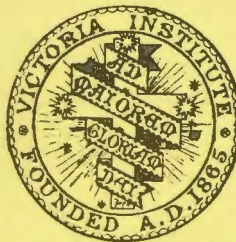


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A Journal devoted to the study of the inter-relation of the
Christian Revelation and modern research

EDITORIAL

Several changes have been made in the layout of this issue. We have made the lettering larger by about 10%, which has meant a corresponding increase in the number of pages. Also, the script is darker, and is justified on the right-hand margin. All these changes we hope will make for easier reading.

The papers which were given at the 1984 Annual General Meeting, and the chairman's report have been held over to the next issue in view of large arrears of material. The contributions in the current issue fall into two categories; those on the every-lively evolution/creation debate, and those on the relationship between mind and brain.

The editor has in his possession a copy of a book by Ralph Shallis, kindly donated by the author. This is "Il faut beaucoup de foi pour être athée", an exposition of the Christian answer to the atheist. It would be valuable to lend to a French-speaking seeker, and is available from the editorial office for loan.

Accompanying the issue of Faith and Thought, volume 109, (2) was a letter by the Chairman of Council, Gordon Barnes. He drew attention to the plight of libraries and workers in the Third World, who could not afford subscriptions to our journal. Workers in Sri Lanka and Kenya are two such instances. There was a suggestion that a special fund be opened to assist in such cases, depending on the willingness of existing members to contribute. Please write to the Secretary of the Institute if you can help in this very worthy cause.

The Victoria Institute Annual Conference 1984

The annual conference of the Victoria Institute was held on 19 May at Chelsea College, London. It took the form of a symposium entitled "1984 - Man, Manipulator or Manager?"

Dr. David Lyon, a social analyst from Bradford and Ilkley Community College, gave the first paper. This explored the relationship between information technology (IT) and social ethics. He reminded us that the development of IT derived from the remarkable achievements in small, versatile and cheap micro-electronics. The use of these devices in sophisticated home computers acts as a lure, perhaps encouraged by national governments in times of recession, that computer-aided techniques will somehow give hope for the future. However, the snowballing use of IT will have irreversible consequences for social, commercial and religious life. Technology involves value because it structures human choices. Dr. Lyon reviewed a number of directions that might be followed in a quest for an ethical base. Our dilemma is that the increasing integration of computer systems highlights the disintegration of any ethical base from which technology might be assessed. The biblical world-view sees all this in the context of a fallen world. For the Christian at least, IT is a part of that stewardship which applies to all discovery and invention. Perhaps the special importance of IT lies in its global implications. However, not all is bad with IT; neither is all good.

The second paper discussed the presuppositions which underlie man's management of nature. The speaker was Professor R.P. Moss, Pro Vice Chancellor of Salford University. Management implies goals, a repertory of morals and an ideological base. What we do depends on our view of God, of man and of nature. Professor Moss compared the ways in which Christians from mainstream Protestant and Roman Catholic traditions might seek to define man's responsibility and contrasted them with those of the evolutionary humanist, the technological pragmatist (if you can, do), the Marxist and those of mystical, pantheistic views.

An interesting outcome is that those of widely different outlooks can agree in general as to what should be done, but not, of course, on why. To whom or what are we responsible? The source of the moral imperative for the Christian is the nature of God.

Professor Vere of the London Hospital Medical College then spoke on whether man's control over nature included control over man himself. He pointed out that for many years control has been exercised via the family, the educational system and the media; not all of it beneficial. We must consider the scope and nature of incursions of man by man.

During the last 100 years knowledge of the world inside our bodies has greatly increased, often as the result of invasive techniques. The 20th century has seen increasing use of non-therapeutic invasion of the body - for example in the use of drugs for treatment of sex offenders and for abortion; the modification of body-shape by cosmetic surgery; in vitro fertilisation.

Christians differ widely among themselves as to how Scripture is to be applied to such cases. What does seem clear is that we are our brother's keeper and that no man is 'given' to other men for any use, certainly not to be gunned down, as in Northern Ireland, simply to make a political point.

The Corinthian epistles of the NT use a wide variety of metaphors to illustrate the unitary relationship of man to God - a mould, temple, dwelling, mirror, earthen vessel are a few. These all carry the implication that man's body is a part of nature yet can be a receptacle or carrier of some manifestation of the Spirit of God. We must never undervalue man.

The Institute wishes to encourage younger people to make a contribution to its forum by asking for short papers. Angela Bryce is the first to do so. She spoke on a topic that lends itself readily to press sensationalism - genetic engineering. She outlined the function of DNA and our increasing ability to manipulate it for desired ends. The scope of genetic manipulation is almost limitless and the scientific programme is developing very fast. There are, however, many unknowns. Should the work be stopped? Indeed, can it be stopped? In any case, advantages are already accruing. Downs syndrome can be detected in the unborn infant; insulin production has undergone a sixteen-fold increase; vaccines can be produced by genetic manipulation. Christians should be anticipating the problems and seeking to come to terms with them.

Dr. Michael Collis took the chair in the unfortunate absence of the advertised chairman.

D.A. BURGESS

NEW MEMBERS

Since our last issue the following applicants have been enrolled:

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m* Rev. J.B. D'E. Chittenden, A.S.C.A		Folkestone Kent

* By transfer from indicated roll.

OUR CONTRIBUTORS

- Barrie Britton - *Selfish Genes, a mistaken threat?* - is the winner of the Rev. Runsie Craig Memorial Trust Essay Prize for 1983.
- E.K.V. Pearce - *Is Genesis anti-evolutionary?* - is a clergyman-scientist, and Prebendary Emeritus of Lichfield Cathedral.
- G.M. Marsden - *Creation versus Evolution - no middle way* - is a lecturer in the Department of History, Calvin College, Grand Rapids, USA.
- Reg Luhman - *Belief in God and life after death* - is a teacher in Southend-on-Sea, Essex, and on the editorial committee of Faith and Thought.
- R.R. Cook - *The nature of man - has the ghost in the machine finally been exorcised?* - is on the staff of London Bible College.
- D.G. Kibble - *A transcendent God in Einstein's universe* - is Head of Religious and Community studies at Lawnswood High School, Leeds, LS16 5AG.

BARRIE BRITTON
SELFISH GENES – A MISTAKEN THREAT

SYNOPSIS

The aim of this essay is to examine the scientific validity of selfish gene theory, and then its supposed threat to human dignity. In the first section, Darwin's theory of natural selection is presented and the importance of individual reproductive success explained. The problem of explaining altruistic behaviour is then considered, with the errors of 'good of the species' and 'group selection' arguments exposed. Hamilton's theory of kin-altruism proves acceptable, with his concept of inclusive fitness as that which natural selection maximizes. Dawkins prefers emphasis on genes, regarding inclusive fitness as contrived from gene selection. The question of whether the two positions are equally correct is considered, with evidence favouring Dawkins' view point. The supposed threat of selfish genes is seen to be that of determinism. Traditional arguments for human free-will, such as a separate soul or unpredictable brain, are examined and rejected. It is Mackay's argument for logical indeterminacy that provides the solution. Although gene selfishness is not conscious, selfish genes may be regarded as one factor contributing to the fallen nature of man and creation.

INTRODUCTION

"We are survival machines - robot vehicles blindly programmed to preserve the selfish molecules known as genes" - so says Richard Dawkins in the preface to his book *The Selfish Gene*.¹ At first sight, it is not surprising that Dawkins' views are found disturbing by Christians and Humanists alike, both groups seeing them as a threat to human dignity. Many eminent biologists are similarly non-plussed by the selfish gene concept, finding it difficult to equate with the co-operation and integration of genes within the bodies of organisms they have studied.

What then do we make of Dawkins' 'selfish genes'? Are they simply a piece of science fiction, suitable for the paper-back book stall, but definitely not the academic library? Are they perhaps just an alternative way of understanding evolution? Even Dawkins suggests this as one possibility, with the 'necker cubes' analogy on the cover of his second book *The Extended Phenotype*.²

In this essay, I will first look at the historical background and scientific validity of selfish genes. I then hope to establish their status, not simply as one option when thinking about natural selection, but as the *only* accurate description of the mechanism of evolution. Finally, some of the implications for Christians will be examined, in particular the biblical view of the nature of man. My aim is to show that the supposed threat to human dignity is a mistaken one.

NATURAL SELECTION

The idea that living animal and plant species arose by an evolutionary process was proposed at various times in the eighteenth and nineteenth centuries. The reason that 'evolution' is now so closely associated with the name of Charles Darwin, is that he was the first to put forward a convincing mechanism - natural selection. This is seen to be the logical conclusion of three general observations from the biological world:-

- 1) Over-population - animals and plants produce more than two offspring per mated pair per lifetime, but population levels do not continually increase.
- 2) Variation - members of the same species show variation in many of their traits.
- 3) Heredity - individuals tend to possess traits similar to those of their parents.

The over-production by parents, e.g. female salmon may produce five million eggs, does not swamp the world with their fully grown offspring, because the majority succumb to predation, starvation and the like, before reaching adulthood. The trait variation between individuals means that some are more likely to survive and reproduce than others. It is those traits which confer the best ability to survive and reproduce, that are most likely to be passed on to the next generation. Thus, gradual evolution of species towards improved survival ability and reproduction potential is envisaged.

It was in 1858 that Darwin first published an article on his theory, jointly with another English naturalist, Alfred Russel Wallace; Darwin's revolutionary book *On the Origin of Species by means of Natural Selection* came out a year later. It was on the urging of Wallace that in 1866 Darwin adopted Herbert Spencer's phrase 'survival of the fittest', in order to emphasize the lack of thought and direction in the operation of natural selection. Unfortunately, the phrase has proved rather confusing, considered by some to be a tautology, as indeed it is if fitness is defined as a measure of survival ability. However, it is clear that the ability to survive is only indirectly advantageous in evolutionary terms, in that it may increase reproductive potential. A trait which enables an individual to give rise to more surviving offspring than other members of the species, will tend to spread within the population even if it reduces an individual's expected lifetime. This is an important point in the explanation of characters such as bird song, deer antlers and bright plumage which often benefit reproductive ability at the expense of survival ability. 'Fitness' is generally defined as that quality which natural selection tends to maximize, and has been commonly regarded as the product of survival time and fecundity, in other words, reproductive success.

One problem which Darwin faced in the decades towards the end of his life, was the total lack of knowledge concerning the mechanism of heredity. Ironically, the experiments which provided the first insights into this process were being carried out by the Austrian monk Gregor

Mendel at the same time as the "Origin of Species" was being written. His work only became widely known when rediscovered in 1900, sixteen years after his own death and eighteen after that of Darwin. Mendel's breeding experiments using pea plants revealed that inherited traits are governed by pairs of factors that separate during the formation of gametes and recombine on fertilization. Factors governing different traits usually assort themselves independently between gametes. These fundamental laws of heredity form the basis of modern genetics, with Mendel's factors controlling trait expression now known as 'genes'. The combination of Mendelian genetics and natural selection has developed into a comprehensive theory of evolution, often called neo-Darwinism or the Modern Synthesis.

THE PROBLEM OF ALTRUISM

By the 1950s most biologists accepted that Darwinian theory provided a very convincing explanation of the adaptation of a species to its environment, due to the maximizing effect of natural selection on survival and reproductive abilities. This applied not only to morphological traits, but also to animal behaviour - a realization for which Konrad Lorenz was largely responsible. He suggested that innate behaviour patterns could be thought of in the same way as morphological traits, both determined by the inherited genetic code and shaped by natural selection on an evolutionary time-scale.³ Although Lorenz perhaps underestimated the importance of learning in behaviour, the fact that the instinctive elements of an animal's behaviour are as much evolutionary adaptations as inherited morphological features is now clearly established.

The recognition of this evolutionary aspect to animal behaviour led some ethologists to attempt an explanation of apparently altruistic social behaviour in terms of natural selection. Most argued along the lines that an altruistic trait would be favoured by natural selection, because it would benefit the species. A good example is Lorenz's ideas concerning the ritualization and inhibition of aggression between members of the same species.⁴ However, there is a basic flaw in the 'good of the species' argument: suppose

that a selfish individual happens to arise by mutation in an altruistic species. This individual would gain benefit from the altruism of his contemporaries, but without the cost of giving altruism himself; he is likely to have considerable reproductive success and thus the gene for selfishness would become increasingly common in succeeding generations. In the long term the elimination of altruism would in one sense be detrimental to the species, but to the blind process of natural selection this is irrelevant. The same flaw is found in explanations of altruistic behaviour based on the benefit accruing to a small group within a species - 'group selection'. This is not to say that groups containing altruistic members do not have higher reproductive success than selfish groups; but rather that the selective turnover of individuals is so much faster than the turnover of groups, that the effects of natural selection favouring altruism are simply out-paced by those favouring selfishness.

Was Lorenz incorrect in his observations of ritualized aggression? Certainly not, he simply gave the wrong explanation for those observations. A preferred interpretation of ritualization is that it is beneficial to all combatants from a selfish point of view not to settle disputes by physical fighting, since each avoids the risk of serious injury. It is important to realize that this selfishness is not necessarily conscious, but the result of natural selection operating on a species' instincts.

Is individual selfishness the basic rule which underlies all social interactions other than between parents and their offspring? One interesting and important reason why this is not the case, was first recognised by W.D. Hamilton.^{5,6} He noted that natural selection maximises reproductive success rather than individual survival, because reproductive success is a measure of success in passing on genes to the next generation. The significance of this point is that traits which cause an individual's genes to be passed on will be favoured, even if the individual is not a direct ancestor of the future individuals possessing the genes. Hamilton realized that the close relatives of an individual will possess some of his genes by common descent; therefore a gene for kin altruism could be favoured by natural selection if

the benefit to the reproductive success of kin possessing that gene exceeded the cost to the altruist in terms of his own reproductive success. The probable proportion of an individual's genes which kin possess is predicted by their degree of relatedness, e.g. full siblings - one half, uncles - one quarter, first cousins - one eighth; net benefit to an individual's genes is therefore less likely as the degree of relatedness to the recipient of altruism decreases. Hamilton recognized that parental care was only a special case of kin altruism, favoured by natural selection because of the close genetic relationship between parent and offspring.

Hamilton's theory necessitated a new definition of fitness, since individual reproductive success was seen to be too narrow. He therefore broadened the term to 'inclusive fitness', which many people have thought to be the sum of an individual's reproductive success, plus half the reproductive success of each sibling, plus an eighth of the reproductive success of each cousin and so on. The fallacy of this view is illustrated by the fact that if a female gives birth, then the inclusive fitness of her siblings and those of her mate will increase, whether or not they assist the infant, or even if they are thousands of miles away. The true definition of inclusive fitness is, 'an individual's own reproductive success, plus his *effects* on the reproductive success of his kin multiplied by their relatedness, minus the effects of kin on his own reproductive success'.

Maynard-Smith called the process of natural selection favouring altruism towards kin - 'kin selection'. Unfortunately, Hamilton's theory is still prone to misunderstanding twenty years after its inception⁷. For example, kin selection does not imply that animals consciously calculate their degree of relatedness to those around them before behaving altruistically, it is again a case of natural selection blindly shaping the instinctive behaviour of a particular species. Often the identity of relatives will not be entirely clear - however, a 'rule of thumb' might be employed, e.g. behave altruistically to individuals in your troop since they are likely to be closely related to you. This is definitely not the same as group selection.

SELFISH GENES

Richard Dawkins first published *The Selfish Gene* in 1976; this was followed in 1981 by a book aimed more specifically at academics, *The Extended Phenotype*. Dawkins' basic proposal is that the unit of natural selection, that to which we refer when we say an adaptation is 'for the good of' something, is the 'gene'. He argues that the blind process of natural selection involves the differential survival of genes from generation to generation - it is those genes whose effects happen to increase their own chances of survival which will tend to spread through the population. Natural selection thus results in gene 'selfishness', which may manifest itself at the level of the individual organism, either as individual selfishness or as altruism towards kin. Hamilton explicitly acknowledged gene selection as the basis for his theory of kin altruism; but rather than maintaining this emphasis on genes, he translated gene selection to the level of the individual by creating the concept of 'inclusive fitness'. Dawkins regards inclusive fitness as somewhat contrived and in his own words, "the instrument of a brilliant last-ditch rescue attempt, an attempt to save the individual organism as the level at which we think about natural selection."

What exactly are the genes to which Dawkins refers? Since Mendel's day there have been rapid advances in the study of genetics. These include the elucidation of the genetic code as the sequence of nucleotides making up deoxyribose nucleic acid (DNA) molecules in an organism's chromosomes. The nucleotide sequence specifies the sequence of amino acid residues in the proteins synthesized by animal and plant cells - it is proteins which regulate the physiological activity within an organism, linking the inherited genetic code (genotype) with its physical manifestation (phenotype). Many people assume that the term 'gene' refers to the nucleotide code for a protein. However, alternative definitions are also used, e.g. the minimum unit of mutational change, or the minimum unit of recombination.⁸ Dawkins uses the term in yet another way - as any stretch of DNA long enough to have a consistent phenotypic effect, but short enough to have a degree of

longevity before dissection at a cross-over event. It is the 'gene' defined in this non-discrete way which is the unit of natural selection, since it functions as an 'active germ-line replicator'; a 'replicator' in the sense that it is accurately copied, 'active' in the sense that it influences its probability of being copied and 'germ-line' in the sense that it is potentially the ancestor to an indefinitely long line of descendent replicators.

Is Dawkins wrong to suggest that genes are selfish? He is no more inaccurate than those who suggest that natural selection produces selfish individuals. Genes do not consciously decide how to pass on as many of their replicas as possible to the next generation, nor do individuals consciously attempt to maximize their inclusive fitness; both however, behave as if they did, hence the usefulness of the 'selfish' description. Does the finely-adjusted integration of genes within individual organisms, conflict with selfish gene theory? The genes within an individual are certainly well-integrated, but this is because it is selfishly advantageous for each gene concerned. There is usually nothing to be gained in terms of replication success by non-integration, and any deviant mutant genes which arise will be rapidly eliminated by natural selection. In a sense, a gene is in competition with its alleles (alternative genes which can occupy its position in the chromosome and fulfill its role in a slightly different way); it competes for its particular locus in the chromosomes of the next generation. However, there is no such competition with other genes, and selfish gene theory actually predicts the integration of genes at different loci.

GENE SELECTION - JUST AN ALTERNATIVE?

Gene selection seems a reasonable enough alternative to individual selection, but is it any more than this? One approach to this problem is to look for situations where natural selection cannot be explained by, or conflict with, maximization of inclusive fitness. Good examples include transposable elements and segregation distorters:-

Unlike most pieces of DNA, transposable elements have the ability to replicate independently of normal chromosome replication, their copies can then integrate into various other positions in the genome. This enables them to spread very rapidly through a population, often carrying other genes with them as well as altering the phenotypic effects of genes in the vicinity of an integration point. Their spread cannot be explained in terms of inclusive fitness, but is totally acceptable from a gene selectionist view-point. Since they were first discovered by McClintock (1950) in maize plants, transposable elements have been found to be common in a wide variety of organisms.⁹

During gamete formation, the two homologous sets of chromosomes in normal cells (diploid) separate to produce haploid cells with one set of chromosomes. If a segregation distorter is present in only one set of chromosomes in the diploid cells, then those gametes which do not contain the distorter gene self-destruct, apparently due to a sabotage mechanism. This is of selfish benefit to the distorter because it is then present in all gametes produced by the individual, not just fifty per cent. When an individual possesses segregation distorters in both sets of chromosomes, then all gametes are sabotaged and the individual is sterile. These intriguing genetic elements have been best studied in drosophila and evidence suggests that they exist at levels higher than those expected by spontaneous mutation alone.¹⁰ Their success reduces an individual's inclusive fitness due to the wastage of gametes, but is to be expected under selfish gene theory.

Dawkins' own approach to establishing the importance of gene selection, as opposed to individual selection based on inclusive fitness, is as follows: he argues that animal communication should be regarded not as mutual co-operation for the transfer of information, but as the manipulation of the receiver by the sender. We are already used to the idea that an animal's phenotype can include features not strictly part of its body, e.g. different caddis fly species, when larvae, each construct a distinctive protective home out of small stones and twigs. We are also used to the idea that an animal's behaviour is very much part of its phenotype.

Dawkins proposes therefore that the manipulative aspect of animal communication implies that genes in one animal can exert phenotypic effects on the body of another animal. If the phenotype of genes is no longer restricted to the body in which they sit, but extends to other bodies, then the commonly assumed exact correlation of natural selection based on individual inclusive fitness with that based on gene selfishness, will break down. Dawkins' argument is fully and lucidly expressed in *The Extended Phenotype*.

DETERMINISM AND FREE-WILL

Why is it that most people find the idea of Dawkins' selfish genes so disturbing? The reason is that they immediately associate them with 'genetic determinism' - the idea that human behaviour is under the control of those dreaded genes. This is seen as a affront to human free-will, the blind mechanisms of DNA making our future frighteningly inevitable. Dawkins points out the error in this view that genes are somehow super-deterministic; in a world where all matter behaves in a methodically predictable way, behaviour which is shaped by the environment rather than being primarily innate, will be no less deterministic. The problem is mechanistic determinism, full-stop; whether the inevitability of behaviour carries a 'genetic' or 'environmental' label is irrelevant.

For Christians, the problem of future inevitability is compounded by the biblical teaching that God is Sovereign over all events in the physical universe,¹¹ including the affairs of mankind.¹² In the New Testament, Paul refers to a divine plan and God "working out everything in conformity with the purpose of His will".¹³ The traditional answer to the free-will dilemma is to propose that man possesses in addition to a body, a separate spiritual part - the soul - which is outside the physical universe and therefore free from the clutches of determinism and God's sovereignty. In recent years many theologians have become unhappy with this bipartite view of the nature of man, suggesting that its origins lie in Greek philosophy rather than the biblical text. The idea that it provides a solution to the source of human free-will also carries a serious logical flaw; if God

is sovereign over everything that happens within the physical universe, including the activity of our bodies, then how can a separate soul have any effect counter to the sovereignty? As well as this, proponents of a separate soul have difficulties providing a mechanism for the interaction between body and soul. Descartes suggested the pineal gland as the contact point between our bodies and our immaterial minds, but there is no evidence to suggest that any human tissues behave at all differently from other pieces of physical matter.

A preferred interpretation of the words 'soul' and 'body' is given by Professor R.S. Wallace in the *New Bible Dictionary*; he proposes that they are used in the Bible "according to the different aspects of man's activity or being which it is intended to emphasise ... The use of the word 'soul' may emphasize his individuality and vitality with emphasis on his inner life and feeling and personal consciousness. The use of the word 'body' may emphasize the historical and outward associations that affect his life. But the soul is, and must be, the soul of his body, and vice versa".¹⁴ Convincing proof of the identification of our conscious thought processes with the activity of our brain cells, comes from work on the psychological effects of brain damage. Professor Gareth Jones in his book *Our Fragile Brains* gives several tragic examples of disruption to personality, memory and information integration as a result of lesions to specific parts of the brain.¹⁵

Is then our mind, our personal consciousness, simply an epiphenomenon of our brain cell activity? The answer is No, for although our conscious experience does have an explanation in terms of atoms and molecules, brain cells and impulses, there is no reason why these levels of explanation should be more significant than an explanation in terms of beliefs and emotions etc. A useful analogy is that of a wooden sign-post: at one level it can be described in terms of atoms and molecules, at another level as a particular arrangement of wood and paint, and at another level as a sign-post indicating that London is five miles to the West. The molecular level provides a complete description of the sign-post, but definitely does not give all the most useful information.

Another route to an explanation of human free-will is to suggest that there is a degree of unpredictability within man's brain. However, a moment's thought will reveal that the exact opposite should be expected - only if the components of a man's brain behave in a regular way, will he be able to make consistent, rational and sensible choices. The predictable behaviour of matter, which forms the basis of mechanistic determinism, rather than being in conflict with human choice, is in fact highly desirable in man's environment and within his brain in particular. I am not advocating that matter is necessarily deterministic to the extent of being totally predicatable, but we should certainly not expect our brains to be any less deterministic than other matter in the universe.

LOGICAL INDETERMINACY

Must we accept Dawkins' suggestion that our apparent free-will is simply an artefact of our complex central nervous system? Does the subjection of our future to God's sovereignty and the mechanistic operation of our brains imply that our future is inevitable? The answer, somewhat surprisingly, is No.

What do we mean by 'inevitable'? An inevitable event, e.g. the rotation of the earth at twenty-four-hour intervals, is one that will take place whether we like it or not, or whether we believe it or not, i.e. we are correct to believe it will happen and incorrect to believe that it won't. There is a fundamental difference between events such as the rotation of the earth, and our future actions, in that the latter are not independent of what we believe. Our beliefs, or if you prefer the configuration of impulses in the cognitive regions of our brains, will have considerable bearing on the actions we do. This relationship between our beliefs and actions affects the inevitability of those actions in the following way:

Suppose that you are shown a plan of your future. Remember that for the plan to be inevitable for you, you must be correct to believe it and incorrect not to believe it. If the plan has not taken into account the effects of your

future actions that your believing it will have, then you will be incorrect to believe it, i.e. the plan will turn out to be inaccurate if you believe it. If however the plan has taken into account the effects of you believing it, then you will certainly be correct to believe it, but you will also be correct if you don't believe it because the plan has been adjusted to take into account your belief. We therefore come to the conclusion that there is no unconditional plan of your future which you would be correct to believe and incorrect not to believe.

This property of man's future is known as 'logical indeterminacy' and was first recognised by Donald MacKay, Professor of Communication at Keele University.¹⁶ It shows that despite the existence of an unconditional divine plan of our future, there is no such plan that is inevitable for us. Many people find it hard to believe that something which is true for one person (in this case, God) is not necessarily true for another (in this case, man). In this respect, logical indeterminacy is similar to Einstein's theory of relativity. It is important to realise that it is not simply a case of a man 'feeling' that his future is not inevitable, it is a question of what he is correct to believe. A man presented with a plan of his future actions, might well be perfectly correct to believe it, but if so, he would also be perfectly correct not to believe it. The inevitability of our future, although relative, is objective not subjective.

MANKIND AND SELFISHNESS

We have seen that man's lack of a soul and the mechanistic operation of his brain does not conflict with his free-will, in the sense that his future is not inevitable from his own point of view. Does this mean that animals and machines can also be regarded as having free-will? The fundamental difference between man and animals or machines is his ability to think in abstract terms. The significance of this is seen in the dependence of the logical indeterminacy argument on the ability to entertain beliefs - it is only mankind for whom the question of future inevitability is a comprehensible issue. It is also man's cognitive faculties which confer on him moral responsibility, not only in the

non-inevitability of his future from his point of view, but in his ability to comprehend moral good and evil. Biblical evidence for this comes in Genesis 3 (taken literally or otherwise) where the Fall of Man was the result of eating from the tree of the knowledge of Good and Evil.

What then of the moral implications of selfish genes? I have stressed throughout this essay that gene selfishness does not imply that genes possess conscious thought, but only that they behave as if they do. Man, as a product of natural selection, necessarily possesses selfish genes, but these are only one factor influencing his behaviour and do not detract from his moral responsibility which (as we have seen) results from his cognitive faculties. Having said this however, the tendency towards individual selfishness which selfish genes are likely to induce, surely conforms well with the Bible's view of man's inherent sinfulness.¹⁷ We have already noted that evolution by natural selection does not involve a striving towards a pre-conceived goal, it is a blind process which will continue as long as matter behaves in a predictable way. This accords with the biblical view that the world is condemned to futility,¹⁸ and man's selfish genes can thus be seen as an intimate link between his own fallen nature and that of the world around him.

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E.K. VICTOR PEARCE
IS GENESIS ANTI-EVOLUTIONARY?

In some ways the Genesis account is fairly neutral on the question of whether or not the appearance of ascending orders of life was by evolution. If by evolution, it was by a modified form; one modification would be that the processes were not by chance or without purpose but under the initiation of God's words. On the other hand evolutionary aspects can be seen in such expressions that "The waters are to bring forth swarms of living creatures", and "The land is to bring forth living creatures according to their phylum". Even man was "formed (a process) from the ground" showing a common chemical origin with the land fauna. For Dr. D.C. Spanner that "incomparable fragment", the Genesis epic gives an evolutionary picture, but others would deny this, as the whole progress was by God's direction.

Many scientists are having a re-think, and in any case the old Darwinian model has been greatly modified by two factors. Firstly, our knowledge of Mendel's genetics and Crick's DNA demonstrates that nothing can happen in a species which does not happen in DNA. Environment can only select. Secondly, it has become plain that new and higher orders appear in groups comparatively suddenly. Consequently some have called it "explosive evolution", a seeming contradiction in terms. It would be better to associate these appearances with the ten times that God spoke. In other words such complicated creatures were the result of re-coding of DNA, the language of life, when the dramatically advanced orders appear e.g. vertebrates, amphibians, reptiles, birds, mammals, man.

General Review of Genesis/Science

The newer scientific approach is giving us a more Genesis-like picture. The old conception of evolutionary trees arranging fossils to develop smoothly from one branch into another, is being questioned. It is seen that this is not the palaeontological picture. The overall picture is that of a series of jumps to major new types, so that some are postulating a theory of "explosive evolution". It is not now sufficient to excuse ourselves by saying that we merely need to look for more fossils. That has been done, yet the picture is the same.

Professor Sir Fred Hoyle and Professor C. Wickramasinghe, eminent Cambridge scientists reflect the change, "Contrary to Darwin's theory . . . evolution on earth was a series of leaps".¹

Our object is to demonstrate the remarkable correlation between Science and Genesis, irrespective of whether the process of existence was by evolution or other means. I have, however, observed that the fossil picture gives a pattern of the major groups of new advanced animals appearing together. Between them and their assumed ancestors, millions of years earlier in each case, there is a lack of linking fossils to show evolutionary progress. This is a consistent story throughout the fossil record.

First appear all the non-backboned animals in the Cambrian. Then after 150 million years there appear, simultaneously, five kinds of backboneed fishes. Then another 100 million years later five kinds of amphibians appear. 70 million years later appear four kinds of reptiles; 200 million years later still appear the mammals, then 40 million years on appear the apes, and finally man appears after a further 10 million years.

Between these appearances we seem to have no fossil links or intermediary types. The position is well presented by Anderson and Coffin, who are professional palaeontologists, in "Fossils in Focus".² They maintain that the main groups have been created separately and

independently. Gordon Barnes opposes this theory in a lucid review in *FAITH AND THOUGHT*, "Theistic Evolution v Creation".³ Barnes is a biologist of London University whose writings show that it is possible to be a Christian and an Evolutionist. Those who have felt the pressure of evolutionary propaganda have been grateful for this. Barnes acknowledges "the dearth of pre-Cambrian fossils, the paucity of intermediate types between major taxonomic groups", and laments "The speculative construction called phylogenetic trees often presented as fact in elementary textbooks". But he claims there are some intermediate fossils, and refers to the following examples:

Asheavia is a fossil from the Cambrian and although it is a member of the Phylum "Arthropoda" and class Onychophora, it resembles both the annelids and the arthropods. It seems to me that it would have significance if it were in the pre-Cambrian rocks where the links should appear, but actually it does not.

Another fossil Barnes mentions is *Seymouria* which from its appearance seems halfway between the amphibians and reptiles. If its fossil actually occurred halfway between the groups this evidence could be convincing, but it actually occurs after the reptiles have appeared; yet it is to the reptiles that the fossil type is assumed to be ancestral. This fossil is only quoted therefore, on the assumption that because its morphology is suitable as a link it probably has ancestors some forty million years earlier. When, however, other examples are given, and one finds that their fossils do not occur in the rocks in intermediary position the objectiveness of the argument diminishes into philosophic presuppositions.

A similar case is the well known duck-billed platypus, alive today, which is claimed as an excellent example of a "living fossil" because it shows what an intermediary fossil should be like which would link reptiles, mammals, and birds. Few realise, however, that no fossils of the duckbilled platypus are found earlier than two million years ago, whereas it should be found in strata 230 million years old, between the groups which it should link. When this is

repeated with other examples, one begins to wonder whether the pattern asks for some other explanation, an explanation which could equally apply to comparative anatomy, embryology, etc. But to assume that because a particular morphology must have been present in the right position merely because it was a good intermediary example (though out of sequence) seems to indicate that a wrong methodology is being followed. Unfortunately few students have time to check the juggling of biological examples with the actual place of occurrence in the fossil record to see how weak the argument is for the existence of intermediary fossils.

Barnes is understandably unhappy that Anderson and Coffin's creation model provides no theory of mechanism by which the creatures came into being. This is a relevant observation. The theory of natural selection by the environment of mutation, gene drift, etc., provided a working hypothesis which appealed to naturalists; unfortunately no genetic experiment so far is able to indicate how a major new creature (e.g. flying insects and birds) can be produced. Experiments demonstrate that selection can only give a limited range of adjustment for survival in a changing environment, neither has evolution an adequate mechanism to suggest for the origin of the basics of matter, life and spirit. The first two at least are beyond empirical observation even for evolutionists, - even Crick has had to resort to space fiction for the origin of the cell and Levi-Setti for the origin of marine animals. And as for the origin of matter, Fred Hoyle, the renowned scientist who believed matter created itself now believes in a Creator and his recent book in co-authorship with C. Wickramasinghe says that his student generation "was brain-washed into accounting for origins without God". Hoyle also resorted to space fiction for origins "by the arrival of new spores from space", but then reached the conclusion that whatever it was in space "could only have been worked out by a superior intelligence... in fact, the higher intelligent Creator". "The only logical answer to life is creation - and not accidental random shuffling". As Lovell says, we go beyond these points into philosophy or theology.⁴ Anderson and Coffin are merely extending those untestable origins to include the appearance of the major taxonomic groups. But I

have suggested that the scriptures do indeed reveal a mechanism, namely the provision and periodic adjustment of the DNA code, for it was between each major taxonomic group that God spoke. If we cannot accept that, then it must be difficult to explain the Virgin birth (which was not by parthenogenesis - see *Who Was Adam?* page 139),⁵ or the Christian's resurrection when a change will come to the natural body in a fraction of time.

Extra-Cosmic Recoding

The recoding theory postulates that there were periods when a Superior Intelligence external to this cosmos or world order, recoded the DNA in order to supply to the next higher stage of life all the intricate mechanism which was required to make that advance a viable one. This explains the sudden appearance of groups of new forms of life in the fossil record.

This has sometimes been misrepresented by those who have not understood the argument. The theory is not based upon gaps in knowledge, waiting to be filled with further finds. The rocks are not empty before the "explosion" of higher groups. It is the intermediate "links" which do not appear. The fact that fossils of established types still continue in the rocks up to the sudden appearance of new higher orders is a recorded absence of intermediary fossils, not a gap in knowledge. That this fact is misunderstood is betrayed in the remark "A God who is only a hypothesis to explain what we do not understand is unrecognisable as the God in the Bible".⁶ But then Boyd states the very reason for atheism today "Science has no need of God as a hypothesis". It would seem to be the admission that it renders God as unnecessary, but for the fact that Prof. Boyd believes the Bible. Nevertheless for me this paradox removes the effectiveness of the scriptures as evidence of the Creator. It has been the effect of demonstrating the correlation between Genesis and science that (in my experience) has brought many atheists to become convinced Christians. It has been the failure to use this evidence which has removed the cutting edge of Bible evidence.

To postulate a creation which once set going, denies to God any operative role, is that outlook of which St. Peter warned that, in the last days, scepticism would deny that God had recoded by his word at various points in earth's history. Sceptics prefer a theory that "all things continue as they were from the beginning of creation" (2 Peter 3:4) without the "interference" (so called) of God's word. If God's role as Creator is confined to the initial fiat at the beginning in the sense that all the mechanism required for evolution was implanted then, it seems to imply that God rested all seven days, and not after the sixth day/age.

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G.M. MARSDEN

CREATION VERSUS EVOLUTION: NO MIDDLE WAY*

In the United States biological evolution is widely regarded as an opposite of divine creation and hence incompatible with traditional Christian belief. This simplified view is so widespread that in 1981 so-called 'creationists' persuaded two States to adopt laws purporting to ensure 'balanced treatment' in public schools by countering any teaching of 'evolution science' with equal teaching of 'creation science'. The very appropriation of the name 'creationist' for the creation science anti-evolutionary movement reflects an insistence, often unquestioned by the public and the press, that there are only two choices in the issue. In fact, however, the creation scientists do not advocate creationism in the general sense of any belief in a divine creator or even in the more limited sense of belief in creation by the God of scripture; rather they defend only one view of creation, that the Earth was created in six 24-hour days and is only some thousands of years old. This view, based on the most literalistic reading of the scriptures, excludes any sort of biological evolution. Self-styled creationists speak of only two views: creation and evolution.

But why should so many Americans, such as State legislators, accept this simplified dichotomy as though there were no mediating alternatives? Even among American evangelical Protestants, such mediating views, usually designated 'theistic evolution' or 'progressive creation', have long been represented. Immediately upon the announcement of Darwin's theory some conservative bible believers had a ready answer to the suggestion that evolutionary doctrine must undermine faith in a creator: God controls all natural processes through his providential care. The questions raised by biological evolution are therefore not in principle different from those suggested by other natural phenomena, such as photosynthesis. A full naturalistic account of the

process does not preclude belief that God planned or controlled it. So God may have used evolutionary processes as his means of creating at least some of the Earth's species. Moreover, most modern evangelical theologians have agreed that a strict reading of Genesis does not rule out all evolutionary developments. The language of the first chapter of Genesis might allow for long aeons (days) of God's creative work or it may not have been intended to convey exact scientific information at all.

Even the progenitors of America's fundamentalists tolerated some such latitude. In *The Fundamentals* (1910-15), the publications that signalled the rise of organized fundamentalism, George Frederick Wright contributed one of the essays on evolution. Wright had been a close associate of Asa Gray in defending a theistic version of Darwinism to evangelical audiences. While firmly rejecting evolutionism as a generalized atheistic outlook, Wright insisted that biological evolution could be consistent with God's design so to evolve. Equally striking are the statements made about the same time by Benjamin B. Warfield of Princeton Theological Seminary. Warfield was an inventor of the term 'inerrancy' and a leading proponent of that key fundamentalist doctrine that scripture did not err in any of its assertions. Despite such conservatism, Warfield stressed that evolution and creation were not opposites. For the theist, he observed, evolution was "only a theory of the method of divine providence".¹

Why then, has opposition to any sort of biological evolution become a test of the faith for so many? The mediating positions have, of course, survived and are even dominant among evangelical academics who are heirs to the fundamentalist movement. Nonetheless, in the current popular American discussions, these positions, as well as their counterparts among Catholics, more liberal Protestants,

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and Jews, are widely ignored or unknown. Certainly the popular press had done little to dispel the impression of a life or death struggle for survival of two wholly irreconcilable views. So the historical issue I propose to explore is twofold. Why have creation scientists insisted on this polarization, and why have such dichotomized views been so popular in the United States?

"The Bible tells me so"

The Bible is the authority and 'textbook' for the conclusions of creation science. Henry Morris, founder of the most prominent of the current creation science organizations, asserts that "If man wishes to know anything at all about creation ... his sole source of true information is that of divine revelation".² In recent court cases this theme has been obscured to avert constitutional difficulties. Nonetheless, Morris and his followers agree that it is simply obvious that the first chapter of Genesis refers to creation taking place in 24-hour days and so absolutely precludes evolution. Why do such principles of biblical interpretation persist with such strength? To answer this we must first consider the convergence of two powerful traditions of biblical interpretation.

Millenarianism

The modern premillennial views that have flourished in the United States since the nineteenth century have been based on exact interpretations of the numbers of biblical prophecies. The Bible, such millenarians assume, is susceptible to exact scientific analysis, on the basis of which at least some aspects of the future can be predicted exactly. Seventh-Day Adventists, Jehovah's Witnesses, and the influential dispensational premillennialists among fundamentalists, all treat the prophetic numbers in this way. For such groups it is important to have a biblical hermeneutic that will yield exact conclusions. Moreover, the hermeneutical principles that apply to prophecy should be consistent with those applied to scriptural reports of past events. Dispensationalists have often used the formula 'literal where possible' to describe this hermeneutic. While

they do not wish to apply literal interpretations to statements obviously poetical or figurative ("the mountains shall clap their hands"), they do think that, unless we are compelled otherwise, we should interpret the scriptures as referring to literal historical events that are being described exactly. It is not surprising, therefore, that such groups who derive some of their key doctrines from exact interpretations of prophecy should be most adamant in interpreting the first chapter of Genesis as describing six 24-hour days.

The influence of these prophetic views goes beyond the bounds of their immediate fundamentalist constituents, as is suggested by the fact that the dispensationalist prophetic volume by Hal Lindsey, *The Late Great Planet Earth*,³ was the best selling book in America during the 1970s. The principal creation science organization, the Institute for Creation Research in San Diego, has close ties with this prophetic movement. Moreover, George McCready Price (1870-1963), the main precursor of Morris' young-Earth flood-geology approach, was a Seventh-Day Adventist. Price's whole career was dedicated to confirming the prophecies of Ellen G. White, who claimed divine inspiration for the view that the worldwide flood accounts for the evidence on which geologists build their theories.

Protestant scholasticism

Not all creation scientists are millenarians, however. Another formidable tradition in American Protestantism that has often supported strict views on Genesis One and has influenced both American fundamentalism and popular American conceptions of scripture is Protestant scholasticism. This tradition has been articulated most prominently by the Princeton theologians, such as Benjamin Warfield. The substance of this view of the inerrancy of the scriptures - that because the Bible is God's word it must be accurate in matters of science and history as well as in doctrine - was already incorporated into much of the scholastic Protestantism of the seventeenth century and was common in many quarters of nineteenth century American Protestantism. Belief in the inerrancy of the scriptures did not entail that

they should always be interpreted as literally as possible, a fact which is demonstrated by the allowance for long 'days' of creation by some Princetonians. Nonetheless, the emphasis on the scientific accuracy of scriptural statements was conducive to views of those who insisted that the first chapter of Genesis referred to literal 24-hour days.

A good example is the Lutheran church - the Missouri Synod. For reasons no doubt related both to their Protestant scholastic tradition and an immigrant group's determination to resist infection by modern American theologies, the leading theologians of the Missouri Synod insisted on a most conservative view of the scriptures throughout the first half of the twentieth century. The Holy Spirit dictated or suggested to the writers the very words of the scriptures, therefore these words of God have divine properties. Since God would speak with great accuracy, it seemed to the Missouri Synod interpreters that the days described in the first book of Genesis must be 24 hours long. So evolution was "atheistic and immoral" and theistic evolution was inconsistent with both the scriptures and true evolution. When in 1963 Henry Morris first organized the creation science movement, he found enough allies from the Missouri Synod to make up a third of the original steering committee.

Rational scientific Christianity

A desire to establish a firm rational and scientific basis for Christian belief has been common to the prophetic millennial and the scholastic traditions and has related them to each other. In the eighteenth and nineteenth centuries particularly, defenders of Christianity assiduously collected evidence from the natural sciences to confirm "truths" revealed in the scriptures. Nineteenth century American apologists, whether scholastic or millenarian, typically based their arguments on explicitly "Baconian" principles: cautious examination of evidence that everyone could observe through common-sense procedures.

Crucial to the creation science movement is the desire to restore this harmony of science and scripture which the twentieth century intellectual climate had seemingly

shattered. Henry Morris made his point explicitly in his first book, *That You Might Believe*⁴. While acknowledging that Christian truths must ultimately be based on faith and that he would accept the Bible "even against reason if need be", Morris emphasized that the Bible "in no way does violence to common sense and intelligence". Many twentieth century people regarded Christianity "as outmoded beliefs, conceived in superstition and nurtured by scientific philosophical illiteracy". Morris, by contrast, was sure that biblical beliefs would satisfy even his habit cultivated by his engineering background, of "requiring satisfactory evidence and proof of all that they accept as fact".

Buoyed by this confidence in the Bible, Morris proceeded to illustrate "the great number of scientific truths that have lain hidden within its pages for 30 centuries or more, only to be discovered by man's enterprise within the last few centuries or even years". These 'facts' included statements that the stars "cannot be numbered", or that the psalms directly described evaporation, wind and electrical discharges as the cause of rain (Psalm 135 v.7). The creation science movement grew out of this impulse. While not claiming actually to prove that Christianity must be true, it seeks decisive evidence confirming biblical statements. So, not only do creation scientists assemble scientific evidences pointing to a worldwide flood, they sponsor expeditions searching for Noah's ark.

The whole enterprise relates to a distinctive view of the scriptures themselves. Fundamentalists and their allies regard the Bible as filled with scientific statements of the same precision as might be found in a twentieth century scientific journal. God, they assume, would not reveal himself any less accurately. The Bible, in the fundamentalist and scholastic traditions, is regarded as a book of fixed 'facts'. This view of the scriptures as a series of scientifically accurate propositions has invited the literalist interpretation that allows biblical language as few ambiguities as possible. For instance, a common argument against the evolution of species is that Genesis asserts that plants and animals should produce "after their kind". This phrase is usually regarded as precluding one species ever

producing another. Similarly, a well-known dispensationalist argues that the statement in Genesis ch. 2 v. 7, that man was created "out of the dust of the ground" could not allow for evolution from the primordial dust "since it is to dust that man returns - and this is not a return to an animal state (Genesis ch. 3 v. 19)"⁵

Common sense

Scholars from other traditions might find such thinking incredible, applying linguistic standards of one age to another. Nonetheless, there can be no doubt that in our age such thinking is widely regarded as common sense. Fundamentalists and kindred religious movements have made strong claims to stand for common sense.

The Bible, according to the democratic popularization of this view, is best interpreted by the naive readings that common people give it today. In modern America, common sense is infused with popular conceptions of straightforward empirical representations of what is really 'out there'. Mystical, metaphorical, and symbolical perceptions of reality have largely disappeared. Instead, most Americans share what sociologist Michael Cavanaugh calls an "empiricist folk epistemology".⁶ Things are thought best described exactly as they appear, accurately with no hidden meanings. Such folk epistemology is close to that which works best for engineers, straightforward, consistent, factual, with no nonsense. In fact, there are an unusual number of engineers in the creation science movement.

Most contemporary scientists have difficulty understanding the appeal of alleged scientific arguments of creation science to popular common sense. Evolution may have scientific experts on its side, but it strains popular common sense. It is simply difficult to believe that the amazing order of life on Earth arose spontaneously out of the original disorder of the Universe. The development of specific mechanisms such as the eye through blind chance also stretches common credulity. Could anything appear to be so ordered just by accident? The length of time it would take for the present order of life to arise from disorder is

staggering and stretches popular conceptions of probability. As a common sense argument, an anti-supernaturalistic evolutionary outlook is far less compelling than the traditional explanation.

As to the fact that so many experts agree on the truth of evolution, experts have often been wrong. Besides, the experts contradict each other, so that the lay person has no obligation to believe them. Moreover creation scientists can produce their own experts, as their organizations emphasize. In addition, however, people should be "deciding for themselves in a reasonable way". Audiences in church basements are told to go "see for themselves" fossil evidence that supposedly undermines evolution. "Let's decide upon a method by which we can resolve the controversy", says a typical appeal, "set up definitions, then examine the evidence".⁷

The American folk epistemology, then, is by no means anti-scientific in principle. Rather it is based on a naive realism plus popular mythology concerning proper scientific procedure and verification. These procedures are essentially Baconian, favouring simple empirical evidence. The view of science is optimistic and progressive, the real science will eventually reach the truth, although it may be led off the track by prejudice.

Post-Civil War cultural crisis

The popular appeal of uncompromising anti-evolutionists results not only from the coincidence of their hermeneutical and apologetic assumptions with much of American folk epistemology but also from their ability to convince their followers that anti-evolution is crucial to the future of civilization. Militant anti-evolutionists are almost all Northern European Protestants. Many of them have emphasized vigorously America's Christian (Protestant) heritage. A sense of cultural crisis, typically described as a turning from Christian to secular civilization, seems an important factor in raising the stakes of the anti-evolution effort and hence reducing the likelihood of compromise.

This combination of beliefs seems more characteristic of the United States than of other countries, and more characteristic of the south than of the rest of the nation. The irreconcilability of evolution and the Bible is a widely-held popular belief in the South that dates from before the creation science movement.

The easy answer to explaining the strength of anti-evolutionism in the south is the prevalence of 'old-time religion', the popular resentment of experts, and the relatively low levels of education of many southern Bible-believers. These factors are certainly important, although they do not explain why a belief in the dangers of evolution gained an elevated status in southern folk-religion. An interesting question is why anti-evolution became a standard test of the faith among southern evangelicals earlier than it did among northern fundamentalists. Already by the 1880s several southern theologians had lost their professorships because of their most cautious efforts to reconcile the scriptures to biological evolution. Much of the popular religious press made the issue crystal clear, asking "are we creatures of God or offspring of the apes?".

Why did southern religious groups thus try to bolt the door on even the most modest accommodation between creation and evolution? The answer is that a number of factors converged. First are the dynamics of the southern white church and religious life after the Civil War. The war brought the restoration of the Union but not the reunion of the churches. Southern Christians had to justify this continued separation from their former brethren. The most likely principal explanation was that their northern counterparts had been infected by a liberal spirit, shown originally by their unbiblical attacks upon slavery. Southerners were thus alert for any other trends towards laxity in Yankee religion. The continued separation was justified by the mounting conviction of southerners that they were the only remaining representatives of true religion.

Such justifications of separation from the northern churches were an integral part of the southern glorification

of the lost cause. Although southerners had lost the war on the battlefield, they were determined to win the war of ideas. The effect of this determination was to preclude change in any area and to celebrate whatever had been dominant before the war. This southern determination arose almost simultaneously with the rapid spread of evolutionary ideas in the north. So the widespread belief in the value of change became particularly anathema in the southern thought. Evolution, or change of any sort, could be only a decline.

Such circumstances may have been sufficient to ensure some popular opposition to any evolutionary doctrine. In addition the theologians' stance on the issue of Genesis and biological evolution was reinforced by a firm commitment to a scholastic literalist hermeneutic. Southern theologians, like most early nineteenth-century American churchmen, viewed the Bible as a collection of factual statements. Moreover, they were particularly inclined to a literalistic hermeneutic because of the slavery controversy. The Yankee reading of the Bible as condemning slavery seemed to southerners to involve abandoning the letter of the text for the alleged spirit. Committed to the letter of the scriptures regarding slavery, such southerners were hardly in a position to play fast and loose with other passages that might be reinterpreted in the light of modern progress.

Fundamentalism after 1918

The fundamentalist campaigns against evolution in the 1920s brought the supposed dichotomy to the national level. Before the First World War, anti-evolution does not appear often to have been a test of the faith outside the south, except among sectarians. Probably most conservative Protestants had the impression that evolution and the Bible were irreconcilable opposites, but a large enough number of their leaders saw the problems inherent in this stance to prevent it from becoming a test of fellowship.

As we have seen, even *The Fundamentals* of 1910 to 1915 did not absolutely preclude all evolutionary views. During the 1920s, however, anti-evolution became increasingly important to fundamentalists and eventually became an

essential hallmark of the true faith. The rise of the anti-evolution issue in fundamentalism was related to the convergence of several forces that took their exact shape when precipitated by the catalytic action of the American experience in the First World War. The war brought out sharp conflicts between liberal, or 'modernist', and conservative Protestants. Fundamentalists made the most of the extravagant anti-German propaganda by pointing out that German theology was the source of much modernist thinking. Common to German theology and German *kultur*, they said, were evolutionary philosophies. This "might is right" ideology had led to disaster for that civilization, which had lost all sense of decency. Evolution, moreover, had turned Germans away from faith in the Bible. The same thing that had happened to Luther's Germany could happen to Protestant America. Civilization itself was at stake.

The campaign only needed a leader to become a national sensation. William Jennings Bryan played that role as no one else could have. In estimating the reasons for the rise of an idea one must not underestimate the role of a charismatic personality. The battle for anti-evolution, the Bible, and civilization was a cause whose time had come; but it is doubtful that it would have become so deeply engraved in American thought had it not been for the colourful leadership of Bryan. If nothing else, Bryan's presence ensured wide press coverage, which of course always invited further simplifications of the issue. Bryan's own understanding of the connection between biological evolution and the dangers of evolutionary philosophies to society was an unusual one. In his view, evolutionary social views led to social Darwinism and hence to antiprogressive politics and the glorification of war. His followers, however, were not especially concerned with the details of the threat posed by evolution to civilization. They were convinced there was a threat to traditional beliefs which resulted from the spread of naturalistic, evolutionary developmental philosophies. This supposition was not entirely fanciful. Bryan and his cohorts were aware in a general way of the same secularizing trends associated with evolutionary naturalism in philosophy that were being pointed out by many of their intellectual contemporaries.

One strength of the fundamentalists' position was that they could relate this threat to civilization directly to the abandonment of the Bible as a source of authority and truth. This linkage became most clear in the question of biological evolution. Here again, the fundamentalists were pointing to a real phenomenon of major cultural significance. American college students were forsaking traditional faith in the Bible in droves. Science courses, especially those that taught naturalistic evolution, were the leading contributors to this revolution. In fact, nearly two-thirds of the nation's biologists professed not to believe in a personal God or in immortality. The teaching of evolution was, then, a real contributor to a trend that many considered to have ominous implications for the future of civilization.

The perception of such stakes invited the sort of polarization of the issue that we have been discussing. Bryan's appeal to the quasi-populist rural resentment of experts, especially in the south, added to the over-simplifications. Bryan's own case is especially revealing since the private Bryan and the public Bryan of the 1920s seem to have disagreed on how simple the issue was. Bryan himself held to a somewhat moderate interpretation of Genesis. As Darrow elicited from him at the Scopes trial, Bryan believed that the first chapter of Genesis might allow for an old Earth, a belief that was not unusual among fundamentalist leaders. Bryan even confided just before the trial that he agreed that one need have no objection to "evolution before man".⁸ Yet in his public speeches, Bryan had been allowing no compromise. "The so-called theistic evolutionists refuse to admit that they are atheists", he argued. Theistic evolution, he added, was just "an anaesthetic administered to young Christians to deaden the pain while their religion is being removed by the materialists".⁹ Any public concession to the feasibility of evolution, he explained privately, would give the opponents too much of a presumptive argument for the evolution of humans. Here we see the impact of a skilled popular leader in polarizing an issue. Convinced that the matter was of unparalleled importance, Bryan was not going to allow his constituency to be distracted from the warfare by the fine distinctions of mediating positions.

The warfare metaphor

Exacerbating the tendencies to polarization that arose from the convergence of all the factors mentioned has been the sheer power of military metaphors. For over a century, warfare has been the dominant popular image for considering the relationships between science and religion, evolution and creation. Journalists and historians relish reporting a good fight.

In describing the relationship between Darwinism and religion, argues James R. Moore in *The Post-Darwinian Controversies*,¹⁰ the military metaphor was first promoted by the opponents of religion. In fact, ever since the famed encounter between Bishop Wilberforce and T.H. Huxley of 1860, there was something of a warfare between some churchmen and certain anti-supernaturalist evolutionists. Given the many suggestions that creation and evolution might be complementary, however, these conflicts might easily have been resolved or confined. Militant opponents of the whole Christian cultural and intellectual establishment, however, made the most of the conflict. Darwin's personal difficulties in seeing how theism could fit with his theories lent aid to their cause. Accordingly, Victorian polemicists like T.H. Huxley and historians such as John William Draper and Andrew Dickson White reinforced the idea that the whole history of the relations between science and religion was one of "warfare". As the statistics on the low number of traditional theists among early twentieth-century American biologists show, the weapon of evolutionism was indeed taking a heavy toll in this warfare on Christianity.

Given this actual hostility of many evolutionists towards traditional Christianity, it is not surprising that some Christian groups replied in kind. Particularly this was true of groups that already saw most of reality through warfare imagery. Sects are notorious on this score. Immigrant groups and southerners each had their own reasons to view themselves as conducting at least a cold war with the surrounding culture. Anti-evolution hostilities, however, did not reach nationwide proportions until the rise of fundamentalism in the 1920s. Fundamentalism was a peculiar

blend of sectarianism and aspirations to dominate the culture. It was a coalition of conservative and Protestant traditions with militancy as its most conspicuous, unifying feature. As Richard Hofstadter observes, "The Fundamentalist mind ... is essentially Manichean; it looks upon the world as an arena for conflict between absolute good and absolute evil, and accordingly it scorns compromises (who can compromise with Satan?)".¹¹ William Jennings Bryan's refusal to admit the possibility of limited evolution publicly for fear of giving a weapon to the enemy illustrates this tendency.

The evolutionary explanation

William Allen White said of Bryan that he was never wrong in political diagnosis and never right in prescription. We might say the same of the creation science movement that has been heir to his work. They have correctly identified some important trends in twentieth-century American life and see that these trends have profound cultural implications. They point to the revolution that has brought the wide dominance in American academia and much other public life of anti-supernaturalistic relativism. Evolutionary theory has, as we have seen, often been used to support such an outlook. Carl Sagan's immensely popular television series *Cosmos* furnished a telling example. "The cosmos is all there is, there was, or ever will be", he states in his opening sentence.¹²

Such views are, of course, philosophical premises rather than conclusions of scientific inquiry. No conceivable amount of scientific evidence could settle such an issue. Nonetheless, both sides make the same mistake in debating such questions. Both fundamentalistic anti-supernaturalists, such as Sagan, and their creation scientist opponents approach the issue as though it would be settled on the grounds of some scientific evidence. In each case, the oversimplification of the issue reflects widespread overestimation in American culture on the possible range of scientific inquiry.

Beyond such overestimation of the process of science in general is the peculiar role that "evolution" has come to play in the anti-supernaturalist cultural and intellectual revolution. Both anti-supernaturalists and their creation scientist opponents have reflected common parlance when they have spoken of "evolutionary science" as equivalent to "naturalism" - that is, a view that the Universe is controlled by natural forces insusceptible to influence by any ultimately supernatural plan for guidance.

Moreover, as David N. Livingstone suggests, evolution has become an all-explanatory metaphor in modern culture. It has become a "cosmic myth - an idea which purports to provide, for example, guidelines for ethics and a coherent account of reality". All aspects of being and experience are explained according to evolutionary, developmental, or historical models. Often these are presented as complete accounts of the phenomena involved or as the only meaningful accounts that are available to humans. Evolution is, of course, a model with valuable explanatory powers; but it is worth asking, as Livingstone does, where we have any adequate basis for making this metaphor the foundation for an all-inclusive view of the world.¹³

In any case, creation scientists are correct in perceiving that in modern culture "evolution" often involves far more than biology. The basic ideologies of the civilization, including its entire moral structure, are at issue. Evolution is sometimes the key mythological element in a philosophy that functions as a virtual religion. Given this actual connection with an ideology that opposes traditional Christianity, it is all the more difficult for many conservative Christians to see that the biological theory is not necessarily connected with such a philosophy. Dogmatic proponents of evolutionary anti-supernaturalistic mythologies have been inviting responses in kind.

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R.R. COOK

**THE NATURE OF MAN –
HAS THE GHOST IN THE MACHINE
FINALLY BEEN EXORCISED?***

The machine

Gilbert Ryle expressed the scepticism of the age when he disparagingly referred to the traditional notion of man as composed of a spirit interacting with a brain as 'the ghost in the machine'.¹ For centuries dualism has been the prevalent view amongst philosophers, found embryonically in Plato and reaching its classical statement in Descartes. Man's composite nature has also been assumed by theologians, whose arguments have centred on whether he consists of a body, soul and spirit (e.g. Origen), or just a body and soul/spirit (e.g. Augustine). But today more and more Christian thinkers are echoing contemporary philosophers and scientists in assuming that man is a single entity who cannot be separated out ontologically into physical and spiritual parts. Instead it is argued by scholars like John Robinson² that Scripture presents man in a functional way so that when it mentions, for example, man's spirit, it is not alluding to an entity within him, but is rather referring to the whole man viewed from a spiritual perspective. A man's body is part of what he is, not something which he has.

Some eminent Christian scientists welcome this shift in theological perspective because it supports their own predilections. In the scientific realm there have been various developments which can embarrass the dualist. Many brain researchers, for example, claim to have found a direct equivalence between brain events and mind events such that it seems they are two aspects of the same thing. It is claimed that there is no evidence of one causing the other. Then there has been the rapid development of computer technology

leading to the conclusion of some scientists that there is no qualitative difference between a brain and a sophisticated computer. Anyway, the concept of the spirit interacting with the brain is an awkward one for the scientist who assumes that every event has a physical cause, and who naturally finds the thesis rather incredible that some brain events are the result of 'mind-miracles' produced by a metaphysical spirit. What is more, how could such an intangible spirit affect the brain? It would be like a weary phantom trying in vain to sit on a solid chair.

Malcolm Jeeves, a psychologist, and Donald MacKay, a brain researcher and computer scientist, are both Christians who have written influential books presenting an original kind of monism known as Identity Theory or Comprehensive Realism³ which argues that there is no causal relationship or interaction between mind and brain, rather:

It seems to me sufficient . . . to describe mental-events and their correlated brain events as the 'inside' and 'outside' aspects of one and the same sequence of events, which in their full nature are richer - have more to them - than can be expressed in either mental or physical categories alone.⁴

In his various books, MacKay offers a number of analogies including that of an electric sign which is nothing but light bulbs, electric circuits etc. when examined physically, but from another viewpoint it may be correctly understood as a sign conveying a certain message. Similarly, it is argued, brain events are totally explicable in terms of physical causation, yet there is still a whole dimension remaining, namely consciousness. These two perspectives are discrete and do not overlap in any way. It would involve what Ryle calls a

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'category mistake' to suppose one influences the other. Instead, for every mind event there is a complementary brain event. There never could be a subjective experience without corresponding activity in the brain, although obviously there can be brain activity without a change in consciousness. Indeed there can be healthy brain activity without any consciousness at all, as in the state of dreamless sleep. MacKay rejects both Idealism which allows only the full reality of mind, and Epiphenomenalism which tends to treat mind as a ghostly shadow cast by the brain. Instead, he affirms the full importance and reality of both. Needless to say, MacKay and Jeeves believe that the Bible supports their functional model of man.

The ghost and the machine

It is very tempting, therefore, for the informed Christian to consider dualism redundant and even *passé*. But let us take a further look at the evidence of psychology and theology. To begin with, it should be noted that basic common sense is on the side of dualism. It seems to us that 'brain' and 'mind' have two distinct denotations. It also appears that there is interaction between my mind and my body. For example, I (mental) may choose to instruct my arm (physical) to drop a pain-killer into my mouth, with the result that the pain (mental) disappears due to the tablet alerting my brain chemistry (physical). It seems that we have brains rather than that we are brains; in fact we naturally speak of 'racking our brains', and the irate teacher may shout: 'use your brains!'. Doctors are also talking more and more about psychosomatic illness which involves the mind, albeit unconsciously, affecting the body adversely. However, as the philosopher knows, common sense conclusions are fallible, so let us turn to other evidence to see where it leads.

As has been mentioned, Jeeves concludes that the Bible is in harmony with Identity Theory. He writes:

First, the New Testament clearly establishes that man is a unity, a psychophysical or psychosomatic unity . . . Second, although man is a unity, it is possible nevertheless to make valid distinctions between aspects of his functioning such as the physical and psychological, and in making these distinctions one derives greater insight into the nature of man.⁵

It is certainly true that biblical authors often employ anthropological terms functionally, for example, Paul can use 'flesh' to denote the total man from the perspective of his separation from God (e.g. Romans 8), but it would nevertheless seem that there are plenty of intimations in Scripture that man is a composite of at least two entities, one physical (the body/brain complex) and one metaphysical (the soul or spirit). For instance, Jesus contrasted the death of the body and the destruction of the soul (Matthew 10:28). The spirit is said to leave the body at death (e.g. James 2:26) and when a person is miraculously brought back to life, his spirit is said to return (e.g. Luke 8:55). And what is one to make of: 'For what person knows a man's thoughts except the spirit of the man which is in him?' (1 Corinthians 2:11)? This is not to be confused with the dualism which bedevilled Greek thought. Body is not a tomb, neither is it intrinsically evil, rather: 'My body is my soul's proper home. My soul is my body's proper master'.⁶ They belong together. Jeeves fails to take account of passages which indicate that there is a ghost in the machine.

Throughout the history of the church the overwhelming majority of theologians have accepted that a man does not cease to exist at death; he lives on in an intermediate state, awaiting his resurrection body. The nature of this state was much debated, but the fact of it assumed, by such Church Fathers as Justin Martyr, Irenaeus, Tertullian, Ambrose, Augustine and Calvin. This orthodox view has much support in Scripture which does not teach that the dead are non-existent; rather we are warned not to attempt communication with them (e.g. Deuteronomy 18:9-12). Although the resurrected Jesus said that he was not a ghost (Luke 24:39), he did not deny their existence. Indeed, in an admittedly obscure passage, Jesus himself is depicted as

having experienced the intermediate state while his body was in the tomb (1 Peter 3:18f). Jesus' words to the penitent thief on the cross (Luke 23:43) corroborate this.⁷ Perhaps the evidence is not entirely unambiguous, but the New Testament does seem to teach some kind of interim state of existence prior to the general resurrection (e.g. John, 11:25f; 2 Corinthians 5:1-6; Hebrews 12:22f; Revelation 6:9). The ghost can outlive the machine. How do Jeeves and MacKay interact with this doctrine? They tend to ignore it totally, and with unwarranted dogmatism Jeeves writes:

. . . a biblical account of what happens to a man after death cannot lead to the view that the soul survives in some disembodied form but rather that the whole man, recreated in body, is to live anew.⁸

But, of course, Jeeves and MacKay cannot entertain the possibility of the survival of a disembodied mind because it contradicts their *a priori* assumption that every mind event has a corresponding brain event. For them, when the brain dies the mind ceases to exist, only to be reconstructed when a replica but glorified brain is created as part of the resurrection body. Besides the moral objections to such a view (Is it right to condemn a newly-created being for the sins of one long extinct; or to call someone up from oblivion only to consign him to everlasting torment?), it has been clearly shown that it runs counter to the traditional understanding of the teaching of Scripture.

Unlike the monist, the dualist is also able to accommodate the Bible's teaching regarding demon possession, which might be described as two or more ghosts in one machine! Similarly he can explain the work of the Holy Spirit within the personality (a case of *deus in machina!*). Not so the Christian monist who is reduced to the limited assertion: 'The God of the Christian is one who upholds and sustains everything at all times (Hebrews 1:3)⁹ which is true but does not go far enough. God also intervenes and works directly in the lives of men according to Scripture. Often in the Old Testament he is described as coming mightily upon men (see e.g. Judges 3:10; 6:34), and in the New Testament Paul assures the Philippian converts: '. . . for it is God who

works in you . . .' (Philippians 2:13). This strand of biblical teaching is totally absent from Jeeves' chapter on conversion because his basic model seems to be a causally enclosed universe.

Another major weakness of Comprehensive Realism concerns moral responsibility. Jeeves follows MacKay in claiming that free-will is compatible with the view that all brain events are physically determined, but in so doing they are forced into defining freedom in an unacceptable way. It is envisaged that in principle a scientist could be cognizant of all the factors that together cause my brain events, and could accurately predict all my future thoughts and actions. However, this knowledge is 'logically indeterminate' (MacKay) in that I could always choose to disregard his prediction if it were known to me. He could not coerce me, and thus I remain free from constraint and, according to MacKay's definition: "had the act a non-physical cause?" but rather: "was the act the outcome of a decision?".¹⁰ But one senses a sleight-of-hand here. In fact all MacKay is establishing is that I have an illusion of freedom since all of my actions are ultimately physically determined. They do not stem from my will even though they may be mediated through it. In the usual sense of the term I am not therefore responsible for my actions.¹¹ Identity Theory involves a covert form of soft determinism which threatens God's justice as he consigns some to heaven and others to hell, and even his goodness, because if all events are the result of physical causes, it is difficult to avoid the conclusion that God, who is the only agent whose freedom is real rather than apparent, is directly responsible for evil. A similar problem haunted Calvin.

Many scientists today admit that there is hard evidence in favour of at least some para-normal phenomena,¹² and enemies of monism have been quick to cite, for instance, telepathy as an example of a non-physical force transmitted and received by immaterial minds.¹³ However, the monist could argue either that telepathy is still unproven, or that it is a physical phenomenon, like the transmission of radio waves. Experiments have been performed which seem to show that, unlike radio waves, telepathic messages are unaffected

by distance or barriers such as lead shielding, but the validity of these experiments has been questioned.¹⁴ The dualist must avoid dogmatism, therefore, when appealing to para-psychology in support of his case. Nevertheless, he is bound to be fascinated by current research in these areas, and if reports of out-of-the-body experiences in particular are ever scientifically verified, the monists will find themselves in an embarrassing position. Presently, studies are being made on those who claim to be able to leave their bodies at will, as well as on those who have survived clinical death, claiming not only that they had never lost consciousness, but also that they had been able to view their bodies from the outside.¹⁵ But the results are preliminary and we must be patient.

Perhaps there is space for just one more problem facing the monist which dualism explains, and this is the issue of personal identity. Every seven years or so all the cells in the body are totally replaced, and yet I have continuous sense of identity, going as far back as I can remember. More importantly, although brain events are multitudinous throughout the whole brain area, my subjective experience is unified. Perhaps, after all, there is a simple ghost operating a dazzlingly complex machine.

The ghost in the machine

The dualist case becomes even stronger when one realizes that a number of very distinguished scholars and scientists, not all Christians, find monism inadequate. On the basis of his work on the exposed brains of conscious epileptic patients, the eminent neurosurgeon Wilder Penfield does not believe there is a direct equivalence between brain and mind events. He has found that when low voltage currents are applied to points on the cerebral cortex, the patient experiences, for example, a vivid memory or a jerk of the arm depending on which part of the brain is stimulated. The limb moves involuntarily as far as the patient is concerned; it does not feel as if the movement is the result of an act of the will as one would expect according to the monist model. Penfield concludes that the electrode does the work which the mind normally performs, and he consequently finds the dualist hypothesis the best one to explain the facts:

Something else finds its dwelling place between the sensory complex and the motor mechanism . . . There is a switchboard operator as well as a switchboard.¹⁶

He maintains that the brain can temporarily continue operations subject to the limits of its 'programming' without the intervention of mind. He has observed, for example, how epileptic victims can 'black-out' for a time, during which they still continue to execute routine tasks. Needless to say, the very concept of programming implies a programmer who, for instance, decides what information to consign to the brain's long-term memory banks.

Again we find ourselves drawing an analogy between brains and computers. Is there a qualitative difference between the two? It would seem the answer will depend upon one's assumptions concerning human nature. As one would expect, MacKay sees no reason in principle why it should not be possible to build thinking machines subject to physical causation. Neither does he believe human dignity or worth would be threatened by such a conscious computer. He writes: 'From the biblical point of view the extent to which consciousness could be sustained in artificially constructed organisms is left an open question - entirely up to the Creator.'¹⁷ Ought we to give computers the benefit of the doubt then, and assuming they have minds, consider it murder to unplug one? For the dualist the answer seems clear, and he finds himself echoing the words of Sir Karl Popper, who is himself an interactionist: 'I predict that we shall not be able to build electronic computers with conscious subjective experience.'¹⁸

As we have seen, another objection to dualism is based on the premise that we live in a causally enclosed physical universe, but post-Einsteinian physics shows the situation to be far more mysterious. For example, the medium in which electro-magnetic waves form turbulence has itself no physical properties; here we are bordering on the metaphysical. Koestler suggests there might be a direct parallel between the way brain dovetails into mind and the way the physical universe blurs into that which is beyond the physical. For support, he quotes a passage from Sir James Jeans' Rede Lectures (1937):

Today there is a wide measure of agreement, which on the physical side of science approaches almost to unanimity, that the stream of knowledge is heading towards a non-mechanical reality; the universe begins to look more like a great thought than like a great machine.¹⁹

The final objection mentioned concerned the problem of how the ghost could get a purchase on the machine to influence it. It is a comparable problem, however, to how God who is Spirit can create the physical universe. To answer this question, certain Greek thinkers introduced the notion of intermediary demi-urges that act as a kind of metaphysical buffer, and Christians like Origen used the soul in their anthropology as a similar buffer between spirit and body. Perhaps our honest response should be that we believe but do not understand how God created the universe, and it is no more difficult for us to believe that mind influences brain without understanding the mechanics. But there remains the alternative of accepting the thesis of Sir John Eccles, the physiologist who received the Nobel Prize in 1963, who maintains that mind influences brain not via the pineal gland as Descartes believed,²⁰ but by operating upon neurons in the cortex.²¹ Eccles postulates a:

. . . Self-conscious mind which during normal life is engaged in searching for brain events that are in its present interest and of integrating these into the unified experience that we have from moment to moment.²²

As a post-script one might note that there is accumulating evidence for P.K. (psycho-kinesis), that is the movement of objects either by direct application of will-power, or by forces emanating from the unconscious mind (e.g. in the case of Poltergeist phenomena).²³ Many scientists dismiss this evidence on the same *a priori* grounds, namely that intangible mind could not influence material objects.

The ghost

The intriguing question now poses itself: what is the nature of the ghost which inhabits the machine? Popper commits himself thus far:

. . . in a way the self-conscious mind has a personality, something like an ethos of a moral character and . . . this personality is itself partly the product of actions done in the past.²⁴

This chimes well with the traditional Christian view that goes back at least to Irenaeus that this life is 'a vale of soul making'. It also accords with the Bible's revelation of a God who is Spirit and yet also Personality. Indeed God is one who not only can think and feel, but also see and hear (Psalms 94:9). Will the same be true of us in the intermediate state when our eyes and ears are dust? Perhaps we will be able to see things with a faculty like clairvoyance (cf. 2 Kings 6:8-12), and to communicate telepathically (cf. the word of knowledge in 1 Corinthians 12:8). Certainly those who claim out-of-the-body experiences (cf Ezekiel 8-11) maintain that they could see and hear. But what then is the use of our sense organs? They begin to seem a little superfluous. H.H. Price prefers to draw an analogy between one's consciousness in the intermediate state and dream perceptions which are vivid, but do not involve sense organs.²⁵ It is interesting to note that we are always ourselves in our dream world, even when our dream is very weird. In fact, we are arguably more ourselves than when awake, since our unconscious traits are often clearly manifested in our dream selves. Price's suggestion is an interesting one. To believe the human spirit is capable of thought and experience without need of brain is one option then.

Yet some might feel the problems with this view are insuperable. After all, brain damage and senility drastically impair one's ability to think. Also, it is evident that personality is at least partially conditioned by genetic factors. But there is another interesting approach opened up by the work of R.C. Zaehner, a scholar of comparative

religion, who contends that the interior mystical experience of Hindu meditators is not an experience of God (Brahman) as they believe, but rather an awareness of their naked spirit devoid of all sense impressions or even thought itself.²⁶ He supports his hypothesis by quoting Buber and Ruysbroeck amongst others who make a clear distinction between their direct experience of God and this experience of their own being. The enjoyment of the inner self Zaehner labels 'enstasy', as apposed to the 'extasy' of the saint who reaches out to the enjoyment of God. Transcendental Meditation would be a modern example of a method of achieving enstasy. Perhaps, then, we may understand the Hindu Scriptures (most particularly the Mānūkyā Upanishad) as profound studies in depth psychology, written by men with first-hand experience of their isolated spirits, and we may gain useful insights from them concerning the nature of the human soul even though we may feel that they are totally ignorant about the living God. In fact one finds three objectives recurrently applied to Brahman: *Sat-Chit-Ananda* (Being-Consciousness-Bliss). The final one causes problems since the Bible seems to teach that the intermediate state of the unregenerate is unpleasant (e.g. 2 Peter 2:9), but the founder of Transcendental Meditation throws light on this when he asserts that it is not the state of Brahman which is blissful but the transition into and out of this state:

The mind does have the ability to experience when it is on the verge of transcending . . . It is at this point that the mind experiences the nature of absolute bliss consciousness.²⁷

So we are left with being and consciousness. Being, perhaps, in that the spirit is far more ultimate than the perishable body and brain, and consciousness in that this is the prime quality which distinguishes people from, for example, spirit-less computers. Interestingly, Descartes also maintains that consciousness is the salient attribute of the soul. But what of our spirits when we are unconscious? Perhaps a clue is found in the testimony of mystics of all faiths that our everyday egos are different from our spirits,²⁸ and Thomas Merton believes that most of us only become aware of our true selves after death:

This 'I' that works in the world, thinks about itself, observes its own reactions and talks about itself is not the true 'I' that has been united to God in Christ. It is at best the vesture, the mask, the disguise of that mysterious and unknown 'self' whom most of us never discover until we are dead.²⁹

Merton's contention is supported by some of those who have been brought back from clinical death. Victor Solow was clinically dead for twenty-three minutes and during this time he experienced a strangely different self:

This new 'I' was not the 'I' that I know, but rather a distilled essence of it, yet somehow vaguely familiar, something I had always known buried under a super-structure of personal tears, hopes, wants and needs.³⁰

Again, a similar idea is found in Jung:

The self is a quality that is subordinate to the conscious ego. It embraces not only the conscious but also the unconscious psyche and is therefore, so to speak, a personality which we also are.³¹

Is it this self which lies gazing while we are asleep?

In the philosophy of Yoga, the spirit is ascribed similar qualities to Brahman, for example, timelessness and transcendence. 'Only when it is conjoined with . . . matter can it seem to act or do anything'.³² (In the Sankhyâ-Kârikâ Scriptures the picturesque metaphor is used of a lame man mounted on the shoulders of a blind one to describe the union of spirit and body). In Christian terms, perhaps one's eternal fate is fixed at death because in the intermediate state one is incapable of thought or development since mind, as we know it, is the product of the interaction between brain and spirit.

If one adopted something like this view and wanted to draw an analogy with God, one might wish to cite the early Church Fathers who viewed God as absolute being and simple in

his essence, an idea reworked by more recent theologians like Tillich and Macquarrie. Or alternatively, one might be stimulated by the notion of process theologians like Ogden (although the idea goes back to Diogenes) that God's mind is a product of his interaction with the world, which is his 'body'.³³ It is a welcome fact that although process theologians are so avant-garde in trying to incorporate modern theories like evolution and relativity into their theology, they are old-fashioned enough to assume an interactionist view of man!

Be that as it may, finally we are wise to maintain a healthy agnosticism concerning the nature of the ghost. We are also wise to approach with humility the whole subject of the nature of the machine. G.E. Pugh expresses our dilemma in a neat paradox: 'If the human brain were so simple that we could understand it, we would be so simple that we couldn't.'³⁴ But as this article has sought to show, we are in a precarious position as Christians if we deny altogether that there is a ghost in the machine. Now our knowledge is largely theoretical, but one day it will be empirical:

Then all cerebral activity ceases permanently. The self-conscious mind . . . now finds that the brain that it has scanned and probed and controlled so efficiently and effectively through a long life is no longer giving any messages at all. What happens then is the ultimate question.³⁵

Footnotes

1. G. Ryle, *The Concept of Mind* (London 1949)
2. J. Robinson, *The Body* (London 1952)
3. Their books include: M.A. Jeeves, *Psychology and Christianity* (Leicester 1976), D.M. MacKay, *The Clockwork Image* (London 1974), and more recently, MacKay's *Brains, Machines and Persons* (London 1980). (For an example of a recent Christian book which is sympathetic to the MacKay approach, see: D. Gareth Jones, *Our Fragile Brains*, Downers Grove 1981).

4. *Brains, Machines and Persons*, 14
5. Jeeves, *Op.cit.* 72
6. A.C. Custance, *The Mysterious Matter of Mind* (Grand Rapids 1980) 91
7. Admittedly the Greek could conceivably be translated: 'I tell you today, you will be with me in paradise', but the standard translation is the most natural reading, according to most scholars. See e.g. O. Cullmann, *Christ and Time* (London 1962) 238
8. Jeeves, *op. cit.* 77
9. *ibid* 142-143
10. J.R. Smythies (ed.) *From Mechanism to Mind* (London 1965) 188
11. MacKay's view is original and subtle, and my somewhat cursory treatment fails to do him full justice. For a more detailed criticism see e.g. C.S. Evans, *Preserving the Person* (Downers Grove 1977) 108-117
12. e.g. H.J. Eysenck has written: 'Experiments ... have shown that both clairvoyance and telepathy must be presumed to exist.' *Sense and Nonsense in Psychology* (London 1957) 139
13. e.g. M.P. Cosgrove, *The Essence of Human Nature* (Grand Rapids 1977) 34
14. J. Taylor, *Science and the Supernatural* (St. Albans 1981) 72-75
15. e.g. L. Watson, *The Romeo Error* (London 1976) 140-148. R.M. Moody, *Reflection on Life after Life* (London 1977)
16. W. Penfield, *The Physical Basis of Minded.* P. Laslett (Oxford 1950) 64

17. *Brains, Machines and Persons* 64
18. K. Popper and J. Eccles, *The Self and its Brain* (London 1977) 207-208
19. A. Koestler, *The Roots of Coincidence* (London 1978) 58
20. But for some, Descartes' theory is still tenable. See L. Watson, *op.cit.* 117-120.
21. See A. Koestler, *op.cit.* 73-76 for an outline of Eccles' position. For a succinct description of the views of Penfield, Eccles and Popper, see A.C. Custance, *op.cit.*
22. K. Popper and J. Eccles, *op.cit.* 356
23. e.g. A. Doublas, *Extra Sensory Power* (London 1976) ch. 19
24. K. Popper and J. Eccles, *op.cit.* 472
25. H.H. Price, *Essays in the Philosophy of Religion* (Oxford 1972)
26. R.C. Zaehner, *Concordant Discord* (Oxford 1970). A sensitive description of this state of consciousness is found in W. Wordsworth's poem: *Tintern Abbey*, lines 37-49.
27. Maharishi Mahesh Yogi, *A New Translation and Commentary on the Bhagavad-Gita* (London 1979) p. 437
28. e.g. F.C. Happold, *Mysticism* (London 1970) 48
29. R.C. Zaehner, *op.cit.* 100
30. P. Cotterell, *I want to know what the Bible says about: Death* (Eastbourne 1979) 48
31. C. Jung, *Two Essays on Analytical Psychology* (Collected Works, 7, 175)
32. R.C. Zaehner, *op.cit.* 98

33. e.g. S.M. Ogden, *The Reality of God and Other Essays* (New York 1966)
34. L. Watson, *Lifetime* (London 1980) 161
35. K. Popper and J. Eccles, *op.cit.* 372

REG LUHMAN**BELIEF IN GOD AND LIFE AFTER DEATH**

Job's question, 'If a man die, will he live again?' is of more than academic interest to the theist. As I have already noted, Hick's verification of God's existence is based on the belief that human beings will survive the death of the body.¹ Also an important strand in the justification of suffering is the belief that cases of apparent undeserved and purposeless suffering will be compensated for or will become explicable in a future life.

Belief in an afterlife demands some continuity between the present life and a future existence and therefore would apparently exclude all forms of *monism*, which maintain that human beings are none other than the sum total of physical entities comprising body and brain, both of which are totally destroyed at death. The alternative view is a form of *dualism* which claims that there is a non-physical component (mind, soul, psyche or whatever) that survives the death of body and brain.

An attempt to argue that monism is consistent with survival has been made by Professor D. M. Mackay who writes, "Does our view of the unity of mind and body make this (the doctrine of resurrection to eternal life) more difficult to take seriously today? I think not . . . Take the case of a message chalked on a blackboard. To clear the board, we rub the surface until we are left with a handful of chalk. As far as the board is concerned the message is gone. But of course if tomorrow we, the originators, want to express the same message again, here or elsewhere, we have no difficulty in doing so. It is not necessary for us to use the original chalk, or even to use chalk at all. What matters is the arrangement of the chalk in which the message was embodied; and it is entirely up to us whether its new embodiment uses

the same or different material, or indeed whether it is expressed in some utterly new medium (such as speech, for example) which is recognizably the same only in some essential aspect . . . If it is God's will that, although these bodies of ours have been rubbed off the scene, we shall nevertheless be re-embodied in the world to come, this possibility in no way conflicts with our scientific knowledge".²

Much of what MacKay says is valuable for our discussion but I would question whether it establishes the necessary criteria for demonstrating resurrection and re-embodiment. If there is nothing that survives of the original entity then at best we have an exact copy or replica of the former being.

The Materialist Case against Survival after Bodily Death.

If survival after bodily death requires belief in the existence of a non-material mind/soul then a case must be made against monism and in favour of dualism. Two forms of monism have dominated philosophical discussion in recent years, namely logical behaviourism and central state materialism (the mind-brain identity thesis).

The problems of dualism are well known. Minds are said to be composed of a different 'substance' from bodies and brains. Minds are spiritual but bodies are physical. But if there is such a difference how do they interact? Many, including Christians, claim that each body has only one mind. But how can a non-spatial entity be exclusively in just one body without that entity being specifically located? Descartes claimed that the mind was physically located in the pineal gland and more recently Sir John Eccles has spoken of a 'spatial patterning' of the mind, which he locates in the left hemisphere of the brain. There are also problems concerned with the origin of the mind and those involved in the mind's interaction with the brain. As Keith Campbell observes, because ". . . no mechanism connects matter with spirit such causal connections must be primitive, fundamental ones".³

1) Ryle's 'Ghost in the Machine'

One of the most vigorous attacks launched on the dualist view was by Professor Gilbert Ryle. He launched his attack on what he called 'Descartes' Myth' which he designated 'the ghost in the machine'. The 'ghost' is the mind and the 'machine' is the body. He believes the Cartesian doctrine was based on a 'category mistake' by which he meant that brain and mind belong to different logical categories, which have been wrongly associated together. An example of such a mistake is the sentence, 'She came home in a flood of tears and a sedan-chair' where 'tears' and 'sedanchair' which belong to different logical categories are illegitimately combined. He writes, ". . . the dogma of the Ghost in the Machine does just this (confuses the two terms). It maintains that there exist both bodies and minds; that there occur physical processes and mental processes; that there are mechanical causes of corporeal movements and mental causes of corporeal movements. I shall argue that these and other analogous conjunctions are absurd; but it must be noticed, the argument will not show that either of the illegitimately conjoined propositions is absurd in itself. I am not, for example, denying that there occur mental processes . . . but I am saying that the phrase 'there occur mental processes' does not mean the same sort of thing as 'there occur physical processes' and, therefore, that it makes no sense to conjoin or disjoin the two".⁴

Ryle's positive task is to bring the 'mind' to the outside and to maintain that what the term 'mind' really means is what we do with our bodies or a disposition to do certain things with them. The enterprise is therefore a form of behaviourism. The term 'mind' functions as a collective noun just as the term 'university' functions as a collective term to describe the complex of colleges, libraries and senate that make up the university. For the thesis to be successful Ryle needs to show that there are no 'internal phenomena' such as images and feelings. In fact he is unable to maintain this 'tough' thesis and frequently admits that internal phenomena may exist but that it does not destroy his account because it is always possible to make such phenomena public. This admission leaves the problem of the status of

such an inner world and its connection with the outer one unresolved.

For Ryle, mental terms either describe behaviour or else a disposition to behave in a certain way. Thus there are bodily feelings which manifest themselves physically, for instance when one comes out in a cold sweat due to fear. There are also dispositions to behave in a certain way; for instance, for Ryle, to be angry is to be disposed to go red in the face and to shout. Similarly when we say a person is intelligent we mean he is disposed to answer questions correctly and when we say someone remembers something we mean that he has learned something and is disposed to give correct answers to questions about the topic remembered. He denies that thinking or remembering involves talking or rehearsing something inside one's head. The weakest part of his thesis is his denial that imagining or dreaming involves seeing something internally. He maintains that there are no private theatres inside but he does not tell us what dreaming is, if it is not internal seeing.

Ryle's view has not been generally accepted. He tries to prove too much. It is certainly true to say that mental activities may be generally identified with hypothetical statements about behaviour, that is dispositions to behave, but they need not be necessarily so identified. For example, while it is contradictory to say 'He is an irritable man but never shows it in his behaviour' it is not contradictory to say, 'He often feels irritable but never shows it'. Ryle claims that there is no such thing as the imagination. There are merely events which people witness and people fancying themselves witnessing them. This is patently false; we can imagine without fancying ourselves witnessing something specific. Ryle is confusing the meaning of the terms he uses with the tests that must be used to verify them. It is perfectly true that we can only know what another person is thinking or feeling by observing what he does or by listening to what he says, but this does not exclude the possibility that he is experiencing 'internally' something which he does not reveal to us and something therefore that we cannot know.⁵

Ryle obviously had difficulty in making sense of imagination and dreaming and Professor Malcolm came to the rescue, so he thought, with his book entitled, 'Dreaming'.⁶ Malcolm claims that there are only two criteria for establishing that a person is asleep, namely behaviour and personal testimony. Neither is sufficient by itself. We might judge someone to be asleep if he lies inert with eyes closed and not performing functions associated with waking life, but such behaviour can be feigned. Alternatively we could ask a person whom we judge to have been asleep whether he could remember sounds and other happenings at the time. Malcolm denies that a person can make any form of judgement when asleep. If a person said that he was aware of something when he was asleep he would either be 'talking' in his sleep and hence not conscious of what he was saying or else he would be conscious and not asleep. He denies that a person can knowingly talk intelligibly in his sleep or engage in 'sleepwalking', and makes being 'sound asleep' his paradigm example of sleep. We might reasonably ask if this definition is not too narrow.

Malcolm does not profess to know what dreams are. He says, ". . . I am not trying to say what dreaming is; I do not understand what it would mean to do that". Instead he denies that there are internal events going on in the mind while a person sleeps. Even if a person claimed to have perceived an event happening while he slept and his subsequent testimony confirmed it, all we could say is that either he perceived it and was not asleep or else he told of the event on waking and his report just happened to coincide. All we can say about dream images is that they do not occur before sleep but that a person can describe them when he awakes. It would be a mistake to describe dreams as taking place in physical time, because in so doing we are relying on the dreamer's testimony which cannot be correlated with an objective standard like a clock. This conflicts with the physiologist's claim to have studied patients when asleep, whom they say were dreaming, by observing the change in their brain pattern and by observing rapid eye movements. Malcolm claims that, "No physiological phenomena will be of any use as evidence that a man made a judgment while asleep" because this could only be confirmed by the dreamer's testimony and

that, if accepted, such physiological data would give a new definition of dreaming so that a person could be told he is dreaming, although he is not aware of doing so.

The basic problem with Malcolm's thesis is that he seems to draw too rigid a definition of sleep and dreaming. There are, surely, different levels of sleep and wakefulness and it is extremely difficult to draw the strict distinction between sleep and waking that his criterion demands. If there is not such a precise division then presumably Professor H.D. Lewis is justified in speaking of someone ". . . passing from a reverie into a dream" and hence that ". . . there seem to be cases when we are dreaming and also aware that we are dreaming".^{7a} Is it true that dreams do not take place in physical time? If so then it ought *not* to make sense to say that if I awoke ten minutes earlier I would not have had the dream.⁸ I cannot help thinking that Lewis is right when he says that, ". . . Malcolm has decided to stop, not where the logic of the situation requires him but where it best suits his own argument".^{7b} For these and the reasons given above I would argue that philosophical behaviourism as expounded by Ryle and Malcolm has not disproved either dualism or the existence of the mind as an entity.

2) *The Brain-Mind Identity Theory.*

The identity theory is put forward not simply as a philosophical thesis to explain the residuum of 'mental' events not susceptible to the Rylean type of behaviourism, but according to U. T. Place ^{9a}, as a reasonable scientific hypothesis. Place maintains that there is a contingent identity between mental terms and brain processes. It is an identity similar to that implied when we say that clouds are large transparent masses with a fleecy texture and also water droplets suspended in the air. We cannot verify both descriptions at the same time; they need two different types of verification. One sort of explanation is a scientific one; the other is how the phenomenon is 'seen' by the ordinary person. It is a mistake to think that when a subject describes his experience of how things look, feel or smell he is describing the literal properties on a type of internal cinema screen. In fact we have to learn about things

before we can describe them. When we describe an after-image as green we are saying that we are having the sort of experience 'which we have learned to describe as looking at a green patch of light'.

J.J.C. Smart gives a more radical version. Perception, for him, is acquiring beliefs about the external world as a result of sensory stimulation and introspection of the brain. But if we perceive an after-image which is not in physical space how can it be a result of a brain process which is in physical space? Smart answers this by saying that there is no after-image but merely the *experience* of seeing it.

The most difficult area for the identity theorists to deal with is the sensation of pain. It is generally assumed that we have privileged direct access to our own pains and therefore there is no sense in trying to prove to a person who sincerely reports that he is ill or in pain that he cannot be because the thermometer registers a normal temperature or that the E.E.G. readings indicate he is not in pain. It is true that we can infer that another person is in pain if they behave in a certain way, that is they cry out, seek to soothe the part of the body where the pain seems to be located, or tell us about it. What we cannot know about another person, but can know about ourselves, is the pain-sensation itself.

Smart at first denied that it could happen that the E.E.G. reading and the first-person report could ever be in conflict but then added that if it were to occur then he would have to give up his position because, "I put forward the brain-process thesis as a factual identification, not as a logically necessary one".^{9b} Other exponents of the identity theory have claimed that there can be felt pains of which no one is aware. This is very puzzling and difficult, if not impossible, to maintain. If the incorrigibility of first-hand introspective accounts is called into question it is difficult to see how the necessary psycho-physical correlation could be established.

In a sense the identity theory has to be false to be true. Borst uses the statement, 'Shakespeare is Bacon' as

analogous to the examples given by Place and Smart of the relationship between a sensation and a brain-process. If Shakespeare turns out to have been Bacon then Shakespeare did not exist or at least did not write the plays attributed to him. The 'Disappearance Form' of the identity theory argues precisely this. Sensations, including pains, are physical processes and thus we should say not, 'I'm in pain' but 'My C-fibres are firing'. Of course we are not likely to drop 'sensation-language' which is deeply rooted in our linguistic environment, but we would be right to do so.

David Hume once asked, "Can anyone conceive of a passion of a yard in length, a foot in breadth or an inch in thickness?" This raises the problem of spatiality. If sensations are contingently identical with brain processes then presumably we would have to say that they are located in the brain. To use Tyle's term it would seem that a person who made such an identity would be guilty of a 'category-mistake'. Pains can be intense, nagging or throbbing and beliefs dogmatic, profound or false but surely not brain-states. Furthermore, as Coburn and Malcolm following Wittgenstein have pointed out, a necessary condition for many mental concepts is the presence of 'surroundings'. For instance the sudden realization that we have not put out the milk bottles envisages an organised community with the practice of milk distribution. If Smart is correct in claiming that everything is reducible to the laws of physics then so presumably is collecting milk bottles.

Finally and crucially the mind-brain identity theory faces the twin problems of human self-consciousness and human freedom. Sir Cyril Burt agreed that, "Consciousness may perhaps be generated by the physical processes of the Brain" but went on to show that ". . . it is plainly not itself a physical process:. The brain does function . . . like a physico-chemical mechanism and many of its activities can be imitated by an electronic computer. . . But we are left with the notion of a strictly physico-chemical mechanism which, like no other material mechanism, is aware of what it is doing".^{10a} We are therefore left with a dualism and an inconsistency in the exponent himself, because it is doubtful if any of them honestly believes themselves, their wives and

children to be automata. Further, Burt shows the inconsistency of the identity-theorist who maintains that all changes in the human brain are essentially physical even when accompanied by consciousness and are totally determined with no room left for free choice. If this were so then ". . . it would follow that the speaker could not help saying what he did; and his arguments, as reasoned arguments, could carry no weight. Why then should we take the smallest notice of what he says?"^{10b}

As far as survival after bodily death is concerned the failure of monism to give a consistent alternative to dualism with its belief in an immaterial mind opens the door to the possibility of the mind surviving in some way.

The Elusive Mind

The basic problem in saying anything positive about the mind is its elusiveness. If the mind does exist it is by definition not physical and therefore cannot be detected by normal physical means. Unlike the brain it has no apparent location, weight or dimensions. The problem of describing mind is evident in Professor H.D. Lewis' treatment of the subject. The mind for Lewis is essentially what makes a person what he is, namely an irreducible being. He writes, "The consciousness of oneself as a unique and irreducible being, or of self-identity is its most basic sense, is thus given with, is irretrievably involved in, the distinctiveness of having experience of any kind".^{7c} This consciousness Lewis believes is more radical than bodily continuity and is not seriously affected by loss of memory or split personality. In a sense someone ". . . knows that his past history could be radically different and he could have a very different body . . . (but he has) the consciousness that in all such variations he remains the being he peculiarly knows himself to be".^{7d} The only way of saying anything positive about the mind is if we could identify activities that are direct activities of the mind, which is what the science of parapsychology has sought to do.

1) *The Mind in Parapsychology*

Parapsychology has gone a long way since the pioneering work of J.B. Rhine¹¹ and S.G. Soal¹² and in spite of criticisms by Hansel¹³ and others, some of which were justified, its findings are now widely accepted. Many telepathic subjects scored significantly above chance but only for a limited period with notable exceptions like Pavel Stepanek. Modern experiments in remote viewing are double-blind and the experimenters Puthoff and Targ have been able to train subjects to make more accurate 'guesses' at the target.^{14a} Attempts have been made to show that such results are due to meaningful coincidence¹⁵ but others have reversed this idea in order to argue that meaningful coincidences are examples of non-intentional, spontaneous ESP. Thus Dr. Stanford writes, "The most important suggestion to come out of the studies . . . is that persons may use nonintentional ESP to detect and enable them to respond to motivationally important information with which they not only have no sensory contact, but which they do not even know exists."^{14b}

It is often assumed that telepathy and kindred faculties are examples of the mind at work and are extra-sensory, but this is by no means proved. The phenomenon of out-of-the-body experience or astral projection seems to indicate that on occasions the mind can leave the body. The experience can be either spontaneous or controlled. The subject seems to move out of the body and view himself from outside of it. Although this could be a form of hallucination, controlled experiments suggest it is not. The classic experiment was performed by Professor Tart who succeeded in getting a subject accurately to read a random number well outside her visual field while attached to a series of recording instruments in a dream laboratory.¹⁶ If the result was not chance then she either perceived it telepathically from Tart's mind or clairvoyantly in an out-of-the-body experience.

Other indirect evidence for the existence of the mind comes from features manifested in hypnosis. Under hypnosis, a subject can be made to describe a non-existent object suggested by the hypnotist, ascribe heat to a cold object and

have an appropriate visual image when only the auditory area of the brain is stimulated, which presumably would not happen if there was only a brain. The latter observation, however, may well be clarified with our advancing knowledge of the workings of the brain.

2) *Scientific Models of the Brain and the Mind*

The philosophical study of the mind-brain problem and philosophical speculation about survival can only make progress when there are sufficient data to work with. Fortunately in recent decades brain research has made phenomenal progress. The current view is to see the brain as analogous to a complex computer. In a recent study Professor Donald MacKay has elaborated the evidence for this and has sought to show its relevance to the Christian doctrine of man.¹⁷

Although it is possible to identify large tracts of the brain responsible for vision, hearing and speech, much of the brain seems to consist of cells that are 'uncommitted' in the sense that they are not tied to any single system. This means that brains can suffer considerable damage and even considerable removal of brain tissue without their functioning being significantly impaired. When Dr. Sperry severed the connection between the two hemispheres of the brain to prevent the spread of epileptic seizures in patients he found, contrary to expectation, that each hemisphere could produce its own perceptions and beliefs.^{18a} It is true that some evidence of a 'split-brain' was found with one patient buttoning up a coat with the right hand and at the same time unbuttoning with the left, but such dissociation seemed to disappear outside the experimental situation.

How has computer technology helped us to understand the working of the brain? The computer most like the brain has been called an 'artificial intelligence'. Once the ability to store information is incorporated, a computer can be designed to pursue defined intellectual goals such as winning at chess or recognizing speech. Such a computer can be programmed to experiment with a variety of programmes compiled by itself on the basis of stored information, while at the same time

discovering any faults in the compiled programme. With the advent of the 'micro-chip', miniaturized electronic circuits can be constructed with individual components of the circuits smaller than a single nerve cell. Psychological experiments suggest that the maximum bits of information, some of which will be repetitions, which need to be stored by the brain in a lifetime is something in the order of 200,000 million, which amount to only a few bits per nerve cell. By combining the functions of digital and analogue computers we have a working model, if a grossly simplified one, of the human brain.

Seen from a mechanistic viewpoint the brain is no more than a complex computer which is, of course, totally unaware of its own existence. However a human person is aware of his thinking processes and of himself as an existing person. How are we to account for this self-consciousness? MacKay speculates that it might in principle be possible to programme consciousness in a computer but that there is a practical difficulty of specifying a programme in sufficient logical terms to perform an action which would be regarded as a self-conscious action.¹⁹ This raises the important point that computers need programming. If the brain is a complex computer what does the programming?

A clue to the solution of the problem of the programming of the brain has come through the experimental work of the Canadian neurosurgeon, Dr. Wilder Penfield, from which we can construct a scientific model of the mind. In treating epileptic patients it was necessary to locate the point of irritation by exploring the exposed brain tissue with an electrode. The patient needed to be conscious to help the surgeon to locate the correct point, so experiments were conducted under a local anaesthetic. In this experimental situation he found the patients exhibited a *double consciousness*; they were aware of their immediate surroundings and of vivid re-enacted scenes from their past. The memory was so specific that stimulation of the same area could make the patient relive exactly the same experience. Although the memory was involuntary it was not like a dream. The subject experienced more detailed and vivid experiences than are usually possible in memories and could be elaborated

on and clarified. Penfield had accepted the view that the mind is the brain but his surgical work led him to a different conclusion. He accepted that the brain is a computer, but that a person has a computer though is not himself a computer. In his surgical operations he observed, "The mind of the patient was as independent of the reflex action as was the mind of the surgeon who listened and strove to understand". He concluded that the brain relies on the mind to direct it purposefully during waking life and that a normal healthy person goes through life constantly depending on his own personal computer which he programmes to fit into his own continually changing objectives and concerns.²⁰ One question remains. If the brain stores the information, would not the death of the brain mean the end of the person? What could survive to continue to be identified as the same person? To find an answer to this question we must investigate the necessary criteria for saying that a particular surviving entity is the same as a specific ante-mortem person.

The criteria for meaningful survival

When we say of someone that he is the 'same person' as someone who existed previously, we identify him by one or more of the following criteria, namely bodily continuity, memory and psychological continuity (by which we mean the existence of a series of mental dispositions that are sufficient to convince at least the person concerned that he is the same person). Do we need all these criteria or are some dispensable? Would it be possible to identify a disembodied person as being continuous with a previously embodied person? Finally is there any sense in maintaining that a surviving entity that has no bodily similarity with, nor memories of, events and experiences had by a previously existing person could be that person on the grounds that he knows himself to be that person?

1) *Bodily Continuity*

Professor Williams wrote, "The only case in which identity and exact similarity could be distinguished . . . is that of a body; 'same body' and 'exactly similar body' really

do mark a difference. Thus I should claim the omission of the body takes away all content from the idea of personal identity".²¹ The problem here is what is meant by 'the same body'. Is the body that a person now has at the age of sixty the same as the one he had at the age of three? It certainly does not look the same but physically it is not the same because the cells that make up the present body are not identical to those that made up the body of the child of three. In fact the only grounds we have for saying it is the same is that there is a psychological continuity and that the individual, or other people, or both can remember events that the person now existing performed at the age of three.

Williams in the article already mentioned argued that bodily spatio-temporal continuity is a necessary condition for personal identity. He envisages two individuals who both claim to be Guy Fawkes and remember events in Guy Fawkes' life. If the events happened then we could be justified in claiming they were true memories. However if both Charles and Robert had the same memories then both are Guy Fawkes but this he thinks is absurd because Guy Fawkes could not be in two places at once. If only one is Guy Fawkes we have no way of determining which of the two is Guy Fawkes.

It is possible to think of a situation where a person could disappear and another person exactly similar could appear in the same place although at a moment later. We should presumably want to say this was the same person, although there has been a temporal interval. Williams was prepared to accept this.²² But what difference would it make if an exactly similar person were to appear a moment later two feet to the left of the place formerly occupied?²³ There seems to be no logical inconsistency in maintaining the possibility of there being more than one space that could be occupied successively by the same person. Anthony Quinton worked such a situation out in an article entitled 'Spaces and Times' where a person occupied two spaces, one in waking life and the other while asleep.²⁴ We will return to this possibility when we consider the logical implications of believing in resurrection.

Although it might seem absurd to talk about two surviving persons as being continuous with one person there is no logical reason why this should not be so. Earlier we spoke of Dr. Sperry's operations which resulted in 'brain bisection'. D. Parfit has worked out the implications for the concept of personal identity.^{18b} He imagines a brain being divided and then transplanted into two other individuals both having one hemisphere of the original brain and resulting in two people having the same character and apparent memories of the first person's life. If it is my brain that has been bisected and transplanted it is possible to say one of three things: (1) I have not survived (2) I survive as one of two people (3) I survive as both. Of these the third is the most plausible in the circumstances. Parfit writes, "It seems to follow that I could survive if half my brain was successfully transplanted and the other half was destroyed. But if this is so, how could I not survive if the other half was also successfully transplanted? How could a double success be a failure?"^{18c}

From Parfit's example it would seem that identity is not a matter of exact spatio-temporal continuity but more a matter of degree. Would the memories be true memories? Parfit prefers to call them quasi (q) - memories which he defines as a belief about a past experience which is like a memory belief that was based on a true personal experience. The only reasons we assume memories are ours is because we do not have q - memories of other people's experiences. But why should we stop here? It is logically possible that a 'person' could be cloned or replicated so that there could be a multitude of persons that are 'identical' to the original, insofar as they have the same bodily characteristics, q - memories and sense of psychological continuity. All we can say about this is, to quote John Hick, that, "Our concept of 'the same person' has not been developed to cope with such a situation... A person is by definition unique. There cannot be two people who are exactly the same in every respect, including their consciousness and memories. That is to say, if there were a situation satisfying this description, our present concept of 'person' would utterly break down under the strain".^{25a}

2) *Memory and Personal Survival*

Our knowledge of the past is dependent on memory. We know of a past because time passes and we remember what went before and how it differs from what now exists, but there can be no absolute certainty about memory claims, not even the claim that we were alive last year.²⁶ Terence Penelhum claims, "The enterprise of attempting to give an intelligent account of the identity of a disembodied person in terms of memory alone is doomed to failure".²⁷ He does not believe that the concept of disembodied existence is logically absurd, but just that memory is insufficient for identifying that a person has survived death.

Penelhum maintains that for memory beliefs to function as evidence we must be able to distinguish between *thinking* that one remembers, and *knowing* that one remembers. To make such a distinction it is generally necessary to have an independent method of determining whether one had the experience remembered, which ultimately means reference to a body which a third party could identify. This is true but only implies that the disembodied agency needs to have been *previously* embodied. Paul Helm quotes with approval Professor Strawson's statement that, ". . . to retain his idea of himself as an individual, he must always think of *himself* as disembodied, as a *former* person".²⁸ Thus it is only necessary to maintain that disembodied persons now existing were once embodied for them to be recognized as surviving persons.

Finally, what of the 'consciousness of oneself as a unique and irreducible being' which has featured so prominently in H.D. Lewis' treatment of the problem of survival? In its simplest form it resembles Descartes' 'cogito, ergo sum'. If it is true that we have this subjective certainty of our own existence which could survive the trauma of loss of memory, split personality or a period of coma, it can only be a certainty for the person who experiences it. It would seem that for an objective criterion applicable to any observer we would need to be assured that the person who claims to have survived had true memory claims which could be verified and was, at least, once embodied.

Disembodied Survival

Professor H.H. Price considers what it would be like to have a consciousness without a body and argues that disembodied existence is logically coherent.²⁹ This type of existence would resemble a dream world. In sleep our image-producing powers are released from the inhibiting power of sensory stimuli and the world is one of images, which may defy the laws of physics, but is no less disconcerting for all that. Perhaps this post-mortem world, analogous to a dream world, seems so 'real' that the subject cannot believe he is dead.

Dreams are private experiences and 'other people' in dreams are appearances and are not, as in waking life, mediated by other centres of consciousness. Although this is generally so, it would be possible for real communication to take place by extra-sensory perception with other people who once lived and possibly also with those still living. Price considers the possibilities of several post-mortem worlds formed by communities of individuals whose minds are telepathically linked and correlated to sustain a shared environment. Memory and desire would determine the sort of images experienced which need not all be pleasant, because certain unpleasant desires repressed during one's life could create a hellish environment. To the objection that dreams are delusory, Price replies that they are only seen to be so on waking. If one did not wake, belief in a dream's reality would continue. Physical relationships in such a world would be different because mental images would have spatical relationships in themselves and to other images but would not occupy physical space.

John Hick has subjected Price's hypothesis to a series of criticisms.^{25b} In the first instance he says, "I do not believe that we can in fact imagine a coherent world created by the desires of a multitude of different people out of the material of their several sets of earthly memories. For the different wishes of different individuals left to themselves, produce different features and states of the environment". He gives as an example a minimum conflict between a husband and wife sitting on the sea-shore. One wants a calm sea for

bathing the other tremendous waves for surfing; she might wish to be in a dress shop, he watching a cabaret, and so on. Thus Hick would abandon the notion of the individual's desires as sovereign and substitute instead a common environment made up of the memories and desires of many minds each contributing something to it but none forming it exclusively.

Price's view of the post-mortem disembodied world has been defended by Professor Reichenbach.³⁰ Hick is right in maintaining that no two individual's desires sufficiently coincide to create the same state of affairs and hence will produce a conflict. However, such a conflict would only be totally incoherent in a *physical* world and not in a *mental* world such as that envisaged by Price. The principle of non-contradiction is only relevant to a physical environment. A discarnate Jane, says Reichenbach, could image a calm sea and a discarnate Joe a rough one and even communicate those images telepathically to each other so that their public world of ideas contain mutually contradictory features. Therefore it seems that there is no philosophical reason why one should not believe in the possibility of the survival of a disembodied person.

If we apply the three criteria for meaningful survival, namely bodily continuity, psychological continuity and memory to the question of reincarnation, we find that in most cases it is only memory that will provide the evidence needed to identify the living with the previous person or persons. The reason for this is that there is no bodily continuity in reincarnation and psychological continuity, which is basically a pattern of mental dispositions, is too general. Memory links are said to be of two types. The first consists of memories in young children, mostly from the East, who believe they are the reincarnation of someone else. The second consists of the dramatisation of previous lives produced by a person under hypnosis.

The most extensive collection of cases suggestive of reincarnation has been assembled by Dr. Ian Stevenson.³¹ Although some of the cases come from the USA, Britain, Brazil, Turkey and the Lebanon the vast majority come from

India and Sri Lanka. When one reads the case histories one is at first impressed, but later, serious questions arise. First, there is the wide variation in the interval between the supposed death of the previous occupant of the body and the present occupant, usually a child under the age of six. In some instances the interval is two weeks and sometimes as much as five years. In one instance an Indian subject, Jasbir, was born three and a half years *before* the death of the past life personality. Stevenson is forced to explain this as possession rather than reincarnation. Secondly, there is considerable geographical variation. Some personalities stay in the same village and others migrate hundreds of miles between lives. Perhaps it is no coincidence that the majority of cases come from people who have a firm belief in reincarnation and that Stevenson's collaborators, who helped him collect the data, were both dedicated to the dissemination of reincarnationist beliefs. Another odd fact of the Indian cases is that, although the majority of India's present population live in abject poverty, very few of those remembering a previous life claim that their earlier family was poor. In several cases Stevenson admits that the children, often abetted by the parents, claimed to be related to existing rich families in a previous existence and thereby demanded a share of the family fortune.

Not many of the cases Stevenson quotes can be positively shown to be other than genuine reincarnation subjects, but it has been shown by C.T.K. Chari^{14c} that there is an alternative explanation. One family known to him is cited as an example. AVR was born on 16th April 1937, the son of a judge in Delhi, who at the age of eighteen months narrated scenes from an apparent earlier life in the presence of his father. This continued until the age of seven. Although the previous life was apparently set in North India, the names of towns had Telugu stems. (Telugu was the language spoken by his father). The customs were inappropriate for North India and the details mentioned were checked and found to be complete fabrications. The fantasy coincided with the period of the father's intensive interest in reincarnation and especially his particular study of North Indian cases. It receded in 1943 when the father became sceptical.

The mechanism of such 'remembered' lives, where the child is not deliberately trying to mislead the investigator, seems to be in terms of parent-child telepathy. Dr. B. Schwarz kept a systematic record of his own and his wife's telepathic communications with their children from their birth onwards. By 1970 they had recorded 1,520 'apparently telepathic episodes' between themselves and Lisa, aged fourteen, and Eric aged twelve. As Renee Haynes comments,^{32a} it is easy for a small child, especially in a pre-literate society, to remember such details in their uncluttered minds and equally natural for them to be interpreted in reincarnationist terms in a culture immersed in such beliefs.

The evidence from hypnotic regression is even more dramatic. Subjects take on a different personality or personalities, speak with different voices and act out scenes from apparent past lives. In some instances the style of writing changes, subjects speak languages they claim never to have studied and even exhibit wounds inflicted in past lives such as bruises, rashes and, in one instance, a livid red rope mark where a subject relived a suicide. Aside from the case of Virginia Tighe who was regressed as 'Bridey Murphy' by Morey Bernstein in 1952 and became the subject of conflicting claims and counter-claims in newspapers, the most notable examples of regression are associated with the psychiatrist, Dr. Arthur Guirdham³³ and the Welsh hypnotherapist, Arnall Bloxham³⁴ in Britain and the psychologist, Helen Wambach³⁵ in the United States. Guirdham's experience has more in common with the experiences recounted by Stevenson than have the regressions associated with the other researchers and, as such, deserves separate consideration.

Guirdham's story starts when he treated a young housewife who suffered from continual nightmares in which she experienced apparent memories of life among the Cathars, a Protestant sect who were persecuted in thirteenth century France. She frequently mentioned her lover, Roger, and wrote scraps of Provençal poetry. Certain details she mentioned about the Cathars, such as the monks wearing dark blue and

correct. Later Guirdham came to believe that he had been the 'Roger' of her dreams. Another person whom he believed to have been a Cathar was a 'Miss Mills' whom he happened to meet by chance and who supposedly had a strange birth mark which he believed to be the scars of burns produced in her previous life as she walked to the stake and was struck by a burning torch.

Despite the fact that Dr. Guirdham has an impeccable reputation and obviously believes in what he writes there are reasons for doubting that he has provided direct evidence for reincarnation. First there are inconsistencies in his books and the picture that emerges of the Cathars is unconvincing. They were not the high-minded Protestant sect who were harmless vegetarians and healers, but people who believed that matter was evil and who admired suicide by self-starvation and practised sexual perversions. It was also discovered that his patient, 'Mrs Smith', had a father who had translated Provençal poetry and hence could be the source of her quotations.^{33b} Furthermore Guirdham has consistently refused to reveal the identities of 'Mrs Smith' and 'Miss Mills' and has not provided any proof of the birthmarks. As Wilson comments, "This is particularly sad because if Guirdham's material could be verified, and if it could be presented in a rigorous and authoritative manner, his case would surely rank as the most remarkable evidence for reincarnation ever produced. Indeed, they would have the added bonus of being presented by the very type of individual most qualified to carry authority: a professional psychiatrist. As it is, although Guirdham's material may be absolutely genuine (as he assured me it is), he must be said to have thrown away every chance of being taken seriously".³⁶ There can be little doubt that Guirdham's own deep interest in the Cathars and his unquestioned telepathic powers are largely responsible for the details revealed under hypnosis.

Not all the hypnotists responsible for evoking apparent past lives can be said to reveal the details telepathically, if only because of the vast diversity of periods of history that the subject 'recall'. Nevertheless it is interesting to note that the subjects' regressions follow the pattern of

belief about reincarnation entertained by their respective hypnotists. Also there is no set pattern as to the reliability of the subject's purported memories. Where it is possible to check historicity, the accuracy of the 'memories' range from nil to virtually a hundred percent success. Claims to speak a language that a subject has never learned or to speak accurately or write in the language of an earlier period of history with which the subject has had no acquaintance have not been substantiated. Nonetheless some regressions are so convincing as to require explanation and I believe this is forthcoming by comparing hypnotic regression with the phenomenon of dissociation of personality.

Earlier we mentioned the work of Wilder Penfield and showed how he was able to make a patient relive a previous experience by electrode stimulation. Hypnotic regression appears to work in a similar way. A notable example of this was the subject who under hypnosis wrote a strange script later identified as Oscan, a language spoken in western Italy before it was superceded by Latin. Only a few examples of the language have survived, including the 'Curse of Vibia' which matched what the patient had written. He had apparently glanced at a page in a book in a library where the curse was reproduced and it had become imprinted on his mind.

What is special about the regressions is their dramatic quality. They do not just show the subjects repeating facts that they had 'unconsciously' perceived, but apparently reliving experiences. In this respect they are like the dissociation of a personality. Wilson gives several examples of this, of which the case of Chris Sizemore is one of the most dramatic. Her dissociation started in childhood after a series of grisly traumatic experiences and continued into adulthood when she had an unhappy marriage. At first it was one secondary personality that was virtually the exact opposite of Chris who would temporarily 'take-over' her body, but later a third personality emerged who seemed far more mature than the other two. Her psychiatrist decided to fade out the former two and make the third personality dominant. But all was not well. Chris developed a multitude of minor secondary personalities which strove to take over her body. In all there were an estimated twenty-two personalities.

Eventually she was restored to normality. One interesting facet on Chris' life which is directly relevant to regression is her belief that as 'Jane' she had graduated from University. She had a detailed and apparently accurate memory of her time there and confidently wrote off for a certificate of her grades only to be told that she had never attended the College. This memory had been modelled unconsciously on her cousin who had attended the College.

Where it has been possible to trace the source of apparent memories in regressions it has been found that the subject has absorbed information about a period of the past and created a character to 'live out' a life in the remembered period. Where a lot of information has been absorbed the details are fairly accurate, but where there were only snippets of information the mind weaves a fantasy around them. Dr. Reima Kampman of Finland demonstrated that this was so by rehypnotizing his subjects and asking them whether they could remember when they had first heard of the character they claimed to be. It was then a comparatively easy thing to check the source.

What is left unexplained are the phenomena like rope marks and bruises that appear on some of the subjects as they 'relive' past lives. These are paralleled in psycho-somatic effects like stigmata, that can be made to appear on the skin by auto-suggestion or suggestion by a hypnotist.

Whether a case for reincarnation could still be made is doubtful bearing in mind the problem, acknowledged by most believers in reincarnation, that the dramatic increase of the world's population over the period of human history raises the question of where all the new 'souls' came from. Of course it could be that there were many disembodied souls in the beginning that only gradually become embodied. This would mean that the scheme would incorporate both disembodied and embodied souls or minds. The other problem would be one of identity. Who is the 'person' who undergoes numerous incarnations? How are we to pick him out and in what sense can we talk about psychological, let alone bodily continuity?

Resurrection of the Body

The distinctive contribution of Christianity is to maintain that not only the mind or soul but the body, resurrected and transformed, will continue beyond the grave. That this is a logical possibility has been shown by John Hick who presents his thesis in a series of three scenarios.^{25c} The first is of someone suddenly ceasing to exist in a certain place and in the next instant coming into existence in another place in the world. The example he gives is of a man disappearing from a lecture in London and an exactly similar person appearing at a similar lecture in New York. If he had continuity of memory, complete similarity of bodily features, beliefs and mental propensities and was conscious of being the same person and recognized as such by wife, children and colleagues, we should be obliged to say, in spite of the oddness of the case, that he was the same person.

The second example is more bizarre. A person dies and an exactly similar person appears in New York. Once again if all the criteria are satisfied the case for saying he was the same person would far outweigh the factors that would incline us to say he was different. In the third scenario the exactly similar person dies and finds himself as a person (a psycho-physical being) in a 'resurrection world' occupying its own space distinct from that with which we are familiar. Hick points out that we would know this is a post-mortem world because we remember being on our death-bed and that the environment is different and is inhabited by people, some of whom we know to have died.

It is generally assumed that the Christian view of man is of a psycho-physical unity which has more in common with monism than dualism. We have already seen that the Christian brain-scientist, Donald Mackay, sees no difficulty in accepting a monist view of man and a belief in the resurrection of the same person by God's re-creative activity. Such a person would be a replica of the former person. Indeed Hick uses the word 'replica' to describe the exactly similar persons in each of his three scenarios. Anthony Flew, rightly in my opinion, stated that, "To produce

even the most indistinguishably similar object after the first one has been totally destroyed and disappeared is to produce not the same object again, but a replica" and then goes on to point out that to reward or punish such a replica would be ". . . as unfair as it would be to reward or to punish one identical twin for what was in fact done by the other".³⁷ One way to overcome the difficulty might be to maintain that the individual continues to exist in the mind of God between death and resurrection, but it would be preferable to adopt a dualist position and argue that the mind survives the death of the body and is reunited with a new body.

If there is to be a resurrection of the body what form would this take? Medieval theologians believed that the new bodies of the blessed would be in the full vigour of their age which would be the same age as that of Christ at his death. This is, of course, pure speculation. It is at least the Christian hope that those whose bodies were deformed and crippled in this life would have whole ones in the world to come. I see no reason why the body should closely resemble the ante-mortem body in every respect. Certainly lack of exact correspondence would create problems for identifying the new person.

Christians have often appealed to the resurrection of Jesus as the prototype of the resurrection of the person after death. It could be objected that Christ was unique and that his life, death and resurrection was a concession by God to our limitations. The early Christians did not see it in this light. Paul argued that Christ was the 'first fruits' that guaranteed the coming harvest of the resurrection of the dead and was at pains to convince his readers that the resurrection of Jesus was a fact. (1 Cor.15.3-50) Since his day many have demonstrated that there is good historical evidence for Christ's resurrection and that alternative explanations of the facts are less convincing.³⁸ What light does Christ's resurrection throw on the problem of identifying the nature of the resurrection body? First, we note that Jesus was not readily recognized in his resurrection body by even those who had known him best, which suggests that the two bodies were not identical. Secondly,

the body possessed powers not possessed by the ante-mortem body such as the ability to pass through matter and to appear and disappear at will. Speculation as to the nature of this body and how it came into being has been made by Dr. Scott Blair and Doctors Jumper and Jackson.³⁹

Discarnate Existence or Resurrection of the Body?

Professor Morreall has claimed⁴⁰ that there is a contradiction involved in claiming that the blessed in heaven are perfectly happy and that they are given new bodies. He asks what purpose a resurrection would serve. It cannot be to make them more happy because that would imply that they were not happy now nor, for obvious reasons, would the purpose be to make them less happy. If the object of being in heaven is to see God then this could only be achieved in a beatific vision which would be all-embracing and the possession of a resurrection body would make no difference to this but might, in fact, be a positive hindrance. In his reply Professor Creel shows that Morreall is mistaken.⁴¹ The idea of perfect happiness in the sense of unsurpassed happiness is as unreal as the largest prime number. Just because a creature cannot imagine how its life could be better does not mean that it could not be better. If God is infinite it would be possible to enjoy Him exhaustively. While it is possible for the disembodied spirit to enjoy God, the possession of a resurrection body in addition to spirit could add to that enjoyment by extending the range of happiness.

If resurrected bodies do inhabit a resurrection world then this world must occupy real space even if it is on a different plane from the space we now occupy. Also there may be a further difficulty involved in the Christian belief which forms the basis of Hick's 'eschatological verification', namely that in the resurrection world we will see Jesus and enjoy his presence. This has been pointed out by Professor Gooch⁴² who claims that if both we and Jesus have bodies then we will occupy only a particular part of space and therefore ". . . we should have to stand in line to see God, wait our turn, have only half an hour with him, or indeed any length of time which ends". The alternative he believes is "the absurd possibility that an identifiable

Jesus located in one resurrection space could be in all resurrection spaces at the same time". Perhaps the notion is not as absurd as it seems. We simply do not have sufficient knowledge of what properties a resurrection body might have. For the purposes of this study it is not important to know which of the two possibilities is the most realistic. It is sufficient to demonstrate that both or at least one of the two alternatives is logically defensible, which I have attempted to do. With our present knowledge it would appear to be impossible to demonstrate that either alternative is factually true.

One further consideration needs to be investigated, which is the claim that people at the point of death have experiences which convince them of an afterlife. This is particularly true, so it is claimed, of those whose hearts have stopped beating, but who have been revived and do not subsequently die. An attempt to test such deathbed observations was undertaken by Doctors Osis and Heraldson.^{14d} After a pilot survey, they compared two cross-cultural surveys; one was undertaken in the United States of America and the other in North India and both involved over 400 patients. The majority of the patients were terminally ill and 163 recovered. They found that the nearer to death the patient came the more frequent the characteristics suggestive of an afterlife became. The frequency was three times that recorded for normal waking hallucinations and including visions of 'heavenly' abodes, deceased persons and religious figures. They found that the visions were not apparently associated with mood, stress, drugs administered, wishful thinking or a belief in a life after death. They conclude that ". . . while the frequency of survival-related apparitions is the same in both samples, the characteristics of these apparitions is strongly moulded by cultural forces", and that ". . . the central tendencies of the data support the after-life hypothesis". Doubtless not everyone would agree with them however.

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DAVID G. KIBBLE**A TRANSCENDENT GOD IN EINSTEIN'S UNIVERSE**

Many will have seen the television documentary, *Einstein's Universe*, to celebrate the centenary of the birth of Albert Einstein. The programme attempted to show the nature and implications of the theory of relativity. In so doing it opened the eyes of many to see a completely new kind of universe - a universe vastly different from the Newtonian picture many of us were taught at school. I believe that the intricacies of relativity force upon us a greater sense of awe at God's creation: the Einsteinian universe is far more awe inspiring than its Newtonian counterpart. But the further question then arises: in the face of Einstein's universe what is God like? It will be my purpose to begin to answer this question.

Einstein's Universe

If we look up into the sky on a starry night, all seems tranquil and still. In actual fact, however, our universe is far from tranquil and certainly not still. In the 1920s and 1930s Edwin Hubble's observations in America showed that the universe is expanding and expanding uniformly, the speed of the various galaxies being in proportion to their distance. This is what we would expect to find if all the galaxies had started off from one place and then moved apart. In 1965 a further discovery was made which rendered the Continuous Creation theory of Fred Hoyle and others obsolete: it established the veracity of the Big Bang theory. The discovery was radiation noise filling the universe. The level of this radiation is now surmised to be the result of the Big Bang fifteen to twenty billion years ago.

If the beginning of our universe is established, its future is uncertain. We know that the speed of the various galaxies hurtling through space as a result of the Big Bang is gradually slowing down. Our future must take one of three

forms: (1) *An Open Universe*, where it continues to expand for ever; (2) *A Closed Universe*, where at a critical point the universe ceases to expand and begins to contract, eventually coming to a Big Crunch - the implosive opposite of the Big Bang; (3) *A Pulsating Universe*, where the Big Crunch is avoided and contracting gives way to expansion again, and so on, possibly *ad infinitum*.¹

Light bends towards objects because it is affected by gravity and a laser beam fired in outer space at the earth's horizon would drop by one third of an inch in 4,000 miles before rushing on into space. The bending of light would be much more apparent in the region of a black hole; close to the black hole the curving of a path of light is much more marked and we should be able to see round corners. Objects which were behind the black hole (and therefore eclipsed by it) would in fact be visible to one side of it because of the bending of light. It is because of this that space is now said to be warped. A model of space made from a rubber sheet can provide an illustration. The sheet is stretched flat like a trampoline and weights are then attached to it to represent stars, planets or black holes. The weights cause the rubber to warp around them in the same way that space itself warps around a massive object. The warped sheet is then said to be a two-dimensional representation of three dimensional space, the indentations in the sheet symbolising the warping of space.

But it is not only space that is warped; time also is warped by the effect of gravity. Thus, atomic clocks at ground level run slower by a very small amount than clocks above ground level. Clocks on the verge of a black hole will run even slower because of the enormous effect of gravity. There is a warping, then, of both space and time in the Einsteinian universe.

It is natural to picture the Big Bang of creation as being similar to the explosion of a bomb, with fragments hurtling out into a pre-existing space. In fact it is not quite like that. At the Big Bang the universe began to expand, but it began to expand not *in* space and time but *as* space and time. "There is no space outside the universe, and

no time either... Time began with the Big Bang which created it and will end with the Big Crunch. Space too is created and defined by the contents of the universe".² Space and time only exist *within* our expanding universe; the universe does not expand into an already existing space and time.

Finally, a few words about time, which is dependent upon the effects of gravity and upon speed. I have already mentioned how atomic clocks on the verge of a black hole will run slower than clocks on earth. Under strong gravity brain impulses will pass less rapidly and hearts will beat more slowly. If a spaceman were to orbit around the edge of a black hole without its enormous gravity sucking him into it, his clocks (and his body) would run very slowly as judged by a distant earthbound observer. The astronaut himself, of course, would not notice this slowing down because his own biological systems would also be running slowly. From his point of view he would be 'running at normal speed', but events on the earth would seem to be racing by. Because of his own slowing down on the verge of the black hole he would receive on his reckoning daily news bulletins from earth once every ninety seconds. His friends on earth however, would receive on their reckoning his daily reports once every three years, and a ten minute greeting would take a week to record.

Speed, too, has an effect on time. If I could travel at the speed of light time would stop. If we imagined that there were two twin brothers, Anthony and Graham, and that Graham was sent out into space at the speed of light for two years, on return Graham would find that his brother had grown older by two years whilst he had remained the same age. This is because atoms run more slowly when travelling at speed: at the speed of light they remain static.³

A Transcendent God

The first thing that must be said is that God stands in a creative relationship to this Einsteinian universe. He cannot be contained within it, for that would involve his being bounded by both space and time. God is quite literally outside of space and time, because in creation he created them alongside matter and motion. God is quite other than in

space, matter, time or motion. As creator of each of these four he stands outside of them in the same way as a craftsman stands external to what he is making. John Robinson was certainly right when he said that we must reject the spatial concept of a God 'out there'. But he was wrong when he replaced that notion with a God described as 'the ground of our being'. That was to replace one spatial and temporal concept with another, for the 'ground of our being' must be something within the confines of space and time.⁴ As such it must be rejected as an inadequate picture of God. God must be first and foremost external to the created structures of the universe. He must be a transcendent God - a God who is wholly other than space-time and who is wholly other than matter and motion.

God is not spatially outside of our universe because that would put him in a spatial relationship to it, and space is, of course, a characteristic only obtainable *within* it. There cannot be a space outside the universe. Instead, we must say that God transcends space. He is outside of it but not spatially outside of it. Similarly with time: God is not before or after time because 'before' and 'after' are themselves time concepts. God transcends time: he is outside of it but not temporally outside of it. H.P. Owen argues similarly, although for different reasons: "If God were temporal (albeit endlessly so) his present would be limited by his past and his future... If God were temporal his essence would not be identical with existence; for there would always be forms of being that he has lost, and forms that he is yet to achieve... Therefore if God is a necessary being he must exist in a timeless present".⁵

God must be timeless insofar as he is outside of time. That is what we mean when we say that God is infinite: we do not mean, as Newton supposed, that God is contained within infinite time and infinite space. We mean that God is wholly other than space-time because he stands in a creative relationship to it. He is non-finite. Space and time are themselves creaturely realities in a created universe.

If God is seen to be enclosed within the created structures of space and time, then certain theological doctrines become problematic. Once God is released from these

and is seen as transcendent the problems wither away. Firstly, there is the unity of God as Trinity. Realities within the structures of space and time become separated when divided. Within the Einsteinian universe, therefore, the notion of God as being Father, Son and Holy Spirit and yet as being one God is incomprehensible. Once it is realised, however, that God is transcendent to the structures of the universe, then the concept of one God and three persons is seen to be problematic only from within. From inside our space-time we cannot comprehend what this means. But when we realise that God is transcendent then we can apprehend that God can be three persons but remain one God. In the same way the Son's generation from the Father is best apprehended when it is realised that the generation takes place outside of time: it is not a temporal event. It was Origen who first managed to construct a theological description of the relationship of the Son to the Father in a way that enabled Christians to penetrate beyond the created realm to an apprehension of the divine. He described the Son as being "eternally generated" by the Father. This placed the generation outside of time.

Secondly, there is the doctrine of the Incarnation. If we start with Newton's concept of God as being infinite space and infinite time, the notion of the Incarnation becomes meaningless. As Torrance puts it, "If God Himself is the infinite Container of all things He can no more become incarnate than a box can become one of the several objects that it contains".⁶ Any immanent theology which has God bound by space and time must run up against similar problems. But once God is placed in a creative relationship to the universe the concept of the Incarnation is made understandable. Once God is seen to be outside of space and time then we can glimpse how it is possible for the Son of God to enter our human space and become man without thereby leaving God's 'place' and without leaving the universe devoid of his presence and rule. It is possible because God's relationship to the created world is not a spatial or temporal one. It was this problem that the Christians of the third and fourth centuries had to grapple with in the Monarchic heresies through to the controversy with Arius. How was the incarnate Son to be described in relation to the

pre-existent Word and to the Father? Those who stressed the power and glory of God and yet put him in a spatial and temporal relationship to the universe had to end up with a Christ defined as being less than God. Those who stressed the reality of the Incarnation had to have the Father suffering in the Son. Once God is released to be transcendent to our space-time structures, however, the problem melts away leaving us with an Athanasian Christ.⁷

If our transcendent God has become incarnate in Christ, then it is only through the incarnate Christ that we have a way to apprehend transcendence. As Torrance puts it, the Incarnation "binds us to space and time in all our relations with Him".⁸ There is no other way through to transcendence apart from Jesus Christ. All other roads to God and to transcendence are 'no through roads' by virtue of the Incarnation. Only through the incarnate Christ is there a way to the transcendent God, and only through theological language rooted in Christ can there be a meaningful language about transcendence. If Christ is God incarnate, then only through a language rooted in and centred on Christ can we pass from our own universe to apprehend our transcendent God.

FOOTNOTES

1. Nigel Calder, who scripted the T.V. programme and subsequently wrote *Einstein's Universe*, B.B.C, 1979, maintains that research cannot yet conclude which of the three forms is correct (ch. 19). Steven Weinberg, however, maintains that because the deceleration of the galaxies is fairly small, they will move at more than escape velocity. The universe will therefore expand and continue to do so for ever. Cf. S. Weinberg, *The First Three Minutes*, A. Deutsch, London, 1977, 34ff.
2. N. Calder, *Ibid.*, 145.
3. For an excellent exposition of Einstein's discovery of the effect of speed upon time cf. J. Bronowski, *The Ascent of Man*, B.B.C, London, 1973, 245ff.

4. More recently Sir Alister Hardy in a biological approach seems to have argued for a similar picture of God internal to space-time structures. Cf. A. Hardy, *The Spiritual Nature of Man*, O.U.P., London, 1979, 10ff, 134ff.
5. H.P. Owen, *Concepts of Deity*, Macmillan, London, 1971, 20f.
6. T.F. Torrance, *Space, Time and Incarnation*, OUP, London, 1969, 39.
7. The same problem of understanding arises at the 'other end' of the life of Christ, viz. the resurrection and ascension. Cf. T.F. Torrance, *Space, Time and Resurrection*, Handsel, Edinburgh, 1976, esp. 129f.
8. T.F. Torrance, *Space, Time and Incarnation*, 67.

HOMOSEXUALITY: ABSTRACT

A new and controversial contribution to the debate on homosexuality is to be found in two recent publications by Dr. Elizabeth R. Moberly of Clare College, Cambridge, England: *PSYCHOGENESIS (The Early Development of Gender Identity)*, Routledge & Kegan Paul; London, Boston, Melbourne; 1983. This is a major psychoanalytic study of gender identity, presenting a detailed discussion of transsexualism and homosexuality in both the male and the female. The ethical and theological conclusions to be drawn from *PSYCHOGENESIS* are presented in *HOMOSEXUALITY: A NEW CHRISTIAN ETHIC*, James Clark, Cambridge, 1983. *

The traditional distinction between the homosexual condition and homosexual activity is reassessed. What is the type of personality structure that underlies homosexual behaviour? It is suggested that the homosexual - whether male or female - has been unable to meet the normal developmental need for attachment to the parent of the same sex. Due to some early difficulty in relationship, the child's attachment-need is repressed. If this need later emerges from repression, it seeks fulfilment through the medium of a same-sex, or 'homosexual', relationship. What the homosexual seeks is the fulfilment of attachment needs which are a normal part of the developmental process, but which have abnormally been left unmet in the process of growth. Such needs may be met independently of sexual expression.

Where same-sex attachment-needs have been left unfulfilled from a very early age, the process of acquiring a same-sex identity has been radically checked. Quite logically, such persons do not experience themselves as members of their own anatomic sex. The transsexual's sense of gender-dislocation stems from very early repression of the need for attachment to the parent of the same sex. In the majority of homosexuals, unmet attachment needs are less marked. However, transsexualism and homosexuality have essentially the same psychodynamic structure, differing in degree rather than in kind.

Homosexuality involves both a state of incompleteness and - most importantly - an *inherent* drive towards completion. The capacity for same-sex love is *itself* the attempt to restore attachment, and hence to make up for missing growth. It is not same-sex love needs that are pathological, but rather their lack of fulfilment. Increased opposite-sex contact can do nothing to fulfil same-sex deficits. For this reason, most therapy to date has been misdirected and essentially counter-therapeutic. The legitimate developmental needs involved in the homosexual condition can only be fulfilled in a relationship with a member of the same sex. However, as pertaining to the pre-adult developmental process, such needs are most appropriately fulfilled without sexual activity.

The complementarity of male and female presupposes the completion of the developmental process. It is illogical to expect such complementarity where normal and valid developmental needs have not yet been fulfilled. It is a mistake to try and cure people of legitimate needs. To block the capacity for same-sex love, as distinct from its sexual expression, is to block the very process of healing. The healing of same-sex developmental deficits takes place precisely through meeting the need for same-sex love, and through resolving an underlying ambivalence towards members of the same sex.

The homosexual condition involving certain developmental deficits, is not culpable as such, but rather requires the fulfilment of these unmet needs. Any therapy undertaken should be gender-specific, i.e. with a therapist of the same sex, and with a therapeutic focus on same-sex - not opposite-sex - relationships. The traditional affirmation that the homosexual's developmental needs should not be fulfilled *sexually* must never again be mistaken for a denial of the legitimacy of such needs in themselves.

* James Clarke publications are available from:

Attic Press Inc., P.O. Box 1156, Greenwood, South Carolina 29646, USA.

Canterbury House, 760 Somerset St W, Ottawa, Ontario, K1R 6P9, Canada.

Cambridge University Press, 296 Beaconsfield Parade, Middle Park, Melbourne 3206.

NEWS AND VIEWS (R.E.D.CLARK)**THE DAY AFTER**

The after - effects of a nuclear war have been much in the news of late. At a meeting held in a West-Country village, Somerset, the villagers voted by nearly four to one that their doctor should be provided with suicide pills to distribute should a nuclear war start; otherwise it was feared that parents would shoot or strangle their children rather than allow them to suffer slow deaths from the effects of radiation (*Times* , 23 Dec, 1983).

The film "The Day After" was widely shown in the USA and by the BBC and tellingly showed the suffering of mankind after such a war. When all was over and those who had them emerged from their shelters, they found a world in which there was no safe food to eat, few doctors, no medical supplies, hospitals, telephones, or supplies of gas, electricity, or water. Nevertheless, the sun came out to illuminate the scenes of devastation, and the sky was blue.

Reactions of scientists have been critical. The horrors of a nuclear war will be far greater than depicted in the film, they say. Vast quantities of dust, smoke and soot from burning cities, forests and grasslands will reduce sunlight to five per cent of normal causing a great lowering of temperature and upsetting the ecological balance of life on our planet. Four Soviet scientists and four American scientists, after examining various scenarios, came independently to the same conclusion. "A nuclear war of any scope would mean either the disappearance of mankind or its degradation to a level below the prehistorical." The film *The Day After* "is nothing like the horror it really is" The sky will not be blue but ashen black: people will not walk around in shorts but will freeze to death. The precise fall in temperature will depend on how many bombs explode but the results may be much the same even if, in the entire nuclear

war, the bombs exploded are fewer than those stored in the British Isles alone. The intense cold will last for a year or so, and it may take from 5 to 10 years for normal temperatures to be re-established. With diminished sunlight, photosynthesis will fail, plants will die, and there will be little or no food for man or beast. Patterns of atmospheric circulation will change: at first the northern hemisphere will be affected, but later, clouds will envelop the whole planet. By the time recovery sets in, higher forms of life may have been extinguished, especially as the warm layer of smoky air overlaying cool air will greatly reduce rain and snowfall. (see Carl Sagan et al, *Science*, 1983, 222, 1283f; and authoritative letters in the *Times*, 9 and 16 Dec; *New Scientist* 15 Dec, 791; *Nature*, 1984, 307, 107).

In short, it would appear that nuclear weapons are their own deterrence, the same results will follow whichever side uses them, and the use of only 0.5% of the stockpile will still produce catastrophe (statement made in Parliament, 24 Jan, 1984)

An article in the *Scientific American* (J. Steinbrunner, Jan 1984, Vol. 250, No.1) "Launch under Attack") draws attention to the disruption which would be caused if either side staged a preemptive attack. If one bomb were to explode at height, all communication systems would be put out of operation. The first electromagnetic pulse would be followed by weaker pulses of much longer duration (hundreds of seconds) and domestic grids would be under serious risk. Retaliation might not be feasible. For this reason the installation of the new Minuteman III missiles in America must cause increasing instability in the nuclear balance. The only answer would seem to be the adoption of the Launch-Under-Attack approach when it is merely suspected that an enemy's missiles are on the way, but the dangers in this approach are very great. As yet the fact that nuclear bombs are likely to provide their own deterrent seems to have made no impact on the military mind. Atomic weapons are proliferating in France where a breeder reactor (the so-called Phénix reactor) is used for military plutonium production and is due to be followed by a much larger plant -- the Superphénix. In the USA 26,000 nuclear warheads are

in stock, and it is claimed that 8 new warheads are added daily, five antiquated ones being removed. (*Nature*, 1984, 307, 200-201)

It is impossible, of course, to check on the calculations made by scientists, East and West, by observation, for we cannot start a war to see what happens. But the findings are supported by a study of the effects of recorded volcanic over a long period of recorded and unrecorded history. The eruption of Krakatoa a century ago, of El Chichon in 1982 and of Mt. St. Helens in 1980 were followed by lowered temperatures and frost damage of trees in each case about two years later. Two workers at the University of Arizona have made an inventory of the years in which subalpine trees have suffered frost damage over the past few thousand years, and have compared them with the years when volcanoes were known to be active.

In trees dated by tree-rings, frost damage is observed at the same dates in likely separated localities. Though there are a few instances in which frost damage occurred without recorded volcanic activity (hardly surprising especially in the distant past) and a few in which frosts did not follow volcanic activity, the correlation is very high. Statistically "major eruptions are likely to be closely followed by notable frost events -- at better than the 99.9% confidence level" (V.C. La Marche, K.K. Hirschboeck, *Nature* 307 121).

An interesting outcome of this work is that by noting the date of frost damage in trees it is possible to date volcanic activity in cases where the date cannot otherwise be determined with accuracy. An interesting instance is that of the Santorini eruption in the Aegean where the best carbon dating (based on charred seeds from a storage jar and charred fragments of shrubs) gives the date as 1690 BC + 60. Here the evidence of frost damage gives 1626, suggesting that the eruption took place in 1627 or 1628 BC. From a biblical point of view this is interesting, as it has often been suggested that the Santorini eruption took place at the time of the Exodus which, however, was certainly some centuries later.

It is often said that the troubles of our present age are not to be taken too seriously as pointing to the near return of our Lord, for there have been terrible times in history before, yet men have survived. But has there ever been a time of which it could be said that except the days are shortened no flesh would be saved alive? (Mt 22; 22) Yet that is what scientists are now telling us. We need to heed Lk 21:36.

RADIOACTIVE WASTES

Uranium is now mined all over the world, and wastes from mining operations are collecting in gigantic quantities, especially in Canada. It will be all but impossible to make use of land covered by the mining tailings in days to come. On the surface the radioactivity is normally about twice that allowed in occupational exposure. In the early days of the Manhattan project (the making of the first bombs) a great deal of waste was also dumped in quite shallow waters near American coasts. Yet another problem arises in connection with the Krypton-85 released in nuclear power stations. Since it is a rare gas it is difficult to remove, but it adds to the natural radioactivity of the atmosphere. The production of weapons and to a lesser extent of power, both making use of uranium, are raising far more problems than man knows how to solve. ("Not in my Backyard" by Fred Pearce, *New Scientist* 3 Nov. 1983, 346-351)

Missing Plutonium Over the past five years French power stations have produced 8.7 tonnes of plutonium but 156 kilos are unaccounted for -- enough to make between 10 and 20 nuclear bombs. (*New Scientist* 27 Jan, 1983, 219). In a complex chemical process involving separation of materials it is impossible to predict yields exactly. The losses may or may not be due to criminal activity, but because losses cannot be checked, employees in an industry might steadily remove small quantities of plutonium without detection. We can only hope that it is not in the wrong hands.

Some of Canada's CANDU nuclear reactors, which enjoyed a top rating for safety and trouble-free operation until late 1983 have come in for trouble. Radioactive heavy water has been leaking from boiler tubes into lake Huron and Lake Ontario and several reactors have had to close down. The cost of repairs and of replacement of tubes is likely to be immense. It is certainly beginning to seem as if nuclear fission is a dangerous and expensive source of energy (*New Scientist* 15 Sept 1983)

Undeterred, Lord Bowden claims that the troubles with CANDU have been exaggerated. The great advantage of CANDU is that it can make use of mixtures of uranium and thorium, convert the thorium into uranium-233 which could be recovered when the technology is available, and which will then activate thorium. In the end a new generation of CANDUs will make use of the much more plentiful thorium only. He is sure that the sales-talk of Americans has persuaded the British Electricity Generating Board to opt for PWRs. (*New Scientist* 22 Sept 1983)

Atom Bomb Tests. Australian studies of the medical effects of the nuclear bomb tests held by Britain in the Australian desert and the Monte Bello islands conclude that the service-men involved suffered no long-lasting harm. A higher incidence of cataracts and of skin cancers in some of those who worked at the sites is not probably the results of the tests, or so it is claimed. The aborigines who claim to have suffered are not mentioned in the report. (See *New Scientist*, 1983, Dec 22/29, 868)

SUPERSTITION

It may just have happened by chance that after walking under a ladder a man fell off his horse, or after a picture fell in his sitting room for no apparent cause, a member of his family died. Similar coincidences may have been noticed later, and so superstitious beliefs came to be born.

It is interesting to watch what is essentially the same process taking place in our modern society and generating new fears. Recently much was said about the incidence of cancer in the villages of West Cumbria. The incidence of cancer there is ten times that of the national average and the suggested reason is that the area is not too far removed from the nuclear fuel-reprocessing plant at Sellafield. It now appears that the high cancer rate long pre-dated the modern plant. Dr Eldon Pratt who had a medical practice at Whitehaven from 1906 to 1924 was deeply concerned about the matter, the more so after he left the area for the South of England and found that cases of cancer he now encountered were comparatively rare. He suspected that some substance in the Cumbrian water supply was the cause, but no serious research was ever conducted. (Letter, J.R.F.Borron *Times* 5 Nov 1983)

In its early days science did a great deal to kill superstition. People learned to disbelieve in supposed connections between events unless they could be shown to be connected by known laws. It was unreasonable to suppose that the position of planets relative to the earth at the time of one's birth could determine, say, the day of one's death, or that a tea leaf floating in a cup of tea could result in the visit of a friend.

But with the increasing use of statistics in science the position seems to be changing, and new superstitions are arising, (eg, the Bermuda triangle!) Even the gross superstitions connected with witchcraft are finding a parallel today. Pope Innocent VIII, in his famous Bull of 1484, declared that witches, who had abandoned themselves to devils, had with Satan's aid "blasted the produce of the earth, the grapes of the vine, the fruits of the trees... beasts of burthen... vineyards, orchards, meadows, pasteur land, corn, wheat, and all other cereals." So the poor harvests at that time were easily accounted for, and the persecution of witches was commenced in earnest.

A modern parallel? Very recently there came to light a paper published by Chinese scientists which had been overlooked. It appeared in 1977 and described a curious

yellow rain which fell from the sky in two districts of China. It was gelatinous in texture, consisted mostly of pollen and fell in showers which lasted up to ten minutes. It was produced by the bees after they had been feeding on certain yellow plants and it left little yellow spots on the ground. More recently similar showers have been recorded in Laos and Kampuchea and it is said that the yellow rain caused two deaths. (It is now suggested that the men concerned had been eating mouldy food a few days before). And the cause of the rain? It is a new form of poison gas released (but no one heard aeroplanes in the sky) by modern devils - the Russians, or so the USA government have been saying. (*Nature* 1983, 306, 8) No doubt the poor folk concerned are being frightened out of their wits by their local bees.

Two Americans who know the language of the Hmong villagers in Laos have now reported on their visit to the area. They conclude the reports are a mixture of "story telling, rumour, myth and contradiction". Accounts of the fall of yellow droplets associated with deaths and illness appear to have originated with the Laotian officials. None of the local people associated the fog, or what ever it was, with aeroplanes flying overhead, or even with military activity. That there was illness in the area is not denied: the local doctor ascribed it to cerebral malaria, which is common enough in the locality. (Report in *Nature*, 305, 2.)

Superstition and the fears it generates are insidious enemies. It would seem that only one remedy is effective: trust in our heavenly Father. "Neither death, nor life, nor angels, nor principalities, nor things present, (ladders, pictures, Bermuda triangles, plants or bees:) nor things to come, nor powers, nor height nor depth, nor any other creature, shall be able to separate us from the love of God, which is in Christ Jesus our Lord" (Rom. 8:38-39)

Today science and education seem to be losing their power to kill superstition. A study at the University of Ghana a few years ago showed that disbelief by students in the superstitions in which they had been reared was quite unrelated to intelligence or education, scientific or other. (*Nature* 220, p 1356)

Witchcraft According to a report from Johannesburg a lightning flash injured a mother and her daughter in one of the nearby native villages. The local witch doctors put the blame on a man and a woman who were then burnt alive in punishment. Later 18 of the villagers were arrested for the crime. (*Times* 6 Jan, 1984)

Astrology Father Gino Concetti, a Franciscan theologian, is much concerned by the rising tide of belief in horoscopes, fortune telling, clairvoyance, card reading and private prophecies among the RC fraternity in Italy. Recently he wrote a highly-critical article about these beliefs and practices which are he says, "in conflict with the religious principles revealed in the Bible and with the anthropology contained in the Church's teaching". Only God knows the future, which is wholly in His hands, says Father Gino. But many Italian RCs are quite unconvinced. In a reply Father Virgino Rotondi, a Jesuit, claims that it is no sin to make horoscopes and put faith in the stars. Horoscope casters are reminding Gino that even Popes have looked to stars and planets for guidance. Julius III asked astrologers to tell the best date for his coronation, Paul III sought astrological advice in deciding on the wisest times to confer with his cardinals and in the days of Leo X the pontifical university boasted a Professor of Astrology. The mosaic floors of churches often contained astrological symbols - in Rome to this day a mosaic design by Raphael portrays God in the midst of planetary symbols, and similar mosaics were common in England before the Reformation. RCs who turn to their church for guidance on such matters must feel very confused. (*Times*, 23 Jan, 1984)

INTUITION

Biographers of James Clerk Maxwell tell us that his famous equation giving the proportion of molecules with energy equal to, or in excess of, E as $\exp(-E/RT)$ was derived in a rather

strange way. Intuitively he knew what the answer ought to be, but in presenting the proof made serious mistakes which cancelled each other out. In a charming review of Abraham Pais's *Subtle is the Lord*" (a Biography of Einstein) in the *Times Literary Supplement* (1 Ap.1983) Professor Brian Pippard of the Cavendish Laboratory, Cambridge, recounts a similar story about what Einstein did when he tackled the problem raised by Planck's quantization of energy. In 1905 Einstein made the mind-boggling suggestion that quantization is a property of radiation itself and not merely of radiation reacting with matter. "What is so astonishing about this at first sight is the truly appalling blunders of his thermodynamics, which by a series of self-cancelling mistakes reach a correct conclusion. It simply could not have happened that way; he must have seen the need for quantizing radiation, and hashed up his argument to give the semblance of a justification. It is, however, a remarkable performance for such an aristocrat of the intellect, suggesting that he was thrown off his stride by the audacity of his guess".

We think of Peter's (1 Pet. 3:15) command that we should be ready to give a reason for the hope that it is in us but to do so in meekness and fear. Though our beliefs may be right, the reasons we invent for holding them may be wrong.

"SEEING, THEY DO NOT SEE" (Mt 13:13)

Sir Richard Gregory is founding an Exploratory laboratory on the lines of the House of Salomon as suggested by Francis Bacon in the *New Atlantis*, 1627. The idea is that in learning about the real material world we need not only to see things in glass cases, as we do in many museums, but to handle them too. He cites the case of Sidney Bradford who was effectively blind more or less from birth until 50 years later when surgeons enabled him to see as a result of a corneal graft operation. (*New Scientist*, 17 Nov. 1983).

The interesting point is that after the first operation it became immediately clear that Mr. Bradford was only able to see what he expected to see, that is what he had already experienced by the sense of touch. He could tell the time because, from an early age, he had had a watch with the glass removed so that he could feel the positions of the hands. He could read the large letters of the alphabet because he had handled them in the form of wooden blocks from an early age, but apparently he could not see, and certainly could not understand, lower case letters. He liked tools and was shown a lathe in a glass case in a museum but could not see anything clearly except the handle of the transverse feed, for he knew the feel of a handle. When the case was opened he felt all over the lathe and could then see all the parts clearly.

It is surprisingly difficult to accept the reality of what we see unless we have had previous experience. After the discovery of hydrogen by Henry Cavendish, Joseph Black invited some of his friends to supper and proceeded to show them what the new gas could do. He filled the bladder of a calf with hydrogen and released it, whereupon it ascended to the ceiling. His guests were not at all impressed. It was obviously a trick. Black's servant must have been in the loft and at a signal he pulled the bladder upwards by means of a thin thread which no one had noticed. In the early days of railways the pastor of a German church arranged an outing for his congregation. They went to visit the newly built station when the very first locomotive that had ever visited those parts was due to arrive. The pastor gave them a short lecture, explaining how the water boiled, made steam which pushed a piston and finally turned the wheels. All were very impressed. When he had finished a prominent member of the party spoke "Yes pastor", he said, "we understand all that. But tell me. It really has got horses inside, hasn't it"?

This problem is raised again and again in the Bible.

CORRESPONDENCE

From: The Revd. Dr. N.M. de S. Cameron

The last issue of *Faith and Thought* (109:3) carried an extended discussion, in the *News and Views* section, of my book *Evolution and the Authority of the Bible* (Paternoster, 1983). In the course of the discussion my own position and the nature of the book were distorted and a misleading impression given of its content. I ask the courtesy of your pages to make some response, conscious that authors who reply to reviews do not always thereby enhance their positions.

1. It is averred that I am a 'young earthist' and one who upholds 'American ideas of "creation"'. This I deny, and the book makes no such claim. It is a theological discussion, and studiously refrains from committing me to any particular scientific scenario as an alternative to neo-Darwinism.
2. It is averred that I think that 'now, if ever ... we must fight our holy war'. Despite the plain implication in the review, this is a metaphor which is nowhere used in the book, and which would be wholly contrary to my approach. Talk of a 'a war against evolution' cheapens and degrades what other reviewers, at least, have allowed as a serious discussion. Those who know me know that I would never talk such nonsense.
3. It is averred that, in the chapter surveying nineteenth-century exegesis of Genesis, 'I see no sign of research in this survey which is easily available elsewhere'. Whatever Dr. Clark may or may not see, the fact is that the chapter is peppered with references to and quotations from the nineteenth-century sources, reflecting the fact that no secondary sources were used for Biblical and theological developments discussed therein.
4. It is averred that the discussion of 'deeper theological and biblical questions' is 'singularly lacking'. Given that

the major theme of the book is the nexus of Fall-sin-death-theodicy this statement is a plain misrepresentation. Clearly what one can say in a book that is not intended for a technical readership is limited.

5. It is averred that 'in Dr. Cameron's book, alas, there is nothing new'. Well, that is a half-truth. In the context of the review it is yet another misleading statement, with the implication it brings that this is yet another volume setting forth San Diego orthodoxy and begging exegetical questions. Yet my whole intention is to get away from interminable talk of the meaning of *yom* and into the relations of sin and death and Fall and redemption which dominate the Biblical theology and have manifest bearing upon this debate. Whether I deserve the compliment of another reviewer (hardly an 'American creationist'!) that 'Dr. Camerson's book is greatly superior to the dreary polemics about evolution that we have been getting in Christian circles' (Professor R.J. Berry in *Today*) may be another matter, but the hatchet job which Dr. Clark attempts is just that, and resembles more than anything else the kind of popular critique of evolutionist writing which we would, I hope, all of us regard as demeaning to both 'sides' and unhelpful to the pursuit of truth.

It is little surprise that Dr. Clark attempts a last insult by speaking of 'a sad fall from former standards set by the Paternoster Press'. Some of us may be forgiven for thinking that the fall from former standards has taken place in the VI. (Edinburgh, Dec. 1983)

REVIEWS

NORMAN ANDERSON *THE TEACHING OF JESUS* Hodder & Stoughton
1983, 219pp, PB £4.95

Professor Anderson's latest book is another in the Jesus Library series edited by Michael Green. In his preface the editor says: "the books are written to attract a wide general readership, keen to discover what the biblical material has to say on controversial issues of our day". Whereas T.W. Manson's book, of the same title and written as long ago as 1931, had the theological student in mind, this volume is intended for a much wider reading public.

His method is to approach his subject, the teaching of Jesus, by examining what He said about the Kingdom of God. So the book is divided into three parts, each dealing with an aspect of the Kingdom.

Part I "The Summons of the Kingdom" reminds us that Jesus used parables to convey much of His teaching about the Kingdom - the very essence of His message and mission. This is also true of what He has to say about Eternal Life and Salvation, both subjects being treated in this part of the book.

Part II "The Ethics of the Kingdom" emphasises the vital link between the Old Testament and Jesus' message - "I have come not to abolish them (the law and the prophets) but to fulfil them" and the relevance of His ethical teaching to the Individual, the Church and Society today. In dealing with the concept of mercy, as illustrated in the parable of the Good Samaritan, the author suggests that we would understand better the impact of the original parable if we substituted an I.R.A. member for the victim and an Orangeman for his benefactor!

Part III "The Consummation of the Kingdom" deals with the Person of Jesus and how He saw Himself; His teaching about His Passion, Death, Resurrection and Ascension. The final chapter of the book is about the Holy Spirit, the Church's Mission and Parousia.

Finally, in an epilogue, the importance of the fatherhood of God and the brotherhood of man is considered. Professor Anderson questions if Jesus, in fact, taught "the universal fatherhood of God and brotherhood of man" and he concludes that, while it is true that man is created in God's "image and likeness", the status of being a "son of God" is offered only to those who have "faith in Christ Jesus". It is only when a man "accepts the kingly rule of God that he comes to know that the King is, in fact, his Father".

Reference notes are to be found at the back of the book as are also the full biographical details. This reviewer did not attempt to read this book at "one sitting" or at bedtime but he certainly found it worthwhile exploring it before breakfast!

DEREK J. TAYLOR

R.T.KENDALL *ONCE SAVED, ALWAYS SAVED*, Hodder & Stoughton 1983, 163pp PB. £4.50

Mr. Kendall has written a most searching and challenging book to give support to the theme of the inviolability of the promise that the redeemed can never be lost. He has met the facile assertion that many who claim to have been saved have never experienced the reality of salvation and we are grateful to him for dealing with this question so fully. It may seem to be a small book but it is packed with material to be "digested" slowly - altogether a book to be read unhurriedly. I would recommend it without qualification.

A.M. ROY

DAVID WATSON, *DISCIPLESHIP*, Hodder & Stoughton 1983, 287pp, PB £1.95

Any book by David Watson is to be taken seriously. That is certainly true of *DISCIPLESHIP*, first printed in 1981 and now republished by Hodder and Stoughton.

This is not a comfortable book to read. The opening sentences of the introduction make that clear: "It is a widely held opinion that the battle of the '80s will be between Marxism, Islam and Third World Christianity. Western Christianity is considered too weak and ineffective to contribute anything significant to this universal struggle".

The rest of the book is a positive development of this theme - "positive" because the author's aim is not to condemn his readers but to encourage them. As repentance must precede faith, so awareness of the extent of our need and of the

spiritual emptiness and powerlessness of much Western Christianity must precede any improvement in our condition. "Most of us try to hide sin by the cover-up of activity" (p. 97). In this book David Watson strips away one layer of cover-up after another, until the reader is left defenceless and without excuse before God. DISCIPLESHIP is an uncompromising call first to deep repentance, and then to a renewed faith in the Lord whose strength can be perfected only in human weakness. "Where there's death, there's hope" - p. 251.

This scriptural theme, as one would expect from this author, is amply illustrated from Scripture and from experience, and with a multitude of well-chosen illustrations from varied sources. "The Church is God's experimental garden in the world" - p. 44. "A friend of mine once said that the most important thing about us is ... our unconscious influence, impregnated with the fragrance of Jesus" - p. 193. These are only two of many such illuminating phrases.

This book, which many will find "impregnated with the fragrance of Jesus", call us to see again what it means to follow Christ in the Church and in the world ("Both Gospel proclamation and social action are equally important" - p. 44), and to help others to do the same. Both practical and radical, it is a book to read slowly, digesting and making notes as you go. It is a valuable addition to David Watson's legacy to the Church. It may well be that his ministry, like that of C.S. Lewis at the time of his death, has only just begun.

J.D.B. POOLE

MICHAEL PERRY, *PSYCHIC STUDIES: A Christian's View*, Aquarian Press. 1984, 224pp. PB £4.95

A Christian who writes on psychic studies is open to various kinds of criticism. Maybe he is a crank, who cannot weigh up evidence, or else he gives too much away to spiritualism and

the occult. Sometimes these criticisms are justified, and the Christian faith has been badly served by its defenders. I have a book by a Canon who maintains that the prophets were mediums, with Yahweh as a spirit guide. Another details our experiences after death, basing his views on revelations through mediums, and pouring scorn on the New Testament revelation of departure to be with Christ.

Archdeacon Michael Perry is a writer of very different calibre. His scientific training makes him scrupulously careful of evidence. He takes seriously the experiences of the paranormal which may come to Christians and non-Christians alike, and he is aware of the deficiencies and dangers of spiritualism and the occult, into which a misuse of psychism can lead.

It is sensible to say that the paranormal phenomena of e.g. second sight, precognition, visions or simple awareness of a presence, should be investigated as 'no less part of God's creation than other natural phenomena' (p. 80). At the same time those who investigate these without being God-centred are liable to find themselves, if not in danger, at least intoxicated with psychic research as an end in itself, with spiritual growth clouded over.

The first 85 pages of this book are chiefly concerned with the investigation and assessment of the paranormal, and include a balanced assessment of the Bible's attitude to mediumship. The reviewer agrees that the 'ob is the medium's control spirit, but believes it makes better sense to regard the *yidde'onim* (knowing ones) as other spirits introduced by the control, as in modern seances, rather than the name for mediums in general.

The second part of the book deals with death and dying, including of course the fact of the resurrection of Jesus Christ, but the author fails to make a distinction between the intermediate state and the resurrection. However we conceive of the resurrection of the body, the New Testament is consistent in showing that we shall experience a second crisis at the coming of Christ, which has not yet taken place. In this part of the book the Archdeacon bravely

tackles the modern drift towards a belief in reincarnation, once again examining the alleged evidences carefully. The book closes with several general chapters of sermons and addresses on the subjects in the book; a few repetitions serve to emphasise points previously treated. There is a brief, but most helpful, chapter on angels.

Even if some evangelicals may criticise Michael Perry in one or two of his conclusions, as I would occasionally, a careful reading of his views in their contexts will show that he is well aware of the dangers, as well as the advantages, in the study of a subject that is often taboo.

J. STAFFORD WRIGHT

MARTIN GOLDSMITH, *ISLAM AND CHRISTIAN WITNESS*, Hodder & Stoughton 1982, 160pp, PB £1.50

"Today no training for the ministry in Britain or overseas could be considered in any way adequate without considerable teaching on this subject". (p.17). A bold, early statement, amply justified by the author. The book is not a textbook on orthodox Islam, but a wide-ranging attempt to discuss Islam, including its popular and mystical sides, in relation to the Christian witness. In view of the present 1.2 million Muslims in Britain, with over 300,000 per year coming here as students and tourists, we desperately need to see church leaders equipped to lead others in witness to Muslims if we are to make the most of this opportunity to reach them with the Good News. It is to be deplored that such courses have yet to be made compulsory for all entering the ministry.

The book itself opens by justifying these opinions, but in seeking topical relevance this section will probably date fast. The basic teachings and practices of Muslims are then neatly summarised before pressing on to such topics as Marxism and Islam, and the mysticism of the Sufis. Thence follow chapters on the strengths of Islam, the weaknesses of Christianity, and what, positively, Christianity has to

offer. But, throughout the book the author fails to back up his arguments, necessarily abridged as they are, by adequate suggestions for further reading, and this is important in view of the large variety of topics the author briefly tackles.

While the section on 'popular Islam' is long overdue in books of this type, there is no further reading given except to a book by Zwemer which is out-of-print and long out-of-date. I particularly liked the sections dealing with Trinity, (p36f, 56f) because they are tightly argued and useful to any Christian by allowing God to be simultaneously transcended and yet relate personally to men. The book is worth reading for these sections alone. Other parts of the book are less well written and show hasty writing and careless proofreading. On page 48 for instance the "*Shorter Encyclopaedia of Islam*" is called the "*Dictionary of Islam*" and on page 149 the details of Van der Werff's book, referred to, are not supplied. In view of these and other errors and obscurities I hope a revised edition is published soon, for despite huge jumps between basic and specialist areas the book reads well. I hope the casual reader is not lost by these leaps nor the specialist frustrated by the errors and over-simplifications, for the book appears to be written for both types of reader. The casual reader for example may perhaps be lost (p71) by the argument that the correct contrast is not between the Bible and the Quran, but between Jesus and the Quran. I can still remember the shock when I first understood this, and presumably the general reader with no prior knowledge of Islam will not easily grasp the implications. If I have mystified the reader of this review I have made my point!

When Goldsmith considers the common Muslim objection that Christians have corrupted their scriptures, he gets into unwarranted difficulties, in particular on how to explain to Muslims why there are four Gospels and not one 'revealed' book as a Muslim expects. I have never found this difficult to explain, and Goldsmith's answer to this question sadly ends by evading the issue, confessing that the task of overcoming the hurdle of the "corrupted scriptures" charge is "apparently insuperable. We grasp like drowning men at every

straw of an answer". This is not so, and is typical of the evasiveness of some evangelicals in their refusal to face good questions head-on and find adequate answers, which do exist. (see 1,3,4,5,6). The spiritual battle is both to find such answers and to overcome the dogmatism of many Muslims that refuses to consider the evidence. My experience with Muslims in Britain is that this question is rare and when it comes, the Old Testament is often accepted because Jesus did. A frank recognition that the Christianity Muhammed knew was corrupt, so in his day his charge was valid, often help. The work of Gerhardsson (2) is also useful, as is the strong evidence that 1 Cor 15:3-5 is an extremely early affirmation of the basics of our faith, including that Christ died, a fact denied by Muslims, and given little help by Goldsmith.

When Goldsmith comes to advice on witnessing he rightly stresses friendship, hospitality and cultural sensitivity. He tells us to "not only confront Muslims but to woo them in love". This section is relevant to all Christians, but he follows it by a leap to the more specialist topics of dialogue, and Hick's pluralism, and a chapter on the problems facing a Muslim convert, with unfortunately little attempt to explain how these pressures affect such converts in Britain. Goldsmith is also firm in dealing with widely-held beliefs among Western Christians, such as that "All over the world the Spirit is moving" and that under persecution the Church thrives. Examples are given of the Church under Islam dying, something which needs saying, and forms the setting for the final chapter which is a round-up of the Church under Islam worldwide today. Goldsmith is cautiously hopeful, but sees the main hope as revival of the orthodox church in those lands where it exists. Unfortunately his earlier warning not to let this dissuade us from reaching Muslims gets buried under his enthusiasm for this approach, which has side-tracked many a good witness to Muslims in the past.

I would recommend this book, despite its errors, because it is readable, and covers a lot of ground otherwise found only in specialist texts. The beginner and expert alike can learn from the book, but in the hope for revised edition I would like to see better guides to further reading, scripture passages to use with a Muslim, and suitable literature to give him.

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ROBERT LOERY

JOHN ALLAN YOGA, IVP 1983, 64pp. PB. £0.95.

One of the shaping influences of our society today, we are told, is that of pluralisation, that is, the multiplication of ideas and opinions about life. This pluralisation includes the significant influence of whole world views on our lives, not just vague alternative opinions and lifestyles. To the Christian in today's world these forces can be very powerful. That is why this little booklet is important, and a welcome addition to John Allan's other books on similar themes (*The Rising of the Moon* about 'Moonies' and *TM: A Cosmic Confidence Trick* about Transcendental Meditation, both also published by IVP).

John Allan explains clearly that yoga is not only to do with bodily exercises. He outlines the differences between *hatha*, *karma* and *bhakti* yoga and centres around the use of *mantras* and devotion to Krishna who is *Brahman*. *Karma* yoga emphasises that work, although not to be done to satisfy man's cravings, cannot be avoided, and an outstanding example of one who taught *Karmayoga* was Mahatma Gandhi. Transcendental Meditation is also another form of yoga. These and other forms of yoga are the more obviously 'religious' or 'cultish' forms, but *hatha* yoga forms the mainstay of yoga teachings which are found in the popular books. Some would feel that these teachings are perhaps the more acceptable aspects of yoga for the Christian. But are they acceptable?

For perhaps good and legitimate reasons, many a Christian has tried yoga as an aid to relaxation, exercise and general 'bodily fitness' - but often there is that niggling doubt about the philosophy and approach behind it. John Allan discusses these doubts - yoga is not only about helping people to keep their bodies in shape but its wider aims are a search for what the universe is all about and a 'union' with all that is, and with 'God'. The word 'yoga' comes from the Sanskrit root *yuj* which means 'to unite', thereby revealing its true metaphysical aims. Despite the claims by yoga's proponents that it is not a religion, the origins of the teachings of yoga are mainly derived from the *Upanishads* and the *Bhagavad-Gita*. Moreover, John Allan tells us that the basis of yoga is very different from the basis of Christianity. Biblical revelation, on the one hand, tells us clearly that we can know God by a personal encounter with the Christ revealed to us in the Bible, but, on the other hand, yoga teaches that freedom from *karma* (roughly, the wheel of destiny, of life and death) is how we know God. As John Allan puts it, 'Like it or not, there are religious presuppositions built into the system, which will not allow us to absorb it into Christianity whole'. There are also many tracts and leaflets available which argue that yoga should be avoided by the Christian not only because of its broadly eastern religious world view but also because of its demonic and occult connections. John Allan also describes these - which are often not fully known by those who practise yoga - but is it still possible to ignore these aspects and the eastern

world view and transfer some of the techniques of yoga into Christianity, particularly because it seems to be so successful? The writer says that he has 'never come across any case of *hatha* yoga, on its own, producing deleterious effects in human personality'. He does feel, however, that 'even if only *hatha* yoga is taught, the connections to other forms of yoga are stressed, and popular magazines such as *Yoga Today* endeavour to awaken interest in more esoteric varieties'. He doubts whether *hatha* yoga *per se* is a gateway to the demonic, but he would argue against Christian involvement in yoga much more on the basis of yoga's implicit philosophy. The Christian world view is different, in that God is a personal God and not the impersonal monistic god of the east; physical reality is not an illusion full of *karma* but the good creation of a loving Father (1 Tim 4:4), and so on.

Although the main thrust of the book is negative, one thing that John Allan does recommend is a Christian rethink of the place of meditation in the Christian life. In our modern society, with its attendant pressures, this is a neglected area (hence, perhaps, the reason for the tremendous interest in yoga and so on - it fills a vacuum). There is certainly a lack of Christian literature on meditation and the spiritual aspects of our physical bodies - we can hope to see more on this subject in the future. Perhaps the eastern mystics will push us as Christians to finding a part of spirituality that we have lost.

ROBERT C.J. CARLING

CARL F. HENRY, *GOD, REVELATION AND AUTHORITY*, Volume VI, Part 2, Word Books, Texas, 1983, 556pp, HB, \$24.95

This is the final contribution to the six-volume *magnum opus* of Dr. Carl Henry. The review is limited to chapters 5-9, which have a science component. These chapters deal with creation, evolution and the origin and nature of man. They constitute five chapters out of a total of 21. The remaining

chapters are about the nature and attributes of God, as revealed in the Bible. There are supplementary notes on divine election, finding Christ in non-biblical religions, the Christian and political duty and Auschwitz as a suspension of providence.

Dr. Henry is, of course, a leading evangelical scholar and spokesman. He writes in a lucid, vigorous style, never pedantic, and one cannot fail to be impressed by the breadth of his reading and his clear grasp of the essential core of an argument. He is convinced of the historicity of the early chapters of Genesis and reviews a wide range of interpretations, generally with a fair-minded appraisal of each. However, the so-called "pictorial view", revived in this century by P.J. Wiseman, is less than justly dismissed (p.112). (According to this view, in a period of six literal days God revealed to man (perhaps to Adam or to Moses) an orderly account of the creation of the cosmos and of man). In 1977 a revised reprint of two earlier books appeared - *Clues to Creation in Genesis*, by P.J. Wiseman, edited by D.J. Wiseman. Here, the entire structure of Genesis is under review and, to this layman at least, a convincing and eminently sensible interpretation of the Genesis creation account is put forward. It is incorrect to say (ibid.) that such an account rests on a misunderstanding of one word and to suggest that it is necessarily non-factual.

Dr. Henry reviews very competently the main astrophysical cosmogonies, including the "big-bang", steady-state and cyclical theories that have received such intensive study in recent years. Sensibly, he does not link the biblical account of creation with any of them, maintaining that "...scientific theory (must not be) allowed to define the way in which the Genesis creation account is to be understood". (p.139).

Chapter 8, entitled "The Crisis of Evolutionary Theory", is a masterly summary of current criticisms of evolutionary theory by scientists, quite apart from theologians. The writer says, "The notion that deep doubts about evolutionary theory are confined to an enclave of fundamentalists who are 'dying for the day' when Darwinism is discredited, is sheer

prejudice. To dismiss objections to evolutionary theory as a kind of vestigial reverence for the Bible, rather than to recognize legitimate scientific and philosophical counter criticisms, betrays ignorance of the increasingly broad front of scientists who are boldly challenging long-regnant tenets of the theory". (pp.159-160).

The author shows an impressive acquaintance with every branch of scientific study that impinges on Scripture, from anthropology to zoology. He has read widely, understood clearly and presents his data fairly, altogether a remarkable achievement. Even the few chapters about science are almost impossible to summarise, they contain so many references and cover such an extensive field.

There is an index of persons, a Scripture index, a subject index and a bibliography of 23 pages! The latter strangely fails to include the unique contributions to the discussions of science and Christian faith made by the previous editor of this Journal, Dr. R.E.D. Clark.

D.A. BURGESS

BETTY MALZ, *SUPER-NATURAL LIVING*, Hodder & Stoughton 1983, 134pp, PB £1.50

For some years the phrase "Super-Natural Living" confronted Betty Malz as something extremely important and yet, the more she thought about it, the more she asked: "But who can live life like that?" The twelve short chapters of the book provide the key to the answer.

All too frequently Christians give the impression that life is a continuous up-hill struggle which has to be endured stoically! Colin Urquart speaks of "defeated Christians". However the author encourages us to discover a more positive attitude towards life and to realise that, although there will be periods when we will imagine that we're entirely alone, in fact the God who created us is the same God who loves and sustains us.

We are reminded that, if we're to live life as God intended, we must be aware of two levels: the Super and the Natural. God waits to be invited to share in every area of our lives in which our "natural abilities" are used responsibly. If we live only in the "natural world", then we're living only a 60% life.

As a child, the author witnessed this Super-Natural living in her own home even 'though it was during the Depression years of the 1930's - certainly a good testing ground! Yet, in spite of this parental example, it was only gradually that she adopted for herself this blend of Super-Natural living.

In one of the early chapters we are shown that, when we trust God, "He pays the bills which He has authorised" and, for our part, we must adopt a responsible attitude towards, and be good stewards of, the many gifts that we have received. Today we hear much about Christians living a more simple life-style; the eight suggestions mentioned in Chapter 2 are well worth noting.

It's all been said before, and in many different ways, but that it needs to be repeated few would deny.

DEREK J. TAYLOR

M. DAVID ENOCH *HEALING THE HURT MIND*, Hodder and Stoughton, 1983, 190pp, PB, £5.95

Dr. Enoch, a Liverpool psychiatrist with many years' experience and deep Christian faith writes that he aims to "move along the borderland of faith and psychiatry, to clarify the problem areas and, by enriching the knowledge of one for the other, to gain a greater mutual insight and respect. Indeed, faith and psychiatry are complementary and need each other". In the first part of the book he describes the major psychiatric disorders using the standard textbook categories of neurosis, psychosis, personality disorders,

etc. The medical model comes through very strongly as he stresses that all severe psychological disorders are illnesses that need effective treatment. He describes in glowing terms the "miraculous" cures that occurred when anti-depressants and largactil were introduced into psychiatric hospitals in the "revolution" in psychiatric care in the 1950s.

In the second part he outlines the importance of the "talking cures" (drugs are only part of the solution) and demonstrates how much common there is between the insights of psychotherapy and Christianity. In discussing the relevance of psychiatry to pastoral care he very helpfully recounts his own experience in developing a Christian counselling service within a local church, showing how his insights could contribute to a much more effective pastoral ministry.

The third part of the book is devoted to brief chapters on the spiritual resources of prayer, scripture, the church, etc, that are available to the Christian psychiatrist and counsellor. There are two helpful appendices describing an initial assessment form and basic principles of lay counselling. There is also a glossary of terms which is a very necessary addition to Part I for the non-medical (and even some medical) readers.

While finding this book interesting and helpful there were a number of areas where I was left with questions. Psychiatrists inevitably tend to see the very small percentage of patients who have severe psychological problems and who are often clearly in the category of "illness". What about the many more people who consult their G.P's with milder forms of anxiety and depression? Do they always need medication too? What about other causal factors in depression such as childhood deprivation, loss experiences, relationship problems, learned helplessness, etc.? There is brief mention of anger and guilt in later chapters but it is not clear how this relates to the earlier stress on illness and physical treatments. What about the demonic? Perhaps this is avoided because it is such a difficult and controversial area. While Dr. Enoch stresses the areas where psychiatry and

Christianity agree and rightly notes the danger of the "religion of self-worship" of much contemporary psychology, there is more that could be said of the areas of disagreement.

This book will do much to reassure Christians suffering from psychological problems that the view that "all psychiatry is of the devil" is wrong. It will also challenge those who place psychiatry and Christianity in separate compartments! It is written in a warm and sensitive style and gives a fascinating insight into one psychiatrist's attempts to integrate his faith and his work.

RICHARD WINTER

P.C. CRAIGIE, *EZEKIEL*, St. Andrew Press, Edinburgh (Daily Bible) 321pp, PB, £2.95

This commentary on Ezekiel is a contribution to a series on the books of the Old Testament, designed to complement William Barclay's mammoth exposition of the New. The aim of the series, therefore, is to convey the meaning of the Old Testament to the general Christian reader.

The subject of Ezekiel is somewhat formidable, carrying with it all the routine problems of interpreting Old Testament prophecy and in addition the somewhat odd features of the prophet's psyche (which Craigie acknowledges) and indeed of the book itself. It is a book which demands careful elucidation.

Craigie's interpretation is based on the fact that the prophecy is addressed to the Jewish people of the Babylonian exile. It's meaning is to be understood in relation to their fear that, along with the ravaged temple back in Jerusalem, their world and their faith lay in ruins.

By and large, the book avoids controversy. Critical issues are, in general, not engaged. The exposition is always based on a thorough understanding of such issues, but majors

rather on the task of laying bare the prophet's mind. (Thus on Ezek. 20 he is satisfying, within his terms of reference, on the treatment of Israel's history to that point, yet without reference to Jeremiah's treatment, Jer. 2: 2f., which is somewhat different. A similar point would be made about Ezek. 18 in the light of Ex. 20:5f.).

The author does not avoid controversy, however, when it relates to popular modern misconceptions. Ezekiel is much quoted by those who think they see in the pages of the Bible specific predictions of twentieth-century events. Craigie opposes such views gently but firmly. On 38:1-9 and other writers' association of Magog with Russia, Meshech with Moscow and Tubal with Tobolsk: "To put it mildly, such a procedure is hazardous; it illuminates more the mysteries and biases of the modern mind than it does the mind of the prophet," (p.267). He is equally resolute about the inadmissibility of the idea that Ezekiel's visions were inspired by primitive spacemen and their vehicles. Both the imagery and the message of the book can be understood thoroughly in terms of Old Testament institutions and theology, even if there is novelty in the prophet's specific experience.

The book can be thoroughly recommended both as interpretation of the Old Testament, and in terms of faithfulness to the author's brief: ie. as daily readings, interestingly written, spiced with illustrations and not shirking from applications.

J. GORDON McCONVILLE

MICHAEL HARPER, *THAT WE MAY BE ONE*, Hodder & Stoughton, 1983, 122pp, PB, £1.50

The author is editor of *Renewal* magazine and has written a number of books on practical issues of particular concern to charismatic Christians. The present book is a strong plea for toleration about non-essential matters and respect for the

views of Christians who differ from oneself. To this end, Christians should not, in general, leave their church, no matter what its deficiencies. The formation of splinter groups is to be deplored as destroying the unity of the Church.

The issue hinges on matters considered 'non-essential', as the writer admits. He briefly discusses five potentially divisive issues for contemporary Christians, whether calling themselves charismatic or not. These are matters about which Christians should agree to differ; they do not constitute grounds for secession: (1) Should infants be baptised, or believers only? (2) What place in church structures may be given to tradition not founded on Scripture? (3) What should be the ministry of women in the church? (4) Should we expect prophets and apostles in the church today? (5) How is our view of the church affected by the possibility of Christ's return in the near future?

The book is strong on desirable attitudes: loyalty to one's beliefs must go with gentle spirit. However, in an effort to play down the importance of differences, there is, unintentionally no doubt, some misrepresentation of the past. For the fifteen hundred years immediately following NT times, the writer says, the western Church continued largely as a united body, although there were splinter groups, some of whom have separated from the "main body of believers". The Reformation led to a large number of splinter groups, many desiring to form a "pure" church, which the writer maintains is an illusion. The so-called House Churches are the latest expression of this tendency.

At the crudest level, the argument reduces to numbers; the biggest group is right, all others are wrong. In any case, what is meant by the "western Church" in the context above? The only possible answer is the Roman Catholic Church. Can any writer seriously maintain that in the Middle Ages such was the "main body of believers"? Believers in what? Even priests were ignorant of the Scriptures and most of the populace could neither read nor write. The bigotry of the medieval Church is a byword and its ruthless extermination of 'heretics' and 'schismatics' a horror for which no word of

repentance ever seems to have been uttered. The writer implies that dissent is a grave error. Astonishingly we are reminded that Luther was a monk before he became a protestant Reformer. I wonder what Luther would say to that!

In reality, the Church as an institution, often linked to the state and corrupted thereby, has always been paralleled by Churches seeking to practise principles taught and exemplified in the NT. Much of their history was supplied by their enemies and thus they frequently appear as heretical sects. A fascinating account is to be found in *The Pilgrim Church*, by E.H. Broadbent.

The unity of the Church is fundamentally of the Spirit and modern charismatic celebrations have been remarkable instances of it - cutting across all denominational barriers in united worship of one Lord. Unfortunately, I do not think that the entrenched Anglicanism of this book will contribute a great deal to that unity, which must be based on perceived truth, not on the superficial uniformity of a common denominational structure. Nevertheless, the author writes in a gracious and tolerant manner with perceptive criticisms of his own (Anglican) communion as well as of other churches.

As he says at the end of the book, there is a price to pay for the unity that God wants for His people, whether in terms of remaining in the historic churches or of leaving. His avowed preference is "to stay in the boat", and for this I think he must be admired, if not necessarily emulated.

D.A. BURGESS

MARGARET DUGGAN, *RUNCIE - THE MAKING OF AN ARCHBISHOP*,
Hodder & Stoughton 1983, pp , HB, £9.95

I read a good part of Margaret Duggan's *RUNCIE - THE MAKING OF AN ARCHBISHOP* on the way to preach at a civic service in Crosby near Liverpool. This, of course, is the area where the Archbishop was brought up. When I met the Mayor - a very

delightful lady - she revealed the fact that she is a devoted member of St. Faith's Church. This is a hugh Anglican church, situated in a prominent position, and is the one where Robert Runcie, as a teenager 'suddenly found a church full of colour, ritual and Catholic devotion which attracted something deep inside him'. On the way to my appointment I also passed the Methodist church on the Mersey Road to which at the age of four Robert Runcie was taken by his older sister, Kathleen. On the schoolroom wall there was a picture of Abraham about to offer up Isaac. The little lad was so terrified by it that apparently he never went near any other church for some years. Obviously, however, this Methodist shock to his system did not prevent his making singular progress in matters ecclesiastical; nor, one is happy to note, did it do any permanent injury to his relationship with the Methodists!

This well-written book opens with a rapid survey of the history of the See of Canterbury. Robert Runcie is the 102nd Archbishop; three of his predecessors have been called Robert, and apparently all of them have proved disasters. We may all be grateful that history does not keep on repeating itself.

The narrative unfolded by Margaret Duggan proceeds at a fair speed and indeed leaves on the mind the kind of impression left by St. Mark's gospel: that of a very full life in which one eventful happening has swiftly followed another.

There are chapters covering the period of war-time service with the Scots Guards, during which Runcie gained the M.C. and also a great reputation as an entertainer. He is a first-class mimic. Then the book moves on to the experiences of academic life in both Oxford and Cambridge. It was during his period at Oxford that the idea of ordination grew steadily in his mind. His hope was that entering the priesthood would enable him to live out his religion within the atmosphere of intellectual discipline that he had come to find very congenial, but this was not to be. His theological training was undertaken at Westcott House which at that time, as at other times, had a most distinguished student body,

including a number of men who later on were to become bishops, like Hugh Montefiore of Birmingham, and Simon Phipps of Lincoln.

Following his ordination Runcie went to serve as a curate in Gosforth, then he returned to Westcott House, first as its chaplain and then as Vice-Principal. Over the years he had had a number of girl friends but now he met Rosalind Turner. Very soon they had decided to marry. There is an amusing description of how they were prepared for their life together by Mervyn Stockwood, who 'received them in a dimly-lit side chapel where he sat in cassock and biretta and talked solemnly to them'. Both Dr. and Mrs. Runcie have had to contend with the enormous pressures which the ministry imposes on the minister's family. There are very few idle moments, and long absences from home to be endured by those appointed to leadership positions. Mrs. Runcie with her great musical gift has found solace in the work which she still undertakes in training students.

There are two chapters on the story of Robert Runcie's principalship of Cuddesdon College where he introduced a number of reforms and not before time. Then there are two chapters on his period as Bishop of St. Albans, followed by two chapters which tell something of the story of his life at Lambeth Palace since he became Archbishop.

Margaret Duggan touches lightly on some of the great events in which the Archbishop has played a part, like the Royal Wedding, the visit of the Pope and the Falklands conflict. Whilst naturally she has a sureness of touch when dealing with Anglican affairs, she is less well informed in her all-too-brief references to other aspects of British Christianity. Unlike the subject of her book she obviously knows little about the Free Churches and makes one or two slightly inaccurate references. Astonishingly there is no reference at all to the British Council of Churches, of which Dr. Runcie is the President, and a very active President at that.

One of the outstanding impressions of the man to whom we are introduced in this attractive book is his sense of the

importance of intellectual integrity. The following quotation encapsulates much of the emphasis upon this most important quality of mind and heart:

'to meet the frequent criticism that one does not have to believe anything in particular to be an Anglican, he has pulled together the Doctrine Commission after its interlude on the wilder shores of radical theology, and has set before it an agenda that should lead to a clearer and more authoritative statement of the belief of the Church of England. He himself cherishes the freedom that his church allows to explore the truth, but that exploration needs the tools of sound theology. Just as, when he was principal of Cuddesdon, he insisted that his students should have good theological teaching, and as Bishop of St. Albans he initiated the same high standard of theological training for his laity, now he wants it for the church at large'.

KENNETH G. GREET

BISHOP STEPHEN NEILL, *THE SUPREMACY OF JESUS*, Hodder & Stoughton, 1984, 174pp, PB £4.95

Over the years Stephen Neill has produced a steady output of books and other resources covering various aspects of the faith. We have come to expect from him, integrity and sincerity, and a scholarship which is not so academic that it cannot communicate with the laity. He has an ability to encourage those who read his works towards deeper Christian maturity.

His latest book, one of the "Jesus Library" under the editorship of Michael Green, will not disappoint expectations. Neill's method is to look at a number of different facets of Jesus' life and work, and to compare Him with other great figures who have influenced the whole of human life - especially Gautama the Buddha, Plato and Socrates, the prophet Muhammed, and Karl Marx. So we meet Jesus as a human being, as teacher, as prophet, as Messiah,

as the One Son of God, through whom all can become sons, as friend, and as Saviour. In each chapter appropriate comparisons are made with some of the other great men he has chosen. Neill needs a broad vision to be able to deal fairly with the other influential teachers of other faiths, and within the limits of a relatively short paperback he succeeds. Just occasionally, perhaps, one feels that his treatment is rather summary, as with Socrates in the third chapter. The author does not parade his scholarship, but it illumines so many points; for instance his comments on the word 'hetaire' as friend and companion (p 47) and his understanding of the use of Hebrew and Aramaic at the time of Jesus (p 58).

Here is clearly a skilled writer who leads one on with many perceptive insights, and is able to draw out contemporary relevance from Biblical situations. Among numerous examples, one might cite his imaginative use of the 'Good Samaritan' parable (p 60-61), his fine insight into the temptations of Jesus (p 108-109), his interesting comments on Mark's gospel, and his astute observations on friendships in which Christ plays a part (p 120). Throughout the book there is a sense of logical progression to a climax. Thus, in chapter 1 Jesus is seen as the 'man for others'; "as good a summary as can be given of the nature of the life and ministry of Jesus" (p 31). By chapter 6 we read "Jesus has died for us. This is the mystery of faith. But an equally great mystery is that Jesus has lived for us, and has shown us what it means to live as a son of God". Neill's conclusion (p 164) is expected, arising from what he has written; "so we have come to the end of our journey, and we find that all roads lead to Jesus of Nazareth".

This is a fine book, which deserves to be widely read. It is a pity that one has to say it is rather expensive for a paperback of 174 pages, including index. It is hardly calculated to bring it to the many, and especially young, people who would derive much benefit from reading it.

W. ALAN HAYWOOD

MARCUS L. LOANE, *MASTERS OF THE ENGLISH REFORMATION*, Hodder & Stoughton, 1983, 274 pp, PB, £4.95

This book was first published in 1954 in preparation for the 400th anniversary of the martyrdom of Latimer, Cranmer, and Ridley. Hodder and Stoughton give no indication why a reprint is felt to be appropriate in 1983. Possibly the interest engendered by the 500th anniversary of Luther's birth was a factor, while the dialogue between Anglicans and Roman Catholics resulting in, and following from, the Final Report of the first Anglican - Roman Catholic International Commission (ARCIC I) may also have been an influence. Obviously the reprint is a tribute to Sir Marcus Loane, who retired in 1982 as Archbishop of Sydney and Primate of Australia.

On one level there is much to praise in this very readable book. Loane writes well; he has a good eye for interesting details and knows how to bring a scene to life. His five portraits - of Bilney, Tyndale, Latimer, Cranmer, and Ridley, all connected with Cambridge, all influenced in one way or another by Luther, all of them martyrs for their cause, are shot through with genuine insight, sympathy and imagination.

The author's account of the 'famous literary duel' fought between Sir Thomas More and William Tyndale (pp 73-75) is told graphically and with real style. There is good word-painting in the character sketch of Thomas Bilney, while Hugh Latimer's eloquent preaching receives appropriate attention (pp 118-121). Nicholas Ridley's prowess as a theologian (pp 164-166) is well brought out in some positive and assertive statements. For example: "he it was who did most of all to guide the English Reformation into the Reformed, rather than the Lutheran, camp". Also, "He was Master of the New Testament in its spirit as well as its letter". Again witness his perceptive sketch of Cranmer: "he had neither the ruggedness of a Luther, nor the loftiness of a Calvin to fit him for his task. He was much more akin to men such as Martin Bucer or Philip Melancthon, mild and gentle in spirit, ripe and expert in letters, less a man of

affairs than a scholar at home with his Greek and Latin divines; less a prince or prelate than a host whose purse and palace were so unfailingly open to men of true faith and learning" (p 217).

On another level, the book raises some queries, particularly concerning the role of the theologian as historian. History can never be completely objective, and historical writing often derives an extra quality from the special viewpoint of the author. On the other hand, for the professional historian, grosser subjective influences should always be eliminated. Sir Marcus Loane writes as both historian and as Protestant Evangelical theologian, and there are times when his advocacy of the point of view expressed in his introduction arguably impedes his historical vision. This shows most of all in the way that he draws rather too heavily on John Foxe's "Acts and Monuments" (The book of Martyrs), one of the great propaganda masterpieces of the century. True, it contains much material which is still indispensable to the historian of the age, but different viewpoints are needed if a balanced conclusion is to be achieved. Marcus Loane was writing before the main thrust of ecumenical encounter, and before the Second Vatican Council. One can only speculate on how different his book might have been had it been written in 1983.

W. ALAN HAYWOOD

DAVID LYON, *SOCIOLOGY AND THE HUMAN IMAGE*, I.V.P. 1983, 224pp, PB, £4.75

It was quite common some years ago to hear the parents of students who had been initiated into the dizzy delights of sociology at university or college, complain that this 'subversive new subject' had caused their children to lose their Christian faith. While feeling some sympathy, one is tempted to question the strength of that faith in the first place. At the same time, there was, in the early days of sociology teaching, an extra-ordinary dearth of Christians

either writing sociology books, or attempting to build bridges between what was seen by many as a subversive and secular discipline, and the 'queen of sciences', theology. True, there has always been a sub-discipline called the Sociology of Religion, but this concerns itself more with analysing religion as a cultural phenomenon; it has nothing to do with developing a Christian perspective within sociology. It is precisely in this area that David Lyon has made his contribution.

The author rightly rejects the notion of a Christian Sociology as such which, as he points out, can be subject to the same pitfalls of absolutism as Marxist sociology. However, with the help of a Christian perspective *within* sociology, one can combat the very real ideological biases of relativism, rationalism, and unchristian humanism which so frequently characterise all the major schools within sociology. This book is a very worthy successor to David Lyon's other publications, viz: "Christians and Sociology" and "Karl Marx: a Christian assessment of his life and thought". The book is structured and written in such a way that those who have no knowledge of sociology can, with relative ease, pick it up and understand what the author is talking about - a refreshing change from writings of other sociologists! At the same time, for others with some knowledge of the subject, e.g. those on courses in schools, it provides a very useful summary of both classical and contemporary schools of sociology.

The most attractive aspect of Lyon's writing is that, while respecting the world as good and valuable within its own right, and not falling into the old Christian trap of condemning secularity for being secular, he nevertheless points out the very real obligation of the Christian to be critically analytical of the society in which he lives, especially insofar as that society's values and culture attempt to destroy the maturity and wholeness of man as seen in Christ. It is thanks to the writings of people like David Lyon that the tables are turned on those who say that Christianity, and indeed other religions, should not be taught or talked about in society in general or in schools in particular, because it amounts to indoctrination. Surely, by

failing to teach and talk about religion, we are allowing the next generation to be indoctrinated into the materialistic and ego-centric values of our present society. May this book be yet another counter to such values.

PAUL UDEN

ANNE SPANGLER (ED): *BRIGHT LEGACY*, Hodder & Stoughton, 1983, 192pp, PB, £1.75

"Bright Legacy" is a deeply interesting and uplifting book. Each of the ten chapters is a complete picture of a dedicated Christian woman who has, in one way or another, influenced many lives, and especially the life of her particular biographer. Though each section is self-contained, one feels urged on to want to read more about each character, and throughout there are various books suggested which would enable one to do this. Taking the book as a whole, it would seem impossible for a reader not to want to know Christ in a deeper way, or to know Him for the first time as one reads about the lives of these ten marvellous women.

I would thoroughly recommend this book for a place in anyone's library, both for re-reading and for lending.

L.M. FOSTER

BILLY GRAHAM, *APPROACHING HOOFBEATS: THE FOUR HORSEMEN OF THE APOCALYPSE*, Hodders, 1984, 236pp, PB, £3.95

D. PITT-FRANCIS, *THE MOST AMAZING MESSAGE EVER WRITTEN*, Mark Saunders Books, Irchester, Northants, 1983, 432pp. HB, £8.75

JOHN SWEET, *REVELATION*, SCM, 1979, 359pp. PB, £5.95.

ROBERT GOVETT, *GOVETT ON REVELATION*, VOL. 1, 896pp. HB, \$35.95; vol. 2, 1040pp. HB, \$35.95. Conley and Schoettle Publ. Co. PO Box 660594, Miami Springs, Florida, 33166, USA. (Originally published under the pseudonym Matheetees, James Nisbet, London, and J. Fletcher, Norwich, 1864-5).

Books on the Apocalypse are appearing quite frequently at the present time. Billy Graham writes in his characteristic style in *Approaching Hoofbeats* illustrating his points with anecdotal material based on his wide experience in meeting men and women in all lands where he has preached the gospel. Many will enjoy this book and find it helpful, but it is of course in no sense a scholarly exposition. Rather, one has a feeling that verses in the book of Revelation afford useful pegs on which to hang what Billy Graham feels in the mood for saying. For example, he tells us that not infrequently people come to him claiming to be Christ. This makes the first horse., the white one, into a veritable army of Christ-pretenders - just about as improbable an interpretation as one could invent!

Dr. Pitt-Francis has written an unusual book, his theme being that the Revelation is Christ's own answer to the apocalyptic literature which was around in the first century of our era. John uses the same kind of symbolism as is found in other books, but his purpose is quite other. Futurists, Pitt-Rivers complains, make the book as horrific as science fiction (and why not, seeing that the possibility of star wars is daily in the news?) and in general, every century or so, Christians alter interpretations to bring them into line with current or recent history. If the seals contained the prophecy they would all have had to be broken before the book could be read and they cannot therefore have been prophetic of, say, the horseman in Chapter 6. In any case why should John weep because no one would explain the future to him?

For reasons such as these the author considers that Christians are often wrong in seeing the book of Revelation as a forecast of events which were to come after the time in which the writer lived. He proceeds, accordingly, to offer new interpretations (or rather to revive old ones, for

novelty in this field is not easily achieved!) The book of Revelation is intended to show how the four horsemen trot round and round down history. Be they secularist or Christian, new movements start with enthusiasm, then difficulties arise. As applied to the Church, famine means famine of the word of God and the great earthquake "is the earthquake for Christian testimony". The burning mountain is the version of Christianity which replaced primitive Christianity; the fish in the sea which die are Christians who die spiritually; the seventh trumpet is the preaching of the Gospel to all nations; the 144,000 on Mount Zion in Rev. 14 refer to cloistered monks who once lived on hill tops so close to heaven they they could hear angels singing; the sun (a third of which is smitten) refers to pre-Christian religion; Euphrates symbolizes the boundary between the Church and the world, when it dries up the distinction breaks down; the tree of life speaks of the availability of the Word of God for all time. These are but a sample of the many interpretations offered.

I found the book difficult to read. The ordering of the material sometimes seems chaotic and there is no index or bibliography. The repetition is often tiresome. No rules are suggested which might help one to check on particular interpretations, and nowhere is there a suggestion that science or technology might have their part to play in the future before the coming of the Lord. The main point of the author is that the Revelation is telling us that the Church, like Israel of old, will for a long time fail to carry out its commission to all nations, so we must not be surprised at its corruptions and departures from the faith once-for-all delivered to the saints. Apart from this main message, the book, obviously written by a sincere believer who accepts John's teaching on the millenium, contains many asides of an interesting nature. One is not often reminded of the fact that in the parable of the prodigal son no comment is made on the lack of wisdom in eating a fatted calf just after living on a diet of carob pods (husks)! Dr Pitt-Francis seems keen on the idea that Jesus took over the picutre images of his day so that there is now no need for us to believe in a literal devil: here not all Christians will agree with him.

Dr. Sweet's commentary on the Revelation is a work of scholarship, written concisely and with care. With other scholars today he inclines to the earlier date - just before AD 70 - for its writing. Rightly he draws attention to important points which must be kept in mind in all interpretation of the book - for example, that John is thinking in Hebrew or Aramaic and sometimes tries to reproduce the Hebrew forms of grammar in Greek; that a first principle of interpretation is that we accept the strangeness of the text rather than seek to force our own interpretation upon it. He argues that historically the book did not arise from the lunatic fringe of Christianity but stressed the vital part of Christianity; indeed without it Christianity might not have survived at all. After making general comments on each section of the book, he finishes with critical comments relating to the text, and in so doing clears up many difficulties. There is no doubt that this book will stay with us for years to come. It is well indexed, but the bibliography is very selective. It is the kind of book which ordinands will welcome in studying for examinations. However, good as it is, this kind of approach is a bit uninspiring!

Sweet seeks on the whole to keep to what is written. Thus, he has little use for that interpretation of the white horse which makes it refer to the preaching of the Gospel - a subject which is not so much as mentioned in the text. His discussion of the nature of the scroll and the seals is excellent and leads one to question the statement that nothing could be read until all seals had been broken.

One criticism might fairly be raised; the book is too conventional. It has become the conventional thing to say that the scenes and events which John describes "are repetitive and jump back and forth in time; as they stand they cannot be made to fit a linear time scale". I find it hard to believe that any one who has studied Govett's monumental work on the Revelation can continue to hold this view. Again, like nearly all the modern commentators, Sweet repeats the statement that "the idea of two resurrections is peculiar to John" (p 187). This is simply not true. (All the dead will rise, but Daniel says or implies that only some of them will rise at the end of the days of which Daniel speaks;

what about those mentioned in Hebrews who seek a better resurrection? What about our Lord's promise that he will raise those who believe on him at the time of his return, implying that he will not then raise unbelievers? What about Paul who strives for the out-resurrection from among the dead? etc,). All the same, such criticisms notwithstanding, this is a useful book.

Written from the futurists point of view, Govett's commentary on the Revelation, originally in four volumes, and published in Norwich in the mid-19th century, is certainly the best and most exhaustive that has appeared. The principles on which Govett worked were (1) if a passage makes good sense if taken literally, then we must take it literally, (2) if there is doubt we should look in the rest of the Bible to see how words which might possibly be symbols were understood.

Using these principles, Govett showed that it is possible to make sense of the Apocalypse. Writing over a century ago he guessed that some of the prophecies would be better understood when science and technology had advanced to a degree unimaginable at that time. Even though, perhaps, he asks for more miracles than we should like (in view of modern technology) his work is sensible, and quite free from the silly arbitrary statements with which so many other books abound. Where difficulties might arise every point is carefully discussed without rhetoric or polemic, and a sensible conclusion reached. In the rare cases where this is not possible, he will confess his ignorance: on one occasion he even wrote and published a tract at his own expense to refute an error he had made in an earlier booklet. Astonishingly enough his works have been largely overlooked by scholars and by Christians generally, and it is good news indeed that Conway and Schroettle in the USA have decided to republish his works. The two volumes on the Revelation are enlarged photocopies of the originals and are a pleasure to handle.

R.E.D. CLARK

STEPHEN NEILL *CRISES OF BELIEF* Hodder and Stoughton, 1984, 287 pp, PB, £5.95

This book is a complete re-write of an earlier book, "Christian Faith and other faiths". Neill says that since then his attitude has not changed but he seeks to do justice to other religions in the later edition. Included are chapters not only on Judaism, Hinduism, Buddhism and Islam, but also on the Primal World, Secularism and Existentialism. The final chapter assesses Christendom with its tendency towards dogma, institutionalism, conformity, and to be bound to culture, and concludes with what Neill sees as key questions to ask and answer whenever people from different backgrounds attempt meaningful dialogue. Neill's whole approach is outlined in the first chapter and this needs careful study. Each of the other chapters is fairly self-contained, and can be read independently. Neill's understanding of dialogue is not one involving compromise, though demanding openness and humility, which means self-exposure and a willingness to face questions others might ask. Neill is very firm throughout in pointing out where there can be no compromise as well as going to great lengths to outline, sympathetically, points of contact.

Neill's scholarship cannot be doubted. The book is readable, and, for its size is thorough. It is not a textbook, but needs to be read alongside them as a study of belief today, and specifically belief in relation to Christian belief. Today, as never before, thinking Christians need a grasp of battlefield theology in relation to other belief systems, knowing where the battles are, and the strengths and weaknesses of all sides. A grasp is also needed of significant developments in the last few centuries and Neill is skillful in outlining these.

Inevitably in a book like this some chapters are better than others. Rightly Neill has a chapter on Primal Religions, in which he roundly condemns the views of some anthropologists who see monotheism as the culmination of religious development, though a reference to Richardson¹ would have strengthened his case. But he sidesteps the

question of the existence of the demonic while stressing the importance of Jesus' victory over hostile powers as integral to presenting Christ in this context. A minor point, but irritating, and one of many, and the reader is warned to keep reading past such unease, for often, though not always, qualms are put at rest later. Neither is Neill always correct. For instance he asserts that the Gospels were available in Muhammad's time in Arabic, whereas the earliest known translations were not made until a century later.² The weakest chapter for me was "No Faith and Implicit Faith", i.e. secularism. There are several muddles, for instance it is incorrect to say that Marxism does not include faith, for as many have argued, all men all the time have faith, for all men make assumptions of a religious nature upon which systems of belief are built. These assumptions cannot be *proved* for proof does not pertain to assumptions. Similarly, Neill fails to point out (as Dooyeweerd and Schaeffer have repeatedly done) that the weak point in Humanism is that it has no real basis for deciding what is *necessarily* good or bad. In dealing with secularism and how from an advanced nation, Germany, we had all the Nazi horrors he confesses surprising "How this could come about appears to be a riddle which it passes the wit of man to solve". Surprising, as at Spring Harvest this year I heard an explanation given in terms of Nietzsche, "God is dead therefore there is no basis for morality", and this was at a convention for ordinary people in the main meeting! Schaeffer similarly links its roots into Darwinism and survival of the fittest.

Neill is much better when writing about world religions. He has gone further than many would want to go to understand people in their beliefs while still remaining uncompromising that Christianity is true and seeks the voluntary conversion of all men to Christ, even if that means some converts are persecuted, for, as he says in the chapter on the Jews, if a convert feels "he has been led by God Himself to bear the particular cross of public profession of faith in Christ, what right have we Christians to forbid him to bear that cross?" Space precludes more consideration of what has been a difficult book to review because the chapters are all so different in content, while preserving the linking theme of Christians interacting with people of other beliefs today and, with humility and firmness, holding fast to that which is true.

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J. POLKINGHORNE *THE WAY THE WORLD IS* Triangle (SPCK), 1984, 130 pp, PB, £1.85

It is unusual for a Cambridge Professor to relinquish his post in order to take up the Anglican Ministry. John Polkinghorne is a physicist of distinction, Fellow of the Royal Society and author of many scientific papers, and this book is the explanation he owes us for so fundamental a change.

He writes with the objectivity of a scientist. His concern is for the truth. In explaining his own position he seeks to justify the basic concepts of Christianity as a response to the evidence from the New Testament and other sources. Looking first at the historic records in broad perspective he goes on to examine the life, teaching and death of Jesus, his resurrection and the events following this. Christianity, he declares, makes sense. It gives a coherent picture of *the way the world is*.

The author writes humbly and with transparent honesty about these, the world's largest questions. His book carries the conviction of a deeply sincere seeker after the truth.

F.T. FARMER

DAVID L. WOLFE, *EPISTEMOLOGY: THE JUSTIFICATION OF BELIEF*, IVP, 92pp, PB, £2.50

The book is the first to appear in a series called 'Contours of Christian Philosophy' edited by C. Stephen Evans. The author is Professor of Philosophy at Gordon College. He has written a most helpful, non-technical book about what we mean by knowing and how we can justify our knowledge and beliefs.

The author briefly examines some established views concerning these questions and then introduces criteria by which we can test our beliefs. Although he is a Christian, he is not seeking to justify Christian beliefs in particular, but how to justify any scheme or interpretation to which a person may be committed.

He is aware that many of our beliefs come to us in an undeveloped form; it would be a mistake to discard them simply because how we came to hold them can be explained psychologically, sociologically or historically. The strategy for justifying our beliefs is to start where we are; to try to see what our unstated assumptions are. This may involve some intellectual house-cleaning as we discover inconsistencies and other difficulties. "...The crucial test of a belief system is not whether it involves faith, but if it can survive testing".

In a day when most of our supposed knowledge and beliefs are in the melting-pot of relativism, so that morality is reduced to sociological averages, scientific theories cannot be said to be even probable, let alone true, and philosophy too often degenerates into semantic argument, it is refreshing to read (p.74), "If finite human beings are to have warrant for their beliefs, they must be willing to begin with what they seem to know, seek to eliminate error, take reasonable cognitive risks and entertain a firm hope of attaining truth".

The book has no index but each section has a bold sub-heading and there is a list of books for further reading. The book is much more stimulating and comprehensive than this brief review might imply.

PAUL DAVIES, *GOD AND THE NEW PHYSICS*, J.M. Dent and Sons, 1983, 255pp, HB, £8.95

This is a fascinating book, and well-worth buying, though perhaps only by the serious enquirer. Science is a somewhat exclusive subject, and the casual reader would at a cursory glance be forgiven for echoing the prophet's words - "my thoughts are not your thoughts, neither are my ways your ways, saith the Lord". Nonetheless the author claims that the general reader would profit from the book; in fact he implies that the philosopher and theologian with little knowledge of the New Physics would greatly benefit.

Although this book is primarily concerned with New Physics (e.g. quantum mechanics, and the general and special theories of relativity) and the insights this can give towards understanding a creator God, it would have been interesting to have had Professor Davies' personal view of religion. In particular it would be interesting to know how his Biblical and scientific views compare as to the nature and purpose of man, and the existence of God. The author claims that for him, science offers a surer path to God than does religion, but many would say that both are partners, and that both reveal, or point towards, a creator.

The book attempts to throw light on the meaning behind the universe, as revealed by the understanding of physics, to probe into science and if at all possible, to find God there. It is not a book about the problem of suffering, about ethical and moral conduct, or about Jesus of Nazareth. It is, in the author's words, about the 'Big four questions of existence'; i.e. Why are the laws of nature what they are? Why does the universe consist of the things it does? How did these things arise? How did the universe achieve its organisation? A few examples suffice to show the content. The chapters on Mind and Self suggest from a scientific viewpoint that mind could exist independently from the brain, and this is surely a pointer to the indestructibility of the Self. In his chapter on Black Holes and Cosmic Chaos, the author finds surprising evidence for a Grand Design. He goes on to say that "it is hard to resist the impression that the present

structure of the universe, apparently so sensitive to minor alterations in numbers (the constants of nature) has been rather carefully thought out".

The chapter on Time shows the reader how elusive such a concept really is, and thus the religiously-oriented person will surely approach Biblical concepts such as "In the beginning", "Eternal life" and "The hereafter" in a new light. The chapter on the quantum factor, which relies heavily on Heisenberg's Uncertainty Principle more or less sweeps away the old scientific concept of materialism.

This book is not dogmatic; the reader will have to decide for himself whether or not the new insights revealed by modern physics are helpful in the understanding of man's place in the universe, and there is the possibility of God's being found by science. What can be said with certainty is that things are not always what they seem. As the author says "There is more to the world than meets the eye".

B.W. COOK

PAUL REISSER, AND JOHN WELDON; *HOLISTIC HEALERS, A Christian Perspective on New Age Health Care*. I.V.P. 1983, Illinois, USA.

The authors have read extensively, and the aim of their book, stated on p 13 is:- "The time has come for a refocussing of health care on the individual as a unique, whole, priceless being. The dimensions of mind and spirit have been isolated too much from the body, which is too often looked upon as a biochemical machine... We, the authors wish to state at the outset a most important pre-supposition of our own. We view the Old and New Testaments as authoritative in all matters of life, including physical and spiritual health. Much of our critique of the current holistic health movement will therefore be derived from Biblical principles. Our goal will be to identify the myriad forms of chaff which need to be separated from some very important wheat".

There are four main sections. Firstly, the authors explain the precepts of the movement, and in a chapter "Ten articles of faith in the new movement" list some of the alternatives to western medicine, with a short definition of each, in some cases inadequate and misleading. For instance, the law, or concept, of similars - in homeopathy - was observed by physicians before Hahnemann, although he systematized it. The law states that any substance which can produce a totality of symptoms in a healthy human being can cure the same symptoms in a sick one. The dosage used may range from the material to the highly diluted, or potentised, and the safest way to use any curative substance is the smallest effective dose. As a Christian, a medical practitioner of the conventional sort, but one who has made a postgraduate study of homeopathic medicines and used them for over 40 years, this reviewer can testify that they form a real alternative treatment, and may complement Western medicine.

The second section of the book concerns ancient Chinese medicine, traditional Chinese Acupuncture, and modern Touch therapy, or Kinesiology. Origins are described, and connections with Taoism explained. A warning is given, viz: "We strongly urge that patients avoid any therapists who claim to be manipulating invisible energies".

In section three, on psychic diagnosis and healing, the work of well-known healers is described and evaluated, and the section ends with the strongest warning that this form of healing is to be avoided. While stating that most healers manifest a sincere care for those seeking help, the authors say "the messages which come wrapped round psychic healings, and their deep roots in spiritism, eastern mysticism, and occultism represent a far greater hazard than any disease which may be relieved for a season".

Part four concerns health for the whole person, and the introduction to this recognises that "neither western medicine, nor the holistic health movement can rightly claim to have cornered the market on solutions to suffering or keys to health". Biblical guide-lines to health are given, and while no-one is guaranteed freedom from illness or accident, those with Christian faith have resources of comfort and help to meet and deal with adversity in a mature 'whole' manner.

In these days, when there is a growing interest in the occult in all its disguises, this book brings a timely reminder that the Bible forbids any dealings with such practices. However many of those who practise "alternative medicine" are as opposed to the occult as the authors, and some practitioners of the "orthodox" school are becoming interested and involved, so that it behoves everyone to be discerning, wherever they seek for help.

KATHLEEN PRIESTMAN

F.F. BRUCE *THE HARD SAYINGS OF JESUS*, Hodder and Stoughton, 1983, 265pp, PB, £4.95

This volume, the first in the Jesus Library series edited by Michael Green, is written by Emeritus Professor Bruce of the University of Manchester. Those who are familiar with Dr. Bruce's work will recognise that he is one of the most distinguished of British New Testament scholars and, to quote the editor of the series, this book "is characterised by clarity, honesty, scholarship, intelligibility and faith".

Those of us who were brought-up on the 1662 Prayer Book would certainly be familiar with the "Comfortable Words of Jesus" as found in the Holy Communion service but, possibly, would be less familiar with the "uncomfortable words"? Professor Bruce, in the book under review, takes seventy of these hard sayings, places them in their historic setting and then offers an explanation.

Space permits me to look at only three sayings: How often have you wondered about Jesus' words: "If anyone comes after me and does not hate his own father and mother and wife and children ... he cannot be my disciple"? The author reminds us that, for the follower of Jesus, the Kingdom of God must come first - even before family ties! "If 'hating' one's relatives is felt to be a shocking idea, it was meant to be shocking, to shock the hearers into a sense of the imperious demands of the Kingdom of God" (p. 120). However,

it is explained that, in the biblical idiom, "to hate" means to love less - as may be found in Deuteronomy 21:15 "If a man has two wives, the one beloved and the other hated" (R.S.V. "disliked"). Besides, in 1 Timothy 5:8, we read that adequate provision must be made for a man's family, and there appears to be no evidence in the Gospels to suggest that this conflicts with the teaching of Jesus.

Again, what are we to make of Jesus' command, as recorded in Luke 9:60, "Leave the dead to bury their own dead, but ... go and proclaim the Kingdom of God"? The key of course is that Jesus continues to stress the absolute priority of the claims of the Kingdom over everything else. When we ask, "but, who are the dead?", the most convincing answer suggested is that they are those who are least sensitive to the claims of the Kingdom, and therefore, must be responsible for the burial arrangements! The fact that this duty would be implied in the Fifth Commandment simply emphasises the importance Jesus attached to promoting the Kingdom.

Finally, in the Parable of the Ten Virgins, the bridegroom's reply: "I do not know you". I found the explanation to this hard saying less convincing than the others, although the suggested significance of the oil was interesting: while the oil lasted it was good, but what was used yesterday obviously cannot be used today. Professor Bruce suggests that here Jesus may be teaching us not to depend only on past experiences. "Daily grace must be obtained for daily need". How often Christians are tempted to live in the past!

Those who teach, preach or lead house groups will find this book particularly useful to have amongst one's books of reference.

DEREK J. TAYLOR

H.R. ROOKMAAKER *THE CREATIVE GIFT*, IVP, 1982, 158pp, PB, £3.50

In "The creative gift", we are given the benefit of a life-time's thought and study in the whole area of creativity and culture. The author challenges the Church to accept past failures, made as a result of creating a false dichotomy between the secular and spiritual areas of life, and to explore the God-given potential of the whole of creation. Rookmaaker exposes the root cause of this dichotomy in the opening chapters, pointing out that to recoil from any involvement in culture is simply not a valid option. He cites here the example of Tatian, a leader of the early Church, whose rejection of Graeco-Roman culture caused his subsequent identification with the cynics, itself a Greek school of philosophy, Diogenes being the most famous exponent. He counters the claim by some that the Bible's call to Christians to separate from the world means to avoid cultural involvement, by showing this as a call to reject idolatry rather than culture itself.

In this book, the author expounds more clearly than in his other writings the reasons for society's loss of fundamentals as coming from man's rejection of the God-given structures of reality. He shows how authority has been undermined, with the consequent loss of individual freedom, and how this has led to increasing permissiveness. The chapter on Bunuel and the Bible is especially illuminating. In it, Bunuel's film "Un chien Andaloux" is not condemned for its obscurity and obscenity, but revealed as it is, a truly desperate cry for meaning and purpose. Rookmaaker gives Bunuel credit for this, and in so doing encourages Christians to listen to the modern artist, and to demonstrate the Bible's answer to such cries. There is certainly evil in the world and in society, but the answer is not in Bunuel's anarchy. The answer lies in repentance, and in an acceptance of God's command to love Him. Only then can society begin to experience the freedom which Bunuel is seeking to achieve by casting aside all accepted restraints.

The book's structure suggests posthumous re-organisation by a hand other than the author's, because there is a certain

amount of repetition, in the last chapter, of material covered earlier. I would also want to suggest that the use of the Vermeer on the paperback edition was something of a mistake on the part of the publisher, because it perpetuates the mistaken notion that Rookmaaker is calling Christian artists to recreate Dutch seventeenth century art, glossing over his repeated call in the book that the artist is to be contemporary, free from past, present or even future traditions. But this aside, the book is a must for everyone seriously concerned with the church's lack of voice in the important areas of society.

RICHARD COLSON

C.A. RUSSELL *SCIENCE AND SOCIAL CHANGE, 1700 - 1900*,
McMillan, 1984, HB, £15.00

The jacket illustration on this book from the Cribb collection sets the tone for the contents of Colin Russell's useful little book and illustrates vividly what many of us generally forget - surrounded as we are by wealth, and possibly a surfeit of information - that, at the time in question, any progress was from a background of fairly general ignorance. Looking backwards from a non-scientific education, one cannot help wishing such material had been available in one's student days. The book is well organised and the notes, references and index excellent. Though mainly a book for students, the general reader with a basic general education would almost certainly, one feels, enjoy the bringing together of history, philosophy, economics, social progress and some challenges to many of the glib assumptions of the past.

In arguing that, 'Science was thus a potent, discernible symbol of change in general, including the hoped-for changes in society, the author produces many fascinating references to support this and also states fairly the weaknesses and limitations contained in such a quotation'. This section of the book, entitled 'Science for the masses 1825 - 1850' - by

far the most fascinating of all sections of the book - observes that only occasionally were the Mechanics' Institutes used for controlling the turbulent society of England in the early nineteenth century.

Every chapter is a mine of information and interpretation and includes such nuggets as the creation of the Royal Ordnance Survey and the Institute of Mines, so necessary because of the abysmal ignorance of mineowners of even the simplest geology. The book avoids the simplistic analysis of the rationalist-v-church-establishment interpretations common to many of us in our youth, but does not shirk the issue of cleric-v-chemist, industrialist-v-squirearchy, and by introducing comparisons with French and German activities in the early period, prevents the reader from continuing the older assumptions that Science and the Industrial Revolution both stemmed from Newton, Faraday and Darwin as an all-English progression: that the "holy alliance between science and religion", was a typically English phenomenon.

Concluding with a chapter headed, 'Science triumphant?', the argument about what really caused the secularisation of society, that Science could explain it all without reference to God is extremely well conducted. One could only wish that the debate about values and judgement in our own society was being as well-conducted in 1984. Protagonists of either nature-v-nurture or heredity-v-environmentalist theory, or capitalism-v-socialism would all be the richer and better-informed and thus able to decide or debate with the benefit of having read this chapter beforehand. Altogether a readable and enjoyable book, suited not only to students with exams to pass, but to the middle-aged and elderly. One would say also that it is of particular attraction and value to those of convinced Christian belief as well as to the rationalist agnostic, who is forced to consider or review his own state from time to time.

D.A. RAY

ARTHUR F. HOLMES, *CONTOURS OF A WORLD VIEW* (Ifacs: Studies in a Christian World View) 240pp, PB, £7.25

This is a well written and researched piece of work, although in parts, the reader could get confused and lost with the various view points and repetition of ideas that the author puts forth as alternatives to his own Christian view point.

The book is divided into three parts. Part one looks at contemporary humanism and at the tradition from which it arises. The author suggests a need to have a Christian world view in relation to theology, philosophy, natural and social sciences.

Part two deals with the Christian view, in contrast with the rationalistic, romanticist, mechanistic view, which is discussed here at great length. Moral weakness, human failure to psychological influences could be held responsible for the action of an individual. Sentiments regarding dualism and theism expressed by Plato and Bertocci find their way into this treatise which tries to justify that freedom should have a distinctively personalistic basis - that persons are made not in the image of a personal God; person and freedom should be seen first in relation to God and then in relation to nature.

In Part three, the author tries to unify the views of philosophers, theologians, scientists, Romanticists, Marxists, and Existentialists, whose views have their own distinctive characteristics. In a Christian world view, an actual religion plays its natural role as the unifying perspective. 'Play' as a social activity is discussed at great length. Play would help build the community and must not lead to dehumanizing people in relation to God. Play should not shatter self-respect, stifle growth, be unfair, unloving and needlessly violent. Play should harness the competitive spirit and direct its energies constructively. Such noble thoughts!

The world of today is still torn apart by conflicting ideologies, violence, extremes of poverty, envy, jealousy, despair, that the message of living and thinking Christianly, with meaning and hope as the book suggests, might be lost.

N. LOPES

KENNETH G. GREET *THE BIG SIN*, Marshalls, 1982, 160pp, PB, £1.75

The title of this book refers to the possession of nuclear weapons. The author believes that the best hope for mankind lies in mass demonstrations and denunciation of our folly, and on this note the book both begins and ends. The author is Secretary of the Methodist Conference, and past-President, but his book is not specifically written from a Christian viewpoint. He believes that Christians should co-operate with all who make for peace and understanding between nations.

A detailed list is given of the various disarmament treaties, and of the deliberations of the Churches. Though useful as a reference source, such material can be repetitive and make for rather dull reading. One feels that perhaps the book could have been shortened in this way, and with an index for reference. However, there is interesting and useful material here. We read of the Titan silos in the USA, each guarded by two armed men, who must spend long hours in confined space, each with orders to shoot the other if he shows the slightest sign of abnormal behaviour. We read also of the young officer in Nebraska who said "We have two tasks. The first is to ensure that people do not go off their rockers. That is the negative side. The positive side is to ensure that people act without moral compunction". (p 113). An apt summary of our civilisation's collapse! There is a good summary, too, of Nicholas Humphrey's third Bronowski Memorial lecture (p 146), and much else besides.

Chapter 6 ("Refuge from the storm") will prove of interest to many Bible-loving Christians. For many, God is "our shelter from the stormy blast, and our eternal home". Greet does not like the psychology implied on four counts. 1) "It seems a blatantly selfish one" (p 95); 2) it has no reference to peace-making, but merely to plucking individuals from a world before it is destroyed; 3) it is fatalistic; 4) as represented by Hal Lindsey's book e.g. "The Late Great Planet Earth"; "Countdown to Armageddon", it sadly misuses scripture. I find such criticisms unconvincing, though in all cases one can cite scriptures on both sides, and the author to some extent does. In answer to the four points made above:- 1) This is a case of reward-seeking, about which C.S. Lewis wrote persuasively. Lewis' comments are that it depends on the *when* and the *nature* of the reward sought. It is wrong, surely, for a Christian to ignore our Lord's teaching on treasure in heaven and the deliverance sought is not *through* but *out of* tribulation. (Luke 21. 36). 2) Would not all Christians hold that peace-making is a Christian duty even if, when discussing another topic they fail to mention it specifically? 3) It is NOT fatalistic. What about the book of Jonah? Are you a fatalist if you shout at the driver who is rushing along a cliff road, but who does not know that the cliff has fallen " You will be over the cliff in a minute!" 4) I doubt if the author takes the Bible seriously enough. No doubt some of what Lindsey takes as fulfillment of prophecy had parallels in the past, but concerning the "rebirth of Israel" it cannot be said that ... "a student of history will know that there is nothing new about predictions of the sort just described" (p 98).

On another issue, the fallacies of the deterrence argument are excellently marshalled (p 112f); a) there is no proof that it has worked, b) the risk of accidental false alarm is considerable, c) if we insist on deterrence, so also will numerous less - responsible nations and d) changes in military policy rationalize new military technology. Thus, very low yield weapons may soon obliterate the distinction between nuclear and non-nuclear warfare.

R.E.D. CLARK

W. RIGGARS *NUMBERS*, 252pp, £2.95; G.A.F. KNIGHT *PSALMS II*, 370pp, £2.95; R. DAVIDSON *JEREMIAH*, 156pp, £2.95. St. Andrew Press, Edinburgh, 1983.

This series of Old Testament Studies, under the Editorship of J.C.L. Gibson, is an extension of the popular New Testament series written by the late Professor William Barclay. The preface to these volumes states that the "primary aim of the Daily Study Bible Series is not an academic one". Thus, a detailed criticism of the origin of the Bible books will not be found, and the authors' introductions to the separate commentaries are brief. The series, as the title suggests, is intended for daily study, and so the Bible passages, which are quoted in full, are broken into lengths to fulfill that condition. The translation used throughout is the Revised Standard Version.

Throughout the commentaries on each passage, an attempt is made to link the Old Testament text with relevant passages in the New Testament, and with the everyday life of the modern Christian. Thus in the introduction to "Numbers", four threads are distinguished:- God's closeness, His discipline, His purpose, and His holiness. "The experience and lessons of Israel in her pilgrimage in the book of Numbers parallels those of all God's people everywhere, and in every age, as they make their pilgrimage to God's own heart". This epitomises the aim of these commentaries, i.e. inspirational rather than expository.

The author of the commentary on Psalms distinguishes two parallel threads:- the history of the nation is traced, especially in the early Psalms, and then the nature of God, in particular His love evidenced in the later Psalms. Thus the Psalms bring God's mighty acts into the lives of His people, both then and now. They can be applied to the individual as they were once applied to the nation.

If the book of Numbers is not entirely chronological in layout, and loosely structured, the book of Jeremiah is acutely so, and has always been a problem for commentators. The author of this commentary struggles with this fact in his

introduction, but emphasises that the Old Testament writers were not primarily writers but preachers (as distinct from Paul, say, who needed to express his thoughts coherently when writing to the early Church). The author claims that "Jeremiah" may reflect the work of more than one author, and possibly more than one textual source.

Each of these commentaries contains a brief list of books for further study, but these are for general background reading, and are not referred to in the text. The series is eminently readable, in good modern style, and the books contain both encouragement and challenge to the Christian in today's world. "Read reverently and imaginatively, the Old Testament can become a living and relevant force in their everyday lives".

A.B. ROBINS

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Abbreviations: Asterisk (*) - the first page of an article;
c - correspondence; d - contribution to a discussion;
f - and pages following; r - review; rw - writer of a review.

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