sociobiology.* It is sociobiology which really fills Rose *et al.* with indignation:

Sociobiology is a reductionist, biological determinist explanation of human existence. Its adherents claim, first, that the details of present and past social arrangements are the inevitable manifestations of the specific action of genes' (p. 236)

No doubt it would help their argument if this were true, but according to Dawkins,<sup>3</sup> 'Unfortunately, academic sociobiologists . . . do not seem anywhere to have actually said that human social arrangements are the inevitable manifestations of genes . . . Rose *et al.* cannot substantiate their allegation about sociobiologists believing inevitable genetic determination, because the allegation is a simple lie. The myth of the "inevitability" of genetic effects has nothing whatever to do with sociobiology, and has everything to do with Rose *et al.*'s paranoid and demonological theology of science. Sociobiologists . . . are in the business of trying to work out the conditions under which Darwinian theory might be applicable to behaviour. If we tried to do our theorizing *without* postulating genes affecting behaviour, we should get it wrong.' Bateson, with whom Rose was once a scientific collaborator, takes some trouble to spell out just how ill-informed and illogical Rose *et al.* are in discussing one of Bateson's own interests—whether animals other than man tend to avoid mating with individuals that are familiar from early life.<sup>2</sup> Rose *et al.* claim that

'the nonhuman evidence is at best fragmentary; the prediction seems to be supported by observations of some baboon populations, and by unfortunate extrapolations from the behavior of new-hatched Japanese quail . . .' (p. 137).

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3. Dawkins, R. Review of *Not in our genes*. *New Scientist*, January (1985) p. 24.

According to Bateson, "The principle is, in fact, based on more than a dozen quantitative studies of at least eight separate species, including the chimpanzee and *adult* Japanese quail. Unabashed, our experts go on to refute any evidence that might happen to exist with the "common observation of fairly indiscriminate mating among domestic or farmyard animals". This is not simply ill-informed and silly, it reveals deterministic thinking of the type they revile elsewhere. If animals behave in one way in one set of conditions, it does not follow that they will behave in the same way in another set of conditions. Indeed, the studies, which the authors purport to know about, show clearly that many animals will mate with members of the opposite sex they were brought up with, but prefer not to when given the choice."<sup>2</sup>

Much the best parts of the book are the sections dealing with IQ, and with the cause of schizophrenia. These stand out from the rest of the text by reason of their relative lack of propaganda and by the careful consideration of data. I found them very interesting reading—and all the reviewers I have read were clearly of the same opinion. The material is presumably the work of Kamin, the experimental psychologist who first drew attention to the suspiciously coincidental correlation coefficients in what were purported to be separate studies by Burt of the heritability of IQ. Others (Gillie<sup>4</sup> and Hearnshaw<sup>5</sup>) then went on to demonstrate the frauds that Burt had perpetuated in the latter part of his life. Kamin has written a book about IQ<sup>6</sup> and seems to have ceased doing experimental science and become a sort of scientific 'bloodhound', searching for evidence of Burt-like frauds in other fields. This is by no means a dishonourable occupation and his work is, unlike a great deal of the rest of the book, worthy of our attention. I should say that I am not a psychiatrist or a geneticist and so my comments on this field are those of an outsider who has read a good deal, but not all of the material cited by Rose *et al*. Since the IQ controversy is a relatively well-known matter, I shall not discuss it in this paper, but instead examine the critique advanced by (I assume) Kamin of the evidence for a genetic factor underlying schizophrenia.

*Schizophrenia.* The first point to make is that there is simply no question of anyone now believing that schizophrenia is entirely

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4. Gillie, O. *Sunday Times*, (London), 24 October 1976.

5. Hearnshaw, L. S. *Cyril Burt: Psychologist* London, Hodder and Stoughton, 1979.

6. Kamin, L. *The Science and Politics of IQ*. Potomac, MD; Erlbaum, 1974.

genetically determined. For example, according to a standard British textbook for psychiatrists: 'The strongest evidence for *predisposing* factors comes from genetic studies, but it is clear that inheritance cannot be the complete explanation and that environmental factors must be important as well.'<sup>7</sup> So the first point to make is that Rose *et al.* are setting up a 'straw man'. But they do more than this. They also attempt to show that the evidence for any genetic component is negligible. I am going to discuss this claim in some detail, because it is supported by a considerable amount of careful discussion of the data and, whether in the end one rejects the criticism or not, it certainly shows that the data are not nearly so clear as one might have expected from a casual reading of the textbooks.

There are three kinds of evidence addressing the issue of whether schizophrenia has a genetic predisposing factor. It has long been known that schizophrenia tends to run in families. In the general population (certainly in Northern European countries and North America and probably elsewhere) the risk of becoming schizophrenic at some point in one's life is approximately 1%. Amongst the siblings of schizophrenics, however, the risk of becoming schizophrenic is approximately 10%.<sup>8</sup> Rose *et al.* do not contest these data, but neither they nor those working in the field would make any strong conclusions from them.

The second kind of evidence comes from twin studies. Almost since the condition which we now call schizophrenia was first suggested as a distinct type of psychosis by Kraepelin at the end of the nineteenth century, psychiatrists have attempted to examine the relative importance of genetic and environmental factors in the etiology of schizophrenia by comparing the frequency with which schizophrenia occurs in monozygotic (MZ) and dizygotic (DZ) twins. There are several difficulties with this line of attack. The first is that both schizophrenia and twinning are quite rare events, so their conjunction occurs only in a very low proportion of the population, making the location of subjects a very onerous task. Nevertheless, several such studies have been made. A second difficulty is that determined believers in non-genetic explanations can always argue that identical twins 'usually share a disproportionate segment of environmental and interpersonal factors in addition to their genetic

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7. Gelder, M., Gath, D. and Mayou, R. *Oxford Textbook of Psychiatry*, Oxford, OUP, 1983.

8. Gottesman, I. I. and Shields, J. *Schizophrenia: the epigenetic puzzle*. Cambridge, CUP, 1982.

identity'. That quote, incidentally, is not from Rose *et al.* but from one of the supposed arch villains—Seymour Kety.<sup>9</sup> Rose *et al.* first note, quite correctly, that a large proportion of all the twins ever studied for this purpose were located by a man called Kallman. Kamin obviously thinks he suspects another 'Burt' here, and indulges himself in a variety of attempts to discredit Kallman. Kallman certainly was a eugenicist of the 'old school' who believed that schizophrenics should be sterilized to stamp out the disease. He worked in Germany until 1938 when, as a Jew, he was forced to leave. Rose *et al.* are not, however able to come up with any hard evidence that Kallman faked his data in the way that Burt did. In his study reported in 1946, Kallman found that 69% of his MZ twins were concordant for schizophrenia, whereas only 11% of DZ twins were. Similar results were obtained by Rosanoff in 1934 and Slater in 1953 (references in Rose *et al.*), but more recent studies have, on the face of it, found lower concordance rates for MZ twins and a smaller difference between MZ and DZ concordances—i.e. weaker evidence for a genetic component. The usual explanation for this difference is that the earlier workers surveyed chronically hospitalized patients who were probably as a population more severely ill. Gottesman and Shields have a long discussion (see chapter six of their book) as to why the discrepancies between older and newer studies are perhaps not as great as they seem from Table 8.2 of Rose *et al.*<sup>8</sup> The reader who really wants to judge for himself the truth of the matter is directed to Gottesman and Shields' book. I should, however, like to draw attention to the disingenuous summary sentence on p. 217 of Rose *et al.*, which will, I think, indicate that not all the bias is on the side of the geneticists. They say

'The concordance of MZs reported by modern researchers, even under the broadest criteria, does not remotely approach the preposterous 86% figure claimed by Kallman.'

There are two pieces of trickery hidden in this statement. First, the notorious 86% figure is not Kallman's actual finding for concordance but an extrapolation (by Kallman) based on what is now universally agreed to be an erroneous correction for age. The intention of such corrections is to allow for the fact that schizophrenia sometimes does

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9. Kety, S. S., Rosenthal, D., Wender, P. H. and Schulsinger, F. The types and prevalence of mental illness in the biological and adoptive families of adoptive schizophrenics. In: *Transmission of Schizophrenia*, Eds. Rosenthal, D. and Kety, S. S., Oxford, Pergamon. 1968.

not appear until latter in life, so unless all co-twins survive through the whole risk period for schizophrenia and are followed up for that whole period, the concordance rates found are underestimates of the true rate.

Rose *et al.* try to test the notion that environmental effects may, after all explain the data by two comparisons (Tables 8.3 and 8.4). They compare the incidence of schizophrenia amongst DZ twins and siblings of schizophrenics and show that in two studies (out of six) there is a significantly higher risk of schizophrenia in DZ twins than in siblings. Since, as they point out, DZ twins are no more genetically alike than siblings, the difference must be environmental. And they have a similar argument on the basis of comparing same-sexed and opposite-sexed twins. But this is a muddle: no one contests the existence of environmental factors, and their demonstration says nothing about whether there is or is not a genetic factor.

Rose *et al.* are able to show that at least in two cases, there has been a certain amount of conjecture involved in deciding whether some twins were or were not schizophrenic. But 'two swallows do not make a spring' and it seems, at least in the case of the Gottesman and Shields study that the very fact that they reported their inability to interview one twin attests to their honesty.

Rose *et al.* then turn to the third kind of study—adoption. The aim of this is to study the rates of occurrence of schizophrenia either in adopted children of schizophrenic mothers, or in the biological relatives of adopted children who subsequently become schizophrenic. The most famous adoption study is of the latter kind and was carried out by Kety *et al.* in Denmark, making use of the national records there of adoptions and (separately) of psychiatric treatment.<sup>9</sup> Kety *et al.* found 33 schizophrenia adoptees from the Greater Copenhagen area, and chose a control sample of 33 adoptees matched for the usual social variables. They were able to locate approximately 150 biological relatives of each of the two groups, and then to look at the incidence of psychiatric disorder in the records of these as well as the adopted relatives. This study is usually taken to establish conclusively the importance of genetic factors in the etiology of schizophrenia. What is not always made clear, and something which Rose *et al.* duly pounce on, is that chronic schizophrenia was no more common among the biological relatives of the controls—to be precise there was one in each group. What Kety *et al.* did find, however, was that 'schizophrenic spectrum' disorders were significantly more common amongst the biological relatives of the schizophrenics than amongst those of the control group. When one looks at the diagnostic classification scheme used by Kety *et al.*

these spectrum disorders include 'border-line (schizophrenic) state', 'inadequate personality' and 'uncertain (schizophrenia)'. Rose *et al.* assert that:

'without the inclusion of such vague diagnoses as "inadequate personality" and "uncertain borderline schizophrenia" there would be no significant results in the Kety study.' (p. 222)

This is true. But the unbiased reader should note several points not mentioned by Rose *et al.* The largest group—the 'border-line schizophrenics' (B3 in Kety's classification scheme) is not mentioned by Rose *et al.* There are six of these amongst the biological relatives of the schizophrenic adoptees and only one amongst the biological relatives of the controls. So, including the one chronic schizophrenic in each group there are 7/33 schizophrenics amongst the biological relatives of the schizophrenic adoptees and 2/33 amongst the controls. This value approaches, but does not reach, significance at the 5% level. The real conclusion from these data is that the sample is too small. Furthermore, it should have been clear in advance that this was a likely outcome. If we take the estimate from other studies of the incidence of schizophrenia amongst relatives of schizophrenics as about 10%, then it is easy to calculate from the usual binomial probability formula that the expected number of schizophrenics amongst the relatives is  $3.0 \pm 1.7$  (S.D.). In other words, one would not have expected the study to show a significant result when schizophrenia was strictly diagnosed. Kety *et al.* have gone on to extend their study in two ways—first by enlarging the sample to include the whole of Denmark and secondly by actually interviewing the relatives rather than relying on diagnoses from the national psychiatric records. As Rose *et al.* say, the results of this larger study are not yet reported in full, so one must suspend judgement. According to Gottesman and Shields, (Table 7.4) the results are now significant, but cases of 'uncertain schizophrenia' are still included in the tally so that the sceptic will still not be convinced.<sup>8</sup> Rose *et al.* further suggest that there is a source of bias in the data which potentially undermines the validity of the whole method:

'From data kindly made available to one of us by Dr. Kety, we have been able to demonstrate a clear selective placement effect . . . When we check the adoptive families of the schizophrenic adoptees, we discover that in eight of the families (24%) an adoptive parent had been in a mental hospital. That was not true of a single adoptive parent of a control adoptee—suggesting that the schizophrenic adoptees 'acquired their schizophrenia as a result of the poor adoptive environments into which they were placed.' (p. 223)

I have not time to consider all of the issues raised by Rose *et al.*, but the reader will see that there is certainly room for doubt about the issue of whether schizophrenia has a genetic basis. The writer, whom I assume is Kamin, has undoubtedly done a good job for the opposition (though his bias is at least as evident as that of the geneticists) and it is not at all obvious to me as an outsider that the issue has been laid to rest.

Perhaps it is true that the difficulties of interpreting the data on genetic factors in the etiology of schizophrenia are greater than one might think from the textbooks, but what does this establish? Does it really carry the vast consequences that Rose *et al.* suggest? No one is now sterilizing schizophrenics. No one (geneticist or environmentalist) knows how to cure schizophrenia, although it has been discovered empirically that some drugs alleviate the symptoms in some patients. If there is a tendency to slide over the difficulties with the data as to whether schizophrenia has a genetic component, may I suggest two alternative hypotheses to the one proposed by Rose *et al.* as the explanation for this tendency? The reasons I suggest are, first, that all scientists prefer simple hypotheses and the genetic hypothesis about schizophrenia was the simplest available. Secondly, despite all Rose *et al.* say, the truth or falsity of the matter has no clear consequences for modern psychiatric practice.

The final chapter of the book is an attempt to say something positive about what they propose as an alternative to 'biological determinism'. What Rose *et al.* propose as 'an alternative world view' is 'dialectical biology'. And what is dialectical biology? Shorn of its flag-waving label, it turns out to be the familiar moderate view that human behaviour is the result of an interaction between nature and nurture. Well, if that is radical science, we can all be radical scientists!



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K. G. Greet

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## Eden Revisited: the Christian response to AIDS and other sex-related disorders\*

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There is a story—no doubt apocryphal—about a small boy and a small girl who stood in an art gallery gazing at a picture of Adam and Eve in the Garden of Eden. 'Which is Adam and which is Eve?' enquired the little girl. 'I'm not sure', replied her companion, 'I could tell you if they had their clothes on'. It is a good story because it conveys an important truth. So much of what we believe about sex, that is, about maleness and femaleness, is the result of centuries of sexual stereotyping, the dressing up of men and women in the costumes belonging to the roles that, rightly or wrongly, we have assigned to them. The heart of the matter, as distinct from the outward trappings, often eludes us.

The Garden of Eden may seem an unlikely place to begin a Christian examination and assessment of the problems of AIDS and other sex-related disorders. But the story with which the Bible begins is, in fact, an extremely good story and full of enlightenment. It matters not at all that, like my own tale of the boy and girl, the story of Adam and Eve is not to be taken literally. We would be foolish, however, if we did not take it seriously.

### Eden revisited

So let us spend a moment in the Garden of Eden. The Bible loses no time in reaching what must surely be the most sublime and illuminating summary statement about the true significance of human sexuality to be found in the whole of literature.

The statement to which I refer is in the 27th verse of the first chapter of the Book of Genesis. That verse says three things. First, that God made man—the generic title for the whole human race.

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\* This article reproduces the text of the fourth Joseph Winter Lecture, given by Dr. Greet at Zion United Reformed Church, Wakefield on May 6, 1988; its copyright is the property of the trustees of the Harold Speight bequest, and it should not be further copied without their specific written permission.

Second, 'male and female created He them'. Here is the fact of sexual polarity plainly stated. Then third comes this tremendous assertion: 'in the image of God created He them'. We, as sexual beings, reflect the image of God. And what is that image? It is that of a community of beings: Father, Son and Holy Spirit in a perfect relationship of love. Never mind that the concept is larger than human minds can grasp. Take hold of the essence of it. God made us sexual beings in order that we might enjoy community. And note this: there is nothing about babies yet. Obviously one reason why God made both men and women is that by joining themselves together they can reproduce themselves. But that does not come first. Indeed, until sex has done its work of creating a loving relationship between a man and his wife it ought not to be allowed to do its procreative work, because a child needs, above all else, a settled, loving community of spirits as the cradle in which it can begin to grow towards maturity. This is one reason why marriage should be held in high regard. At its best it provides just the kind of security which is essential for children, not least in such an insecure world as this.

### **The Christian tradition**

It is a thousand pities that the Christian tradition has linked sexuality primarily with one objective, namely procreation. There has been a tendency to run away from sexuality in any other than the biological context. Even within that setting some of the Christian spokesmen of an earlier age have talked almost as if the Creator was guilty of a grave error when He made the continuance of the human race dependent upon such a dubious mechanism as sexual intercourse. So, for example, the best that Jerome can find to say about marriage is that it begets virgins! Tertullian, another influential writer in the early days of Christianity, damns marriage with faint praise and describes woman as 'the devil's gateway'. Augustine, the Bishop of Hippo, whose influence on the development of Christian thought was, perhaps, second only to that of St. Paul, is a classic example of a man trying to escape from his own sexuality. Describing his conversion he said that he now did 'no more desire a wife nor any other ambition of this world'. I fear that I can tell you nothing about the girl to whom he was engaged but never married, nor about the mistress by whom in his unregenerate days he had a son, except that she went off vowing that she 'would never know man more'. History, not least Christian history, is largely, until this present century, a man's story told by men. So, if you are interested in 'the woman's angle', you must fill in the gaps with your own speculations.

But there are worse things still in the teaching of St Augustine. He

sees the virgin birth of Jesus as clear evidence that sexual intercourse is itself sinful. God, who made us the way we are, had to get round His error by getting His Son born by another method. I suppose that the comparatively recent invention by the Roman Catholic Church of the doctrine of the Immaculate Conception of the Virgin Mary is based on the same erroneous idea. Augustine seemed to believe that we Christians should leave the pagans to get the children born, and we could then concentrate on getting them 'born again'. Apart from anything else, that is an absurd assessment of the missionary task of the church. Anyone would think that getting the children of pagan parents converted was a simple matter. The good bishop seems to have overlooked the fact that the most fruitful field of Christian recruitment is the Christian home. But, to return to the major point, this rejection of sexuality is a slur on the character of the Creator.

A few moments ago I warned against the danger of taking the Genesis story too literally. The early Christian fathers did, with disastrous consequences. The fact that in the story Eve leads Adam astray is taken as a clear indication that woman is to blame for all the woes of men. She is the guilty party. In fact, what it clearly signifies is that the story was undoubtedly written by a man. The story that woman was created out of a rib taken from the side of man is said to demonstrate her inferiority and subservience. It is one of the most mischievous myths ever to circulate, and none the better for being in the Bible.

Now, if I speak critically of these negative elements in our Christian tradition, it is only fair to ask the question, 'Whatever could have led good and intelligent Christian leaders to adopt such perverse notions?' There are a number of answers to that question and before going further I ought in all fairness to mention them.

First, there is the fact that Christianity came into a world of alien religions and philosophies. One of the potent ideas which greatly influenced our religion was that of dualism. Briefly, and at the risk of oversimplifying, this was the view that spirit is good and matter is evil. This led to the excesses of ascetic practice. Men like Simon Stylites, who lived for thirty-seven years on top of a pillar, tried to mortify the flesh and cultivate the life of the spirit. Dualism is false because God made matter and spirit, flesh and soul, and pronounced all of it good.

Second, and closely associated with this, there was the idea of renunciation. It is, in fact, part of the experience of every true Christian. 'Anyone', said Jesus, 'who wishes to be a follower of mine must leave self behind. He must take up his cross and come with Me'. For nearly a thousand years this element of renunciation found its chief expression in monasticism. There is much to admire in the

monastic movement, though often the forms of renunciation adopted were morbid and misguided.

Third, I think we must accept that much of the false asceticism I have briefly described was a protest against appalling decadence. We should be very ignorant and short-sighted if we failed to recognise that sex when it is unbridled, uncontrolled by love and integrity, can wreak havoc. Does any reader of the daily paper need convincing of that? It has been true in every age.

These explanations of perverse attitudes may mitigate, though they cannot wholly excuse, the architects of a tradition much of which must be rejected. I have spent a few minutes looking back because I do not think we can understand without some knowledge of the past. It behoves Christians who are so often tempted to bang the drum of morality to show a little humility. There is much in our past of which we can scarcely be proud, and the past rubs off on to the present. If you are sometimes a little impatient with those who plead for a reassessment of our own Christian position, if you side with those who are always saying, 'what we need is to get back to the old traditional standards', I would ask you to think again. For the fact is that morality based upon the almost exclusive link between sex and biology simply will not do. There has been a revolution. Contraception has broken that link. Most marital intercourse in the Western world today is non-procreative. Dr. and Mrs. Annesly, the father and mother of Susannah Wesley, had 25 children. Susannah was the last, so it is as well they persevered, otherwise I, whose lineage is solidly Methodist, would not be here to deliver this lecture. But the difference between the size of their family and mine or yours is not that they were more given to sexual activity than we are. It is just that modern intercourse, as I have said, is largely non-procreative, and that by deliberate intent. Intercourse is good in itself. It is a fact of married life before children appear, and it usually goes on long after the last child is born.

In one sense the secular world, for all its folly, has seized the point. It celebrates the goodness of sexual activity. Christians must accept that without hesitation. We must renounce the negativities of our tradition and see our maleness and femaleness as a wonderful gift of God, full of a richness that goes far beyond the merely biological, though that, too, is a sacred wonder. But sexuality, like eating, is only good if it is made to serve the purposes for which it was ordained. The Church, and the Christians who belong to it, must seek more deeply to understand those purposes, especially as they relate to the making and sustaining of community between committed partners and within the whole life of society. Only then can we minister more

effectively to a world where marital breakdown and sexual disorder are rife. For our society is caught in a vicious circle. The damaged children of broken marriages all too often become the potential drug addicts, disordered personalities, sexual deviants, who are themselves unable to enter into and sustain a stable relationship.

The spread of AIDS is one of the symptoms of such a society. Other signs of sickness are violence, pollution, alcoholism, drug addiction, over-eating, and the slaughter on our roads—100,000 die annually on the world's highways. But I turn now to an examination of this painful and deeply disturbing phenomenon called AIDS. I must apologize in advance to any here who know a great deal about the subject already. I think I shall best serve the purposes of this lecture if I assume that we need to rehearse the basic facts. I shall endeavour not to blind you with science but tell you as simply as possible and as briefly as I can what we actually know.

## **AIDS**

The word AIDS stands for 'Acquired Immune Deficiency Syndrome'. The first cases were reported in 1981. It is caused by a virus known as the 'Human Immunodeficiency Virus' (HIV). This virus is so weak that it can be killed by a splash of household bleach; it shrivels in sunshine, but in the human body it becomes a monster. Three million could be put on the head of a pin. In our bodies we have a remarkable defence system against disease. The body produces anti-bodies which attack and neutralise some infections; there are also the white blood cells which themselves deal with infections. The HIV virus destroys these immune mechanisms, and so the body is left more or less defenceless against the attack of marauding diseases.

People who become infected with the HIV virus may not show any symptoms for some time, or they may experience a glandular fever-like illness. Some will develop more severe symptoms described as the AIDS related Complex (ARC). But whether he shows symptoms or not the HIV carrier can infect other people. An HIV carrier may not develop the full symptoms of AIDS for as long as five years after being infected. No-one knows how many HIV carriers will develop full-blown AIDS. Some surveys have indicated that up to 34% have done so within three years. The characteristic symptoms of the AIDS disease are various cancers, viral infections, destruction of the retina of the eyes, and brain disease. There is no cure, and those who suffer from AIDS will die from it. They die because the body is unable to fight off the diseases which have invaded it.

Symptom-free carriers of the HIV virus may be anything from 50 to 100 times greater in number than those who have so far been

diagnosed as having AIDS. The number of those infected by HIV in the USA is probably around two million. By the end of March 1987 31,256 cases of AIDS had been reported; in Europe the number was 4000, and in the UK 724 of whom 420 had died. The DHSS expects 4000 deaths in this country by the end of 1989. In parts of Africa the disease is rife and one-fifth of the population is infected.

The AIDS virus is found at highest concentration in blood and semen. The main ways by which infection is passed on are: by sexual intercourse (about 75%); through the sharing of needles by drug users (17%); by blood transfusions (2%). Those percentages will vary from place to place. The highest number of sufferers is found among male homosexuals, the reason being that their sexual activities are most likely to cause abrasion of the skin. Stringent measures have been taken in the West to prevent the communication of disease through blood transfusions, if blood is not screened or treated. It is possible for an infected mother to infect her child. The disease cannot be passed on through casual, non-sexual, contact.

What is the origin of this dreadful disease? We can't be sure, but there is some evidence which seems to point to the African green monkey, which carries the virus but is not affected by it. The disease may have been transferred to humans by a bite or scratch, or by ritual use of the blood of the monkey. Another theory is that the virus had in fact been present but dormant for centuries among communities which had built up an immunity to it. Then through the movement of Africans into shanty towns it began to afflict groups which possessed no such immunity.

Some African leaders accuse the West of racism in promulgating the notion that AIDS originated in Africa. However that may be, the problem of dealing with AIDS, which is appallingly difficult in the developed countries, is much more so in Africa where the money and facilities available are so much less adequate (for example, needles in some clinics are used over and over again).

What about treatment and cure? A large company of experts in more than one hundred countries are engaged on the most intensive research programme in medical history. Some progress has been made in alleviating the symptoms of the disease, but the experts say that it may take many years before a cure can be discovered.

Having briefly rehearsed some of the main facts we must now face the question: what can be done to prevent the spread of the disease? The answer is contained in the one word 'education'. But what kind of education and by whom is it to be given? Our own government has undertaken an expensive programme designed to disseminate the facts and warn of the dangers. It was somewhat slow off the mark and

did not begin till well on in 1986. By then for many it was too late. Inevitably the material that has been used—especially on television—has been criticized. The susceptibilities of many people have been outraged by the crudity of some of the programmes. Others complain about the lack of moral education. The government's response is that they have to deal with things as they are and not as we would like them to be; and further, moral education is not primarily the job of government, but of parents, schools and churches. So the slogan is 'safer sex', and the instrument for achieving this is the condom. The propaganda must be crude and outspoken to ensure that it gets home to those in danger.

Debate about the government's responsibilities must and will continue. Another aspect will be the increasing cost of treating AIDS patients. This year the cost will be up to £30 million and that at a time when our NHS is under increasing stress. But OUR concern must be especially with the responsibility of the churches.

I am in no doubt that the primary response of Christians must be that of compassion. The bedside of a dying man is no place for moralizing. I would wish to dissociate myself from those who say that AIDS is a judgement of God on those who have offended Him. That does not square with the God whom I know and love. And what of those who contract AIDS through no fault of their own? And what of the lesbians, the female homosexuals? They must be God's chosen people because they do not pass on the disease to each other through their sexual activity.

I do not want for one moment to suggest that the problem of AIDS has nothing to do with morality. It does indeed have everything to do with morality. We are a race of sinners and the corporate consequences of that fall on all of us. We are members one of another and often the innocent suffer with the guilty. We serve the cause of Christian truth best, however, by stressing the positive aspects of the church's teaching. Love requires a compassionate understanding of the needs of those who suffer from AIDS and those who are dear to them. It also requires a more determined effort to share the sort of insights into the true meaning of sexuality to which I referred in the early part of this lecture.

In an article in the *Times* last February the Archbishop of York had some important things to say about intimacy and vulnerability. As I mentioned earlier, the HIV virus is very fragile. That is why it needs intimate contact for its transmission—sexual intercourse or the brotherhood of the needle. The same linkage between intimacy and vulnerability is discernible in the way the virus invades the body, exposing it to danger. This leads Dr. Habgood to reflect on the way in



which sexual intimacy and vulnerability are linked. Sexual encounters involve moments of exposure—physical and psychological. No wonder that intimate relationships have always been surrounded by conventions, ceremonies and taboos. For where intimacy is abused terrible things can happen. Most murders take place within the family. We live in a world where many of the sensible restraints of the past have been cast off in the interests of so-called freedom. As a consequence new vulnerabilities appear. One of them is AIDS. The so-called freedom can turn out to be freedom to die.

It is at this deep level that the Church has to work, seeking to educate itself and others in those insights which alone can open the door to happy and wholesome human relationships. Revisiting Eden is not to resurrect a fusty fable, it is to unveil the holy purposes of God, to stress the need to rescue love from trivialization, to emphasize the power of sex both to heal and to wound, and to show the essential reasonableness of the moral standards which an enlightened Church seeks to uphold. If we honestly face up to the demands of this task, we shall be driven on into the New Testament, there to discover the resources of power and redemptive wisdom made available through the gifts of the Holy Spirit.

The Trustees of this lecture initially asked me to speak about AIDS and this I have now done at some length. But the Christian context in which I have set the subject has important things to say regarding other sex-related disorders and I want now briefly to refer to some of these.

### **Homosexuality**

The debate about AIDS has inevitably focused attention on the problem of homosexuality. Like many other issues this was once a taboo subject. To a large extent it still is in Africa, where they are reluctant to admit that the phenomenon exists. But in the West it is discussed incessantly. We have been made aware of the fact that the number of homosexual men and women is much greater than was once imagined. Moreover the self-styled 'Gay Liberation Movement' has campaigned aggressively in opposition to discrimination against homosexuals. Books and plays deal with the subject openly.

In the Church of England, and even more in the USA, there has been lively argument between those who take a strong moralistic line and are in danger of instituting a witch-hunt among the clergy, and those who believe that the issue is not as straightforward as their opponents suggest. The fact that, as I mentioned earlier, AIDS has spread most rapidly among homosexual men adds fuel to the fire of argument. It is not my intention to rehearse in detail all the points in

this debate. But I do want to indicate the main matters which should in my view constitute a Christian approach to the subject.

First of all we must insist that any sound Christian judgement must be based on knowledge of the facts. It is unfortunate that some of those who shout the loudest are among the least well-informed. The very first fact to be noted is that we don't know all the facts. For example, among those who have studied the subject there are still differing opinions about the causes of homosexuality. It is almost certainly true that there is no single cause. In some cases the cause may be constitutional, having to do with the balance of hormones or with genetic and chromosomal factors. In other cases it is likely that the cause lies in the relationship between parent and child. In some instances it may be that some early sexual experience with a person of the same sex determines that the individual concerned develops a homosexual orientation.

The second important point is to eliminate from our thinking some of the popular, and often very harmful, myths which surround the subject. For example, the idea that all male homosexuals are effeminate; that they are all of artistic temperament found only in certain professions; and that all homosexuals are promiscuous. These notions are without foundation.

A third point which must be of the greatest importance to Christians is that when we talk about homosexuals we are talking about people. Some of those people are men and women of the greatest integrity, many of them are devout Christians, not a few are priests and ministers of the church. Without doubt many homosexuals are promiscuous and irresponsible. So are many heterosexuals, and some of them bring unwanted babies into the world, which homosexuals don't. Again, if some homosexuals often seem to be acting in a loud and aggressive fashion, that is the inevitable result of their sense of injustice during the long years when they have been oppressed.

It is worth remembering that discrimination against homosexuals has been embodied in unbelievably harsh laws. In the 13th century English law provided that anyone found guilty of a homosexual act should be buried alive; later this was changed to burning at the stake. The publication of the Wolfenden Report in the 1960s marked a major turning-point in this country's knowledge and attitude towards homosexuals. I recall the long debate in the Methodist Conference on the recommendation that homosexual acts between consenting adults in private should no longer be a criminal offence. It was a debate of very high quality. The Conference gave general support to the Wolfenden Committee and its major recommendation became law in 1966. Few enactments have been of greater significance to large

numbers of people than that one. It gave impetus to the movement to reassess the harsh and quite unChristian attitudes which had pertained in the past.

The fourth and final matter to which I must refer is the need to work out a Christian position on the moral issues involved and to do so in the light of the best information and biblical scholarship available to us. In recent debates we have heard loud pleas for bishops and other Church leaders to 'declare the clear biblical judgement on homosexuality'. However, this is not so simple a matter as some might appear to think. If the 'biblical position' on every ethical issue were clear and concise, then you would expect all intelligent Christians to be of one mind, for there would be nothing to argue about. But I need hardly say that this is not the case. Christians do differ on ethical questions, not least within the sexual field. They differ about divorce, about contraception, about abortion, about homosexuality, and about other related issues. We need to work hard to achieve consensus.

If now we consider the teaching of the Bible on homosexuality, the first point to note is that there are remarkably few references to it: in fact ten in the Old Testament and three in the New. Jesus Himself never mentioned it. The popular belief that God destroyed Sodom and Gomorrhah because of the sin of homosexuality is in the judgement of some scholars a distorted view of what is said in Genesis 19. However, there is no doubt about the fact that, in general, homosexual activity is condemned in the Bible. But there is no detailed consideration of the reason why.

There can, I think, be little doubt that the Christian tradition in this as in other sexual matters has been greatly influenced by the mistaken view that sexuality is for the sole purpose of procreation. That view was understandable in the past when science had not uncovered many of the facts known to us today, and also when the earth was underpopulated and there was a positive duty to produce many children, a duty made more urgent by the ravages of disease which decimated populations, and wars which led to wholesale slaughter. It is different today. Over-population is the problem, increased by our attack on the diseases which cause infant mortality. Moreover, we are striving to eliminate war, the other great and gruesome means of controlling population increase. All these factors, on top of basic new theological insights, enable us to recognize that non-procreative sex is not necessarily evil, and so the biblical view is seen in a new perspective. The task of interpreting the message of the Bible and applying it to the life of today is complex and demanding. It requires intellectual integrity and humble reliance on the Holy Spirit:

Come, Divine Interpreter,  
Bring us eyes Thy book to read.

There is an emerging Christian consensus that recognizes the need for acceptance of the homosexual and the sin of discrimination against those who may be so described. The question whether homosexuality is in itself a defect, or whether the condition, which affects large numbers of people and appears for the most part to be unalterable, is within the creative purposes of God, is one on which Christians differ. Some argue that homosexuality is a biological absurdity, a perversion of what the Creator intended. It is as clear as day, they assert, that God made us the way we are so that the human race could be continued. But I have argued that there is more, much more, to human sexuality than that. The biological factor is not the only one to be considered. Sexual activity is not to be condemned purely on the grounds that it is non-procreative, otherwise we should have to say that people who marry when the woman has passed child-bearing age are living in sin. Nevertheless I believe that homosexuality is evidence of the disorder that disfigures the whole life of creation. It is not, I believe, the way God intended us to be. But I have to acknowledge that ALL sexual relationships are defective, for no-one is perfect and all of us are sinners. I believe that what is supremely important is the quality of love in the relationships we establish.

The question whether homosexual men or women who choose to live in a settled relationship of love with a person of the same sex may legitimately express that love in physical acts is still much debated. One thing that should be clearly stated is that promiscuity is as sinful and potentially disastrous among homosexuals as among heterosexuals. Whatever our sexual orientation, Christian obedience requires the exercise of demanding responsibility and a resolve not to harm any fellow human being. The debate about the rights and wrongs of homosexual behaviour must continue and be conducted with sensitivity and a great desire to learn more, that we may be wise and Christian in our judgements.

I want now to turn to four other evidences of sexual disorder and make a much briefer comment about each.

### **Abortion**

Here is another great human issue in which, as in the case of homosexuality, the private and public, the legal and moral aspects, are inextricably intertwined. There are two extreme views. One is

that abortion is wrong in virtually all circumstances because it involves the destruction of human life. The other is that, if a woman wishes to have an abortion, that is the concern of no-one but herself. The law of the land in this and many other countries accepts neither of these views. It rests on the judgement that the law should protect human life and that it should also seek to safeguard the rights of society to ensure its continuance and the maintenance of moral standards. But the law recognizes the need for abortion in certain circumstances and attempts to provide regulations that take account of this.

In the past, English law has been affected by notions that are known to be quite false. Penalties for abortions performed before the time of 'quickening' (when the child is first felt moving in the womb) were more lenient than those imposed for later terminations. It was supposed that human life began at the time of quickening. But this was a purely arbitrary view. So also, I judge, is the view that human life begins at the moment of conception (or more accurately fertilization), or at the moment of nidation (or implantation) up to a week later, or at the moment of birth itself. The fact is that the potential of human life is present from the moment when egg and sperm are fused together.

The problem for the law, and indeed for the moralist, arises from the fact that the interests we wish to safeguard may be in conflict. The most obvious example of this is the situation in which the life of the foetus may have to be sacrificed in order to save the life of the mother. Another instance is where there is risk of gross abnormality in the foetus. Our present law allows abortion in both these circumstances; it also permits the doctors to take account of social factors. Clearly, the safeguarding of the life of the mother is construed very widely and covers more than actually preventing her death. As you will know, the introduction of the present abortion laws was undertaken because of the high incidence of back-street abortions which often led to disastrous consequences. That problem has been largely solved: a fact that can only be welcomed.

The abortion question can hardly be settled by quoting specific biblical texts for there are none that unequivocally settle the finer points in the debate. There is, of course, a strong Christian tradition which stresses the sanctity of human life, but generally speaking the Church has not taken an absolutist position on this. It has, for example, taught that the taking of life in war may be justified—a conclusion which I personally do not accept. It has seemed strange to me that the Pope, who heads a Church which has most strongly opposed abortion, should be willing to allow that nuclear weapons, which

might cause the death of millions, are permissible, at least as a temporary expedient.

The incidence of abortion is one of the signs of sexual disorder in our world. It raises issues which test Christian conscience most severely. Christians need to be very sensitive to the needs of those confronted with what may be an agonising choice.

### **Infertility**

I want to make brief reference to the problem of childless couples. For large numbers of people the inability to produce a child is the cause of intense suffering. Infertility is a disorder for which there are many causes. There is great need for more resources to be devoted to research into causes and treatment. One important responsibility resting particularly on Christians is to avoid ignorant and insensitive comments like 'I suppose you are a career girl', or 'why don't you adopt?' Such thoughtless comments can be very wounding to a couple longing for parenthood and who may well have exhausted every possible attempt to overcome their problem.

### **Divorce**

I remember sitting on a committee discussing divorce. The wife of an Anglican bishop said in a rather superior way: 'Of course, you Methodists remarry divorced people; we believe in the indissolubility of marriage'. I felt bound to say that many of the remarriages to which she alluded were referred to us by unhappy Anglican vicars. What is meant by 'the indissolubility of marriage'? Does it mean that marriages OUGHT NOT to be dissolved or that they CANNOT BE dissolved? If it is the latter, then I am bound to say that it is an assertion that seems constantly to be belied by the facts. As the Methodist Statement on the matter says: 'There are courses of conduct which so violate the pledges and obligations of marriage that of themselves, and in fact, they destroy it as a union of heart and soul'.

In view of the paucity of references to divorce in the teaching of Jesus it is remarkable how much has been written on the subject by Christians. There is no doubt that the Christian ideal is the lifelong union of man and wife. For centuries Christians have wrestled with the question of the status and meaning of the exceptive clause in Matthew 19:9 where Jesus says that it is unlawful for a man to divorce his wife 'except for unchastity'. I do not propose to go into the details of that debate nor of the changes in English divorce law over the centuries. I believe that since marriages do break down, divorce law should be so framed as to avoid, as far as possible, the unnecessary cruelties and painful indignities which bad laws make inevitable.

The question whether the institution of marriage is under greater threat today than ever before is not easily answered. When about one in three marriages ends in divorce it might appear to be so. We must, however, remember that all sorts of factors contribute to that sad statistic. The extension of the grounds for divorce, the granting of legal aid, the new economic independence of many women, the earlier age of marriage and the increased longevity of men and women: these are some of the factors that have led to an increase in divorce. Some of them allow people to gain release from their marriage vows who in earlier days would not have been able to do so. In 1971 the number of petitions filed by women in this country was 67,000. By 1981 that figure had risen to 123,000 compared with 46,000 filed by men. These figures clearly show how women have used their new freedom.

The widespread breakdown of marriage is immensely harmful. It leads to all sorts of suffering and to the exacerbation of a whole range of social problems. In the broadest, and sometimes also in the narrowest, sense divorce is a sex-related disorder. It results from the failure of a man and woman to relate to each other. The churches have not done anything like enough to provide sound teaching and training and to counter those false emphases in society which encourage wrong expectations concerning marriage and what it involves. Here is an item that needs to be lifted much higher on the agenda of the churches.

### **Sexual discrimination**

In the early part of this lecture I referred to the way in which the more negative aspects of the Christian sexual tradition had resulted in the myth of male superiority and the relegation of women to the status of second-class citizens. If we now look briefly at this issue, we shall end where we began: with the supreme importance of the relationship between the two halves of the human race.

Let us revisit yet again the Garden of Eden. I have already quoted the opening chapter of Genesis. There is nothing there which suggests the subordination of women to men. In the second chapter there is a different account of creation. It describes woman as man's 'helper'. But the word used—*EZER*—is never an indication of inferior status. Indeed, it is mainly used with reference to God Himself. When we move into Chapter 3, however, we come to the story of the Fall. One of the consequences of this is stated in verse 16: 'your husband shall be your master'. You see that the destruction of the egalitarian nature of the man/woman relationship was distorted by sin. Jesus

came to save us from sin and, among other things, to restore the broken relationship between men and women. In His own treatment of women He showed that the sexes are equal: not the same, but equal.

I have no time to deal with St. Paul, except to say that those who regard him as a male chauvinist need to look with greater care at his teaching. Even if he sometimes seems to have absorbed the cultural emphases of his time and relegated women to a secondary status, theologians often speak of 'the development of doctrine'. I believe that Christian insights today on the subject of sex equality are the development of such seminal passages as Ephesians 5:21—'Be subject to one another out of reverence for Christ'.

I am grateful that I was brought up in a home where my father—a convinced feminist—regaled us with exciting tales of the suffragettes. He was present at a meeting addressed by the prime minister of the day. No sooner had he begun his oration than a booming voice started crying 'Votes for women!' An intrepid suffragette had been lowered into the huge base pipe of the organ before the meeting started and was making good use of its function as an amplifier. I used to meet elderly women who were part of that movement when long ago I sat on the National Executive Committee of the Family Planning Association. They were fighting to make birth control respectable, and they won the day.

But the battle for woman's rightful place in the world is not yet finally won even in this land. Women are seriously under-represented in the higher echelons of the professions. For example, though they form about 80% of primary teachers, only 40% of the headships are filled by women. Although they form the big majority of the membership of the churches, they occupy comparatively few of the leadership positions. I once took a woman bishop to 10, Downing Street. At that time she was, I believe, the only woman bishop in the world. When the uniformed official opened the door I said, 'Sir, this is an historic moment: for the very first time a woman bishop stands on the doorstep of No. 10'. With typical British phlegm he replied, 'Indeed, Sir'—in a tone of voice that clearly indicated his unalterable conviction that no such entity could exist. But he was wrong, and so are all those who stand against the tide of truth. For the myth of male superiority is a sexual disorder of the most serious kind. It distorts and disfigures the whole life of humanity. It is an alien intrusion into the world as God intended it to be.

I thank you for your patience. I have taken you on a journey across contested ground. On all the issues I have raised we hear a babel of voices. All must be heard lest we miss some crumb of truth. But



Christians must long above all else to hear the voice of God, 'the voice that breathed o'er Eden'. For it is only in obedience to that voice that we can hope to regain the paradise we have lost.

J. W. Hass Jr.

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## Relativity and Christian Thought: The Early Response\*

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### Introduction

The desire to relate Christian faith and the scientific enterprise has a long and varied history. One traditional meeting point of faith and science has involved Christian reaction to dramatic changes in scientific perspective. Few would argue against the assertion that the early twentieth century work of Albert Einstein changed the way that we view nature. In postulating a four-dimensional universe, he removed classical notions of absolute space, time and motion. The 'new physics' developed by Einstein and his contemporaries espoused concepts of space and time, mass and energy, waves and particles and their interrelations which radically altered our perspective of the atom and the cosmos. These concepts have, in turn, raised foundational philosophical questions concerning the basic nature of science and the relation of science to Christianity.

Papers dealing with the religious implications of relativity appeared shortly after the public announcement of the first successful measurements of the bending of starlight by the sun. Religious discussion continued at a lively pace until the early 1930s. From that point until the 1970s interest was at a minimum. Recently, there has been a revival of interest in Einstein's thought and the significance that his work holds for theology and theistic world views encompassing science.<sup>1</sup>

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\* Reproduced, with permission, from the Journal of the American Scientific Affiliation 1988, 40, pp. 10-18.

1(a) A. R. Peacocke, 'The Theory of Relativity and Our World View', in Maurice Goldsmith, Allen MacKay and James Woudhusen, eds. *Einstein: The First Hundred Years* (New York: Pergamon Press, 1980) pp. 73-91. (b) Thomas F. Torrance, *Transformation & Convergence in the Frame of Knowledge* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1984). (c) Ian Paul, *Science and Theology in Einstein's Perspective* (Edinburgh: Scottish Academic Press, 1986). (d) Harold P. Nebelsick, 'Theological Clues From the Scientific World', *Journal of the American Scientific Affiliation* 38 (1986), pp.110-121. (e) Ralph G. Mitchell, *Einstein and Christ: A New Approach to the Defense of the Christian Religion* (Edinburgh: Scottish Academic Press, 1987).

In evaluating early reactions to relativity there is a factor not usually associated with scientific discovery. In most cases, a scientist receives attention at the time that his work is published but soon fades from public view, even though his science may endure. Uniquely, Albert Einstein was to remain in the public eye until his death in 1955. In this paper, I will examine the early religious response to relativity and discuss ways that relativity was thought to bear on questions involving science and Christian faith. In addition, I will seek to establish links between early interpretations and current interests. By focusing on this early period we can avoid the confusing and sometimes vitriolic reaction that arose later when Einstein made public statements on religious and philosophical issues.

### *Einstein the Legend*

Although he had published his major papers on relativity over the period of 1905–1915, Albert Einstein did not come to world prominence until November 7, 1919 with the headlines in the London *Times* 'Revolution in Science/New Theory of the Universe/Newtonian Ideas Overthrown/Space "Warped"'.<sup>2</sup> The article reported a joint Meeting of the Royal and Astronomical Societies held on the previous day, where the results obtained by British observers of the total eclipse of the previous May were formally presented.<sup>3</sup> The *New York Times* published a full and accurate report on November 9, and from that year until his death the *New York Times Index* had at least one record of his name, often with respect to topics unconnected with science. Einstein's rise to fame was rapid, and endured throughout his life.<sup>4</sup> He had a lifelong interest in philosophy, was an excellent amateur violinist, wrote occasionally about religion, was a passionate advocate of pacifism, had deep concern for moral Zionism, and was an outspoken opponent of Hitler.<sup>5</sup>

### *The Scientific Context*

The twentieth century revolution in physics came in various stages through the work of Maxwell, Planck, Einstein, Bohr, Schrodinger, de Broglie, Heisenberg and others. As the nineteenth century drew to a

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2. Abraham Pais, *Subtle is the Lord . . .: The Science and Life of Albert Einstein* (New York: Oxford University Press, 1982), p. 307.

3. *Ibid.*, p. 306.

4. Lewis Elton, 'Einstein, General Relativity, and the German Press: 1919–1920', *Isis* 77 (1986), pp. 95–102.

5. Pais, *op. cit.*, p. 315.

close, classical physics garbed in the clothes of Newton and Euclid was confident that all the essentials of nature were understood and that all that remained were minor adjustments and filling in the gaps. The world was made of solid material particles; physical phenomena could be analysed by breaking them into their component parts localized in time and space; nature could be visualized in observable or easily imaginable images.

The world view developed in the early part of the twentieth century showed that matter was not composed of inert hard particles; indeed, the negative particles surrounding the nucleus were found to have both mass and wave properties and their position in space was describable only in statistical terms by using complex mathematical equations. This new perspective on the micro-world was accompanied by an equally mind-boggling change in the cosmos. Light travelled in curved lines, and therefore space was curved. Gravitation is not a pull of attraction between two portions of matter, but rather the 'warpage,' which matter produces in the space-time continuum. In Einstein's world, gravitation appears not as an esoteric force, but rather as a mathematical necessity of the geometry of the space-time continuum. This new perspective interpreted the cosmos in 'relational' terms, in contrast to the 'container' perspective of the old physics.

Einstein's mysterious new theory required interpretation for the masses, and scientists the world over were called upon to offer expertise to newspapers, magazines, and audiences large and small. More than one hundred books on the subject appeared within a year.<sup>6</sup> Arthur Eddington's influential *Space, Time and Gravitation* provided an early (1920) popular explanation of relativity and was to be widely quoted by religious writers of the period. He concluded his work with these words:

It [relativity] has unified the great laws, which by the precision of their formulation and the exactness of their application have won the proud place which physical science holds today. And yet, in regard to the nature of things, this knowledge is only an empty shell—a form of symbols. It is knowledge of structural form, and not knowledge of content. All through the physical world runs the unknown content, which must surely be the stuff of our consciousness. Here is a hint of aspects deep within the world of physics, and yet unattainable by the methods of physics. And, moreover, we have found that where science has progressed the farthest,

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6. Ronald W. Clark, *Einstein: The Life and Times* (New York: The World Publishing Co., 1971), p. 245.

the mind has but regained from nature that which the mind has put into nature.<sup>7</sup>

### *The Religious Climate in England and America*

The 1920s were a time of conflict for the Protestant church in America. Issues raised by late nineteenth-century desire to develop a synthesis of Christian faith and modern thought had come to a head. Conservatives saw a shift in the 'locus of authority' from the Bible to scientific and historical critical methodology, and lamented the erosion of traditional ideas in ethics, morals and social questions stemming from the new ways of thinking.<sup>8</sup> Theological liberals (Modernists) and evangelical conservatives found themselves unable to find a middle ground and new denominations, seminaries, mission agencies and colleges were formed as the old institutions were lost to the liberals. While England and the American South were spared the schisms of the American North, the issues were still heatedly debated.

The dominant scientific issue was evolution. Clergy, theologians, scientists and laymen—liberal and conservative alike—obsessively addressed the topic in a flood of books and articles in learned and popular religious literature. One mark of the conservative was a disdain for evolution in any form. It was but a short step to what Bernard Ramm described as

hyperorthodoxy [which] assumed that unsaved man is in open rebellion against God and will use science as well as anything else to oppose Christianity. The Bible it asserted was not in conflict with true science, but obviously in conflict with most of the world's practicing scientists. These scientists unsaved and antichristian must be written off the record in science as well as in religion.<sup>9</sup>

However, Ramm observed that the Roman Catholic scholars of the day had worked out a 'set of principles setting forth the boundaries of science, the boundaries of theology, and the canons of interpretation' which allowed them to avoid the excesses of conservative Protestantism.<sup>10</sup>

7. Arthur Eddington, *Space, Time and Gravitation: An Outline of General Relativity Theory* (Cambridge: Cambridge University Press, 1920), p. 200.

8. Robert A. Handy, *A History of Churches in the United States and Canada* (Oxford: Oxford University Press, 1976), p. 286.

9. Bernard Ramm, *The Christian View of Science and Scripture* (Grand Rapids: Wm. B. Eerdmans Publishing Co., 1955), p. 27.

10. *Ibid.*, p. 26.

If conservatives had problems with evolution, their liberal counterparts were not particularly pleased with a science which they felt led to a technology that devalued human labour and increased the power to wage war. Since conservative Christianity of that period placed almost total emphasis on evangelism and the defence of the faith, there was little encouragement for the serious study of science or for the integrative concerns found today. Thus, few conservatives had the background in science and mathematics to engage in fruitful discussion of the new physics.

### *The Philosophical Mood*

The early part of the twentieth century saw the 'New Realism' as the most significant philosophical development in English-speaking countries.<sup>11</sup> Realism during this period stood for the view that one can have knowledge of a real world which exists independently of our view of it. The 'New Realism' arose in revolt against the twin evils of 'idealism,' for which the world is in some sense mind-dependent, and 'materialism,' for which matter was all. Realist metaphysicians recognized: (1) the reality of the world in space and time; (2) Mind, or the act of knowing, as one factor in reality among others; (3) a closer connection with science than in the past; (4) the notion of process; and (5) various levels of understanding in nature extending to the levels of spirit, and even deity.

Although many of the realists were indifferent or hostile to religion, realism provided no inherent disposition against religion. Thomistic philosophy, and other theistic philosophies of this period, incorporated realism in their systems.

### **The Response to Relativity**

#### *An Overview*

A wide spectrum of religious response to relativity appeared in the period following observational verification in the solar eclipse of 1919. Over twenty periodicals from America and England offered articles from a broad range of Protestant, Catholic and non-theistic perspectives. The famous and not so famous were drawn to discuss the religious implications of this revolutionary scientific change. At the very least, readers of journals of religious thought were exposed to unprecedented levels of mathematics.

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11. John Macquarrie, *Twentieth-Century Religious Thought: The Frontiers of Philosophy and Theology, 1900-1960* (New York: Harper & Row, 1963), p. 226.

The periodical literature reflected for the most part the views of clerics, theologians and philosophers of religion. Practicing scientists had their day in the 'science and religion' books which appeared in great number during this period. The British scientific journal *Nature* provided an important forum for early scientific and philosophical discussion.

Generally, American and English religious conservatives ignored Einstein; a few were critical of relativity itself or the interpretations which others had drawn. The quality of the response in the religious journals varied widely in terms of scientific accuracy, and philosophic and theological acumen. The greatest depth of interaction came from the university centres of England, which had a tradition of dialogue between theologians and scientists not possible in American intellectual circles where theology was (and still is) kept separate from the other disciplines.

The period between the world wars saw unparalleled progress in many areas of the physical sciences, it was also a time when many scientists vigorously addressed the philosophical and religious implications of the new science. Prominent figures such as Haldane, Jeans, Russell, Whitehead, Weyl, and Planck lectured and wrote papers and books which stimulated a spirited response on the part of clerics and philosophers. Sometimes writers used the term 'metaphysics' to avoid the use of religiously coloured words in scientific journals, or to avoid offending the sensitivities of anti-theistic editors. For other writers deity, god, and gods were terms which had little connection with the triune God of Holy Scripture.

### *The Initial Reaction*

The journal *Nature* played an important early role in discussions of the scientific and philosophical implications of relativity. London University philosopher H. Wildon Carr's pioneering papers, 'The Metaphysical Aspects of Relativity' and 'Metaphysics and Materialism', stimulated a vigorous debate carried on in the Letters to The Editor section of *Nature*.<sup>12</sup>

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12(a) H. Wildon Carr, 'The Metaphysical Aspects of Relativity', *Nature* 106 (1921), pp. 809-811. (b) H. Wildon Carr, 'Metaphysics and Materialism', *Nature* 108 (1921), pp. 247-248. (c) Norman R. Campbell, 'A Response to Carr', *Nature* 108 (1921), pp. 399-400. (d) H. Wildon Carr, 'A Response to Campbell', *Nature* 108 (1921), p. 400. (e) Hugh Elliot, 'A Response to Carr', *Nature* 108 (1921), p. 432. (f) H. Wildon Carr, 'A Response to Elliot', *Nature* 108 (1921), p. 467. (g) Edmund McClure, 'A Response to Campbell', *Nature* 108 (1921), p. 467. (h) Harold Jeffreys, 'A Response to Campbell and Elliot', *Nature* 108 (1921), p. 568. (i) S. V. Ramamurty, 'A Response to Carr, et. al.', *Nature* 108 (1921), p. 569. (j) Norman R. Campbell, 'A Response to McClure', *Nature* 108 (1921), p. 569.

Many commentators of the early period were enthusiastic about the potential that relativity offered for Christian thought. Theologian Orrock Colloque wrote: 'The new Einstein theory of relativity will doubtless prove of tremendous interest to Catholic theologians since it deals, as does theology, with the fundamental nature of matter, space and time.'<sup>13</sup> Jesuit Leslie Walker wrote: 'it is highly probable that the theory of Einstein and the philosophy of Aristotle and St. Thomas will harmonize, since both claim to be based on the same foundation of sound common sense.' Walker further noted that 'the story of Einstein is not a revolution, but as far as the notions of space and time are concerned, is a return to conceptions which modern philosophy has rashly disregarded.'<sup>14</sup> H. Wildon Carr felt that relativity was going to produce 'a revolution in religious thought.'<sup>15</sup> Catholic theologian T. O. Patterson found that Scholastic methods were 'quite developed for coping with the discursive side of relativity theory' since each system claims 'an empirical foundation.' Patterson proudly noted that 'Scholastic philosophy has always postulated the relationship of space, motion and time'—something that 'relativist writers claim to have discovered.'<sup>16</sup>

British M.P. Austin Hopkinson observed 'how much simpler is the conception of divinity now possible due to the formulation of the general theory of relativity,' and found in the new physics 'a shadow of a dream of God which is more satisfying than the traditional anthropomorphisms.'<sup>17</sup> Albert Clarke Wyckoff wrote 'No scientific position since the birth of the new era has meant so much to Theism.' For Wyckoff, 'Theism's golden opportunity awaits.'<sup>18</sup>

Other writers, if not as enthusiastic, at least found no conflict between Christianity and relativity. F. J. McConnell, Pittsburg Methodist Episcopal Church Bishop, observed: 'there is nothing in Einstein . . . to forbid or discount theism,' and 'nothing in the Einstein doctrine of space which would deprive the theist of the right to think of the Divine Mind as absolute in relation to space.'<sup>19</sup> A Catholic

13. Orrock Colloque, 'Einstein and Catholic Theology', *American Church Monthly* 6 (1920), p. 525.

14. Leslie Walker, 'Concerning Einstein', *Dublin Review* 171 (1920), p. 275.

15. [anon.], 'Relativity in Religion', *Homiletic Review* 83 (1922), p. 27.

16. J. O. Patterson, 'Relativity: Some Metaphysico-Theological Considerations', *The Ecclesiastical Review* 66 (1922), pp. 263, 256.

17. Austin Hopkinson, 'Relativity and Revelation', *Hibbert Journal* 21 (1922-23), pp. 54, 55.

18. Albert Clarke Wyckoff, 'The Downfall of the Mechanistic Dynasty', *Biblical Review* 16 (1931), pp. 331, 343.

19. F. J. McConnell, 'Relativity and Theism', *Methodist Review* 107 (1924), p. 17.



theologian stated that 'although a readjustment of notions of space and time was required, their objective character such as understood in the scholastic sense was not impaired.'<sup>20</sup>

Some commentators were sceptical of the correlations which were being drawn, British philosopher C. Dawes Hicks, co-editor of the *Hibbert Journal* felt that the 'bearing of relativity on philosophical [and religious] problems had been exaggerated and misunderstood.'<sup>21</sup> A suspicious American Methodist cleric cited the quick acceptance of relativity as an example of the 'boundless self-conceit of the times which seeks to destroy respect for the past.' He noted that the new relativity 'has many parallels with the insidious effects of evolution on Christian faith and society.'<sup>22</sup> N. G. Augustus saw in relativity 'an attempt to have nature conform to our senses rather than educate our senses to the apprehension of the reality about us.'<sup>23</sup> Anglican Bishop Archibald Robertson expressed doubt about some of the correlations that were being drawn, noting that 'the values of Christian thought and experience are qualitative not quantitative.'<sup>24</sup>

#### *Later Views*

Authors of the late 1920s and early 1930s were often critical of the responses of their earlier counterparts. F. L. Cross, Librarian of Pusey House, Oxford warned against the 'precipitant use of Einstein or Planck for apologetic purposes', and commented that physicists such as Whitehead, Eddington and Jeans have 'received little assent from the learned world' for their attempts to relate physics to faith.<sup>25</sup> Philosopher Herbert Dingle, writing in the *Hibbert Journal*, asserted that 'whatever spiritual reality may underlie the events of nature is eternally inaccessible to science.'<sup>26</sup> Joseph Dudley sounded a similar note in *The Bible Champion* by suggesting that relativity was another case of 'extending theoretical speculation far beyond the data.'<sup>27</sup>

20. C. Bruehl, 'Theory of Einstein and Scholastic Epistemology', *Ecclesiastical Review* 64 (1921), p. 305.

21. C. Dawes Hicks, 'Recent Philosophical Literature', *Hibbert Journal* 19 (1920-21), p. 158.

22. N. G. Augustus, 'Re Einstein', *Methodist Quarterly Review* 73 (1924), pp. 477, 485.

23. *Ibid.*, p. 477.

24. Archibald Robertson, 'Revelation and Relativity: How it Strikes a Bishop', *Hibbert Journal* 21 (1922-23), p. 534.

25. F. L. Cross, *Religion and The Reign of Science* (London: Longmans, Green and Company, 1930), p. 36.

26. Herbert Dingle, 'Physics and God', *Hibbert Journal* 27 (1928), p. 46.

27. Joseph Whitney Dudley, 'A Revolution in Astronomy', *The Bible Champion* 35 (1929), p. 209.

Some writers, however, continued to maintain the earlier enthusiasm. The Rev. M. Green found that 'the new science offers new fields for faith to triumph.'<sup>28</sup> Jesuit C. W. O'Hara, writing in *Science and Religion: A Symposium* (1931), found that the work of Einstein and Planck had 'closed the gap between religion and science.'<sup>29</sup> Burnett Streeter, Fellow of Queens College, Oxford saw relativity as offering 'new apologetic possibilities.'<sup>30</sup> Theodore Graebner observed 'the most up-to-date scientific speculation is proceeding along lines of spiritualism, idealism, the recognition of the supernatural and the divine.'<sup>31</sup>

### Specific Correlations

#### *Science is Not All*

Both scientists and theologians saw a new sense of humility emerging in the physical sciences. Physicist Robert A. Millikan noted: 'We have learned not to take ourselves as seriously as the 19th century physicists took themselves. We have learned to work with new satisfaction, new hope, and new enthusiasm because there is so much that we do not understand.'<sup>32</sup> Oxford Bishop Archibald Robertson welcomed the new role of physics in checking 'the self-confidence of science.'<sup>24</sup> The limitations imposed on scientific measurement by the new physics were seen by some commentators as allowing a window for other (religious) ways of thinking.

#### *Materialism on Trial*

One prominent theme was found in the view that relativity did away with the ancient Christian adversary of materialism. Philosopher H. Wildon Carr championed this position in early interpretation of relativity in the *Times Educational Supplement*, and a pair of controversial articles in *Nature*. Carr asserted that 'rejection of the Newtonian concept of absolute space and time and the substitution of Einstein's space-time is the death-knell of materialism.'<sup>12b</sup> For Carr:

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28. M. Green, 'The New Revolution in Science and Its Implications for Religious Faith', *Homiletic Review* 99 (1930), p. 3.

29. C. W. O'Hara, in *Science and Religion: A Symposium* (London: Gerald Howe Ltd., 1931), p. 111.

30. Burnett Hillman Streeter, *Reality: A New Correlation of Science and Religion* (New York: MacMillan Co., 1926), p. 31.

31. Theodore Graebner, 'Is the New Science Hostile to Religion?' *Concordia Theological Monthly* 3 (1932), p. 921.

32. Robert A. Millikan, *Evolution in Science and Religion* (New Haven: Yale University Press, 1927), p. 28.

... the principle of relativity IS the rejection of materialism. Materialism is a causal theory of scientific reality. It is the argument that when we pronounce anything in our sense-experience to be real we imply an independent cause for it. According to the principle of relativity, the inference is entirely unnecessary and to insist on it unscientific. Instead of this causal theory relativity offers a simple correspondence theory.<sup>12d</sup>

F. R. Tennant, Lecturer and Fellow of Trinity College, Cambridge crystallized the thought of many writers in observing that relativity is a 'potent tool in the case against anti-theistic naturalism implicit in the closed-system thinking of the Newtonian world.'<sup>33</sup> M. Green wrote: 'the old determinism is dead both in physics and theology.'<sup>34</sup>

### *Creation*

Correlations with the theme of creation were a common feature. L. Franklin Gruber concluded that 'a finite and temporal and therefore created, universe issues from this scientific world-view.'<sup>35</sup> For Patterson, 'relativity provides an additional endorsement that space belongs to the finite and physical order.'<sup>36</sup> J. Arthur Thompson found the new physics to provide a picture of 'impressive grandeur' whose 'unification is congruent with the religious concept of a creator.'<sup>37</sup> C. W. O'Hara asserted, 'the Creator is seen to be the origin of the whole universe—the gap between religion and science has been closed.'<sup>38</sup>

### *Immanence vs. Transcendence*

The Newtonian model had been traditionally interpreted in deistic terms, with God far removed from the self-functioning natural order. H. Wildon Carr found a new role for relativity in his suggestion that 'while drawing us away from the idea of a separate or transcendent God, it interprets the idea of an immanent God.'<sup>15</sup> For J. J. B. Coles, 'Relativity can only be interpreted in terms of an Immanent God, a Reality which in its very nature is Life and consciousness.'<sup>39</sup> On the

33. F. R. Tennant, 'The Present Relation of Science and Theology', *Constructive Quarterly* 10 (1922), p. 284.

34. Green, *op. cit.*, p. 5.

35. L. Franklin Gruber, 'The Einstein Theory', *Bibliotheca Sacra* 79 (1922), p. 88.

36. Patterson, *op. cit.*, p. 259.

37. J. Arthur Thompson, *Science and Religion* (New York: Scribners and Sons, 1925), p. 104.

38. O'Hara, *op. cit.*, p. 113.

39. Coles, *op. cit.*, p. 123.

other hand, Bishop McConnell warned that 'some of the present day theorizing about the immanence of God seems to be intended to shut God into the present system.'<sup>40</sup> Patterson emphasized the fact that time had been shown to be part of the finite and physical order and was not to be confused with the eternity of God as found in Newton and Clarke.<sup>41</sup> Many writers emphasized the new 'unification of nature' stemming from relativity.

### *Various Levels of Knowledge*

McConnell, in viewing space in divine perspective, asked: 'may there ... be ... in the Divine Will and Mind possibilities of other spaces independent of us, but to which we might be conceivably introduced?'<sup>40</sup> Hopkinson found room for 'fleeting glimpses' of divinity at higher levels. He concluded: 'the mind is led to the conception of a still higher order of intelligence, and thence to an infinite series of yet higher orders, of which each is God to the order immediately below it.'<sup>42</sup> Robertson, however, was sceptical about this notion.

I welcome Mr. Hopkinson's step from space to the Divine Intelligence which is above space, without feeling at all compelled to take a step from outside space to an infinite series of Gods, one over the other. When the mind has reached God it finds Him, One and self-sufficient.<sup>43</sup>

F. R. Tennant felt that the new physics offered a place for religion not available in nineteenth-century thought: 'The attempt to picture and model with exactness has given way to satisfaction with being able mathematically to conceive.' 'Nature so neatly ordered by number for exact quantitative relationships can at the same time be characterized by an indefinite number of other relations and qualities.' He saw the physicist as 'interested in the one sort of quality or relation that is relevant to physical science while he leaves abundant opening for the philosopher [and theologian] to posit such additional elements as he may find necessary for the explanation of the world of experience as a whole.'<sup>44</sup>

### *Ontology*

The ontological status of the universe is important since some sort of

40. McConnell, *op. cit.*, p. 18.

41. Patterson, *op. cit.*, p. 261.

42. Hopkinson, *op. cit.*, p. 58.

43. Robertson, *op. cit.*, p. 530.

44. Tennant, *op. cit.*, p. 287-289.

'realism' is required if the notion of God as creator and sustainer is to make sense. Philosopher Ray H. Dotterer found that relativity implied that the world is 'objectively real and independent of the cognitive relation,' and warned his readers against 'all too hastily inferring that the world of relativity must be a world of caprice and subjectivity. . . . Indeed, the relativity theory is, precisely, an attempt to give a description of the world which shall transcend the view of any particular observer, or even, if that be possible, of all observers.'<sup>45</sup> Robertson reminded his readers that 'the admission of the general relativity of knowledge does not carry with it the admission of the relativity of truth.'<sup>46</sup> This point has often been missed by Einstein's interpreters. Indeed, Einstein would have preferred that his theory be called 'The Theory of Invariance' rather than Relativity Theory.<sup>47</sup>

#### *Implications for the 'Afterlife'*

Orrock Colloque speculated that the Einstein theory might help us to better understand the life of those who are in the place of departed spirits.

What do space and time mean to them? They enjoy motion at a velocity greater than light and may go everywhere in God's great universe. It is in their travels and in their studies of God and His creation that they grow in the knowledge and love of God. They learn to think in terms of mathematics, the universal language of God, and so enter into the mysteries of the laws of grace and of the laws of nature both. Whatever of truth they learned from past efforts is of use to themselves and to others but now they see, not from within the box of three dimensions, limited by time, but from without, from timeless eternity.<sup>48</sup>

Morrison notes with approval the assertion of Bishop Barnes that in unifying space and time 'we have no right to postulate that in the world to come part of this complex will be destroyed while the other part remains intact.' Morrison felt that he 'now had the support of physics' in firmly repudiating the notion that 'God's wonderful world of nature . . . would be scrapped in the afterlife.'<sup>49</sup>

45. Ray H. Dotterer, 'The Einstein Theory From the Standpoint of Philosophy,' *Reformed Church Review* 2 (1923), pp. 234, 235.

46. Robertson, *op. cit.*, p. 529.

47. Gerald Holton, in *Some Strangeness in the Proportion*, Harry Woolf, ed. (Reading, MA: Addison-Wesley Pub. Co., Inc., 1980), p. 57; and Note 21, p. 63.

48. Colloque, *op. cit.*, p. 529.

49. J. H. Morrison, 'The New Physics and Religious Thought,' *The Expository Times* 40 (1928-29), p. 380.

Colloque felt that the Catholic notion of time 'has something in common with Einstein's relativity.'<sup>50</sup> In his words:

Time fades for us into the relative eternal and will fade for creation into eternity itself . . . just as time is embraced within eternity, as one circle is included within another, so our life and thought is included within the consciousness of those who dwell with Christ in the other world. We are fellow-citizens with the saints.<sup>51</sup>

### *Chance vs. Necessity*

The perennial issue of chance vs. necessity in accounting for physical causation was extrapolated to the domain of theology. One writer rejoiced that 'the new physics allows man a greater place to mold his destiny and transform his personality as over against an oppressive Calvinism, stern and inexorable.'<sup>52</sup> The tightly determined universe of the nineteenth century, evolving along a predetermined path, left little room for freedom and responsibility. It seemed congenial only to deistic indifference or the iron grip of Calvinistic predestination. William B. Smith thought otherwise:

The vigorous and uncompromising doctrine of universal relativity leaves no escape from the conclusion that the subjects of its treatment are themselves the creatures of the intelligence that so boldly, so audaciously manipulates them in whose hands they are more plastic than wax, being fused and compounded and contorted at will.<sup>53</sup>

### *A Sceptical Note*

H. E. Barnes' anti-Christian polemic, *The Twilight of Christianity*, included a scathing denunciation of religious apologists who used scientific theories to support religious views. He was particularly vexed by the assertions of the typical prominent scientist 'whose scientific views are in the adult phase, while in the religious field he is intellectually a youth in short pants.' Barnes stated: 'Whitehead's conception of God was a highly abstruse physical notion, yet he frequently lapsed into attributing to his abstruse God many orthodox theistic qualities, thus affording a loophole for the satisfaction of the faithful.'<sup>54</sup> Barnes accused astronomer Eddington of reading his

50. Colloque, *op. cit.*, p. 526.

51. *Ibid.*, p. 530.

52. Green, *op. cit.*, p. 6.

53. William B. Smith, 'Relativity', *Mind* 31 (1921), p. 510.

54. Harry Elmer Barnes, *The Twilight of Christianity* (New York: The Vanguard Press, 1929), pp. 357, 358.

Quaker leanings into relativity. J. H. Randall, Jr. echoed this view in lamenting the fact that 'many physicists have blossomed forth as liberal theologians. . . . Aware that modern physics has abandoned doctrines that were once hostile to religious claims they imagine that there is no further conflict between religion and science and are ignorant of the way that anthropology, psychology and higher criticism have changed the nature of modern religion.'<sup>55</sup>

British Philosopher Herbert Dingle sharply criticized Arthur Eddington's understanding of the implications of relativity for religion. In Dingle's eyes, Eddington had closely examined the external world and found nothing whose behaviour is not mechanically determinable, and thus nothing worthy of worship that we can call 'God'. In using this approach, Eddington sought to hold on to the Victorian world view that the external world existed independent of the observer, whose task lay in taking measurements of various kinds to find out what was already there. The new perspective of relativity recognized physics to be a description of the relations between the results of operations chosen and performed by the investigator. They are the results of his definitions, not the magnitudes of objective features of the external world. The world is thus inferred from experience. The Victorian observer could not find God in his world because religious experience had not been taken into account in its construction. In the new world of relativity, the religious man no less than the scientist has the right to find the experience that he seeks.

Eddington knew all this, but betrayed himself to the pre-Einstein approach in seeking to find something 'real' in the external world which could be understandable in a spiritual sense. Quaker Eddington was viewed as 'leaving his mystical outlook on nature and looking for the fossilized remains of a real Victorian Great First Cause.' Dingle went on to say that Eddington confused himself and his readers because of 'his inherent predispositions which forced him to look for more behind when the essence of the matter was not behind, but up front and led him to banish the roots of religion to the world of the physically unknowable instead of recognizing them where he really knew they were—in that which is known more immediately than any external or physical world, in experience itself.'<sup>56</sup>

55. J. H. Randall, Jr., 'The Effects of Science and Industry on Religion, I. The Forces That Are Destroying Traditional Belief', *Current History* 30 (1929), pp. 360-361.

56. Herbert Dingle, *The Sources of Eddington's Philosophy* (Cambridge, England: Cambridge University Press, 1954), pp. 28, 29.

### *Process Theology*

The process theologies of realist metaphysicians, such as mathematician-philosopher Alfred North Whitehead, stand as the most enduring positions to find roots in relativity. Whitehead felt that the time was ripe for a new synthesis of knowledge—one free from materialism, but still in touch with science. He saw the religious vision as one element in the human experience which shows an upward trend—man's one ground for optimism. His estimate of religion was based on a dynamic 'philosophy of organism':

Whitehead wants us not to think of an elemental 'substance' underlying the world or dualistically of 'mind and matter', but rather of process in an interconnected conception of reality in which all aspects of experience are interjoined—aesthetic, moral and religious interests of the world as well as those ideas which have their origin in natural science.<sup>57</sup>

### **Some Generalizations**

The reader may well regard many of the quotations of the previous pages as meaningless in the light of current interpretative fashions. The pressure to 'come up with something' may have caused the pundits of the day to offer half-baked notions that do not stand up to the test of time. We should remember that the ideas of a previous generation should be first judged in terms of the theological and religious concerns of that day. The cherished notions that we so passionately argue today may be viewed with the same unsympathetic eye in the twenty-first century. These writers felt that a revolutionary scientific development should have major significance for a variety of areas of religious thought. Nonetheless, by the early 1930s it seemed that 'relativity' had raised no new religious problems nor settled any old ones. The optimism of the early period had been dulled by a failure to establish new correlations between science and religion; indeed, there was a rather strong reaction against the contribution of scientists who were often viewed as being out of their depth when they attempted to apply science to philosophy or theology.

Science was able to provide for the properly motivated viewer 'glimpses of the divine', and 'metaphors of great power' for gaining new insights into the categories of faith. It offered the potential for a new sense of unity between God and nature and, when properly understood, an ontology which supported orthodox Christian views of

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57. Macquarrie, *op. cit.*, p. 264.



creation and providence. Unfortunately, other observers thought differently and little consensus was achieved. If the old mechanistic materialism appeared to be discredited by relativity, it was not replaced with theism. However, not all of the earlier discussion has been relegated to history. The next section will note some of the themes of the earlier period which have emerged in current discussion with new vigour and direction.

While Einstein was to remain in the public eye throughout his life, for one observer 'the year 1919 represents the culmination of his career.'<sup>58</sup> Unfortunately, he chose to leave the mainstream of physical thought by rejecting the quantum theory that he had done so much to establish. He spent his remaining years in a fruitless effort to unify electromagnetism and gravity within the framework of a 'unified field theory.' As physicists turned increasingly to quantum theory, 'Einstein's views became for his peers a source of puzzlement, sorrow, and finally indifference.'<sup>58</sup> This bypassing of Einstein by the scientific mainstream may have contributed to the loss of interest at the philosophical-religious level evidenced by the mid-1930s.

The current theological concern with Einstein has been paralleled by a renewed scientific and popular interest in relativity, starting in the 1960's with the discovery of quasars, cosmic fireball radiation, pulsars, black holes and gravitational lenses. Theorists such as Stephen Hawking, Igor Novikov, James Bardeen, John Wheeler and others began to make discoveries in general relativity that had been missed for four decades. They have written widely in the scientific and popular press, and brought back to the general public some of the flavour of the field which had been lost after 1919. Today, Einstein is back in fashion in scientific and theological circles alike!

### **Enduring Themes**

A number of areas of correlation in early discussions may be found in the work of today's writers. Theologian Thomas Torrance, a key figure in current integrative thought, emphasizes the new unity in science brought about by Einstein's thinking as 'not inconsistent with the Christian faith ...'<sup>59</sup> Torrance more recently reflects earlier thinkers in his assessment of the significance of Einstein's work 'as reaching down to the very foundations of our understanding of the

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58. Robert P. Crease and Charles C. Mann, *The Second Creation: Makers of the Revolution in 20th-Century Physics* (New York: Macmillan Pub. Co., 1986), p. 40.

59. Thomas F. Torrance, *Theology in Reconciliation* (London: Geoffrey Chapman, 1975), p. 270.

universe, affecting everything we know far beyond the limits of physics . . . [which] . . . imports a radical alteration in the regulative basis of knowledge, transforming not only the structure of science but our basic ways of knowing.' For Torrance, 'the liberation of the human spirit from a closed determinist continuum of cause and effect, which is now taking place, makes for the resuscitation of belief in divine providence and divine response to human prayer. . . .'<sup>60</sup> Other early themes captured by Torrance include the idea that nature is characterized by 'a unitary rational order,' and that 'the universe is found to comprise interrelated levels of being, each of which is far from being closed in upon itself, but is open to and explicable in terms of its immediately higher level and indeed of the whole multi-levelled structure of the universe.'<sup>61</sup> A further theme emphasizes the relational perspective of nature over and against the container perspective of pre-Einstein physics.

Arthur R. Peacocke, writing in a book commemorating the 100th anniversary of Einstein's birth, mentioned other ideas which parallel the thinking of the 1920s. He recognized 'a scepticism within and towards science itself . . . [and] . . . a much more humble view of physical law,' an emphasis that 'science arises from interaction between the world of nature and ourselves . . .', a realist ontology, and finds that time as part of time-space owes its existence to God and supports the traditional Judeo-Christian doctrine of creation.<sup>62</sup> Barrie Britton has recently commented on the transcendence of God: 'If it is accepted that both time and space are actually dependent on the existence of the physical universe for their very meaning, then it is but a small step to realize that the Creator of such a universe must, by logical necessity, be *outside* and *independent* of the time and space perceived within his creation.'<sup>63</sup>

### Conclusion

In this historical study we have shown that theologians, philosophers and scientists found a broad range of religious implications stemming from Albert Einstein's work on relativity. These early correlations were often strained, inconclusive and conflicting, yet some themes have shown enduring significance.

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60. Thomas F. Torrance, *Christian Theology and Scientific Culture* (New York: Oxford University Press, 1981), pp. 12, 18.

61. *Ibid.*, pp. 31, 39.

62. Peacocke, *op. cit.*, pp. 75, 77, 83, 86.

63. Barrie Britton, 'Evolution by Blind Chance', *Scottish Journal of Theology* 39 (1986), p. 351.

The current crop of thinkers has developed the religious and philosophical implications of relativity at a level of sophistication and application far beyond the expressions of earlier writers, in a context of theological and philosophical perspectives not present in the 1920's. It remains to be seen if these expressions will provide a lasting framework for an integrative approach, or suffer the same fate as the vision of those who wrote so enthusiastically six decades ago.

### **Acknowledgements**

The author thanks two referees for their constructive assistance, and the Pew Foundation for travel support under a Christian College Consortium Faculty Incentive Grant.

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Douglas John Hall, *Imaging God: Dominion as Stewardship*, William B. Eerdmans, Grand Rapids; Friendship Press, New York, for Commission on Stewardship, National Council of the Churches of Christ in the USA, 1986. 248pp. Paperback. £7.95.

This is a superb and challenging book about the theology of nature. The deterioration of our natural environment under the impact of a rampant technological society is one of the major crises of our time. For many analysts, a primary cause of this crisis is the influence on Western culture of the Judaeo-Christian concept of the human being as having 'dominion' over the rest of creation. Professor Hall does not attempt to let Christianity off the hook, but he asks us to admit our mistakes and then work to put them right. His first presupposition is 'that there is something wrong with our civilization', and the second is 'that there is sufficient wisdom, energy, and courage in the churches both to identify what is wrong and to begin to change it'.

The crisis of nature is forcing us to rethink our whole understanding of the relation between humanity and nature, and we are to do that by a fresh look at our belief that human beings are created in the image of God. He argues that the *imago Dei* is not something that we 'have', but a quality to do with our relationship with God. We should think of *imago* not as a noun but a verb, and the human vocation within the created order is 'to image' the Creator. To take this seriously will mean that our whole idea of human 'dominion' over

all of nature must be radically reinterpreted.

Our model will be the Lordship of Jesus, who shows us dominion expressed not as mastery but as service—and sacrificial service at that. Our stewardship is a participation in the divine preservation of creation, and the positive side of self-sacrifice, and the whole point of it is the preservation of 'the other'. 'Jesus did not give up his life as if the renunciation of life were a good in itself . . . Rather, he "lay down his life for his friends" . . . Jesus' death is motivated by his quest for life, the life of those with whom he had made common cause. "I came that they might have life, and have it more abundantly." . . . The divine dominion of the world that expresses itself ultimately in the cross of Christ is a dominion that serves. Its object is the preservation of life.'

This could be a fascinating and challenging Lent book for a group of Christians who care enough about God's creation to treat it properly and love it. There are just the right number of chapters for a seven-week course. *Introduction* Reimagining ourselves; *Something is wrong; We ourselves must be changed; Religion and Image-Making; The Intention of this study;* (then six chapters)

1. *Christian Culpability in a Groaning Creation*. On telling the truth; Judgement begins at the household of God; The fate of the world; Divine grace and human will; Relationships between human and extrahuman nature.

2. *Imago Dei: The Scriptural Background*. Back to the sources—with new questions; The inseparability of

the counterparts of human relatedness; *Imago Dei* in the Hebrew Scriptures; The New Testament's application of the *Imago* symbol.

3. *Two Historical Conceptions of Imago Dei*. The importance of the tradition; The substantialist conception of the image of God; The relational conception of the image of God; Implications for our theme.

4. *The Ontology of Communion*. Being means being-with; The three dimensions of human being-with; Not three distinct relationships; We receive our being; Awed by the world.

5. *Dimensions of Human relatedness*. The Trinity of Being-with; Being-with-God; Being-with-humanity.

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SHELAGH BROWN

Sister Margaret Magdalen CSMV, *Jesus—Man of Prayer*, Hodder and Stoughton, 1987. 239pp. Paperback. £4.95.

This is the best book on prayer I have ever read. *Jesus—Man of Prayer* is No. 11 in series *The Jesus Library*, edited by Michael Green, and I quote from his Preface. 'I do not imagine that any of us has read a

book on prayer, and the prayer life of Jesus in particular, that remotely resembles this one. Sister Meg brings to the task no small understanding of the New Testament, a sensitive and biblically controlled imagination, a loyalty to scripture, a phenomenal use of the devotional literature of the ages from every strand of authentic spirituality, and a deep personal devotion to the Lord.'

It really is stunningly excellent. The book as a whole has had a profound spiritual effect on me, but the heart of it was in chapter 8: *'Father, forgive them'—redemptive prayer*. 'Almost anyone,' she writes, 'believer or not, knows that Jesus prayed these words as he was about to be crucified. That in itself is significant. They are so astonishing that they have captured universal wonder. At times we might even be tempted to wish that they were not so well known, so hard are they to follow and so powerfully do they accuse us when we fail to forgive. Yet, in this, of all the prayers that he prayed, we come close to the heart of Jesus, the man of prayer.' It was probably the first time, in all their experience of criminals, that the Roman soldiers who nailed Jesus to the cross had met someone who loved his enemies and prayed for those who despitefully used him.

When we look at what pain does to most of us, and how we react to it, we have to admit that it can bring out a rather ignoble side of our characters. We can become 'absorbed in our pain, whine for sympathy, complain bitterly, and grow full of self-pity and rage'. And when it comes to the pain of injustice, misunderstanding and humiliation, our natural reaction is to

strike back and to hurt. But there can be a supernatural reaction to this kind of pain, which is what the Roman soldiers saw. "They saw a love which could disregard pain and go out undiminished towards the perpetrator of the evil—a love which is the principal ingredient of forgiveness." Margaret Magdalen goes on to explore the healing power that forgiveness releases, and she quotes Andrew Elphinstone (and I include this quotation as a small indication of her 'phenomenal use of the devotional literature of the ages' which so beautifully enriches this book).

'Forgiveness is specifically a matter of dealing with pain . . . Forgiveness describes the positive, redemptive response to pain, in which, for love's sake, the hurt is contained by refusal to return it with anger and in which love and goodwill are maintained unbroken towards the offender . . . The original hurt is isolated and so, being contained within the hurt person, is not instrumental in bringing about an increase in the total amount of pain and a consequent proliferation of evil . . . [When] the supernatural will to love has become entirely dominant over the natural will to take revenge, the pain is absorbed—redeemed—in the hurt person and a healing flows from that person to the original offender. A pain has been transformed by grace into a source of love for both people.'

Then Margaret Magdalen makes us look at our society through God's eyes. When he saw the corruption of Isaiah's day, in a society which could so easily be our own, "it displeased him . . . He saw that there was no

man, and wondered that there was no one to intercede." He was amazed that no one had been sufficiently concerned to stand before him as priest and intercessor and plead mercy for these benighted people heading for their own destruction.' What do we do when we see an artist's impression on TV of a man wanted for abducting a child or shooting the cashier in a sub-post office? Do we feel a 'desire for revenge? Waves of sympathy for the relatives? A sick feeling at the increasing violence in our society? A longing for justice and humankindness? Maybe a mixture of them all? But do we pray "Father, forgive him", opening a channel for God's redemptive power to reach him?'

I have gone into that chapter at some length so that you could have a proper taste of the book. The other chapters are just as good. CONSIDER THE LILIES—praying through the senses; TO A LONELY PLACE—praying in solitude and silence. ABBA—intimate prayer. AS HIS CUSTOM WAS—liturgical prayer. AS IT IS WRITTEN—praying through the scriptures. I HAVE PRAYED FOR YOU—intercessory love. GLORIFY YOUR NAME—powerful prayer. MY GOD, WHY HAVE YOU FORSAKEN ME?—the prayer of desolation. INTO YOUR HANDS—the prayer of commitment. PRAY THEN LIKE THIS—praying as Jesus taught. OUR FATHER IN HEAVEN—the prayer given specifically to disciples. WATCH AND PRAY—the prayer of readiness. There is also an Appendix with practical suggestions on different ways of praying.

SHELACH BROWN



C. Kruse, *2 Corinthians Tyndale NT Commentaries*, IVP, 1987. 224pp. Paperback. £4.25

N. T. Wright, *Colossians and Philemon Tyndale NT Commentaries* IVP, 1987. 192pp. Paperback. £3.50

Both these volumes replace the original Tyndale commentaries, and are by different authors than the earlier books. The Bible text followed is that of the RSV. The difficulties associated with the second letter of Paul to the church in Corinth are discussed, and Dr. Kruse offers his own solution to these. His commentary is preceded by a 50-page introduction to the writer, setting, literary style, etc., and the letter is interpreted against the NT background. Although there is no bibliography *per se*, the author quotes over 20 other sources, and there is a further selection in the footnotes. The author is NT lecturer at the University of Melbourne.

The layout of the commentary on Colossians and Philemon follows a very similar pattern. The author, N. T. Wright, is Fellow and Chaplain of Worcester College, Oxford, and his interpretation of Colossians is of interest. He takes the view that Paul is attempting to counter the 'Judaisers' in their attitudes to Gentile converts. Thus Paul is at pains to stress the supremacy of the death and resurrection of Jesus in the life of the Christian and of the Church.

A. B. ROBINS

John Conacher, *Prayers in Church*, Oxford University Press, 1987. Boards, gilt. £19.95

The compiler of this series of

prayers, 514 in all, is a lay-reader in the Church of Ireland, having served in Ethiopia for some years. The foreword is by Archbishop John W. Armstrong, who died before the book came to press, and to whom the author pays a great tribute for his help. The topic coverage is wide indeed, including science, social work, sports, and especially Northern Ireland and the Republic, and their governments. The prayers are intended for use in formal services, and the only way to assess a collection such as this is to put them into practice. This I have done on many occasions, for large congregations, and for intimate gatherings in old-people's homes, etc. I confess that Conacher's collection is the one I turn to first now, in spite of the variety of such aids that are available. Many of the prayers are the compiler's own, but sources for all are given and these, 70 in all, range from Augustine to the present-day.

Included in the collection is a calendar for the years 1987 until 1998, giving the dates of the Christian Festivals, and most Sundays. There is an index of scripture readings from the Bible, and the date of the appropriate Sunday in the Alternative Prayer Book. There are also scripture allusions used in the prayers for all the major books of OT and NT. Naturally there is a very complete index of the topics under which the prayers are arranged. The language of the prayers and scripture allusions is that of the NIV.

I heartily commend this collection to all who are required to take public services. The cost is perhaps high, but the presentation—in boards, with ribbons, gilt page edging and a box—may account for this. Perhaps

we could look forward to a paperback edition at a lower price some day.

A. B. ROBINS

Kenneth L. Barker (general ed.), *N.I.V. Study Bible*, Hodder and Stoughton, 1987. (English Edition). 2145pp. 14 colour maps, 46 black and white maps, 35 charts. Cased. £19.95

Much of the information about this Study Bible has been given above. In addition, there are 20,000 study notes to explain words and concepts, etc. These are presented as footnotes on every page. There are 100,000 cross-references down the centre of each page, as we are accustomed to seeing in most good Bibles. At the end of the Study Bible is a concordance of 35,000 entries, and a 43 page subject index, from Aaron to Zuriel. All maps and charts are of course indexed also. The purpose of the Bible is to enable a student to carry out much study without any further aid, and this is true to a considerable degree. Even if the footnote does not give everything one would care to know about a verse or passage, one's appetite is whetted to look more deeply elsewhere. Each book of the Bible is preceded by a few pages outlining the author, date, message, literary features, etc., depending on the book in question.

The theology of the Study Bible is avowedly evangelical, as one would expect, but the compilers claim that they have tried to be 'even-handed'. This I think they have achieved; they do not go into detail of alternative explanations, for example the authorship of the 'pastoral epistles', but acknowledge that other proposals have been made, and aim for a

balance. The publishers are to be congratulated on achieving such a wealth of information and commentary at such a reasonable price. It is sad to record that the original general editor of the NIV study bible died within a year of starting the project, but not before he had laid much of the groundwork, and recruited the contributors. To his efforts the committee pay tribute.

A. B. ROBINS

Harold Heie and David Wolfe (eds), *The Reality of Christian Learning*, Eerdmans, 1987. 339pp. £16.35

This volume consists of a collection of 16 essays which are aimed at making a contribution towards the integration of the Christian faith and various academic disciplines. With one exception (Professor Gareth Jones) all the authors are American evangelicals, well versed in their specialist fields of study.

After an introductory essay on the distinction between true integration and 'pseudointegration' in faith and academic subjects, there follow seven sections, each consisting of a main paper dealing with a particular subject and a shorter respondent paper, the two being prefaced with a summary-comment. A single essay also affords a conclusion to the series. The seven disciplines chosen for study are wide ranging, having been drawn from natural science and mathematics (Biology and Mathematics); the social sciences (Political science, Sociology and Psychology); and the humanities (Arts and Philosophy). The device of having a main essay in which a certain approach towards integration

is explored, followed by a critique and suggested alternatives, is a most productive one. It not only makes for creative engagement but also contributes towards an exceedingly readable and interesting book.

The essays in political science and sociology make short work of reductionist approaches to these disciplines, preferring a more 'holistic' framework; although Richard Mouw in responding to James Skillen's criticisms of the reductionism of Karl Deutsch's political science, quite rightly stresses the value that *methodological* reductionism (although he doesn't use the term) can offer in providing informative working models.

Some of the most interesting and helpful material is to be found in the papers which make up the Sociology, Psychology and Biology sections, with the former two focusing on questions of epistemology and the latter on Brain-Mind relations. However, to describe the approaches of Professors MacKay and Myers (which will be familiar to the regular readers of this journal) as providing a 'theological blank cheque, allowing them to practice orthodox science with few constraints by their Christian assumptions', as do Clark and Gaede (p. 73) is surely going too far. James Martin's reply 'Towards an Epistemology of Revelation' is highly suggestive, and one hopes that the ideas contained here will receive more extensive treatment in some future publication. Also, William Hasker's attempt to understand the relation between mind and brain in terms of 'emergentism' is most intriguing and again one awaits more from the pen of this scholar on this most important subject.

The remaining papers, with the exception of the two on Philosophy, are of a more general nature and less substantial. But taken as a whole these essays form a most valuable collection indeed.

MELVIN TINKER

Alistair Kee, *The Roots of Christian Freedom: the Theology of John A. T. Robinson*, SPCK, 1988. xvi+190pp. Paperback. £8.95

K. W. Clements, *Lovers of Discord: Twentieth Century Theological Controversies in England*, SPCK, 1988. x+261pp. Paperback. £8.95

My old friend and former colleague Dr. Alistair Kee has written a most able and illuminating account of the theological thought of the late Bishop J. A. T. Robinson. He divides Robinson's thought into three areas, biblical, theological, and social. His account is by no means uncritical, but is written with sympathy and admiration.

One must indeed admire John Robinson for his integrity and for his determination to make the findings of the scholars available to the Church at large and to persuade thinking Christians to face the problems connected with the Christian faith today. But one cannot help feeling that if he had stuck to one area of learning he could, with his great talents, have made a more lasting impression. He could have been a really notable scholar in the philosophy of religion, in theology, or in New Testament study. As it was, he varied from one to another like a snipe. He did not seem able to resist the attraction of each new topic of interest: now it was the thought of Paul Tillich and

Dietrich Bonhoeffer; then it was Van Buren who attracted him; then the question of the Turin shroud; then he came across Edmundson's Bampton Lectures of 1914; then he had to tackle the problem of the relation of Christianity to Hinduism. To each topic he made an interesting, sometimes a striking, contribution, but not usually one that will stand the test of time. In the area of N.T. studies, for example, his thesis about the meaning of 'the body of Christ' in the Pauline writings is not now accepted by informed scholars. His redating of the N.T., though he makes some good suggestions, has no hope of ever convincing the majority of experts. And the same, I am sure, will prove to be the case with his pleas for the priority of the Fourth Gospel. Was it this element almost of amateurism that made him the *bête noire* of Karl Barth's declining years? Despite John Robinson's genuine concern for the Christian gospel, there hangs about him an aura of the upper-class English amateur that seems to belong inevitably to the higher reaches of the Church of England establishment.

In Keith Clements' book we have an effective and well-informed account of the controversies which have disturbed the Church in England from R. J. Campbell's 'new theology' of the opening years of the century to the recent furore over the present Bishop of Durham. These controversies were not confined to the Church of England, but the Church of England has been the main cockpit for most of them. Dr. Clements includes the controversy over the appointment of Hensley Henson to the see of Hereford in 1918 (of which the recent Durham

appointment has been almost a carbon copy), the row over Bishop Barnes in the '30s, and the *Honest to God* debate, and several other controversies as well. I regret that he did not include the furious conflict that raged in the Church of England in 1947 over the inauguration of the Church of South India, to which T. S. Eliot contributed an altogether deplorable pamphlet.

The basic questions that run through all the debates so admirably recorded by Clements seem to be four. I list them in ascending order of magnitude. (1) What are we to do in face of the fact that the Fourth Gospel's picture of Jesus as the God-man must now to be admitted to be unhistorical? (2) How are we to accommodate the change from the traditional 'God as ultimate substance' to Hegel's 'God as absolute person'? Here a reference to Hans Küng would have helped. (3) Where are we to look for philosophical backing? (4) How are we to relate Christianity to the other world religions? None of these problems is insoluble and we are now in the happy position that theologians of all traditions in the Western Church are working at them together.

I take issue with the title Dr. Clements has chosen for his very fine book. It suggests that these controversies were undertaken out of love for controversy. This is less than just. These issues had to be faced. For half the period under review the Roman Catholic Church contributed virtually nothing to the debate because its theologians were muzzled by the foolish policy of successive popes. We do not admire them for this: on the contrary, we rejoice that their theologians are now

free to join with the rest of us in the necessary intellectual quest.

SPCK has laid us all under obligation by producing two first-rate paperbacks.

A. T. HANSON

James D. G. Dunn and James P. Mackey, *New Testament Theology in Dialogue*, London: SPCK, 1987. 150pp. Paperback. £7.95

Bruce Chilton and J. I. H. McDonald, *Jesus and the Ethics of the Kingdom*, London: SPCK, 1987. 148pp. Paperback. £7.95

Frances Young and David F. Ford, *Meaning and Truth in 2 Corinthians*, London: SPCK, 1987. 289pp. Paperback. £10.95

Paul Barnett, *Is the New Testament History?*, London: Hodder and Stoughton, 1987. 173pp. Paperback. £2.25

The first three of these books are the opening contributions to a series entitled *Biblical Foundations in Theology* which is being edited by the authors of the first of them. The stated aim is to bring together biblical scholars and Christian theologians in constructive partnership in a way that has not heretofore been attempted. There are various ways in which this aim might be fulfilled, and the three books now available attempt the task in differing manners.

The trend-setting volume by the editors preserves best the form of dialogue, in that each of the two writers in turn submits chapters written from his own perspective and then the other comments from his angle. Thus Dunn discusses the

task of NT theology and Mackey replies with an elucidation of the task of systematic theology. Then Dunn gives a case study of christology (with Mackey then responding), and finally Mackey looks at ministry in the church (with a response by Dunn). The format is thus conducive to debate with different positions being represented, and it is obvious that the key question is that of how Scripture is to be used in the theological enterprise. This is a helpful introduction to the problem of the nature and methods of biblical theology. Dunn's exposition of the character of biblical theology is lucid and sound. Readers may not be so happy with his discussion of christology which presents in a simpler form the approach found in his *Christology in the Making*. Certainly it is important that we be open to fresh interpretations of familiar texts, but the interpretations offered of Col. 1:15-20 and John 14:6 may be thought to be weaker than the texts demand. Mackey is not too closely tied to the traditional dogmas of the Roman Catholic Church, and he is somewhat critical of its understanding of ministry and eucharist. Here he is strongly buttressed by Dunn who argues strongly that confining the celebration of the Lord's Supper to those ordained to a priestly function is contrary to NT teaching. Whether or not one agrees with the various views expressed in this book, it can be recommended warmly as a provocative discussion-opener.

Next we have the discussion of the ethics of Jesus by Bruce Chilton who is a New Testament scholar and J. I. H. McDonald who is both New Testament scholar and practical theologian. Here there is less of dialogue

and more of common endeavour to explore the idea of 'performance' in relation to the Kingdom of God, especially as it is explicated in the parables. Although there is some interesting research in this volume, it is beclouded by the use of jargon and by some extremely opaque sentences. Whereas the other two books are clearly presented and assume little knowledge on the part of the reader, this one is not for beginners.

I found the third, and longest, volume the most stimulating. In this case we have a two-part work. Frances Young contributed the first part which is an illuminating study of 2 Corinthians. It is designed to show how biblical study and exegesis should be conducted, using 2 Corinthians as a test-case, and culminating in a very useful discussion of the problem of 'determining the meaning of a text'. At the same time it has its own contribution to make to research on the letter, as the author argues for the unity of 2 Corinthians as an apologetic letter; the 'previous letter' referred to is identified as 1 Corinthians; and Paul's thought is informed by OT language and imagery to a greater degree than is often realized. In the second part David Ford offers a further study of hermeneutics, in which he raises questions about the truth of the text for modern readers, and then takes up various aspects of the letter—its use of metaphor, the contribution of sociological study, the nature of Paul's authority, and the letter's teaching about God. The book closes with a fresh paraphrase of the letter. The aim, then, is not to offer a full commentary on the letter but to discuss many of the hermeneutical

issues raised by it. I was particularly interested in the way in which it is recognized that God himself is the main subject of the letter; scholars are only now beginning to realize that there is a NT doctrine of God. The book is to be highly commended for being a readable (though not necessarily elementary) discussion of hermeneutics, and for its contribution to the understanding of various aspects of the letter.

The Australian scholar Paul Barnett, who is Master of Robert Menzies College at Macquarie University, writes on a much simpler level for the general reader and tries to do for today what F. F. Bruce (who contributes a Foreword) did so successfully over forty years ago with his little book *Are the New Testament Documents Reliable?* He makes it clear that historical research cannot establish the theological truth of the NT, but that it can help to confirm the historicity of Jesus Christ and the early church and thus bring readers to face the claims to theological truth made by both. He covers much familiar ground in his highly readable survey of the field. He boldly argues for the historical reliability of the Gospels of John and Mark through their connections with John and Peter respectively. He argues that the Paul of Luke is not inconsistent with the Paul of the Epistles. This will be a helpful book for people worried about the reliability of the NT, but it is my feeling that too much ground is covered in too brief a space (only 6 pages on the problems of the miracles and 8 on the birth of Jesus), and that some of the problems are rather oversimplified. Having, for example, mentioned G. A. Wells' attack on the very existence of Jesus,

Barnett could well have faced up directly to the specific arguments which he uses and shown how they can be refuted.

I. HOWARD MARSHALL

Frank E. Gaebelain (ed.), *The Expositor's Bible Commentary*, Vol. VII, Zondervan Publishing House, Michigan, 1985. xvi+725pp. £18.95 (in U.K.)

This volume of the *Expositor's Bible Commentary*, which is based on the New International Version of the Bible, is strongly evangelical in its emphasis—in company with the other volumes of this series. Most of the scholars who have contributed articles to this volume are from the Baptist tradition and there is a fine depth of scholarship from those who have been or are teaching, in the main, in various American colleges.

The concern of the writers is not simply technical biblical criticism although they recognize the place of such criticism. Their claim is to provide a grammatico-historical interpretation of the actual Hebrew text in the light of the time when these Old Testament prophets were writing. This volume contains a study of the book of Daniel and of the Twelve Minor Prophets, which often do not receive the attention which many of them merit. The cultural setting of the poetry, with the symbolism and the figures of speech, are all grist to the expositors' mill, yet at the same time there is given much devotional grain to feed the life of a believer. They aim to provide illumination which has grace and clarity.

The introduction to the books follow, in the main, a similar pattern,

namely, the background, unity, authorship, date and theological values—most of which are open to debate, whilst in regard to the last-named there tend to be subjective value-judgments which other scholars would question. The introduction to the book of Daniel argues strongly against a Maccabaeian date and gives prominence to prophecy which can be very ambivalent, whilst the discussions on Aramaic and Hebrew terms appear at times to be word-games played between opposing teams of scholars. Both sides can provide evidence to support their case. Similarly, there is much attention given to symbolism—which tends to require much special pleading to identify the visions in chapter 2 and in regard to the kingdoms in chapters 7 and 8. At the same time, the appreciation of the theological values is helpful.

The study of the Twelve Minor Prophets follows a traditional scheme. In the introduction to the book of Hosea, careful consideration is given to the theories in regard to the marriage of Hosea. It would have been helpful for more attention to have been given to the theology of this book. The introduction to the book of Jonah discusses rival theories of the historical and allegorical interpretation and the writer claims to provide 'only a provisional answer', which means in fact that he 'sits on the fence', claiming that the sixth century Judaeian editor may have adapted an earlier work. Much thorough linguistic work has been devoted to the study of these prophets which is very helpful towards an understanding of the historical background. Whilst the viewpoint is in a conservative mould,

yet it arises out of deep conviction as well as out of scholarship. Certainly, there is a rich mine of information in this volume, with many veins of bright illuminating gems, which will enrich the preacher, the teacher and the Bible student with deep devotional and spiritual profit.

JOHN H. CHAMBERLAYNE

D. Petersen (ed.), *Prophecy in Israel*, SPCK, 1987. 178pp. Paperback. £3.95

N. M. de S. Cameron, *Biblical Higher Criticism and the Defense of Infallibility in 19th Century Britain*, Edwin Mellen Press, New York, 1987. 419pp. Paperback. \$39.95

B. Kuklick, *Churchmen and Philosophers from Jonathan Edwards to John Dewey*, Yale University Press, 1987. 311pp. Paperback. £12.50

A. P. F. Sell, *Defending and Declaring the Faith, Some Scottish Examples 1860-1920*, Paternoster Press, 1987. 280pp. Paperback. £8.95

The first of these four books is a collection of essays on the O.T. prophets written at various times during the last sixty-five years. Most are useful, though one of them, that written by Max Weber, was never very profound and is today completely out-of-date. Three in particular I found most valuable and will read again: Gunkel on the prophets as poets and writers; Mays on 'justice' in the prophets—his distinction between the meaning of *mishpat* and *tsedaqah* is most illuminating—and the last essay by G. Tucker on the prophet in the church today is excel-

lent. This book would improve the library of any college.

N. Cameron has written a most clear and competent account of the controversy in Britain about biblical criticism in the last century, though to the very end he leaves us uncertain as to which side he favours himself. The issues at stake were very much the same as they are today, except that, with one exception, all the contentious questions came from criticisms of the O.T. Everybody more or less assumed that the N.T. was immune. The one exception was Jesus' own references to O.T. authorship. It is confusing that Dr. Cameron regularly refers to George Adam Smith as 'Adam Smith', thereby confounding him with the author of 'The Wealth of Nations'.

Professor Kuklick has traced a line of philosophical and theological enquiry in America from Jonathan Edwards in the middle of the 18th century to John Dewey in the middle of the 20th, claiming that there is a discernible logical development. Though he knows his subject very well and has all the facts at his fingertips, I do not think that I found this book heavy and boring solely because I found the subject boring. Dr. Kuklick has introduced too many names and does not have a very easy style. He does make clear what an appalling creed 18th century Calvinism was. No wonder almost everyone in the next century tried to modify it. The author seems to make a mistake every time he uses a Latin phrase. Does he perhaps know no Latin?

Mr. Sell dealing with a similar theme manages to make his subject much more interesting. He has taken eight Scottish divines of the last



century and shown how they attempted to defend the Christian faith against the many attacks which it was encountering. Except for John Kennedy, an obscurantist bigot, all were doughty fighters, men greatly respected in their day. Most of them made genuine, and sometimes successful efforts to grapple with such topics as the theory of evolution, idealist philosophy, and biblical criticism. I doubt whether any of them (Flint, John Caird, Bruce, Iverach, Orr and Denney) is worth reading today, with the possible exception of Denney, if one wishes to defend a strongly substitutionary doctrine of the atonement. It is remarkable that most of them were ready to abandon the Westminster Confession and fall back on the Creeds. When dealing with the Incarnation, they all assume that the Fourth Gospel is straightforward history, which means that they seem to be in a different world from us. Mr. Sell shows himself to be an able and agreeable exponent of 19th century thought.

A. T. HANSON

Drusilla Scott, *Everyman Revived: The Common Sense of Michael Polanyi*, The Book Guild Ltd., Lewes, Sussex, 1985. 215pp. £9.25

Michael Polanyi was a very remarkable man, and his writings deserve to be more widely known. Originally a medical doctor, he turned to physical chemistry and emigrated from his native Hungary to England where he had a most distinguished career as a research scientist. He was deeply affected by the turmoil of European intellectual life in the early decades of the century, and his

unease was crystallized by a conversation he had in Moscow in 1935 with Bukharin, a leading theorist of the Communist Party. Polanyi asked Bukharin what was the future of pure science in the Soviet Union and was told 'that pure science was a morbid symptom of a class society; under socialism the conception of science pursued for its own sake would disappear, for the interests of scientists would spontaneously turn to the problems of the current five year plan.'

Polanyi knew from his own experience of scientific research that this was mere dialectical rubbish, but its seriousness became only too clearly apparent in the actual treatment of scientists by the Party, as shown for example by the persecution and death of Vavilov and the State support of Lysenko. This forced Polanyi to ask himself how he would defend the freedom of science against the socialist threat of state control. This was to provide the mainspring of his intellectual endeavours for the rest of his life. It eventually drove him to articulate a whole philosophy of science, and his ideas have found fertile applications to the philosophy of the mind-body problem, to evolution, education, literature and a host of problems of the greatest importance for the intellectual life of our times.

Central to his thought is the concept of tacit knowledge summed up in the phrase 'we know more than we can tell.' For example, we may know how to ride a bicycle or bake a cake, but we cannot describe what we do accurately enough for one who has no knowledge of these activities to repeat them successfully. Polanyi analyses this type of knowing and hows how it depends on an integrat-

ing facility that attends away from the particulars and towards the whole. In everyday affairs it is frequently called commonsense, but it has its counterparts in scientific research, in art, in literature and the theory of learning. In particular it exposes the fallacy of reductionism, the idea that every entity is no more than the sum of its parts.

Polanyi's philosophy thus provides the means of rescuing Everyman from the widespread misinterpretation of science that analyses man into a chance collocation of atoms, and from all the manifold evils that follow from this view.

Polanyi's writings are profound and not always easy to understand, principally because of the difficulty of the subject matter. What is needed is a clear and accurate survey of Polanyi's thought for the non-specialist, and this is admirably provided by Lady Scott's book. The list of chapter headings shows very clearly the range of Polanyi's thought and its relevance to present concerns: 1. The Power of Ideas. 2. Everyman and Knowledge. 3. Discovery. 4. Tacit Knowing. 5. Reality. 6. Truth and the Free Society. 7. Moral Inversion and the Unfree Society. 8. A Many-level World. 9. Mind and Body. 10. What is a Person. 11. The Poet's Eye. 12. A Meaningful World.

In these chapters each facet of Polanyi's thought is described simply and clearly with frequent quotations from Polanyi's writings. Particularly admirable is the final chapter on Polanyi's religious views, where the shortcoming of Polanyi's thoughts are squarely faced. Polanyi achieved much of lasting value, but seemed somehow to falter towards the end.

Although he had a Christian upbringing he failed to realize that it is the Christian revelation that provides the ultimate justification of the freedom of science and of man himself. There still remains in his writings an element of subjectivism, a certain lack of confidence as when he said that we must learn to hold on to our beliefs even though they might turn out to be mistaken. But when this is said, we must acknowledge with gratitude that Polanyi still has much to teach us. As probably the best available introduction to his thought the book by Lady Scott deserves to be warmly commended and widely read.

P. E. HODGSON

Thomas Molnar, *The Pagan Temptation*, Eerdmans/Paternoster, Grand Rapids, 1987. 201pp. £9.80

This is a book that attempts to show what a 'bad thing' the Pagan Temptation is in the Church. The temptation is rationalism, and a lack of sacred items within the Christian world view. This is a complex work, at times scintillating and at others quite turgid. If the neo-paganism that Molnar charts in history were not so pervasive in science, literature, philosophy, it would be laughable. The idea that there may be super-intelligent, mutant humans ready to take over as an elite when the Western-Christian edifice collapses reminded me of a science fiction story (p. 144). The problem is that people actually believe this, having given up the Christian vision.

Molnar's thesis is this—paganism is all around, even within the Christian religion, ready at a moment of

weakness to reassert itself. 'The Christian religion incorporates the seeds of a civilization that, when mature, turns against its religious framework. The seeds are the combined tendency to rationalize (to reduce to the rational) and to desacralize' (p. 81). Firstly, Christianity desacralizes the culture it creates—to gain a monopoly—then that culture turns on Christianity; Molnar charts this historically.

The book begins with a thorough examination of pagan thought-forms from classical Greece to the Renaissance gnosticism. The whole work of man to come to a simple, nature-based understanding of his predicament is overthrown because, 'The Christian flaw . . . consists in bypassing the universe of nature in the direct linkage of human beings in a relationship with God' (p. 90). 'Nature could no longer serve the human imagination on its way to God' (p. 91). The Christian sacred is rooted in the supernatural and theology. Theology is a logical science, rational; modern Christianity has interpreted the supernatural as sociology, rational science, natural events. Faith is harmonized with the world, myth is vanquished, priest and lay distinctions go, latin is not used and transubstantiation is out. 'Having desacralized the world around it, Christianity turned in on itself and desacralized, demythologized and desymbolized religion' (p. 107).

As a result of this surrender to paganism people have sought alternatives which offer to attune you to nature and escape into a real religion. Eastern cosmic mysticism is a favourite. Molnar points out the spiritual poverty inherent in such religions for the adherents. He also

shows that its themes; union with God, destruction of self, depreciation of nature, are all pagan.

But after such a chronicling and diagnosis what does Prof. Molnar suggest? Throughout the book there are fine affirmations of the Christian position, not least on the contingency of creation. But the response of the church would appear to be a return to Gothic buildings, incense and priests in cassocks. Is that the Christian response? Molnar would appear to be a disenchanted catholic seeking sufficient ritual and spectacle and mystery in the liturgy and theology of the church that it rivals the best (in those departments) the pagans can offer. In Francis Penhales' *Catholics in Crisis* (Mowbrays 1986) he laments the loss of ritual and enchantment. This is sad theology. We are not connected to God outside of nature but at two levels; through our creation and in Christ. The lack of ritual today is a sign that Christianity is not comparable to other religions—it relies on the grace of revelation and the work of the Holy Spirit. It is an appeal to the whole person not the mind nor the senses alone.

This book makes thoughtful reading if you persist with it. It is not well written and never arrives anywhere. If one wants to explore the important theme of rationalizing in the Christian faith Peter Bergers' *The Social Reality of Religion* (Faber, 1969) might be read with profit.

IAN SMITH

George Carey, *The Gate of Glory*, Hodder and Stoughton, 1986. 240pp. Paperback. £5.95

In his introduction George Carey,

then the principal of Trinity College, Bristol, now the Bishop of Bath and Wells, says why he wrote the book. The cross is at the heart of the Christian faith and yet today it is widely neglected in favour of such themes as the resurrection, the Spirit and the church. The author is deeply concerned about this neglect. He seeks to write ecumenically—as an evangelical, but yet open to the helpful insights of other traditions. He writes not for the academic theologian but for 'the average intelligent Christian; church leaders who wish to deepen their understanding of the faith; theological and Bible College students who want a comprehensive guide; pastors, priests and clergy who want to be reminded . . .' (p. 8). All of these should find it a readable and stimulating book. Indeed there is a further category of readers who could also be helped by the book. The tone throughout is apologetic rather than dogmatic in that the author seeks to relate biblical teaching to current attitudes and to answer questions and difficulties that people might have. It is, therefore, a book that might be suitable to give to the thoughtful non-Christian who wants to know more about the Christian faith.

One of the strengths of the book is the rich supply of quotations that it contains. The author has obviously himself noted quotable quotes as he has read, and he makes good use of these in expounding the cross. The preacher will find many succinct and apt aphorisms here. A couple of examples will suffice: Sin is 'the attempt to get out of life what God has not put into it' (p. 30). 'If we want to make a thing real we must make it local' (p. 112). But at this point one

must express a small grumble. The better the quote the more the reader is likely to wish to follow it up for himself. Unfortunately, this attempt is liable to be frustrating. Where there is a quotation, sometimes there is an indication of the book from which it is taken, with the page number, sometimes just the book without the page number and more often than not there is no indication beyond the name of the author. This inconsistency is disappointing, in that the reader stimulated to further reading is liable to be frustrated and to give up. However, on a more positive note, there is at the back a helpful glossary in which 39 theological terms (from aetiological to vicarious) are explained.

There were a few points where I found the argument less than convincing. In discussing the Fall the author argues that there are symbolic elements in the Genesis account. So far so good. But he then proceeds to state that the purpose of the account is to tell us not *how* sin entered the world but *why* (p. 27). But the more I think about Genesis 3, the more it seems to me that the reverse is true, that it states *how* sin entered the world (through an initial sin) rather than *why*, which is not answered. Putting it differently, the account explains how the world got into its present mess, the answer being Adam's (and Eve's) sin. This being the case, the issue of whether it refers to a specific event (albeit in symbolic terms) is *not* relevant. If the author is a little too liberal for my taste at this point, he is rather too conservative at another. He quite rightly defends the doctrine of the virgin birth (pp. 72–74). However, he claims in its support that the doctrine

is necessary in order to explain both the Incarnation and the sinlessness of Jesus. But is such a rationale for the virgin birth justified? Elsewhere I have argued that it is not (*Vox Evangelica* 10, 1977, 48–64). There is also an odd statement, on p. 70, that 'Jesus does not invite his disciples to eat his flesh or to drink *wine*'. The last word is presumably a misprint for 'blood', unless the author has become a militant teetotaler since I last met him! Even so, in the light of John 6:51ff., this is an odd statement. If Jesus was *not* (in some sense) inviting his disciples to eat his flesh and drink his blood, why were his hearers so offended (v. 60)? If their problem was simply failure to grasp that the language was purely symbolic, why did Jesus not say so?

These three points are minor quibbles. I greatly enjoyed reading this book and would recommend it warmly to those looking for a medium-level exposition of the cross which is related to the contemporary world.

TONY LANE

David L. Edwards with a response from John R. W. Stott, *Essentials: a liberal-evangelical dialogue*, Hodder & Stoughton, 1988. 354pp. £5.95

The nature and origin of this book needs to be understood. David Edwards, the former Editor of the SCM Press and now Dean of Southwark, asked John Stott if he might write a book based on John Stott's written work as a study and critique of modern evangelicalism. John Stott agreed and contributed much shorter responses to each chapter.

The parts by Edwards are in the nature of a rather wide-ranging

description of a standard, moderate liberal-theological position and criticism of the evangelical position on a number of key issues. He says that he hopes to persuade evangelicals to face liberal criticism and to encourage liberals to read evangelical books. Most of what he writes is in fact familiar to most evangelicals. They have had to read plenty of liberal books and listen to liberal preachers. His own thinking seems to have been formed by Leonard Hodgson, C. H. Dodd, Vincent Taylor and perhaps Hans Küng. Sometimes one is surprised that such old and not very convincing arguments against the conservative evangelical position should be thought still to carry any weight. Thus Micah 6:8 and Hosea 6:6 are said to show that 'God required no sacrifices of any sort' and Jesus is said to contradict the Old Testament in the Sermon on the Mount. Numerous examples given of supposed contradictions in the Bible can really only be maintained in this sometimes almost simplistic way if someone has not read the evangelical literature that has been available for the last 30 years. This makes the rather long and sometimes almost rambling 'critiques' a little unsatisfactory. It is not always easy to get to the heart of the argument.

By contrast Stott is far more crisp, analytical and sharp in exposing the fact that different issues are frequently being confused. He is at least equally well read in theological literature, but as he himself regrets, he finds himself cast in the role of the defender rather than the proclaimer, and the latter is his greatest gift.

The whole discussion is carried on in an exceedingly gentlemanly tone. Nevertheless the gap between the

two is wide. As Stott remarks in his brief, seven-page epilogue, the basic differences concern the question of 'authority and salvation'. That is to say the authority of the Bible, and what Stott calls 'the heart of the Gospel' which is the objective and substitutionary atonement.

On the first, Edwards repeatedly says that he does not see how modern man can accept the reliability and final authority of the Bible. He criticizes evangelicals for the tendency to 'see faults in us, but never in the Bible' (p. 249). On the second it is clear that even if he was willing to say that the Bible taught substitutionary atonement, he could not accept it. The Bible's teaching on divorce, homosexual practice and other matters also, he first questions and then says that in any case we cannot believe that it is right.

Unfortunately the section on the atonement is not the clearest part of the book because Edwards does not seem to have read Stott's recent book, *The Cross of Christ* thoroughly. For instance he describes the position of Oulen in 'Christus Victor' as if it was an argument against Stott's position when Stott in that book had described it very similarly and accepted it as a *subsidiary* aspect of the atonement. Stott also is a little loathe to repeat what he has recently written more fully elsewhere. Only here I think does Stott (rightly) charge Edwards with being 'unfair' to him (in response to Edwards' charge that Stott has been unfair to his representation of the views of others). If we are to judge by Edwards' fifty-page chapter on this topic I think we must say it is not clear how he can maintain that he really has an objective rather than

subjective view of what the Cross has achieved. Indeed it is not at all clear what Edwards' doctrine of the atonement really is. When in his summary he says 'the dying Jesus soaked up evil as a sponge soaks up water' (p. 156), one is not really clear what this means theologically.

Finally, Stott avoids putting in the knife as I think he might have done. Edwards starts with an acknowledgement of the success of the evangelicals and pleads that if only they would become less distinctively evangelical and a bit more liberal, they might reach the outsiders better. He thinks substitutionary atonement unintelligible to the modern man. Stott could have replied that it is precisely that kind of Gospel preaching that has been so successful, far more successful in fact than the sort of view of the Cross that Edwards has advocated to reach the outsider. Stott was, after all, for a good many years one of the best university evangelists, and his books in which this offensive and apparently unintelligible truth is set out are still a very effective means of bringing unbelievers to faith. Why has the school of thought that Edwards represents been such a relative evangelistic failure? One does not question Edwards' sincerity in believing that a more liberal stance would be more successful, but the facts of this century's history are not on his side. Although Edwards mentions some of the psychological reasons which might account for the rise of the new evangelicalism, he is rightly concerned almost entirely with their theology. What he cannot acknowledge, of course, is that it is precisely the evangelical theology which has been used by God and has made

people like John Stott fruitful evangelists in the modern world.

Perhaps the position is most clearly seen in the section on miracles, where Edwards simply cannot believe that modern man will accept the biblical miracles and Stott points out that many prominent Christians in science do in fact accept these things as a matter of faith, and find no conflict with science.

O. R. BARCLAY

Selected by Richard Harries, *The One Genius—Readings through the year with Austin Farrer*, SPCK, 1987. 208pp. Paperback. £12.50

We are indebted to the Dean of Kings College London for making this arrangement of Austin Farrer's writings. Omitting the difficult early writings, he has drawn on the beautiful and striking passages of the later books and sermons. They are arranged to follow the Anglican year (Alternative Service Book), giving three readings a week. The print is rather small, while the margins are very generous. It has an index and all the sources are given. It is expensive but worth its price. Time and again the content of this exemplary prose strikes one; it is rich in theological insight and inspires the heart and mind in rich devotion. One occasionally has to re-read a passage to grasp its meaning and less frequently I dissented from his theology, but I am the richer for reading this judicious selection from a profound man's writings.

IAN SMITH

Bernard McGinn (ed.), *Meister*

*Eckhart—Teacher and Preacher*, SPCK, 1987. 420pp. Paperback. £13.95

Meister Eckhart is the first writer in the 'Classics of Western Spirituality' series to be granted a second volume. The works included here are no less complex or demanding or open to the charge of heterodoxy. The charge rests because of the imprecision of his language and the extremes of his mystical speculation. Yet Eckhart is enjoying a renaissance; there are two books just published, Cyprian Smith's *The Way of Paradox* and Richard Wood's *Eckhart's Way* (both from Darton, Longman and Todd). Eckhart builds on the work of the Pseudo-Dionysius in seeking to find God without His names or attributes, as the one who has no external-objective existence. Christian spirituality normally works within the parameters of the revelation, in nature and Scripture. It acknowledges the name of God as a vehicle of His self-disclosure (Exodus 6:2-3). It is his movement away from these parameters that makes Eckhart so modern.

The book is printed in the same high quality of this format. It has an index, valuable glossary and short introduction. Although containing sermons, 'Eckhart' was no popularist and his work is not immediately accessible. This is a tome for the specialist.

IAN SMITH

Henry E. Morris, *Science and the Bible*, Scripture Press, 1988. 154pp. Paperback. £2.25

The publishers claim that this book is

a revised and updated edition of *The Bible and Modern Science*, published at various times between 1951 and 1986. It is unfortunately a repetition of the usual views of the author and other 'creationists'. There seems to be little attempt to develop the cogency of former arguments and to answer serious criticisms.

The book opens with a statement which, in the light of later pages, is nothing short of astonishing: 'One of the most amazing evidences of the divine inspiration of the Bible is its scientific accuracy'. The writer subsequently denigrates generally-accepted views of orthodox geologists, biologists, physicists and palaeontologists, in a manner to which we have become accustomed. The only 'science' which he seems prepared to accept is that which fits his preconceived notions of how to interpret the early chapters of Genesis. The usual dogmas of a young earth, flood geology, and the gross errors of radiometric dating, form the substance of the book.

The author is undoubtedly sincere and well-meaning, but the discursive and sometimes seemingly arrogant style are far removed from a careful, objective evaluation of the evidence. The Piltdown hoax is yet again gleefully paraded as an example of how easily evolutionary scientists are fooled. The fact that the hoax was discovered by scientists themselves is quietly overlooked.

'Evolution and entropy are both supposed to represent universal laws of change, but each is the opposite of the other, so they cannot both be true.' (p. 59) This kind of superficial remark scarcely contributes anything worthwhile to the debate. In what sense is 'entropy' a

law? On p. 60 the startling statement is made that, before the curse, entropy was 'conserved', with decay processes balanced by growth processes. Presumably the sun and other visible stars were not then shining!

This Journal has so frequently commented on 'creationist' (or rather 'young earth') views that repetition here would be pointless (see for example, 113, p. 131; 112, p. 37; 111, p. 81; 109, p. 170; 106, p. 3; 104, p. 6; 103, p. 158; 100, pp. 128-179 [symposium on Noah's flood], etc).

D. A. BURGESS

Steven Rose, *Molecules and Minds*, Open University Press, 1987. 148pp. Large Paperback. £8.95

*Molecules and Minds* contains a collection of ten essays by Steven Rose, Professor of Biology at the Open University. The assortment of subjects covered includes biological reductionism, genetic engineering, animal experimentation and brain biology, the link between them being Rose's emphasis on their social consequences and his quest for a non-reductionist perspective. Versions of most of these essays have been published before and the style and treatment will certainly be familiar to those acquainted with Rose's previous writings.

The book begins with a discussion of the limits of science which leads into two chapters on the roots and ideological significance of biological reductionism. Rose then talks about recent advances in genetics and some misleading conclusions that biologists have drawn from these advances as a result of reductionist



thinking. He goes on to examine the potential use of genetic engineering technology in the treatment of human genetic disorders and in the production of chemical and biological weapon systems.

The second half of the book is loosely directed towards an understanding of the brain. In chapter six Rose discusses the ethics of animal experimentation, which has relevance to his own research on chick brains. He then attempts to provide a convincing alternative to reductionism, with particular reference to the mind-brain problem. The danger of a reductionist approach is illustrated by the sorry history of biochemical diagnosis in psychiatric therapy. In the final two chapters Rose looks at recent rapid progress in neurobiology which has given great insight into the mechanism of memory formation. This progress has been triggered by a shift in research away from laboratory rats and mice learning relatively complex actions, to the study of much simpler nervous systems such as those of sea slugs and Rose's young chicks.

Although I certainly found this an interesting book to read, my main criticism is that more effort could have been made to provide cohesion between the separate chapters. The one theme that Rose does maintain through the various subjects covered is his attack on reductionism and much of what he has to say is convincing. However, I do not think that the link between reductionist thinking and the rise of capitalism is as strong as he contends. He is also badly mistaken in his view that the emphasis of sociobiologists on genes as the unit of natural selection is simply the result of naive reduction-

ism. Another criticism I would make is that his discussion of the ethics of animal experimentation is very superficial, giving the impression that his moral opinions in this area have been shaped by the practicalities of his own research. In conclusion I would say that my response to this book is mixed.

BARRIE BRITTON

David N. Livingstone, *Darwin's Forgotten Defenders*, Scottish Academic Press, 1987, 210pp. Paperback. £7.95

M. W. Poole and G. J. Wenham, *Creation or Evolution—A False Antithesis?*, Latimer Studies 23/24 Oxford, 1987. 84pp. Paperback. £3.00

Douglas Spanner, *Biblical Creation and the Theory of Evolution*, Pater- noster Press, 1987. 191pp. Paper- back. £6.95

Few of us in evangelical circles can be unaware of the amazing growth in the last quarter of a century of a new kind of 'creationism'. Taking its inspiration from the book *The Genesis Flood* by H. M. Morris and J. C. Whitcomb, this new movement not only rejects evolution as an ungodly philosophy, but also the last century and a half of geology as in conflict with Scripture.

There have, of course, always been divergencies of view on such subjects amongst evangelicals—as reflected, for example, in Bernard Ramm's classic 1950s book *A Christian View of Science and Scripture*. Within societies like the R.S.C.F., the Victoria Institute, and the American Scientific Affiliation, there was at one time a free and friendly fellowship between those who held divergent views. In recent years, however, this

situation has been changing. The new young-earth creationism has formed its own societies, largely rejecting as unsound or reprobate those who believe organic evolution to be consistent with biblical Christianity. This situation is generally reflected in the literature, as may be seen on the shelves of evangelical bookshops.

For those of us who accept that modern, mainstream biological and geological science is, by and large, the most probable explanation of these aspects of the physical world, the present situation raises several fundamental questions. The first is whether such an acceptance is in harmony with, or divergent from, our evangelical and fundamentalist roots. The second concerns the levels of meaning of terms like 'creation' and 'evolution', and what, philosophically speaking, may properly be placed in antithesis. The third concerns the consistency of geology and/or organic evolution with the wording of Scripture. Finally, there is the broad question of whether the final synthesis of ideas achieved by interpreting it in this way is a convincing view of reality.

The rise of literature arguing for the new creationism in recent years has been accompanied by a general dearth of scholarly books taking a more traditional Christian view. These three books, addressing a range of the questions, are therefore of particular interest.

Are evangelicals who attack evolution acting in harmony with their evangelical and fundamentalist roots? Have evangelical leaders always been locked in conflict with Darwinism? *Darwin's Forgotten Defenders* is a book by a competent

and recognized historian of science which answers these questions. A compendious book by James R. Moore, *The Post-Darwinian Controversies*, (1979) was the first major work of modern scholarship to emphasize the 'surprising' fact that a number of leading evangelicals in the late nineteenth century accepted evolution. David Livingstone's book follows this up, being written from a more specifically evangelical position and carrying the study further into the present century. Livingstone shows there were always evangelicals who led in the development both of geology and evolution, and there were many leaders in the evangelical churches of the periods who accepted both. His argument is well annotated and demonstrated. He also devotes a chapter to noting the way in which young-earth creationist literature tends to obscure these facts—either by insinuating that men were unorthodox BECAUSE they accepted evolution, by simply ignoring them altogether, or by hinting that they were somehow bamboozled into it. His book deserves wide circulation, and Christians should seek for it to be placed in the relevant sections of libraries in colleges and universities.

Poole and Wenham's short work approaches mainly the philosophical and exegetical issues, and in particular the inadequacies of the new young-earth creationism in dealing with them. In general its price and brevity make it an attractive purchase for those who want stimulation on some key ideas.

Many writers have been searching for a sensible nomenclature on creationism. Henry Morris himself sometimes restricts the word 'crea-

tionist' to those of his own followers (who believe in a young earth and strata all laid down in one flood) whilst at other times he includes even unitarian mainstream geologists like Agassiz. Mike Poole rightly distinguishes 'creation' (a theological term) and 'evolution' (a purely physical one). He suggests, however, that 'Creationist' should be taken to mean a believer in the physical system of Morris, whilst 'evolutionism' means the adoption of metaphysical ideas based on evolution. In other words the addition of the 'ism' can convert a physical term to a metaphysical one AND vice versa. Some of us may find this clumsy, though the actual point being made is a vital one, and Poole does highlight some muddled thinking amongst the young-earth creationists of whom he is critical. Apart from terminology, Mike Poole's sections address basic philosophical issues such as the role and nature of science and theology, and some of the basic scientific points often cited in evidence (the shrinking sun, the earth's magnetic field etc.). His summary of these is competent and useful. Also interesting is his highlighting of the sadly sloppy way in which some young-earth creationists quote third or fourth hand from sources they do not understand and unintentionally misrepresent—a point which inexpert readers should always bear in mind. His notes and bibliographical references are also useful.

Gordon Wenham's third chapter addresses the issue of interpreting Genesis. It contains no notes and little bibliography—and it seems unlikely to convince any young-earth creationist unwilling to go and read Wenham's promised commentary on

Genesis. It is not exactly clear what view it takes, saying e.g. 'the individual days are to be understood literally, but it is more difficult to be sure that Genesis 1:1–2:3 as a unit should be understood literally'. In general, however, it seems to take the so-called framework hypothesis, which is proving increasingly popular with evangelical biblical scholars. This sees Genesis 1–3 as setting events in a 'day' framework as a literary device rather than as a chronology of happenings.

Committed young-earth creationists are perhaps more likely to be irritated than convinced by this book, but to Christians still undecided about creation issues, or to those who believe the earth to be ancient, it should be of interest.

Douglas Spanner is unusual in being an ex-professor of plant biophysics as well as an ordained Church of England minister. He therefore brings to his subject an unusual combination of scientific and theological training. This shows clearly in the logical structure of the book, and the depth at which issues are addressed. The proper approach to Genesis 1–3 is not (as in so many books) naively assumed to be 'obvious', but is properly considered. Spanner adopts neither the naivety of the liberal (who may unrealistically assume that the accounts say little or nothing about space-time events) or that of the supposed 'literalist' (whose inevitable inconsistency is always soon apparent). Building on a foundation of a proper approach, and understanding of terms like 'chance', 'creation', etc., Spanner can then explore the specific issues of interpreting Scripture. Some of the thorny side-

issues are then considered in a longish section of appendices.

Though Spanner does summarize briefly the current state of beliefs in the scientific world on the issues of geology and evolution, his book is not about specific scientific evidence for or against such ideas. Rather, it concerns the more fundamental issues of the nature of science, theology, and the interpretation of Scripture.

There do seem to be occasional lapses in the generally high standards of careful scholarship Spanner achieves. The reader might gain the impression that Calvin (described as 'prince of commentators' on p. 107) favoured an allegorical interpretation of the 'days' of Genesis. In actual fact, as seems clear in Calvin's commentary on Genesis (which is cited elsewhere by Spanner) he was fairly literalistic. The reader may also be left unaware that Spanner's view of Adam as representative head rather than physical progenitor of all the human race strikes at the heart of the ideas on original sin of the aforesaid 'prince of commentators' and his Augustinian tradition! In general, however, Spanner's work seems both thorough in scholarship and honest in approach.

It was disappointing to find in the book a rather uncritical repetition of Donald Mackay's ideas on providence, which are, after all, already widely available. Those of us who much admired Mackay but never believed him to have answered the problem of providence and evil, may feel disappointed that Spanner did not turn more of his own originality to bear on these issues. Rather than a reprinting of Mackay's critique of D. J. Bartholomew we might have

preferred a more original critique of the idea of creative chance as raised by writers like Bartholomew and Arthur Peacocke.

The book does, however, contain much which is stimulating—even to those who have already read widely on this subject. It is useful both in summarizing current issues and in bringing the author's own freshness of perspective. Anyone interested in the subject will find this a worthwhile investment, and should also consider encouraging its addition to college, university or even public libraries.

V. P. MARSTON

R. J. Berry, *God and Evolution*, Hodder and Stoughton, 1988. 189pp. Paperback. £6.95

Professor R. J. Berry, who occupies the chair of Genetics at University College, London and who has held, or holds, such eminent positions as President of the Linnaean Society and President of the British Ecological Society is well qualified to write on the subject of *Creation and Evolution* (not, as he is careful to point out, *or*). Not only has he first-class scientific credentials, but he has what few with such have, a deep knowledge and love of the Bible as divine Revelation. (He is also an Anglican Reader and a lay member of the General Synod.) He writes correspondingly out of a double conviction: that the current scientific orthodoxy called Neo-Darwinism is on the right track; and that the conservative evangelical view of the Bible as 'God's Word written' is likewise true. This book is, as a matter of fact, a development of an earlier and much shorter book (*Adam and the Ape*,

Falcon, 1975); it differs not only in being more detailed but in facing more forthrightly the issues posed by the 'scientific creationism', so considerable an influence in America. Its objective is pastoral, to help those whose faith feels challenged by evolution theory. Accordingly he addresses his writing in the main not to those outside the Christian faith, or at least outside the evangelical faith, but to those who stand within it but are troubled about the relation between the Bible's teaching on creation and the conclusions of evolution theory.

The thesis Prof. Berry defends is one which has become very well known in recent years in (among other groups) the Research Scientists' Christian Fellowship (of which he is currently chairman)—that valid scientific theories and (correctly interpreted) biblical teaching about man and nature are to be regarded as *complementary* to one another, in the sense in which quantum physics has made that term familiar. This thesis he applies to the evolution controversy, and he defends his application with ability. In the course of doing so he introduces much helpful discussion of the history of evolutionary ideas and of biblical interpretation. As an indication of his treatment of the latter, he follows Henri Blocher's fine exposition (*In the Beginning*, IVP, 1986) in regarding the 'six days' of Genesis as a literary device, and the description of the origin of woman as being in figurative language. The book continues with a telling, though charitable, indictment of American-style 'creationism', its relation to science and its historical origin. It attempts finally to draw together the threads

of the argument and to summarize the lessons to be learned from the (spurious) creation/evolution debate. There is an annotated list of books for further readings, eight pages of references to the literature, and a general index. I noticed a few printer's errors; in one place the title of a N.T. book (Titus, p. 162) seems to have been omitted, and in another a negative seems to have got in by mistake (*impossible*, p. 149).

This would be a very useful book to give to puzzled sixth-formers or students, not least because of its author's standing in the scientific world. It might be worthwhile in a future edition if he were to expand on a few technical points of importance, e.g. exactly how the tension between Darwinism and genetic theory was overcome by the work of Fisher and the others. Some easily grasped examples of complementarity and how it appears in everyday life might be a help to newcomers too. To many, an unfamiliar but powerful idea such as this may not be readily assimilated. It might be pointed out that not only is it very important in the physical world (the wave-particle paradox) but also in the spiritual (the paradox of predestination and free will). This realization would give added solidity to the suggestion that one must expect it also in the sphere that links the two worlds of creation and evolution.

D. C. SPANNER

Freeman Dyson (ed.), *Origins Of Life*, Cambridge University Press, 1985. 81pp. Hardback. £7.50

This book is based on the Turner

lectures, given with the support of Trinity College, Cambridge, to a mixed university audience of educated but not expert listeners. The author conducts a historical survey of theories and experiments concerned with the origin of life, which in some instances tends to explore the depths of physical chemistry and molecular biology, along with genetics. One is therefore surprised that a non-specialist reader is expected to take all this in. Nevertheless, one can't help but admire the author's attempt at explaining the origins of life with two logical possibilities. Either life began only once with the functions of replication and metabolism already present in the beginning in rudimentary form, and somehow linked together, or life began twice with two separate creatures, one kind capable of metabolism without replication and the other kind capable of replication without metabolism.

The experiments of Eigen and Orgel come close to describing a parasitic development of RNA-life with an environment created with a pre-existing protein life. This theory fits well with the general picture of evolution portrayed by Margulis, who believed that cellular evolution was caused by parasites of which the nucleic acids were the oldest and most successful. Kimura developed the mathematical basis for a statistical treatment of molecular evolution, maintaining that genetic drift drives evolution more powerfully than natural selection. Oparin on the other hand proposed that the order of events in the origin of life was cells first, enzymes second, genes third.

The author proceeds to discuss in the last chapter, the toy model in the

origin of life, such burning questions as: were the first living creatures composed of proteins or nucleic acids or a mixture of the two; at what stage did random genetic drift give way to natural selection; does the model contradict the central dogma of molecular biology; how did nucleic acids originate; and finally, how late was the latest common ancestor of all living species? The book does not answer these questions, only hypothesizes, and as the author rightly concludes the answers lie in further experiments.

N. LOPES

Alastair V. Campbell, *A Dictionary of Pastoral Care*, SPCK, 1987. 300pp. Paperback. £12.50

This *Dictionary* is a very welcome addition to the books available in the broad area of 'pastoral care and counselling'. With 300 entries written by 185 authors, it acts as a companion to the excellent series of titles in the *New Library of Pastoral Care*, edited by Derek Blows and also published by SPCK. Contributors include experts in the fields of theology, psychology, sociology, philosophy and medicine. The result is a range of highly competent entries, written, on the whole, succinctly, comprehensively and with authority. Each section gives a usually brief bibliography, supplying invaluable leads to further reading and study.

Christians of evangelical and reformed persuasions will quickly note the comparative scarcity of contributors from these traditions. Amongst the few representatives there are valuable pieces by David Atkinson (on 'Divorce', 'Marriage:

Nullity' and 'Psychology of Religion'), Rex Gardner (on 'Abortion') and John Wesson (on 'Conversion'). It is important, though, to understand that the rise of the pastoral counselling movement, from the 1930s onwards in the United States and from the 1940s in Western Europe, has tended to be from within a more liberal tradition that has, at times, been strongly influenced by the secular psychologies. Further, since the 1950s there has been an increasing openness to the more mystical and sacramentalist emphases of the episcopalian, roman catholic and orthodox churches.

The absence of a more substantial conservative element in the *Dictionary* is, therefore, understandable on historical grounds. Sadly, though, the slimmness of this contribution is also fostered by the 'ghetto' mentality of many evangelicals in Britain, as well as more 'fundamentalist' groups in the States, who have been inclined to react against secular, liberal and catholic influences—rather than enter into dialogue. Even so, I would have hoped for some mention of more conservative Christians who have contributed to the debate in the areas of theology, psychology and counselling—including, for example, Gary Collins, Larry Crabb, Paul Vitz, Jay Adams, Malcolm Jeeves and Paul Tourmier. Perhaps, in the light of the book's overall ethos, it is especially surprising that there is no reference to Thomas Oden, an American theologian who describes himself as a 'postmodern orthodox' Christian and has enriched our understanding of pastoral care and counselling through such books as *Kerygma and Counselling* (1966, 1978), *Agenda for Theology* (1979) and *Pastoral Theology: essentials of ministry* (1983).

In spite of these omissions, I would warmly recommend this *Dictionary* for the bookshelves of any Christian who is engaged in a pastoral ministry. Some of the entries are quite outstanding, including 'Pastoral Care: Nature of' by Alastair Campbell, 'Judgement' by Peter Selby and 'Bible: Pastoral Use' by Chris Wigglesworth. The latter has thought-provoking sections on the abuse, the diagnostic use and the pastoral use of the Bible. Other entries I particularly valued are those dealing with social and political issues, such as 'Race Relations', 'Justice and Pastoral Care' and 'Political Theology and Pastoral Care' and those looking at issues within the area of sex and gender: 'Femininity/Masculinity' by Yvonne Craig; 'Sexism' by Jane Williams; and 'Women: Ordination' by Monica Furlong were especially well argued. Walter Hollenweger gives beautifully presented cameos on 'Charismatic Movement', 'Spirit' and 'Tongues'.

The few less impressive articles included one on 'Cross and Resurrection', with only one book in its reading list, and a rather sketchy piece on 'Maternal Deprivation'. I suspect the length of time taken to produce the *Dictionary* accounts for the apparent lack of any mention of AIDS.

All in all, this is a most valuable book and Alastair Campbell is to be congratulated on his editorship—as well as on the other key books he has written on pastoral care in recent years.

ROGER F. HURDING

Tom Smail, *The Giving Spirit*, Hodder and Stoughton, 1988. 217pp. Paperback. £6.95

Colin Brown, *History and Faith: a Personal Exploration*, Inter-Varsity Press, 1987. 128pp. Paperback. £3.95

Tom Smail's book is much to be welcomed. It has often been remarked that we need a sound theology of the Holy Spirit. Here is a most creditable attempt to provide one. The author, who stands in the Evangelical tradition, has been through the charismatic movement, but has also come to appreciate the importance of liturgy and tradition and has a special understanding of the contribution which the Eastern Church has made to this subject. Particularly valuable in his book is his firm defence of the personal nature of the Spirit and his sympathetic handling of the *Filioque* question. I was also most grateful for what he has to say about the rôle of the Holy Spirit in prayer.

In handling his biblical material he is sometimes naive. On pp. 25-27 in his discussion of the Virgin Birth he uses it to explain the relation of the Father to the Son, which could lead to the disastrous conclusion that Jesus is a hybrid. He also gives the impression that there could not have been an incarnation without the Virgin Birth. Since so many of the major writers of the N.T. seem quite unaware of it, this is a strange suggestion. Again on p. 118 he innocently assumes that John the apostle wrote the Fourth Gospel. On p. 167 he claims that in Genesis 2:7 the Hebrew word for 'breath' is *ruach*. In fact it is *neshamah*.

Colin Brown has written a thoughtful and well-informed book on the relation of Christianity to history. He too writes from an evangelical viewpoint, but he is not at all narrow, has

read very widely indeed, and makes several effective points against those who would deny the possibility of detecting God's action in human history.

It is most heartening to read two such books. It looks as if the Evangelical wing of English-speaking Christianity is now really beginning to make a genuine contribution to theology that is not obscurantist but is willing to come to terms with biblical criticism and can enter into meaningful dialogue with the catholic wing. Is it not time that the Anglo-Catholic element attempted to do the same thing? So far we hear nothing from them but slogans and party catchwords: 'the apostolic ministry', 'catholic principles'. Let them imitate their evangelical brethren in courage, realism, and learning.

A. T. HANSON

Charles Colson, *Kingdoms in Conflict*, Hodder and Stoughton, 1988. 400pp. Paperback. £5.95

Charles Colson is incapable of being dull. He writes vividly and he is an entertaining orator. On the only occasion when I heard him speak I marvelled at the way the words came tumbling out. But I felt a trace of uneasiness that it all seemed just a trifle too easy and with perhaps an over-dramatization of the speaker's own experience. I had the same feeling on reading this book. But then, to be fair, Mr. Colson has had a dramatic life. He served as special adviser to President Nixon and went to prison for his part in the Water-gate scandal. Since his conversion he has given much time to the work of the Prison Fellowship. In *King-*



*doms in Conflict* the author sets out to examine the question of the Christian's political responsibility and the role of the church in the public domain. He ranges widely in the choice of illustrative material. There are illuminating glimpses of the back-room political manoeuvrings in the White House. We are told how Nixon's visit to China was deliberately scheduled to affect the primary elections prior to the Presidential election. The situations in Northern Ireland, the Philippines and other trouble spots are examined to show how Christians and churches have reacted.

Colson leaves us in no doubt that there can be no divorce between religion and politics. Nevertheless he is concerned to emphasize the separate and distinctive roles of church and state. He does not argue that the Christian cannot and must not use power. 'But the Christian uses power with a different motive and in different ways: not to impose his or her personal will over others but to preserve God's plan for order and justice for all'.

The book provides ample evidence of the conflict between the ethics of the Kingdom of God and those of this sinful world with all its inconsistencies and cruelties. But just how is the Christian and the Church to witness within the secular sphere while maintaining the separate institutional roles on which Charles Colson insists? It is a teasing question and it is not always clear that the writer has established the principles that should determine the answers. Nevertheless it is good to see a leading evangelical taking that question so seriously.

The book suffers from a plethora of

split infinitives and some factual inaccuracies—for example, the assertion that 'the British bishops' protested to the government about the bombing of civilian targets in the last war. (Was not Bishop Bell almost a lone episcopal voice?) But it is a good read, full of provocative comment and an ebullient faith.

K. G. GREET

Robert D. Reece and Harvey A. Segal, *Studying People*, Mercer University Press, 1986. 221pp. Paperback. \$18.75

How does research into behaviour affect those people whose behaviour is being researched? What issues should a researcher be aware of in devising a research programme? Thorny issues, well explored by Reece and Segal in *Studying People*, which they intend to be used mainly by students and instructors in ethics classes, or in social-behavioural-science classes. Although they introduce important material and perspectives from the long history of ethical thought, they don't try to resolve the fundamental problems raised in the continuing debate about ethical theory. They are concerned with helping the reader to achieve sound judgements about right and wrong in social research.

Their approach is to encourage the reader/researcher/student to enter imaginatively into a number of possible research projects in order to explore the ethical issues from the inside. We are presented with fictional projects in which the researchers must make choices about how to proceed. In the first example in the book, a student is doing his

research on a weird cult (The Necrons). He opts for a participant research and becomes a cult member to gather information about their beliefs, rites and rituals, structure and so forth, reporting back to his professor and fellow students at their seminars. Then comes the crunch point; he is expected to undergo the Necrons' initiation ceremony which involves. . . . (well, I won't spell it out; you'll have to buy the book if you want to know!). The authors then ask us to consider the ethical issues involved in this research and in the decision the student has to make as to whether or not to go ahead and participate in the initiation ceremony. What responsibility does he have towards his research, towards the Necrons (how would we like it if an apparently fully-committed member of our church or club turned out to be a social psychologist whose membership was solely for research purposes?), towards his professor, towards his girl-friend who is worried about his involvement with the cult, towards himself. . . . ?

Throughout the book, a number of other fictionalized research projects are outlined, only to be halted at a key moment (a bit like 'What Happens Next?' on *A Question of Sport*) for us to step back to consider the situation by putting ourselves in the places of several of the central characters. Interweaved with these case-studies are discussions of a more theoretical nature. Thus, in a discussion on 'What is Ethics?' we have a brief run-through of a number of approaches such as rule-morality, visceral or gut-feeling morality, the moral cultivation of the self, calculation of consequences—such as utilitarianism, and relational ethics—

which makes consideration of interactions within a social network the focus of ethical thought. There is a discussion on ethical relativism, exploring the difference between, at one extreme, the position called normative ethical relativism which holds that whatever a society (or individual) sincerely believes to be right is indeed right for that society or individual; and, at the opposite extreme, the position which, while recognizing that societies and individuals have different moral systems, nevertheless denies that the differences in perspective makes any difference normatively: there *is* a right and wrong, and right is right no matter what anybody thinks about it. Reece and Segal give a brief, but fair, summary of the two positions, deciding near the end of the discussion that 'Most of us are probably not as comfortable with ethical relativism as we might have thought we were before we stopped to realize the full implications. We must finally live as if we believe that there is a right and wrong', which is an expression of a viewpoint which I found helpful and worth pondering on.

I think the mixture of discussion, presentation and didacticism works well. The ethical issues are presented in a lively way, and come across as being central to the whole area of social behavioural research rather than a peripheral concern one can use or discard as one wishes. We are made to think and to enter into the issues. The material in the book could well be used in seminars and the like for experiential learning in role plays. For my own taste, I would like longer sections on deeper philosophical discussion (as well as, not instead of, the case-

studies) but that is not the brief the authors set themselves. My other quibble concerns the way that the case-studies really have been fictionalized by turning them into would-be short stories complete with dialogue. Nice idea to make them more human and less clinical, but I wince at characters thinking thoughts such as 'She's pretty; small, with long shiny, brown hair . . .' Sorry Reece and Segal, but you won't win any short-story competitions! But as a 'Primer in the Ethics of Social Research' (the sub-title) your book is splendid. Recommended.

R. SKINNER

Gavin Reid, *To Reach a Nation*, Hodder and Stoughton, 1987. 185pp. Christian Paperback. £2.25

Numerous gold nuggets of thought and practice can be dug out of Gavin Reid's book. It is a mine of experience in getting the Gospel and 'Good News' across in a Britain which lacks 'God-awareness'. Only a few of these nuggets can be brought to the surface in this review. In fact, an index would have helped in keeping track of the pages from which they came.

Gavin Reid was National Director of 'Mission England', which claims to have been the largest evangelistic project in British history. With Billy Graham as main evangelist, the campaign went into action during 1983, 1984 and 1985.

It was a large-scale operation, carefully—and prayerfully—prepared, and so it attracted wide media attention. A million people in 1984 attended football stadium meetings. Some 200,000 came to meetings using videotapes made at the stadia.

Satellites reached some 180,000 in 50 other gatherings. Gallup polls in three of the five targeted regions revealed 80 to 90 per cent 'product awareness', in large measure due to Billy Graham's message and fame.

In Sheffield, the author writes, 'reports poured in that Christianity was being talked about in the shops, on the buses, in the pubs and at work.' In many of the areas reached there was a 20 per cent increase in adult commitment to Christ and 12 months later research through the churches showed that over 50 per cent of those who made a public commitment of their lives were sticking to it.

Gavin Reid defines 'reach' as: 'Seventy-five per cent awareness of the project and the issues it stands for'. In Bristol, Sunderland and Liverpool there was 85 per cent or more awareness.

This was the result of 'good public relationships, widespread advertising, wholesale visitation and massive penetration from the Churches into the mini-communities'.

Reid defines mini-communities as 'members of a person's own family, immediate neighbours and circle of colleagues at work'. The author stresses the value of 'households' such as those which the Roman centurion Cornelius called together to hear the apostle Peter. The Acts of the Apostles, chapter 10 (in Moffat's translation) describes them as 'his kinsmen and intimate friends—a large company'.

Impact by churches on these basic units, and kindling of them, Reid believes, is a key to penetration of the nation. Six thousand churches took part in Mission England, but first, which much prayer and care,

those active for it had to encourage and kindle many clergy. Some ministers were discouraged by dwindling, ageing congregations, some were without sight of a convert in years.

Ministers' seminars on local church evangelism across the country 'imparted vision and skills to ministers in such areas of evangelism as visiting, small groups, guest services and evangelistic preaching'. These seminars generated 'home-brewed evangelism'. Such 'brewing', however, demanded that 'congregations must reject isolationism and see the need to pool resources with other congregations—not as an occasional practice but as part of a continuous strategy'.

But to this reviewer it is not clear what the *strategic* aims of Mission England were and what the author has in mind for 'combat' Christians now. Following a righteous Christ 'we ought to be disturbing people', he says. There is a hint of fighting to get a 'Britain governed by men governed by God', as the Christian leader Frank Buchman put it. 'We are not ruled by governments whose central policy-plank is to obey God', says Gavin Reid.

But I find no suggestion of aiming to inspire Members of Parliament or Cabinet, or leading sportsmen and women, pop singers or people who can reach the 'mega-communities' through press, radio and TV. The challenge of penetrating the policy-makers with faith in God has been found to capture the allegiance of many young people of all nations. Perhaps it will be a strategic call in the next mission, which will enlist the great talents and experiences of many who sit and listen to sermons Sunday by Sunday.

But the author of this highly readable book was not a member of the Central Religious Advisory Committee for the BBC and IBA for nothing. Clearly the capture of the Media for Christ is much on his heart. While he concludes that 'in the task of reaching the nation for Christ, there is no electronic short cut', Gavin Reid refers to the new technologies of Direct Broadcasting by Satellite (DBS) and Cable TV. There will be more and more opportunities of reaching whole nations.

'As that happens I want to see highly-professional trained communicators and programme-makers, who have earned their spurs in the major networks, branching out into the new channels with eminently watchable, sensitive and entertaining programmes', he states.

This is a book to keep handy and to dig into often, to unearth more of the gold nuggets hidden within it.

REGINALD HOLME

John Perry, *Effective Christian Leadership*, Hodder and Stoughton, 1987. 157pp. Paperback. £2.25

An American visitor startled members of Lee Abbey Community in North Devon when he said: 'If you can't see beyond a hamburger, you will never eat steak'.

John Perry, as Warden of Lee Abbey, one of Britain's main centres of spiritual renewal, quotes this to illustrate the need for a 'vision for the work God has entrusted to us'. In a chapter 'Sharing the Vision' he writes: 'Vision is all about seeing beyond what has already been accomplished to what God has in mind for the future. Leadership with-

out vision is doomed to mediocrity and even failure'.

In an early chapter 'Reaching Men' he shows that vision and the 'who dares wins' quality that goes with it, is essential if men are to enlist under Christ's banner for His battles. 'The men who followed Christ and who were later to be at the hub of the leadership in the Early Church, were attracted by a strong element of risk'. Someone has even spelt 'FAITH' as 'RISK'. 'Many men are outside the Church because they see no evidence of risk and adventure within it', says Perry.

He analyses interestingly the story of Nehemiah, in the Old Testament. This man, a Jew, risked his neck in asking King Artaxerxes of Babylon, who had conquered Judah and destroyed Jerusalem, if he could go

back to rebuild the city, and his nation's life. Moreover, Nehemiah's nation was notorious for its rebelliousness against Superpower Babylon! Nehemiah dared and won with the King's help! His vision and risk-taking for his country and his God won out against seemingly impossible odds.

Some of the qualities of a Christian leader says Perry, are given as: shepherding and serving those led; taking enough time to be 'alone so that batteries can be recharged and direction given'; being a good listener; managing time well; delegating responsibility; developing Spirit-filled home groups; being prepared to pay the cost of leadership; selflessly drawing out the potential in others.

REGINALD HOLME

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\* — the first page of an article

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rw — writer of a review

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