MYRTLEFIELD

HOUSE

SUFFERING
LIFE'S PAIN

THE QUEST FOR REALITY AND SIGNIFICANCE

Book 1 – BEING TRULY HUMAN:
The Limits of our Worth, Power, Freedom and Destiny

Book 2 – FINDING ULTIMATE REALITY:
In Search of the Best Answers to the Biggest Questions

Book 3 – QUESTIONING OUR KNOWLEDGE:
Can we Know What we Need to Know?

Book 4 – DOING WHAT'S RIGHT:
Whose System of Ethics is Good Enough?

Book 5 – CLAIMING TO ANSWER:
How One Person Became the Response to our Deepest Questions

Book 6 – SUFFERING LIFE'S PAIN:
Facing the Problems of Moral and Natural Evil

BOOK 6

SUFFERING LIFE'S PAIN

FACING THE PROBLEMS OF MORAL AND NATURAL EVIL

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DEDICATED TO OUR YOUNGER FELLOW STUDENTS,

REMEMBERING THAT WE WERE ONCE STUDENTS—AND STILL ARE

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BOOK 6: SUFFERING LIFE'S PAIN

FACING THE PROBLEMS OF MORAL AND NATURAL EVIL

ILLUSTRATIONS

SERIES PREFACE

The average student has a problem—many problems in fact, but one in particular. No longer a child, he or she is entering adult life and facing the torrent of change that adult independence brings. It can be exhilarating but sometimes also frightening to have to stand on one's own feet, to decide for oneself how to live, what career to follow, what goals to aim at and what values and principles to adopt.

How are such decisions to be made? Clearly much thought is needed and increasing knowledge and experience will help. But leave these basic decisions too long and there is a danger of simply drifting through life and missing out on the character-forming process of thinking through one's own worldview. For that is what is needed: a coherent framework that will give to life a true perspective and satisfying values and goals. To form such a worldview for oneself, particularly at a time when society's traditional ideas and values are being radically questioned, can be a very daunting task for anyone, not least university students. After all, worldviews are normally composed of many elements drawn from, among other sources, science, philosophy, literature, history and religion; and a student cannot be expected to be an expert in any one of them, let alone in all of them (indeed, is any one of us?).

Nevertheless we do not have to wait for the accumulated wisdom of life's later years to see what life's major issues are; and once we grasp what they are, it is that much easier to make informed and wise decisions of every kind. It is as a contribution to that end that the authors offer this series of books to their younger fellow students. We intend that each book will stand on its own while also contributing to the fuller picture provided by the whole series.

So we begin by laying out the issues at stake in an extended introduction that overviews the fundamental questions to be asked, key voices to be listened to, and why the meaning and nature of ultimate reality matter to each one of us. For it is inevitable that each one of us will, at some time and at some level, have to wrestle with the fundamental questions of our existence. Are we meant to be here, or is it

really by accident that we are? In what sense, if any, do we matter, or are we simply rather insignificant specks inhabiting an insubstantial corner of our galaxy? Is there a purpose in it all? And if indeed it does matter, where would we find reliable answers to these questions?

In Book 1, *Being Truly Human*, we consider questions surrounding the value of humans. Besides thinking about human freedom and the dangerous way it is often devalued, we consider the nature and basis of morality and how other moralities compare with one another. For any discussion of the freedom humans have to choose raises the question of the power we wield over other humans and also over nature, sometimes with disastrous consequences. What should guide our use of power? What, if anything, should limit our choices, and to what extent can our choices keep us from fulfilling our full potential and destiny?

The realities of these issues bring before us another problem. It is not the case that, having developed a worldview, life will unfold before us automatically and with no new choices. Quite the opposite. All of us from childhood onward are increasingly faced with the practical necessity of making ethical decisions about right and wrong, fairness and injustice, truth and falsity. Such decisions not only affect our individual relationships with people in our immediate circle: eventually they play their part in developing the social and moral tone of each nation and, indeed, of the world. We need, therefore, all the help we can get in learning how to make truly ethical decisions.

But ethical theory inevitably makes us ask what is the ultimate authority behind ethics. Who or what has the authority to tell us: you ought to do this, or you ought not to do that? If we cannot answer that question satisfactorily, the ethical theory we are following lacks a sufficiently solid and effective base. Ultimately, the answer to this question unavoidably leads us to the wider philosophical question: how are we related to the universe of which we form a part? What is the nature of ultimate reality? Is there a creator who made us and built into us our moral awareness, and requires us to live according to his laws? Or, are human beings the product of mindless, amoral forces that care nothing about ethics, so that as a human race we are left to make up our own ethical rules as best we can, and try to get as much general agreement to them as we can manage, either by persuasion or even, regretfully, by force?

For this reason, we have devoted Book 2, *Finding Ultimate Reality*, to a discussion of Ultimate Reality; and for comparison we have selected views and beliefs drawn from various parts of the world and from different centuries: the Indian philosophy of Shankara; the natural and moral philosophies of the ancient Greeks, with one example of Greek mysticism; modern atheism and naturalism; and finally, Christian theism.

The perusal of such widely differing views, however, naturally provokes further questions: how can we know which of them, if any, is true? And what is truth anyway? Is there such a thing as absolute truth? And how should we recognise it, even if we encountered it? That, of course, raises the fundamental question that affects not only scientific and philosophical theories, but our day-to-day experience as well: how do we know anything?

The part of philosophy that deals with these questions is known as epistemology, and to it we devote Book 3, *Questioning Our Knowledge*. Here we pay special attention to a theory that has found wide popularity in recent times, namely, postmodernism. We pay close attention to it, because if it were true (and we think it isn't) it would seriously affect not only ethics, but science and the interpretation of literature.

When it comes to deciding what are the basic ethical principles that all should universally follow we should observe that we are not the first generation on earth to have thought about this question. Book 4, *Doing What's Right*, therefore, presents a selection of notable but diverse ethical theories, so that we may profit from their insights that are of permanent value; and, at the same time, discern what, if any, are their weaknesses, or even fallacies.

But any serious consideration of humankind's ethical behaviour will eventually raise another practical problem. As Aristotle observed long ago, ethics can tell us what we ought to do; but by itself it gives us no adequate power to do it. It is the indisputable fact that, even when we know that something is ethically right and that it is our duty to do it, we fail to do it; and contrariwise, when we know something is wrong and should not be done, we nonetheless go and do it. Why is that? Unless we can find an answer to this problem, ethical theory—of whatever kind—will prove ultimately ineffective, because it is impractical.

Therefore, it seemed to us that it would be seriously deficient to deal with ethics simply as a philosophy that tells us what ethical standards we ought to attain to in life. Our human plight is that, even when we know that something is wrong, we go and do it anyway. How can we overcome this universal weakness?

Jesus Christ, whose emphasis on ethical teaching is unmistakable, and in some respects unparalleled, nevertheless insisted that ethical teaching is ineffective unless it is preceded by a spiritual rebirth (see Gospel of John 3). But this brings us into the area of religion, and many people find that difficult. What right has religion to talk about ethics, they say, when religion has been the cause of so many wars, and still leads to much violence? But the same is true of political philosophies—and it does not stop us thinking about politics.

Then there are many religions, and they all claim to offer their adherents help to fulfil their ethical duties. How can we know if they are true, and that they offer real hope? It seems to us that, in order to know whether the help a religion offers is real or not, one would have to practise that religion and discover it by experience. We, the authors of this book, are Christians, and we would regard it as impertinent of us to try to describe what other religions mean to their adherents. Therefore, in Book 5, *Claiming to Answer*, we confine ourselves to stating why we think the claims of the Christian gospel are valid, and the help it offers real.

However, talk of God raises an obvious and very poignant problem: how can there be a God who cares for justice, when, apparently, he makes no attempt to put a stop to the injustices that ravage our world? And how can it be thought that there is an all-loving, all-powerful, and all-wise creator when so many people suffer such bad things, inflicted on them not just by man's cruelty but by natural disasters and disease? These are certainly difficult questions. It is the purpose of Book 6, *Suffering Life's Pain*, to discuss these difficulties and to consider possible solutions.

It only remains to point out that every section and subsection of the book is provided with questions, both to help understanding of the subject matter and to encourage the widest possible discussion and debate.

David Gooding
John Lennox

ANALYTICAL OUTLINE

SUFFERING LIFE'S PAIN

SERIES INTRODUCTION

Our worldview . . . includes our views, however ill or well thought out, right or wrong, about the hard yet fascinating questions of existence and life: What am I to make of the universe? Where did it come from? Who am I? Where did I come from? How do I know things? Do I have any significance? Do I have any duty?

THE SHAPING OF A WORLDVIEW FOR A LIFE FULL OF CHOICES

In this introductory section we are going to consider the need for each one of us to construct his or her own worldview. We shall discuss what a worldview is and why it is necessary to form one; and we shall enquire as to what voices we must listen to as we construct our worldview. As we set out to examine how we understand the world, we are also trying to discover whether we can know the ultimate truth about reality. So each of the subjects in this series will bring us back to the twin questions of what is real and why it matters whether we know what is real. We will, therefore, need to ask as we conclude this introductory section what we mean by 'reality' and then to ask: what is the nature of ultimate reality?[1]

WHY WE NEED A WORLDVIEW

There is a tendency in our modern world for education to become a matter of increasing specialisation. The vast increase of knowledge during the past century means that unless we specialise in this or that topic it is very difficult to keep up with, and grasp the significance of, the ever-increasing flood of new discoveries. In one sense this is to be welcomed because it is the result of something that in itself is one of the marvels of our modern world, namely, the fantastic progress of science and technology.

But while that is so, it is good to remind ourselves that true education has a much wider objective than this. If, for instance, we are to understand the progress of our modern world, we must see it against

[1] Please note this Introduction is the same for each book in the series, except for the final section—Our Aim.

the background of the traditions we have inherited from the past and that will mean that we need to have a good grasp of history.

Sometimes we forget that ancient philosophers faced and thought deeply about the basic philosophical principles that underlie all science and came up with answers from which we can still profit. If we forget this, we might spend a lot of time and effort thinking through the same problems and not coming up with as good answers as they did.

Moreover, the role of education is surely to try and understand how all the various fields of knowledge and experience in life fit together. To understand a grand painting one needs to see the picture as a whole and understand the interrelationship of all its details and not simply concentrate on one of its features.

Moreover, while we rightly insist on the objectivity of science we must not forget that it is we who are doing the science. And therefore, sooner or later, we must come to ask how we ourselves fit into the universe that we are studying. We must not allow ourselves to become so engrossed in our material world and its related technologies that we neglect our fellow human beings; for they, as we shall later see, are more important than the rest of the universe put together.[2] The study of ourselves and our fellow human beings will, of course, take more than a knowledge of science. It will involve the worlds of philosophy, sociology, literature, art, music, history and much more besides.

Educationally, therefore, it is an important thing to remember—and a thrilling thing to discover—the interrelation and the unity of all knowledge. Take, for example, what it means to know what a rose is: *What is the truth about a rose?*

To answer the question adequately, we shall have to consult a whole array of people. First the scientists. We begin with the *botanists*, who are constantly compiling and revising lists of all the known plants and flowers in the world and then classifying them in terms of families and groups. They help us to appreciate our rose by telling us what family it belongs to and what are its distinctive features.

Next, the *plant breeders* and *gardeners* will inform us of the history of our particular rose, how it was bred from other kinds, and the conditions under which its sort can best be cultivated.

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[2] Especially in Book 1 of this series, *Being Truly Human*.

FIGURE I.1. A Rose.

In William Shakespeare's play *Romeo and Juliet,* the beloved dismisses the fact that her lover is from the rival house of Montague, invoking the beauty of one of the best known and most favourite flowers in the world: 'What's in a name? that which we call a rose / By any other name would smell as sweet'.

Then, the *chemists*, *biochemists*, *biologists* and *geneticists* will tell us about the chemical and biochemical constituents of our rose and the bewildering complexities of its cells, those micro-miniaturised factories which embody mechanisms more complicated than any built by human beings, and yet so tiny that we need highly specialised equipment to see them. They will tell us about the vast coded database of genetic information which the cell factories use in order to produce the building blocks of the rose. They will describe, among a host of other things, the processes by which the rose lives: how it photosynthesises sunlight into sugar-borne energy and the mechanisms by which it is pollinated and propagated.

After that, the *physicists* and *cosmologists* will tell us that the chemicals of which our rose is composed are made up of atoms which themselves are built from various particles like electrons, protons and neutrons. They will give us their account of where the basic material in the universe comes from and how it was formed. If we ask how such knowledge helps us to understand roses, the cosmologists may well point out that our earth is the only planet in our solar system that is able to grow roses! In that respect, as in a multitude of other respects, our planet is very special—and that is surely something to be wondered at.

But when the botanists, plant breeders, gardeners, chemists, biochemists, physicists and cosmologists have told us all they can, and it is a great deal which would fill many volumes, even then many of us will feel that they will scarcely have begun to tell us the truth

about roses. Indeed, they have not explained what perhaps most of us would think is the most important thing about roses: the beauty of their form, colour and fragrance.

Now here is a very significant thing: scientists can explain the astonishing complexity of the mechanisms which lie behind our senses of vision and smell that enable us to see roses and detect their scent. But we don't need to ask the scientists whether we ought to consider roses beautiful or not: we can see and smell that for ourselves! We perceive this by *intuition*. We just look at the rose and we can at once see that it is beautiful. We do not need anyone to tell us that it is beautiful. If anyone were so foolish as to suggest that because science cannot measure beauty, therefore beauty does not exist, we should simply say: 'Don't be silly.'

But the perception of beauty does not rest on our own intuition alone. We could also consult the *artists*. With their highly developed sense of colour, light and form, they will help us to perceive a depth and intensity of beauty in a rose that otherwise we might miss. They can educate our eyes.

Likewise, there are the *poets*. They, with their finely honed ability as word artists, will use imagery, metaphor, allusion, rhythm and rhyme to help us formulate and articulate the feelings we experience when we look at roses, feelings that otherwise might remain vague and difficult to express.

Finally, if we wanted to pursue this matter of the beauty of a rose deeper still, we could talk to the *philosophers*, especially experts in aesthetics. For each of us, perceiving that a rose is beautiful is a highly subjective experience, something that we see and feel at a deep level inside ourselves. Nevertheless, when we show a rose to other people, we expect them too to agree that it is beautiful. They usually have no difficulty in doing so.

From this it would seem that, though the appreciation of beauty is a highly subjective experience, yet we observe:

1. there are some objective criteria for deciding what is beautiful and what is not;
2. there is in each person an inbuilt aesthetic sense, a capacity for perceiving beauty; and
3. where some people cannot, or will not, see beauty, in, say,

> a rose, or will even prefer ugliness, it must be that their internal capacity for seeing beauty is defective or damaged in some way, as, for instance, by colour blindness or defective shape recognition, or through some psychological disorder (like, for instance, people who revel in cruelty, rather than in kindness).

Now by this time we may think that we have exhausted the truth about roses; but of course we haven't. We have thought about the scientific explanation of roses. We have then considered the value we place on them, their beauty and what they mean to us. But precisely because they have meaning and value, they raise another group of questions about the moral, ethical and eventually spiritual significance of what we do with them. Consider, for instance, the following situations:

First, a woman has used what little spare money she had to buy some roses. She likes roses intensely and wants to keep them as long as she can. But a poor neighbour of hers is sick, and she gets a strong feeling that she ought to give at least some of these roses to her sick neighbour. So now she has two conflicting instincts within her:

1. an instinct of self-interest: a strong desire to keep the roses for herself, and
2. an instinctive sense of duty: she ought to love her neighbour as herself, and therefore give her roses to her neighbour.

Questions arise. Where do these instincts come from? And how shall she decide between them? Some might argue that her selfish desire to keep the roses is simply the expression of the blind, but powerful, basic driving force of evolution: self-propagation. But the altruistic sense of duty to help her neighbour at the expense of loss to herself—where does that come from? Why ought she to obey it? She has a further problem: she must decide one way or the other. She cannot wait for scientists or philosophers, or indeed anyone else, to help her. She has to commit herself to some course of action. How and on what grounds should she decide between the two competing urges?

Second, a man likes roses, but he has no money to buy them. He sees that he could steal roses from someone else's garden in such

a way that he could be certain that he would never be found out. Would it be wrong to steal them? If neither the owner of the roses, nor the police, nor the courts would ever find out that he stole them, why shouldn't he steal them? Who has the right to say that it is wrong to steal?

Third, a man repeatedly gives bunches of roses to a woman whose husband is abroad on business. The suspicion is that he is giving her roses in order to tempt her to be disloyal to her husband. That would be adultery. Is adultery wrong? Always wrong? Who has the right to say so?

Now to answer questions like these in the first, second, and third situations thoroughly and adequately we must ask and answer the most fundamental questions that we can ask about roses (and indeed about anything else).

Where do roses come from? We human beings did not create them (and are still far from being able to create anything like them). Is there a God who designed and created them? Is he their ultimate owner, who has the right to lay down the rules as to how we should use them?

Or did roses simply evolve out of eternally existing inorganic matter, without any plan or purpose behind them, and without any ultimate owner to lay down the rules as to how they ought to be used? And if so, is the individual himself free to do what he likes, so long as no one finds out?

So far, then, we have been answering the simple question 'What is the truth about a rose?' and we have found that to answer it adequately we have had to draw on, not one source of knowledge, like science or literature, but on many. Even the consideration of roses has led to deep and fundamental questions about the world beyond the roses.

It is our answers to these questions which combine to shape the framework into which we fit all of our knowledge of other things. That framework, which consists of those ideas, conscious or unconscious, which all of us have about the basic nature of the world and of ourselves and of society, is called our worldview. It includes our views, however ill or well thought out, right or wrong, about the hard yet fascinating questions of existence and life: What am I to make of the universe? Where did it come from? Who am I? Where did I come

from? How do I know things? Do I have any significance? Do I have any duty? Our worldview is the big picture into which we fit everything else. It is the lens through which we look to try to make sense of the world.

Our worldview is the big picture into which we fit everything else. It is the lens through which we look to try to make sense of the world.

ASKING THE FUNDAMENTAL QUESTIONS

'He who will succeed', said Aristotle, 'must ask the right questions'; and so, when it comes to forming a worldview, must we.

It is at least comforting to know that we are not the first people to have asked such questions. Many others have done so in the past (and continue to do so in the present). That means they have done some of the work for us! In order to profit from their thinking and experience, it will be helpful for us to collect some of those fundamental questions which have been and are on practically everybody's list. We shall then ask why these particular questions have been thought to be important. After that we shall briefly survey some of the varied answers that have been given, before we tackle the task of forming our own answers. So let's get down to compiling a list of 'worldview questions'. First of all there are questions about the universe in general and about our home planet Earth in particular.

The Greeks were the first people in Europe to ask scientific questions about what the earth and the universe are made of, and how they work. It would appear that they asked their questions for no other reason than sheer intellectual curiosity. Their research was, as we would nowadays describe it, disinterested. They were not at first concerned with any technology that might result from it. Theirs was pure, not applied, science. We pause to point out that it is still a very healthy thing for any educational system to maintain a place for pure science in its curriculum and to foster an attitude of intellectual curiosity for its own sake.

But we cannot afford to limit ourselves to pure science (and even less to technology, marvellous though it is). Centuries ago Socrates perceived that. He was initially curious about the universe, but gradually came to feel that studying how human beings ought to behave

FIGURE I.2. *The School of Athens* by Raphael.

Italian Renaissance artist Raphael likely painted the fresco *Scuola di Atene* (The School of Athens), representing Philosophy, between 1509 and 1511 for the Vatican. Many interpreters believe the hand gestures of the central figures, Plato and Aristotle, and the books each is holding respectively, *Timaeus* and *Nichomachean Ethics*, indicate two approaches to metaphysics. A number of other great ancient Greek philosophers are featured by Raphael in this painting, including Socrates (eighth figure to the left of Plato).

Reproduced from Wikimedia Commons.

was far more important than finding out what the moon was made of. He therefore abandoned physics and immersed himself in moral philosophy.

On the other hand, the leaders of the major philosophical schools in ancient Greece came to see that you could not form an adequate doctrine of human moral behaviour without understanding how human beings are related both to their cosmic environment and to the powers and principles that control the universe. In this they were surely right, which brings us to what was and still is the first fundamental question.[3]

First fundamental worldview question

What lies behind the observable universe? Physics has taught us that things are not quite what they seem to be. A wooden table, which looks solid, turns out to be composed of atoms bound together by powerful forces which operate in the otherwise empty space between them. Each atom turns out also to be mostly empty space and can be modelled from one point of view as a nucleus surrounded by orbiting electrons. The nucleus only occupies about one billionth of the space of the atom. Split the nucleus and we find protons and neutrons. They turn out to be composed of even stranger quarks and gluons. Are these the basic building blocks of matter, or are there other even more mysterious elementary building blocks to be found? That is one of the exciting quests of modern physics. And even as the search goes on, another question keeps nagging: what lies behind basic matter anyway?

The answers that are given to this question fall roughly into two groups: those that suggest that there is nothing 'behind' the basic matter of the universe, and those that maintain that there certainly is something.

Group A. There is nothing but matter. It is the prime reality, being self-existent and eternal. It is not dependent on anything or on anyone. It is blind and purposeless; nevertheless it has within it the power to develop and organise itself—

[3] See Book 4: *Doing What's Right*.

still blindly and purposelessly—into all the variety of matter and life that we see in the universe today. This is the philosophy of materialism.

Group B. Behind matter, which had a beginning, stands some uncreated self-existent, creative Intelligence; or, as Jews and Muslims would say, God; and Christians, the God and Father of the Lord Jesus Christ. This God upholds the universe, interacts with it, but is not part of it. He is spirit, not matter. The universe exists as an expression of his mind and for the purpose of fulfilling his will. This is the philosophy of theism.

Second fundamental worldview question

This leads us to our second fundamental worldview question, which is in three parts: *how did our world come into existence, how has it developed, and how has it come to be populated with such an amazing variety of life?*

Again, answers to these questions tend to fall into two groups:

Group A. Inanimate matter itself, without any antecedent design or purpose, formed into that conglomerate which became the earth and then in some way (not yet observed or understood) as a result of its own inherent properties and powers by spontaneous generation spawned life. The initial lowly life forms then gradually evolved into the present vast variety of life through the natural processes of mutation and natural selection, mechanisms likewise without any design or purpose. There is, therefore, no ultimate rational purpose behind either the existence of the universe, or of earth and its inhabitants.

Group B. The universe, the solar system and planet Earth have been designed and precision engineered to make it possible for life to exist on earth. The astonishing complexity of living systems, and the awesome sophistication of their mechanisms, point in the same direction.

It is not difficult to see what different implications the two radically different views have for human significance and behaviour.

Third fundamental worldview question

The third fundamental worldview question comes, again, as a set of related questions with the answers commonly given to central ideas falling into two groups: *What are human beings? Where do their rationality and moral sense come from? What are their hopes for the future, and what, if anything, happens to them after death?*

Group A. *Human nature*. Human beings are nothing but matter. They have no spirit and their powers of rational thought have arisen out of mindless matter by non-rational processes.

Morality. Man's sense of morality and duty arise solely out of social interactions between him and his fellow humans.

Human rights. Human beings have no inherent, natural rights, but only those that are granted by society or the government of the day.

Purpose in life. Man makes his own purpose.

The future. The utopia dreamed of and longed for will be brought about, either by the irresistible outworking of the forces inherent in matter and/or history; or, alternatively, as human beings learn to direct and control the biological processes of evolution itself.

Death and beyond. Death for each individual means total extinction. Nothing survives.

Group B. *Human nature*. Human beings are created by God, indeed in the image of God (according, at least, to Judaism, Christianity and Islam). Human beings' powers of rationality are derived from the divine 'Logos' through whom they were created.

Morality. Their moral sense arises from certain 'laws of God' implanted in them by their Creator.

Human rights. They have certain inalienable rights which all other human beings and governments must respect, simply because they are creatures of God, created in God's image.

Purpose in life. Their main purpose in life is to enjoy fellowship with God and to serve God, and likewise to serve their fellow creatures for their Creator's sake.

The future. The utopia they long for is not a dream, but a sure hope based on the Creator's plan for the redemption of humankind and of the world.

Death and beyond. Death does not mean extinction. Human beings, after death, will be held accountable to God. Their ultimate state will eventually be, either to be with God in total fellowship in heaven; or to be excluded from his presence.

These, very broadly speaking, are the questions that people have asked through the whole of recorded history, and a brief survey of some of the answers that have been, and still are, given to them.

The fundamental difference between the two groups of answers

Now it is obvious that the two groups of answers given above are diametrically opposed; but we ought to pause here to make sure that we have understood what exactly the nature and cause of the opposition is. If we were not thinking carefully, we might jump to the conclusion that the answers in the A-groups are those given by science, while the answers in the B-groups are those given by religion. But that would be a fundamental misunderstanding of the situation. It is true that the majority of scientists today would agree with the answers given in the A-groups; but there is a growing number of scientists who would agree with the answers given in the B-groups. It is not therefore a conflict between science and religion. It is a difference in the basic philosophies which determine the interpretation of the evidence which science provides. Atheists will interpret that evidence in one way; theists (or pantheists) will interpret it in another.

This is understandable. No scientist comes to the task of doing

research with a mind completely free of presuppositions. The atheist does research on the presupposition that there is no God. That is his basic philosophy, his worldview. He claims that he can explain everything without God. He will sometimes say that he cannot imagine what kind of scientific evidence there could possibly be for the existence of God; and not surprisingly he tends not to find any.

The theist, on the other hand, starts by believing in God and finds in his scientific discoveries abundant—overwhelming, he would say—evidence of God's hand in the sophisticated design and mechanisms of the universe.

We pick up ideas, beliefs and attitudes from our family and society, often without realising that we have done so, and without recognising how these largely unconscious influences and presuppositions control our reactions to the questions with which life faces us.

It all comes down, then, to the importance of recognising what worldview we start with. Some of us, who have never yet thought deeply about these things, may feel that we have no worldview, and that we come to life's questions in general, and science in particular, with a completely open mind. But that is unlikely to be so. We pick up ideas, beliefs and attitudes from our family and society, often without realising that we have done so, and without recognising how these largely unconscious influences and presuppositions control our reactions to the questions with which life faces us. Hence the importance of consciously thinking through our worldview and of adjusting it where necessary to take account of the evidence available.

In that process, then, we certainly must listen to science and allow it to critique where necessary and to amend our presuppositions. But to form an adequate worldview we shall need to listen to many other voices as well.

VOICES TO BE LISTENED TO

So far, then, we have been surveying some worldview questions and various answers that have been, and still are, given to them. Now we must face these questions ourselves, and begin to come to our own decisions about them.

Our worldview must be our own, in the sense that we have personally thought it through and adopted it of our own free will. No one has the right to impose his or her worldview on us by force. The days are rightly gone when the church could force Galileo to deny what science had plainly taught him. Gone, too, for the most part, are the days when the State could force an atheistic worldview on people on pain of prison and even death. Human rights demand that people should be free to hold and to propagate by reasoned argument whatever worldview they believe in—so long, of course, that their view does not injure other people. We, the authors of this book, hold a theistic worldview. But we shall not attempt to force our view down anybody's throat. We come from a tradition whose basic principle is 'Let everyone be persuaded in his own mind.'

So we must all make up our own minds and form our own worldview. In the process of doing so there are a number of voices that we must listen to.

The voice of intuition

The first voice we must listen to is intuition. There are things in life that we see and know, not as the result of lengthy philosophical reasoning, nor as a result of rigorous scientific experimentation, but by direct, instinctive intuition. We 'see' that a rose is beautiful. We instinctively 'know' that child abuse is wrong. A scientist can sometimes 'see' what the solution to a problem is going to be even before he has worked out the scientific technique that will eventually provide formal proof of it.

A few scientists and philosophers still try to persuade us that the laws of cause and effect operating in the human brain are completely deterministic so that our decisions are predetermined: real choice is not possible. But, say what they will, we ourselves intuitively know that we do have the ability to make a free choice, whether, say, to read a book, or to go for a walk, whether to tell the truth or to tell a lie. We know we are free to take either course of action, and everyone else knows it too, and acts accordingly. This freedom is such a part of our innate concept of human dignity and value that we (for the most part) insist on being treated as responsible human beings and on treating others as such. For that reason, if we commit a crime, the magistrate

will first enquire (*a*) if, when we committed the crime, we knew we were doing wrong; and (*b*) whether or not we were acting under duress. The answer to these questions will determine the verdict.

We must, therefore, give due attention to intuition, and not allow ourselves to be persuaded by pseudo-intellectual arguments to deny (or affirm) what we intuitively know to be true (or false).

On the other hand, intuition has its limits. It can be mistaken. When ancient scientists first suggested that the world was a sphere, even some otherwise great thinkers rejected the idea. They intuitively felt that it was absurd to think that there were human beings on the opposite side of the earth to us, walking 'upside-down', their feet pointed towards our feet (hence the term 'antipodean') and their heads hanging perilously down into empty space! But intuition had misled them. The scientists who believed in a spherical earth were right, intuition was wrong.

The lesson is that we need both intuition and science, acting as checks and balances, the one on the other.

The voice of science

Science speaks to our modern world with a very powerful and authoritative voice. It can proudly point to a string of scintillating theoretical breakthroughs which have spawned an almost endless array of technological spin-offs: from the invention of the light bulb to virtual-reality environments; from the wheel to the moon-landing vehicle; from the discovery of aspirin and antibiotics to the cracking of the genetic code; from the vacuum cleaner to the smartphone; from the abacus to the parallel computer; from the bicycle to the self-driving car. The benefits that come from these achievements of science are self-evident, and they both excite our admiration and give to science an immense credibility.

Yet for many people the voice of science has a certain ambivalence about it. For the achievements of science are not invariably used for the good of humanity. Indeed, in the past century science has produced the most hideously efficient weapons of destruction that the world has ever seen. The laser that is used to restore vision to the eye can be used to guide missiles with deadly efficiency. This development has led in recent times to a strong anti-scientific reaction.

This is understandable; but we need to guard against the obvious fallacy of blaming science for the misuse made of its discoveries. The blame for the devastation caused by the atomic bomb, for instance, does not chiefly lie with the scientists who discovered the possibility of atomic fission and fusion, but with the politicians who for reasons of global conquest insisted on the discoveries being used for the making of weapons of mass destruction.

Science, in itself, is morally neutral. Indeed, as scientists who are Christians would say, it is a form of the worship of God through the reverent study of his handiwork and is by all means to be encouraged. It is for that reason that James Clerk Maxwell, the nineteenth-century Scottish physicist who discovered the famous equations governing electromagnetic waves which are now called after him, put the following quotation from the Hebrew Psalms above the door of the Cavendish Laboratory in Cambridge where it still stands: 'The works of the LORD are great, sought out of all them that have pleasure therein' (Ps 111:2).

We must distinguish, of course, between science as a method of investigation and individual scientists who actually do the investigation. We must also distinguish between the facts which they establish beyond (reasonable) doubt and the tentative hypotheses and theories which they construct on the basis of their initial observations and experiments, and which they use to guide their subsequent research.

Scientists sometimes mistake their tentative theories for proven fact, and in their teaching of students and in their public lectures promulgate as established fact what has never actually been proved.

These distinctions are important because scientists sometimes mistake their tentative theories for proven fact, and in their teaching of students and in their public lectures promulgate as established fact what has never actually been proved. It can also happen that scientists advance a tentative theory which catches the attention of the media who then put it across to the public with so much hype that the impression is given that the theory has been established beyond question.

Then again, we need to remember the proper limits of science. As we discovered when talking about the beauty of roses, there are things which science, strictly so called, cannot and should not be expected to explain.

Sometimes some scientists forget this, and damage the reputation of science by making wildly exaggerated claims for it. The famous mathematician and philosopher Bertrand Russell, for instance, once wrote: 'Whatever knowledge is attainable, must be attained by scientific methods; and what science cannot discover, mankind cannot know.'[4] Nobel laureate Sir Peter Medawar had a saner and more realistic view of science. He wrote:

> There is no quicker way for a scientist to bring discredit upon himself and on his profession than roundly to declare—particularly when no declaration of any kind is called for—that science knows or soon will know the answers to all questions worth asking, and that the questions that do not admit a scientific answer are in some way nonquestions or 'pseudoquestions' that only simpletons ask and only the gullible profess to be able to answer.[5]

Medawar says elsewhere: 'The existence of a limit to science is, however, made clear by its inability to answer childlike elementary questions having to do with first and last things—questions such as "How did everything begin?"; "What are we all here for?"; "What is the point of living?"' He adds that it is to imaginative literature and religion that we must turn for answers to such questions.[6]

However, when we have said all that should be said about the limits of science, the voice of science is still one of the most important voices to which we must listen in forming our worldview. We cannot, of course, all be experts in science. But when the experts report their findings to students in other disciplines or to the general public, as they increasingly do, we all must listen to them; listen as critically as we listen to experts in other fields. But we must listen.[7]

The voice of philosophy

The next voice we must listen to is the voice of philosophy. To some people the very thought of philosophy is daunting; but actually any-

[4] Russell, *Religion and Science*, 243.

[5] Medawar, *Advice to a Young Scientist*, 31.

[6] Medawar, *Limits of Science*, 59–60.

[7] Those who wish to study the topic further are directed to the Appendix in this book: 'The Scientific Endeavour', and to the books by John Lennox noted there.

one who seriously attempts to investigate the truth of any statement is already thinking philosophically. Eminent philosopher Anthony Kenny writes:

> Philosophy is exciting because it is the broadest of all disciplines, exploring the basic concepts which run through all our talking and thinking on any topic whatever. Moreover, it can be undertaken without any special preliminary training or instruction; anyone can do philosophy who is willing to think hard and follow a line of reasoning.[8]

Whether we realise it or not, the way we think and reason owes a great deal to philosophy—we have already listened to its voice!

Philosophy has a number of very positive benefits to confer on us. First and foremost is the shining example of men and women who have refused to go through life unthinkingly adopting whatever happened to be the majority view at the time. Socrates said that the unexamined life is not worth living. These men and women were determined to use all their intellectual powers to try to understand what the universe was made of, how it worked, what man's place in it was, what the essence of human nature was, why we human beings so frequently do wrong and so damage ourselves and society; what could help us to avoid doing wrong; and what our chief goal in life should be, our *summum bonum* (Latin for 'chief good'). Their zeal to discover the truth and then to live by it should encourage—perhaps even shame—us to follow their example.

Secondly, it was in their search for the truth that philosophers from Socrates, Plato, and Aristotle onwards discovered the need for, and the rules of, rigorous logical thinking. The benefit of this to humanity is incalculable, in that it enables us to learn to think straight, to expose the presuppositions that lie sometimes unnoticed behind even our scientific experiments and theories, to unpick the assumptions that lurk in the formulation and expressions of our opinions, to point to fallacies in our argumentation, to detect instances of circular reasoning, and so on.

However, philosophy, just like science, has its proper limits. It cannot tell us what axioms or fundamental assumptions we should

[8] Kenny, *Brief History of Western Philosophy*, xi.

adopt; but it can and will help us to see if the belief system which we build on those axioms is logically consistent.

There is yet a third benefit to be gained from philosophy. The history of philosophy shows that, of all the many different philosophical systems, or worldviews, that have been built up by rigorous philosophers on the basis of human reasoning alone, none has proved convincing to all other philosophers, let alone to the general public. None has achieved permanence, a fact which can seem very frustrating. But perhaps the frustration is not altogether bad in that it might lead us to ask whether there could just be another source of information without which human reason alone is by definition inadequate. And if our very frustration with philosophy for having seemed at first to promise so much satisfaction, and then in the end to have delivered so little, disposes us to look around for that other source of information, even our frustration could turn out to be a supreme benefit.

The voice of history

Yet another voice to which we must listen is the voice of history. We are fortunate indeed to be living so far on in the course of human history as we do. Already in the first century AD a simple form of jet propulsion was described by Hero of Alexandria. But technology at that time knew no means of harnessing that discovery to any worthwhile practical purpose. Eighteen hundred years were to pass before scientists discovered a way of making jet engines powerful enough to be fitted to aircraft.

When in the 1950s and 1960s scientists, working on the basis of a discovery of Albert Einstein's, argued that it would be possible to make laser beams, and then actually made them, many people mockingly said that lasers were a solution to a non-existent problem, because no one could think of a practical use to which they could be put. History has proved the critics wrong and justified the pure scientists (if pure science needs any justification!).

In other cases history has taught the opposite lesson. At one point the phlogiston theory of combustion came to be almost universally accepted. History eventually proved it wrong.

Fanatical religious sects (in spite, be it said, of the explicit prohibition of the Bible) have from time to time predicted that the end of

the world would take place at such-and-such a time in such-and-such a place. History has invariably proved them wrong.

In the last century, the philosophical system known as logical positivism arose like a meteor and seemed set to dominate the philosophical landscape, superseding all other systems. But history discovered its fatal flaw, namely that it was based on a verification principle which allowed only two kinds of meaningful statement: *analytic* (a statement which is true by definition, that is a tautology like 'a vixen is a female fox'), or *synthetic* (a statement which is capable of verification by experiment, like 'water is composed of hydrogen and oxygen'). Thus all metaphysical statements were dismissed as meaningless! But, as philosopher Karl Popper famously pointed out, the Verification Principle itself is neither analytic nor synthetic and so is meaningless! Logical positivism is therefore self-refuting. Professor Nicholas Fotion, in his article on the topic in *The Oxford Companion to Philosophy*, says: 'By the late 1960s it became obvious that the movement had pretty much run its course.'[9]

Earlier still, Marx, basing himself on Hegel, applied his dialectical materialism first to matter and then to history. He claimed to have discovered a law in the workings of social and political history that would irresistibly lead to the establishment of a utopia on earth; and millions gave their lives to help forward this process. The verdict has been that history seems not to know any such irresistible law.

History has also delivered a devastating verdict on the Nazi theory of the supremacy of the Aryan races, which, it was promised, would lead to a new world order.

History, then, is a very valuable, if sometimes very disconcerting, adjudicator of our ideas and systems of thought. We should certainly pay serious heed to its lessons and be grateful for them.

But there is another reason why we should listen to history. It introduces us to the men and women who have proved to be world leaders of thought and whose influence is still a live force among us today. Among them, of course, is Jesus Christ. He was rejected, as we know, by his contemporaries and executed. But, then, so was Socrates. Socrates' influence has lived on; but Christ's influence has been and still is infinitely greater than that of Socrates, or of any other world leader.

[9] Fotion, 'Logical Positivism'.

It would be very strange if we listened, as we do, to Socrates, Plato, Aristotle, Hume, Kant, Marx and Einstein, and neglected or refused to listen to Christ. The numerous (and some very early) manuscripts of the New Testament make available to us an authentic record of his teaching. Only extreme prejudice would dismiss him without first listening to what he says.

History introduces us to the men and women who have proved to be world leaders of thought and whose influence is still a live force among us today. . . . It would be very strange if we listened, as we do, to Socrates, Plato, Aristotle, Hume, Kant, Marx and Einstein, and neglected or refused to listen to Christ.

The voice of divine self-revelation

The final voice that claims the right to be heard is a voice which runs persistently through history and refuses to be silenced in claiming that there is another source of information beyond that which intuition, scientific research and philosophical reasoning can provide. That voice is the voice of divine self-revelation. The claim is that the Creator, whose existence and power can be intuitively perceived through his created works, has not otherwise remained silent and aloof. In the course of the centuries he has spoken into our world through his prophets and supremely through Jesus Christ.

Of course, atheists will say that for them this claim seems to be the stuff of fairy tales; and atheistic scientists will object that there is no scientific evidence for the existence of a creator (indeed, they may well claim that assuming the existence of a creator destroys the foundation of true scientific methodology—for more of that see this book's Appendix); and that, therefore, the idea that we could have direct information from the creator himself is conceptually absurd. This reaction is, of course, perfectly consistent with the basic assumption of atheism.

However, apparent conceptual absurdity is not proof positive that something is not possible, or even true. Remember what we noticed earlier, that many leading thinkers, when they first encountered the suggestion that the earth was not flat but spherical, rejected it out of hand because of the conceptual absurdities to which they imagined it led.

In the second century AD a certain Lucian of Samosata decided to debunk what he thought to be fanciful speculations of the early scientists and the grotesque traveller's tales of so-called explorers. He wrote a book which, with his tongue in his cheek, he called *Vera historia* (A True Story). In it he told how he had travelled through space to the moon. He discovered that the moon-dwellers had a special kind of mirror by means of which they could see what people were doing on earth. They also possessed something like a well shaft by means of which they could even hear what people on earth were saying. His prose was sober enough, as if he were writing factual history. But he expected his readers to see that the very conceptual absurdity of what he claimed to have seen meant that these things were impossible and would forever remain so.

Unknown to him, however, the forces and materials already existed in nature, which, when mankind learned to harness them, would send some astronauts into orbit round the moon, land others on the moon, and make possible radio and television communication between the moon and the earth!

We should remember, too, that atomic radiation and radio frequency emissions from distant galaxies were not invented by scientists in recent decades. They were there all the time, though invisible and undetected and not believed in nor even thought of for centuries; but they were not discovered until comparatively recent times, when brilliant scientists conceived the possibility that, against all popular expectation, such phenomena might exist. They looked for them, and found them.

Is it then, after all, so conceptually absurd to think that our human intellect and rationality come not from mindless matter through the agency of impersonal unthinking forces, but from a higher personal intellect and reason?

An old, but still valid, analogy will help us at this point. If we ask about a particular motor car: 'Where did this motor car begin?' one answer would be, 'It began on the production lines of such-and-such a factory and was put together by humans and robots.'

Another, deeper-level, answer would be: 'It had its beginning in the mineral from which its constituent parts were made.'

But in the prime sense of beginning, the motor car, of which this particular motor car is a specimen, had its beginning, not in the

factory, nor in its basic materials, but in something altogether different: in the intelligent mind of a person, that is, of its inventor. We know this, of course, by history and by experience; but we also know it intuitively: it is self-evidently true.

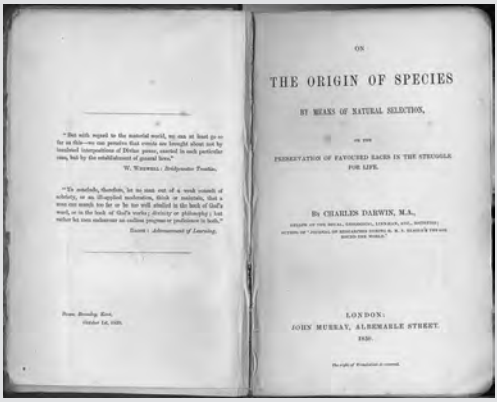
Millions of people likewise have felt, and still do feel, that what Christ and his prophets say about the 'beginning' of our human rationality is similarly self-evidently true: 'In the beginning was the Logos, and the Logos was with God, and the Logos was God. . . . All things were made by him . . .' (John 1:1–2, our trans.). That is, at any rate, a far more likely story than that our human intelligence and rationality sprang originally out of mindless matter, by accidental permutations, selected by unthinking nature.

Now the term 'Logos' means both rationality and the expression of that rationality through intelligible communication. If that rational intelligence is God and personal, and we humans are endowed by him with personhood and intelligence, then it is far from being absurd to think that the divine Logos, whose very nature and function it is to be the expression and communicator of that intelligence, should communicate with us. On the contrary, to deny a priori the possibility of divine revelation and to shut one's ears in advance to what Jesus Christ has to say, before listening to his teaching to see if it is, or is not, self-evidently true, is not the true scientific attitude, which is to keep an open mind and explore any reasonable avenue to truth.[10]

Moreover, the fear that to assume the existence of a creator God would undermine true scientific methodology is contradicted by the sheer facts of history. Sir Francis Bacon (1561–1626), widely regarded as the father of the modern scientific method, believed that God had revealed himself in two great Books, the Book of Nature and the Book of God's Word, the Bible. In his famous *Advancement of Learning* (1605), Bacon wrote: 'Let no man . . . think or maintain, that a man can search too far, or be too well studied in the book of God's word, or in the book of God's works; divinity or philosophy; but rather let men endeavour an endless progress or proficience in both.'[11] It is this quotation which Charles Darwin chose to put at the front of *On the Origin of Species* (1859).

[10] For the fuller treatment of these questions and related topics, see Book 5 in this series, *Claiming to Answer.*

[11] Bacon, *Advancement of Learning*, 8.



ON

THE ORIGIN OF SPECIES

BY MEANS OF NATURAL SELECTION,

OR THE

PRESERVATION OF FAVOURED RACES IN THE STRUGGLE FOR LIFE.

By CHARLES DARWIN, M.A.,

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1859.

Figure I.3.
***On the Origin of Species* (1859) by Charles Darwin.**

One of the book epigraphs Charles Darwin selected for his magnum opus is from Francis Bacon's *Advancement of Learning* (1605).

Reproduced from Dennis O'Neil.

Historians of science point out that it was this theistic 'Two-Book' view which was largely responsible for the meteoric rise of science beginning in the sixteenth century. C. S. Lewis refers to a statement by one of the most eminent historians of all time, Sir Alfred North Whitehead, and says: 'Professor Whitehead points out that centuries of belief in a God who combined "the personal energy of Jehovah" with "the rationality of a Greek philosopher" first produced that firm expectation of systematic order which rendered possible the birth of modern science. Men became scientific because they expected Law in Nature and they expected Law in Nature because they believed in a Legislator.'[12] In other words, theism was the cradle of science. Indeed, far from thinking that the idea of a creator was conceptually absurd, most of the great leaders of science in that period did believe in a creator.

Johannes Kepler	1571–1630	Celestial mechanics
Blaise Pascal	1623–62	Hydrostatics
Robert Boyle	1627–91	Chemistry, Gas dynamics
Isaac Newton	1642–1727	Mathematics, Optics, Dynamics
Michael Faraday	1791–1867	Magnetism
Charles Babbage	1791–1871	Computer science
Gregor Mendel	1822–84	Genetics
Louis Pasteur	1822–95	Bacteriology
Lord Kelvin	1824–1907	Thermodynamics
James Clerk Maxwell	1831–79	Electrodynamics, Thermodynamics

[12] Lewis, *Miracles*, 110.

All of these famous men would have agreed with Einstein: 'Science without religion is lame, religion without science is blind.'[13] History shows us very clearly, then, that far from belief in God being a hindrance to science, it has provided one of the main impulses for its development.

Still today there are many first-rate scientists who are believers in God. For example, Professor William D. Phillips, Nobel laureate for Physics 1997, is an active Christian, as is the world-famous botanist and former Director of the Royal Botanic Gardens, Kew in London, Sir Ghillean Prance, and so is the geneticist Francis S. Collins, who was the Director of the National Institutes of Health in the United States who gained recognition for his leadership of the international Human Genome Project which culminated in 2003 with the completion of a finished sequence of human DNA.[14]

But with many people another objection arises: if one is not sure that God even exists, would it not be unscientific to go looking for evidence for God's existence? Surely not. Take the late Professor Carl Sagan and the Search for Extra Terrestrial Intelligence (the SETI project), which he promoted. Sagan was a famous astronomer, but when he began this search he had no hard-and-fast proven facts to go on. He proceeded simply on the basis of a hypothesis. If intelligent life has evolved on earth, then it would be possible, perhaps even likely, that it would have developed on other suitable planets elsewhere in the universe. He had no guarantee that it was so, or that he would find it, even if it existed. But even so both he and NASA (the National Aeronautics and Space Administration) thought it worth spending great effort, time and considerable sums of money to employ radio telescopes to listen to remote galaxies for evidence of intelligent life elsewhere in the universe.

Why, then, should it be thought any less scientific to look for an intelligent creator, especially when there is evidence that the universe bears the imprint of his mind? The only valid excuse for not seeking for God would be the possession of convincing evidence that God does not, and could not, exist. No one has such proof.

But for many people divine revelation seems, nonetheless, an utter

[13] Einstein, 'Science and Religion'.

[14] The list could go on, as any Internet search for 'Christians in science' will show.

impossibility, for they have the impression that science has outgrown the cradle in which it was born and somehow proved that there is no God after all. For that reason, we examine in greater detail in the Appendix to this book what science is, what it means to be truly scientific in outlook, what science has and has not proved, and some of the fallacious ways in which science is commonly misunderstood. Here we must consider even larger questions about reality.

The only valid excuse for not seeking for God would be the possession of convincing evidence that God does not, and could not, exist. No one has such proof.

THE MEANING OF REALITY

One of the central questions we are setting out to examine is: can we know the ultimate truth about reality? Before we consider different aspects of reality, we need to determine what we mean by 'reality'. For that purpose let's start with the way we use the term in ordinary, everyday language. After that we can move on to consider its use at higher levels.

In everyday language the noun 'reality', the adjective 'real', and the adverb 'really' have several different connotations according to the contexts in which they are used. Let's think about some examples.

First, in some situations the opposite of 'real' is 'imaginary' or 'illusory'. So, for instance, a thirsty traveller in the Sahara may see in the distance what looks to him like an oasis with water and palm trees, when in fact there is no oasis there at all. What he thinks he sees is a mirage, an optical illusion. The oasis is not real, we say; it does not actually exist.[15] Similarly a patient, having been injected with powerful drugs in the course of a serious operation, may upon waking up from the anaesthetic suffer hallucinations, and imagine she sees all kinds of weird creatures stalking round her room. But if we say, as we do, that these things which she imagines she sees, are not real, we

[15] Mirages occur 'when sharp differences in temperature and therefore in density develop between thin layers of air at and immediately above the ground. This causes light to be bent, or refracted, as it travels through one layer to the next. . . . During the day, when a warm layer occurs next to the ground, objects near the horizon often appear to be reflected in flat surfaces, such as beaches, deserts, roads and water. This produces the shimmering, floating images which are commonly observed on very hot days.' *Oxford Reference Encyclopaedia*, 913.

mean that they do not in actual fact exist. We could argue, of course, that something is going on in the patient's brain, and she is experiencing impressions similar to those she would have received if the weird creatures had been real. Her impressions, then, are real in the sense that they exist in her brain; but they do not correspond with the external reality that the patient supposes is creating these sense impressions. The mechanisms of her brain are presenting her with a false picture: the weird creatures do not exist. She is not seeing *them*. They are not real. On the basis of examples like this (the traveller and the patient) some philosophers have argued that none of us can ever be sure that the sense impressions which we think we receive from the external world are true representations of the external world, and not illusions. We consider their arguments in detail in Book 3 in this series, *Questioning Our Knowledge*, dealing with epistemology and related matters.

To sum up so far, then: neither the traveller nor the patient was perceiving external reality as it really was. But the reasons for their failure were different: with the traveller it was an external illusion (possibly reinforced by his thirst) that made him misread reality and imagine there was a real oasis there, when there wasn't. With the patient there was nothing unusual in the appearance of her room to cause her disordered perception. The difficulty was altogether internal to her. The drugs had distorted the perception mechanisms of her brain.

From these two examples we can learn some practical lessons:

1. It is important for us all to question from time to time whether what we unthinkingly take to be reality is in fact reality.
2. In cases like these it is external reality that has to be the standard by which we judge whether our sense perceptions are true or not.
3. Setting people free from their internal subjective misperceptions will depend on getting them, by some means or other, to face and perceive the external, objective reality.

Second, in other situations the opposite of 'real', in everyday language, is 'counterfeit', 'spurious', 'fraudulent'. So if we describe a piece of metal as being 'real gold', we mean that it is genuine gold, and not something such as brass that looks like gold, but isn't. The

practical importance of being able to discern the difference between what is real in this sense and what is spurious or counterfeit, can easily be illustrated.

Take coinage, for instance. In past centuries, when coins were made (or supposed to be made) of real gold, or real silver, fraudsters would often adulterate the coinage by mixing inferior metal with gold or silver. Buyers or sellers, if they had no means of testing whether the coins they were offered were genuine, and of full value, or not, could easily be cheated.

Similarly, in our modern world counterfeiters print false bank notes and surreptitiously get them into circulation. Eventually, when the fraud is discovered, banks and traders refuse the spurious bank notes, with the result that innocent people are left with worthless pieces of paper.

Or, again, a dishonest jeweller might show a rich woman a necklace made, according to him, of valuable gems; and the rich, but unsuspecting, woman might pay a large price for it, only to discover later on that the gems were not real: they were imitations, made of a kind of glass called paste, or strass.

Conversely, an elderly woman might take her necklace, made of real gems, to a jeweller and offer to sell it to him in order to get some money to maintain herself in her old age. But the unscrupulous jeweller might make out that the gems were not as valuable as she thought: they were imitations, made of paste; and by this deceit he would persuade the reluctant woman to sell him the necklace for a much lesser price than it was worth.

Once more it will be instructive to study the underlying principles at work in these examples, because later on, when we come to study reality at a higher level, they could provide us with helpful analogies and thought models.[16]

Notice, then, that these last three examples involve significantly different principles from those that were operating in the two which we studied earlier. The oasis and the weird creatures were not real, because they did not actually exist in the external world. But the spurious coins, the fraudulent bank notes, and the genuine and the

[16] See especially in Book 2: *Finding Ultimate Reality*.

imitation gems, all existed in the external world. In that sense, therefore, they were all real, part of the external reality, actual pieces of matter.

What, then, was the trouble with them? It was that the fraudsters had claimed for the coins and the bank notes a value and a buying power that they did not actually possess; and in the case of the two necklaces the unscrupulous jewellers had on both occasions misrepresented the nature of the matter of which the gems were composed.

The question arises: how can people avoid being taken in by such spurious claims and misrepresentations of matter? It is not difficult to see how questions like this will become important when we come to consider the matter of the universe and its properties.

In modern, as in ancient, times, to test whether an object is made of pure gold or not, use is made of a black, fine-grained, siliceous stone, called a touchstone. When pure gold is rubbed on this touchstone, it leaves behind on the stone streaks of a certain character; whereas objects made of adulterated gold, or of some baser metal, will leave behind streaks of a different character.

FIGURE I.4. A Touchstone.

First mentioned by Theophrastus (*c.*372–*c.*287 BC) in his treatise *On Stone,* touchstones are tablets of finely grained black stones used to assay or estimate the proportion of gold or silver in a sample of metal. Traces of gold can be seen on the stone.

Reproduced from Mauro Cateb/Flickr

In the ancient world merchants would always carry a touchstone with them; but even so it would require considerable knowledge and expertise to interpret the test correctly. When it comes to bank notes and gems, the imitations may be so cleverly made that only an expert could tell the difference between the real thing and the false. In that case non-experts, like ourselves, would have to depend on the judgments of experts.

But what are we to do when the experts disagree? How do we de-

cide which experts to trust? Is there any kind of touchstone that ordinary people can use on the experts themselves, or at least on their interpretations?

There is one more situation worth investigating at this point before we begin our main study.

Third, when we are confronted with what purports to be an account of something that happened in the past and of the causes that led to its happening, we rightly ask questions: 'Did this event really take place? Did it take place in the way that this account says it did? Was the alleged cause the real cause?' The difficulty with things that happened in the past is that we cannot get them to repeat themselves in the present, and watch them happening all over again in our laboratories. We have therefore to search out and study what evidence is available and then decide which interpretation of the evidence best explains what actually happened.

This, of course, is no unusual situation to be in. Detectives, seeking to solve a murder mystery and to discover the real criminal, are constantly in this situation; and this is what historians and archaeologists and palaeontologists do all the time. But mistakes can be made in handling and interpreting the evidence. For instance, in 1980 a man and his wife were camping in the Australian outback, when a dingo (an Australian wild dog) suddenly attacked and killed their little child. When, however, the police investigated the matter, they did not believe the parents' story; they alleged that the woman herself had actually killed the child. The courts found her guilty and she was duly sentenced. But new evidence was discovered that corroborated the parents' story, and proved that it really was a dingo that killed the infant. The couple was not fully and finally exonerated until 2012.

Does this kind of case mean, then, that we cannot ever be certain that any historical event really happened? Or that we can never be sure as to its real causes? Of course not! It is beyond all doubt that, for instance, Napoleon invaded Russia, and that Genghis Khan besieged Beijing (then called Zhongdu). The question is, as we considered earlier: what kind of evidence must we have in order to be sure that a historical event really happened?

But enough of these preliminary exercises. It is time now to take our first step towards answering the question: can we know the ultimate truth about reality?

WHAT IS THE NATURE OF ULTIMATE REALITY?

We have thought about the meaning of reality in various practical situations in daily life. Now we must begin to consider reality at the higher levels of our own individual existence, and that of our fellow human beings, and eventually that of the whole universe.

Ourselves as individuals

Let's start with ourselves as individuals. We know we exist. We do not have to engage in lengthy philosophical discussion before we can be certain that we exist. We know it intuitively. Indeed, we cannot logically deny it. If I were to claim 'I do not exist', I would, by stating my claim, refute it. A non-existent person cannot make any claim. If I didn't exist, I couldn't even say 'I do not exist', since I have to exist in order to make the claim. I cannot, therefore, logically affirm my own non-existence.[17]

There are other things too which we know about ourselves by intuition.

First, we are self-conscious, that is, we are aware of ourselves as separate individuals. I know I am not my brother, or my sister, or my next-door neighbour. I was born of my parents; but I am not just an extension of my father and mother. I am a separate individual, a human being in my own right. My will is not a continuation of their will, such that, if they will something, I automatically will the same thing. My will is my own.

My will may be conditioned by many past experiences, most of which have now passed into my subconscious memory. My will may well be pressurised by many internal desires or fears, and by external circumstances. But whatever philosophers of the determinist school may say, we know in our heart of hearts that we have the power of choice. Our wills, in that sense, are free. If they weren't, no one could ever be held to be guilty for doing wrong, or praised for doing right.

Second, *we are also intuitively aware of ourselves as persons, intrinsically different from, and superior to, non-personal things.* It is

[17] We call this law of logic the law of non-affirmability.

not a question of size, but of mind and personality. A mountain may be large, but it is mindless and impersonal. It is composed of non-rational matter. We are aware of the mountain; it is not aware of us. It is not aware of itself. It neither loves nor hates, neither anticipates nor reflects, has no hopes nor fears. Non-rational though it is, if it became a volcano, it might well destroy us, though we are rational beings. Yet we should not conclude from the fact that simply because such impersonal, non-rational matter is larger and more powerful that it is therefore a higher form of existence than personal, rational human beings. But it poignantly raises the question: what, then, is the status of our human existence in this material world and universe?

Our status in the world

We know that we did not always exist. We can remember being little children. We have watched ourselves growing up to full manhood and womanhood. We have also observed that sooner or later people die, and the unthinking earth, unknowingly, becomes their grave. What then is the significance of the individual human person, and of his or her comparatively short life on earth?

Some think that it is Mankind, the human race as a whole, that is the significant phenomenon: the individual counts for very little. On this view, the human race is like a great fruit tree. Each year it produces a large crop of apples. All of them are more or less alike. None is of any particular significance as an individual. Everyone is

FIGURE I.5. An Apple.

Apple trees take four to five years to produce their first fruit, and it takes the energy from 50 leaves to produce one apple. Archaeologists have found evidence that humans have been enjoying apples since before recorded history.

destined for a very short life before, like the rest of the crop, it is consumed and forgotten; and so makes room for next year's crop. The tree itself lives on, producing crops year after year, in a seemingly endless cycle of birth, growth and disappearance. On this view then, the tree is the permanent, significant phenomenon; any one individual apple is of comparatively little value.

Our origin

But this view of the individual in relation to the race, does not get us to the root of our question; for the human race too did not always exist, but had a beginning, and so did the universe itself. This, therefore, only pushes the question one stage further back: to what ultimately do the human race as a whole, and the universe itself, owe their existence? What is the Great Reality behind the non-rational matter of the universe and behind us rational, personal, individual members of the human race?

Before we begin to survey the answers that have been given to this question over the centuries, we should notice that though science can point towards an answer, it cannot finally give us a complete answer. That is not because there is something wrong with science; the difficulty lies in the nature of things. The most widely accepted scientific theory nowadays (but not the only one) is that the universe came into being at the so-called Big Bang. But the theory tells us that here we encounter a singularity, that is, a point at which the laws of physics all break down. If that is true, it follows that science by itself cannot give a scientific account of what lay before, and led to, the Big Bang, and thus to the universe, and eventually to ourselves as individual human beings.

Our purpose

The fact that science cannot answer these questions does not mean, of course, that they are pseudo-questions and not worth asking. Adam Schaff, the Polish Marxist philosopher, long ago observed:

> What is the meaning of life? What is man's place in the universe? It seems difficult to express oneself scientifically on such

> hazy topics. And yet if one should assert ten times over that these are typical pseudo-problems, *problems would remain*.[18]

Yes, surely problems would remain; and they are life's most important questions. Suppose by the help of science we could come to know everything about every atom, every molecule, every cell, every electrical current, every mechanism in our body and brain. How much further forward should we be? We should now know what we are made of, and how we work. But we should still not know what we are made for.

Suppose for analogy's sake we woke up one morning to find a new, empty jeep parked outside our house, with our name written on it, by some anonymous donor, specifying that it was for our use. Scientists could describe every atom and molecule it was made of. Engineers could explain how it worked, and that it was designed for transporting people. It was obviously intended, therefore, to go places. But where? Neither science as such, nor engineering as such, could tell us where we were meant to drive the jeep to. Should we not then need to discover who the anonymous donor was, and whether the jeep was ours to do what we liked with, answerable to nobody, or whether the jeep had been given to us on permanent loan by its maker and owner with the expectation that we should consult the donor's intentions, follow the rules in the driver's handbook, and in the end be answerable to the donor for how we had used it?

That surely is the situation we find ourselves in as human beings. We are equipped with a magnificent piece of physical and biological engineering, that is, our body and brain; and we are in the driver's seat, behind the steering wheel. But we did not make ourselves, nor the 'machine' we are in charge of. Must we not ask what our relationship is to whatever we owe our existence to? After all, what if it turned out to be that we owe our existence not to an impersonal what but to a personal who?

Must we not ask what our relationship is to whatever we owe our existence to? After all, what if it turned out to be that we owe our existence not to an impersonal what but to a personal who?

To some the latter possibility is instinctively unattractive if not frightening; they would prefer

[18] Schaff, *Philosophy of Man*, 34 (emphasis added).

to think that they owe their existence to impersonal material, forces and processes. But then that view induces in some who hold it its own peculiar *angst*. Scientist Jacob Bronowski (1908–74) confessed to a deep instinctive longing, not simply to exist, but to be a recognisably distinct individual, and not just one among millions of otherwise undifferentiated human beings:

> When I say that I want to be myself, I mean as the existentialist does that I want to be free to be myself. This implies that I want to be rid of constraints (inner as well as outward constraints) in order to act in unexpected ways. Yet I do not mean that I want to act either at random or unpredictably. It is not in these senses that I want to be free, but in the sense that I want to be allowed to be different from others. I want to follow my own way—but I want it to be a way recognisably my own, and not zig-zag. And I want people to recognise it: I want them to say, 'How characteristic!'[19]

Yet at the same time he confessed that certain interpretations of science roused in him a fear that undermined his confidence:

> This is where the fulcrum of our fears lies: that man as a species and we as thinking men, will be shown to be no more than a machinery of atoms. We pay lip service to the vital life of the amoeba and the cheese mite; but what we are defending is the human claim to have a complex of will and thoughts and emotions—to have a mind. . . .
>
> The crisis of confidence . . . springs from each man's wish to be a mind and a person, in face of the nagging fear that he is a mechanism. The central question I ask is this: Can man be both a machine and a self?[20]

Our Search

And so we come back to our original question; but now we clearly notice that it is a double question: not merely to what or to whom

[19] Bronowski, *Identity of Man*, 14–5.
[20] Bronowski, *Identity of Man*, 7–9.

does humanity as a whole owe its existence, but what is the status of the individual human being in relation to the race as a whole and to the uncountable myriads of individual phenomena that go to make up the universe? Or, we might ask it another way: what is our significance within the reality in which we find ourselves? This is the ultimate question hanging over every one of our lives, whether we seek answers or we don't. The answers we have for it will affect our thinking in every significant area of life.

These, then, are not merely academic questions irrelevant to practical living. They lie at the heart of life itself; and naturally in the course of the centuries notable answers to them have been given, many of which are held still today around the world.

If we are to try to understand something of the seriously held views of our fellow human beings, we must try to understand their views and the reasons for which they hold them. But just here we must sound a warning that will be necessary to repeat again in the course of these books: those who start out seriously enquiring for truth will find that at however lowly a level they start, they will not be logically able to resist asking what the Ultimate Truth about everything is!

In the spirit of truthfulness and honesty, then, let us say directly that we, the authors of this book, are Christians. We do not pretend to be indifferent guides; we commend to you wholeheartedly the answers we have discovered and will tell you why we think the claims of the Christian gospel are valid, and the help it offers real. This does not, however, preclude the possibility of our approaching other views in a spirit of honesty and fairness. We hope that those who do not share our views will approach them in the same spirit. We can ask nothing more as we set out together on this quest—in search of reality and significance.

OUR AIM

Our small contribution to this quest is set out in the 6 volumes of this series. In this, the final book in the series, we set out to deal with the problem of suffering. Suffering comes upon us from two logically distinct sources, though in practice the two are sometimes inextricably intertwined.

One lot of suffering is caused by natural disasters and diseases for which humankind is not responsible, or at least not completely, though we may be indirectly responsible for some of them. We shall discuss this kind of pain and suffering and the problems it raises, in the second section of this book—'The Problem of Natural Evil'.

The other lot of suffering is that for which humankind is directly responsible, and a monstrous lot of suffering it is: commercial, political and civil injustice, corruption, exploitation, aggression, cruelty, torture, murder, child abuse, rape, infidelity, treachery, slavery, wars, genocide, suicide bombings and suchlike things. In addition we must add all those wrongs, minor in scale maybe, which nonetheless account perhaps for the most widespread misery in our world, namely the hurtful, damaging things that we all do to one another. We call the problem raised by this kind of suffering 'The Problem of Moral Evil', which is also the title of the first section of this book.

THE PROBLEM OF MORAL EVIL

LOOKING FOR ANSWERS TO THE PROBLEM OF MORAL EVIL

Epicurus' old questions are yet unanswered. Is he [God] willing to prevent evil, but not able? then is he impotent. Is he able, but not willing? then is he malevolent. Is he both able and willing? whence then this evil?

—David Hume, *Dialogues Concerning Natural Religion*

THE EXTENT OF THE PROBLEM

To grasp the extent of moral evil we need go back no further than the last century and think of the millions massacred in the two world wars; of the hundreds of thousands starved, tortured, gassed and eliminated in the concentration camps and gulags; of the killing fields of Cambodia; of American use of Agent Orange in Vietnam; of the genocide in Rwanda and Yugoslavia; and of religiously motivated riots, bloodshed and persecutions in various parts of the world.

It is, then, this problem of moral evil that we must discuss in this present chapter. It raises two fundamental questions:

Question 1. If there is a God in heaven who is all-powerful, all-wise and all-loving, and is supposed to care for justice, why does he allow such evil to continue? Why does he not intervene and suppress those who perpetrate these crimes and put an end to their monstrous behaviour? Indeed, why did he allow such evil to exist in the first place?

The second question probes deeper still, and challenges faith in the very existence of God.

Question 2. How can we contemplate the vast amount of moral evil in the world, and still believe in the existence of an all-loving, all-wise and all-powerful God who is supposed to have created this world, and is ultimately responsible for it?

Two different attitudes and responses

This double problem is felt at two levels. We'll take as examples the way the questions are raised in Dostoevsky's and David Hume's writings.

In *The Brothers Karamazov*, Dostoevsky has Ivan exclaim to Alyosha:

> Tell me yourself directly, I challenge you—reply: imagine that you yourself are erecting the edifice of human fortune with the goal of, at the finale, making people happy, of at last giving them peace and quiet, but that in order to do it it would be necessary and unavoidable to torture to death only one tiny little creature, that same child that beats its breast with its little fist, and on its unavenged tears to found that edifice, would you agree to be the architect on those conditions, tell me and tell me truly?[1]

Ivan in the end maintains that he does not reject God; but in view of the hideous evil in the world, particularly the cruelty perpetrated on little children, he cannot bring himself to believe in the eventual reconciliation of all things and the universal harmony promised in the Bible, nor does he wish to have any part in that harmony on the terms and conditions which (he imagines) the Bible lays down for it:

> I do not want harmony, out of a love for mankind I do not want it. I would rather to be left with sufferings that are unavenged. Let me rather remain with my unavenged suffering and unassuaged indignation, *even though I am not right*. And in any case harmony has been overestimated in value, we really don't have the money to pay so much to get in. And so I hasten to return back my entry ticket. And if I am at all an honest man, I am obliged to return it as soon as possible. That is what I am doing. It isn't God I don't accept, Alyosha, it's just his ticket that I most respectfully return to him.[2]

Here speaks a man for whom the problem of moral evil provokes the most intense and unpacifiable feelings of indignation in his heart.

By contrast, the philosopher David Hume sees the problem raised by moral evil in formal, objective, intellectual terms. In his famous *Dialogues Concerning Natural Religion* (DNR), Part X, he puts the problem into the mouth of Philo, one of the participants in the dialogue, thus:

> Epicurus' old questions are yet unanswered. Is he [God] willing to prevent evil, but not able? then is he impotent. Is he able, but

[1] p. 321.
[2] p. 320.

> not willing? then is he malevolent. Is he both able and willing? whence then this evil?[3]

A preliminary difficulty in answering the problem

Providing satisfying answers to the problem is not easy, for the simple reason that what people think about the problem will depend very much on their relationship to the actual experience of evil and the suffering it causes.

If, for instance, as a victim of moral evil you have suffered, or are still suffering, mental and physical anguish, or are smarting under a sense of massive injustice, mere intellectual solutions to the problem will scarcely be enough. You will be looking for answers that will soothe your anguish, satisfy your moral indignation, and give you hope, strength and courage to endure with solid hope for the future.

Moreover, when people are suffering under massive and monstrous evil, they often pray to God to intervene and stop the perpetrators of the evil. If God then appears to do nothing about it, a common reaction is to abandon all faith in God and to decide that atheism must be true. For the moment, at least, atheism seems to get rid of the problem.

But atheism itself, as we shall presently see, raises severe moral and intellectual problems which call for rigorous intellectual answers; for although atheism seems at first to solve the problem, it proves, upon inspection, to make the problem ten thousand times worse.

First, then, let us consider a philosophical statement of the problem in its extreme form, namely that the prevalence of monstrous evil is an insurmountable barrier to belief in God—at least in God as understood by the monotheistic religions.

A PHILOSOPHICAL STATEMENT OF THE PROBLEM

The problem of moral evil arises from the apparent inconsistency between the following four propositions:

[3] DNR 10.25.

(*a*) God exists
(*b*) God is all-powerful
(*c*) God is all-good
(*d*) Evil exists

In slightly more formal philosophical terms the problem of moral evil, as an argument against the existence of God, is often stated in the form of a deductive scheme as follows:

1. If there is a God, he is omnipotent and perfectly good.
2. A perfectly good being will never allow any morally bad state to occur if he can prevent it.
3. An omnipotent being can prevent the occurrence of all morally bad states.
4. There is at least one morally bad state.
5. Therefore there is no God.

There are several variant nuanced expressions of this problem.[4] We have simply given the one that is most common.

Thus the argument based on the problem of moral evil is presented as a valid deductive scheme, that is, one in which all the premises (1–4) are true and demand the conclusion 5, so that, if you deny that conclusion, you contradict yourself. Of course, the deduction is valid only if all the premises hold; and so we need to investigate their validity very carefully.

Premise 4 is evidently true (for most people, except those who deny the existence of evil or regard it as an illusion). Premise 1 holds, at least so far as the monotheistic religions, Judaism, Christianity and Islam are concerned; and Premise 3 is very plausible in light of it. Attention thus concentrates on Premise 2. Is it, then, unquestionably valid, as many atheists claim? Could not God have a morally sufficient reason for allowing evil in the world? Is that utterly inconceivable? Atheists insist it is. The existence of moral evil, they assert, makes it logically impossible to believe in God. Atheism is the only option for logically minded people.

But before we agree to this, we ought to examine atheism's solutions more in depth.

[4] See, e.g. Richard Swinburne, *Providence and the Problem of Evil*.

THE HIDDEN FAULTS IN ATHEISTIC APPROACHES TO THE PROBLEM

There are a number of deficiencies in the atheistic approaches to the problem of moral evil that tend to be hidden by the way in which the problem is presented.

Some versions of atheism destroy the categories of good and evil

Some atheists deny that there is any such thing as moral good and evil. There is a certain logic about their position. For, if there is no God, it is very difficult to know what moral evil (or good, for that matter) means. If there is no personal Creator responsible for the universe, if the universe and human life are simply the end product of impersonal, mindless and therefore aimless natural processes, what, in the last analysis, can we possibly mean by saying something is morally evil? Mindless forces and processes cannot be held morally responsible for what they produce. Moral good and evil, therefore, cease to be meaningful categories. How, then, can it make sense to speak in terms of the problem of moral evil?

That being so, the usual way of formulating the problem of evil that begins with a litany of moral evil and deduces from it that there is no God, is in this case actually incoherent, since its logic self-destructs by emptying of all meaning the concept of evil on which the argument is based.

To put it another way, our outrage against moral evil presupposes that there exists a standard of good which is real, and that we are judging something to be morally evil by that standard of good and saying that it ought not to be. But if all that exists is the mindless particles, then where is the basis for the reality of that standard of good? If there is no moral evil or good, nor any moral standard, then moral outrage is absurd and the so-called problem of moral evil dissolves into the pitiless indifference of uncaring matter.

Richard Dawkins is a well-known example of those who take this form of the atheistic argument to its logical conclusion:

> In a universe of blind physical forces and genetic replication, some people are going to get hurt, other people are going to get

> lucky, and you won't find any rhyme or reason in it, nor any justice. The universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless, indifference. . . . DNA neither knows nor cares. DNA just is. And we dance to its music.[5]

'DNA just is,' says Dawkins; but the implications of Dawkins' view are repugnant to most human minds. Were the suicide bombers of September 11, 2001 in New York and Washington, the schoolboy who murdered half of the teachers in his school in Erfurt, Germany in April 2002, or the countless other killers around the world in the years since, simply dancing to their DNA? Were the architects of genocide in the killing fields of Cambodia and in Rwanda simply carrying out their own inbuilt genetic programmes? Is that all there really is to it? If you felt like cutting babies to pieces for fun, would that simply be dancing to your DNA? For if it is so, then none of us can help being what some people misguidedly call *morally* evil; we and they might as well just resign ourselves to it without complaint.

Some versions of atheism say moral standards are man-made

Other versions of atheism believe in the existence of moral standards, but hold that they are man-made. Dawkins' views of morality are extreme. Most atheists believe that there are, and must be, standards of morality, and themselves sincerely aim to live by them.[6] But they hold that there is no need to suppose that these standards owe their authority to God as their source and ultimate vindicator. Moral standards, they argue, are made by humans. They have arisen as the necessary by-products of humankind's social development and evolution. People found that, for all kinds of reasons, it was better to live as social groups rather than as isolated individuals or families. That inevitably led to the need for each social group to agree on what kind of behaviour was acceptable; and hence each social group invented

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[5] *Out of Eden*, 133.

[6] We emphasise here that our arguments do not imply that atheists are incapable of behaving morally, only that atheism provides no satisfactory *basis* or *authority* for morality. For further analysis see Ch. 3—'The Source of Objective Moral Values' in Book 4: *Doing What's Right: Whose System of Ethics is Good Enough?*

its own moral rules. They were not absolute, invariable laws imposed by God. As societies evolved, their moral rules evolved as well, sometimes by the diktat of the political rulers, sometimes by common consent. The hope is that eventually by the good will and good sense of society at large, morally evil behaviour will dwindle to vanishing point. Moral evolution, without any divine authority, direction or help, will have produced a paradise of universal harmony.

But just here we see a serious inadequacy in this way of thinking.

There is no need to minimise the moral progress that has been made in the course of history, or the fact that millions of people live in stable societies where the rule of law is in general respected by the great majority. Suppose, then, for the sake of argument, that this moral progress gave us solid ground for thinking that, in spite of the vast amount of moral evil still everywhere apparent in the modern world, nevertheless moral evolution, without divine authority or intervention, is bound to lead eventually to worldwide harmony. Even so, this atheistic theory of moral evolution would still suffer from a huge inadequacy. In the course of this supposed moral evolution multimillions of human beings throughout the centuries have suffered grievous injustice, and after lives of misery have died without any redress. Millions more, now living and likewise suffering injustice, will die without any redress before the hoped-for universal harmony is achieved. What does atheistic evolutionary morality say about these multimillions? All it can do is to shrug its shoulders and exclaim: 'Bad luck! You were the inevitable throwaways of the evolutionary process. In actual fact, you never did have any realistic hope of getting justice. And now, of course, you won't get any, for there is no God, and death ends everything.'

Most atheists believe that there are, and must be, standards of morality, and themselves sincerely aim to live by them.

This was one of Ivan Karamazov's difficulties. The thought that the edifice of universal harmony should be founded on the unavenged tears of even one child victim of torture, made him boil with indignation.

Judaism, Christianity and Islam say the very opposite to all this. God, they maintain, is the authority behind the moral law, and he will be its vindicator. There will, in consequence, be a final judgment when

perfect justice will be done in respect of every injustice that has ever been committed from earth's beginning to its end (Acts 17:30–31; Rev 20:11–15).

Judgment, then, is not altogether negative. At least, those who have suffered injustice are not likely to think so. But the idea of judgment raises the question of responsibility, and in order to consider that question, we must turn now to the topic of human free will.

HUMAN FREE WILL: THE GLORY AND COST OF BEING HUMAN

The man who wants to be loved does not desire the enslavement of the beloved. . . He does not want to possess an automaton, and if we want to humiliate him, we need try to only persuade him that the beloved's passion is the result of a psychological determinism.

—Jean-Paul Sartre, *Being and Nothingness*

FREEDOM OF WILL

The assertions made at the end of the previous chapter raise an immediate question: if God is the authority behind the moral law and God created us, how does it come that we his creatures have the capacity to do moral evil? Where did we get this capacity from? From him?

The answer is 'Yes, from him!' For when God created humankind, he bestowed on us, alone of his earthly creatures, the supreme dignity and privilege of freedom of will, and freedom of choice between good and evil. He gave humankind no permission to choose evil; indeed he flatly and sternly forbade it. But he made us in such a way, that if we decided to, we could choose evil (see the story in Genesis 2 and 3).

This invites another question. Being God, did he not foresee that man would in fact misuse his power of choice, choose evil and introduce into the world an ever-widening and unstemmable tide of evil?

The answer must be: 'Yes, he certainly must have foreseen it.'

Then why did he create humankind with the capacity of free will and free choice, knowing in advance the vast misery it would cause?

The first, short, answer is (though much more will have to be said about it later on): *Because that was the only way he could make human beings into the uniquely glorious and majestic beings he designed them to be.*

Now Ivan Karamazov would not like this answer; but he himself had no ultimate solution to the problem of moral evil. So let us begin, at least, by considering the actual fact that we human beings do have the capacity of free will and free choice.

The fact of free will

At the level of day-to-day experience all of us are conscious that we have free will and choice, at least to a certain extent. We cannot, of course, choose to jump off the earth or to live without food. But we can decide (if supplies are plentiful enough) whether to eat potatoes

or carrots, to choose a red dress or a blue one, to be kind to someone or to be hurtful, to tell the truth or to tell lies, to use a knife to cut our bread or to murder someone with it.

Advocates of extreme determinism, however, have in the past denied freedom of choice altogether; some still do. They argue that at the level of physics the universe runs by fixed causes and inevitable effects; and that since our brains are part of the physical universe, our brains must, and do in actual fact, operate on the same system of cause and effect. Our feeling, therefore, that we have free choice is an illusion. Our decision to do something, and not something else, is simply the effect of a prior cause, the last inevitable link in a long unbroken and unbreakable chain reaction. Our choices, then, are not actually free, and we, therefore, are not *morally* responsible for our decisions.

But no one really believes this form of determinism; and we show we don't by the way we react to moral evil. If the CEO of a multinational corporation defrauds the nation of millions of pounds, we do not say: 'he couldn't help it; the physics of his brain set up an irresistible, unbreakable chain of cause and effect, and made him do it. It would be irrational to blame him.' No indeed; we regard him as having freely chosen to do it, and prosecute him accordingly.[1]

But just here we need to consider a philosophical distinction.

Two kinds of freedom

From the time of David Hume onwards, however, philosophers have sought to modify our thinking on these matters by distinguishing two kinds of freedom: the liberty of spontaneity and the liberty of indifference.

The liberty of spontaneity refers to the freedom to follow our own motives, to do whatever we want to do, without, for example, the government or anybody or anything else, forcing us to do something we don't want to do, or stopping us from doing what we want to do. Granted that we have the health, ability, money, and necessary circumstances, and are not subject to any external constraint or restraint, everyone agrees that we have this freedom of spontaneity.

The liberty of indifference refers to the freedom to have done

[1] On the question of genetic determinism, see Book 1: *Being Truly Human*, Ch. 11; and for wider issues relating to human freedom, see Book 1, Ch. 9. See also Lennox, *Determined to Believe*.

otherwise than in actual fact we chose to do on any occasion in the past. Or, faced with a choice between two courses of action in the future, liberty of indifference would imply that the choice is completely open: I can choose either course of action indifferently; and having chosen the one course of action, I could, on looking back, know that I could equally well have freely chosen the other course.

Suppose, for instance, Jack has reached the point where he must choose whether to marry Jill or Julie. He has the liberty of spontaneity: no one is going to force him to marry the one rather than the other. He thinks, however, that he also has the liberty of indifference. He feels that he could just as easily marry either one of them indifferently.

But many philosophers argue that he doesn't have this freedom. All kinds of processes, they say, deep within his physical and psychological make-up, are, without his being conscious of it, constraining and determining his choice. He remains free to marry which girl he chooses; but which one he will in fact choose is already determined by these deep-seated processes inside him. He is not free to choose other than he does choose.

So say many philosophers; and there is no need to dispute the fact that our taste in food or art or music or our choice of spouse is heavily influenced, if not determined, by deep-seated elements in our physical or psychological make-up. But two considerations are relevant here.

As we have considered in another book in this series, moral standards are not a matter of individual, or indeed corporate, instinct, or of subjective taste, or of social conditioning.[2] *They are objective standards.* The moral right or wrong of cannibalism is not simply a question of taste or inner inclination!

Whatever inner quirks, traumas, urges, etc. we may have, that may dispose us to break the moral, and even the civil, law (and we all have some such quirks) we are still free to choose, as normal human beings, to control our urges and to keep both the moral and the civil law. *Therefore, we are morally responsible to do so.*

This second consideration, put bluntly like this, may sound harsh; and we shall have to modify it in a moment. But it remains an essential part of what it means to be mature human beings (as distinct from babies, or the severely mentally ill) that we are free to

[2] See Ch. 2—'What Should We Do and Why?' in Book 4: *Doing What's Right*.

choose and therefore morally responsible for our actions. And that this is what we normally think, a visit to any law court will show.

Suppose I am a person with a low flash point and I lose my temper very easily. I have lost it a thousand times and each time have promised to reform, but to no avail. If I lose it once more tomorrow and knock you to the ground, the court will not take the view that I did not have the liberty of indifference, and therefore had no choice, could not have done other than I did, and should not be held guilty. On the contrary, the court will assume that I could have done other than I did, will find me guilty, and sentence me accordingly. Similarly, if someone commits a crime against me, I assume that the culprit chose to do so and is morally responsible, and I expect the court to find him guilty. In family life, too, a wife whose husband commits adultery doesn't take the view that he had no free choice, couldn't have done other than he did, and therefore is guiltless.

In practice we all agree that, when it comes to morality, human beings do normally have freedom of spontaneity and freedom of indifference.

In practice, then, we all agree that, when it comes to morality, human beings do normally have freedom of spontaneity and freedom of indifference.

Making allowances

Of course, we must be sensitive and sympathetic to the fact that there are various degrees of diminished capacity.

Cases of severe mental illness

Here a court is liable to ask whether the accused was so mentally disturbed that at the time of the crime, he did not realise that what he did was wrong. If so, the court will order, not punishment, but medical treatment, in the hope that it may lead to healing and the restoration, where possible, of the patient's ability to think sanely and to develop moral responsibility.

Drug-induced crime

It is the fact that people who are addicted to drugs are often driven, by their unendurable craving, to commit crime in order to fund their

addiction. They appear not to have the power to live without drugs even if they wanted to. But most of them are still aware that the crimes they commit are morally wrong, but try to justify the doing of them on the grounds that they have no real choice. True compassion will not say that therefore their crimes do not matter. True compassion will want to see them treated so that they lose their craving and regain their power of choice.

The power of bad habit

Habit forming is a very valuable and healthy component of our human make-up. Learning to tie our shoelaces, to walk, to swim, to drive a car, for instance, means that these activities eventually become virtually automatic, and so set our upper brain free to attend to more important things. Good moral habits enforce moral choice. Bad moral habits inhibit and sometimes destroy freedom of choice and morally responsible behaviour. But then whose fault is it for thus weakening the power of freedom of choice?

Our common sinfulness

According to the Bible we belong to a fallen race, damaged by sin, with the damage passed on by heredity from one generation to the next, diminishing our moral freedom. As we have considered in an earlier book in this series, the Bible sympathetically recognises this as a common human experience and claims that God has a programme and a power (of his Spirit) to help people towards realistic freedom from moral weakness.[3] Not that the Bible promises release overnight; but it does hold out the possibility of an ongoing process of deliverance.

But none of this denies that human beings, as God originally designed them, have free will and free choice. Damaged and weakened these capacities may well be from one cause or another; but this in itself does not release the person concerned from moral responsibility. Take an example.

A man is brought before a judge in court, charged with dangerous driving. The judge reminds him that when he was stopped by the police, he was told to get out of the car and walk straight down the

[3] See Ch. 14—'Beyond Ethics' in Book 4: *Doing What's Right*.

white line in the middle of the road. But he didn't walk straight: he wobbled all over the road.

'But,' protests the man, 'I couldn't walk straight. Surely you are not going to punish me for not doing what I couldn't do?'

'I most certainly am,' says the judge. 'It was your fault that you couldn't walk straight. You were drunk. You should not have drunk so much alcohol; or, having drunk it, you should not have attempted to drive a car. But you did, with the result that you knocked a cyclist down and killed him. You must be held responsible.'

The indispensability of free will for morality

So far, then, we have argued, against various forms of determinism, that human beings do have free will and free choice, both freedom of spontaneity and freedom of indifference. But this throws us back on the question that we raised earlier. If we are the creatures of an all-loving, all-powerful, all-wise Creator, why did he endow us with free will, knowing in advance the misery and suffering that its misuse would cause?

The answer is that God did not want humankind to be merely robotic machines or simply advanced animals. He designed human beings as moral creatures; and there is no way of creating moral creatures without giving them free will.

To be a moral creature one first of all needs moral awareness. Human beings, as far as we know, are the only creatures on earth that have such awareness. You can train a dog, for instance, by rigorous, painful, discipline, not to go next door and steal a beefsteak off the table. But you will never succeed in teaching a dog why it is morally wrong to steal. It has no concept of morality and never will have.

Secondly, if one is going to behave morally, one must not only be aware of the difference between moral good and moral evil; one must have free will in order freely to choose to do good or to do evil.

The difference between computers and human beings

In this respect there is a whole category difference between even the most advanced computer and a human being. In the first place a computer can have stored within it an enormous amount of knowledge, and following inbuilt rules can, upon demand, give out that

knowledge. But the computer has no understanding of that knowledge, as Professor John Searle established by his famous Chinese room thought experiment.[4]

A computer, then, might give you the answers to moral questions which it is programmed to give you; but it would not itself understand, or be aware of, morality. Moreover, a computer cannot be held morally responsible for its choices and behaviour. If a computer is involved in the design of land mines that ultimately cause the maiming or death of thousands of children, it makes no sense to accuse it of morally reprehensible behaviour. It had no free will or choice. It did what it was programmed to do. It is not morally responsible for its actions. It is not a moral being.

Human beings, by contrast, as we can all observe, are not in that sense programmed by their Creator. They have the ability to choose, and, therefore, to make moral decisions. What is more, they generally pride themselves on it. No one would prefer to be a humanoid, computerized robot. When a man has chosen, for instance, to face danger for the sake of standing by his moral principles rather than take the cowardly way out and deny his moral principles, he likes to be regarded as having been responsible for his moral choice and to be praised for it. It is only when we have done something very wrong that we are tempted to deny moral responsibility and to say 'I couldn't help it.'

The indispensability of free will for love

Another capacity that would be impossible without free will is the capacity to love. God could certainly have made us without free will like robots; but in that case we should have been incapable of true, mature love freely given and received. If you were sitting in your room

[4] 'Minds, Brains and Programs'. Searle asks you to imagine yourself seated in a room with two windows. You have been provided with a book of instructions. Through one window come pieces of paper with various marks on them. Following the instructions, you match these pieces of paper with other pieces of paper which have different, but appropriate, marks on them. You then pass out these other pieces of paper through the other window. You are doing, Searle argues, exactly what a computer does. But then suppose, says Searle, the marks on the papers are Chinese characters, and that you do not know Chinese. You will have successfully operated the process you were instructed to follow, but you will not have understood the meaning of the Chinese. In that same way computers themselves do not understand the knowledge they are programmed to process.

and a robot entered, flung its arms round your neck and said, 'I love you', you would either laugh at the absurdity of it, or else push it away in disgust, or both. A robot has no concept of love in the first place; and even if it had, it would not be free to decide by itself either to love you or not to love you: it could only do what it was programmed by somebody else to do. It has no independent personality. The existentialist writer Jean-Paul Sartre captured this idea well:

> The man who wants to be loved does not desire the enslavement of the beloved. He is not bent on becoming the object of passion which flows forth mechanically. He does not want to possess an automaton, and if we want to humiliate him, we need try to only persuade him that the beloved's passion is the result of a psychological determinism. The lover will then feel that both his love and his being are cheapened. . . . if the beloved is transformed into an automaton, the lover finds himself alone.[5]

It is, therefore, one of the glories of being human that God has created men and women as moral beings, able to perceive the beauty of their Creator's holiness and the moral splendour of his character; and that he has also endowed them with free will and the ability to love so that they can freely choose to love, trust, worship and obey their Creator, and enjoy true friendship and fellowship with God both here on earth and eventually in his heaven (John 4:22–24).

But the endowment of men and women with free will inevitably implied the possibility that they might use that free will to choose evil, and to reject love, even the love of God.

The proper autonomy of nature

We now must consider some necessary implications of human free will for the structure of nature. If the free will and free choice that God gave to human beings were intended to be genuine, that very fact necessitated that nature should possess what philosophers have called a certain 'autonomy'. Let C. S. Lewis explain:

> People often talk as if nothing were easier than for two naked minds to 'meet' or to become aware of each other. But I see

[5] *Being and Nothingness*, 478.

> no possibility of their doing so except in a common medium which forms their 'external world' or environment. . . . What we need for human society is exactly what we have—a neutral something, neither you nor I, which we can both manipulate so as to make signs to each other. I can talk to you because we can both set up sound waves in the common air between us.[6]

Lewis then points out that this and other neutral fields—matter, in other words—must have a certain fixed nature, a certain autonomy, as Lewis calls it. For suppose the contrary were the case. Imagine, for example, that God had created the world so that a beam of wood remained hard and strong when we used it in construction of a house, but became soft as grass when I used it to hit my neighbour; or if the air refused to carry lies and insults. Indeed, says Lewis:

> If the principle were carried to its logical conclusion evil thoughts would be impossible, for the cerebral matter which we use in our thinking would refuse its task when we attempted to frame them. All matter in the neighbourhood of a wicked man would be liable to undergo unpredictable alterations.[7]

The result would be, of course, that freedom of the human will and choice would in practice be negated.

Nature, then, must have a certain autonomy in order that there can be a society of beings with free will, able to make real moral decisions for good or evil, and to carry them out in practice. It follows from this that God cannot remove the potential of evil thought and act to produce evil effects without removing the necessary condition for free will to function.

AN OBJECTION TO FREE WILL

Some will object to free will being a valid reason why God had to allow the possibility of evil. Philosopher J. L. Mackie argued as follows:

> If God has made men such that in their free choices they sometimes prefer what is good and sometimes what is evil, why could

[6] *Problem of Pain*, 20–1, 21–2.

[7] *Problem of Pain*, 24–5.

> he not have made men such that they always freely choose the good? If there is no logical impossibility in a man's freely choosing the good on one, or on several, occasions, there cannot be a logical impossibility in his freely choosing the good on every occasion. God was not, then, faced with a choice between making innocent automata and making beings who, in acting freely, would sometimes go wrong: there was open to him the obviously better possibility of making beings who would act freely but always go right. Clearly, his failure to avail himself of this possibility is inconsistent with his being both omnipotent and wholly good.[8]

However, Mackie has missed something fundamental. He was clearly thinking of the choices we make in our general behaviour one toward another. He argued that if there is an omnipotent good God, he could and should have made us in such a way that we always freely choose to do good, and never evil, to our fellow human beings. But the fundamental issue is not how we choose to behave towards our fellow creatures, but the far more basic question of how we human beings are related to our Creator; are we, or are we not, free and able to reject his will, and indeed him himself, if we choose to? The point at issue is, that, if as Sartre says above, love is to be meaningful, then love to God has to be a free and deliberated response of the human heart to him. But that means in turn, that the human race must be given a real choice whether to love God or not.

If everything is free and nothing is prohibited, if there are no boundaries, there is no relationship.

This is graphically described in the famous account in Genesis, where God places the first humans in the beautiful garden of Eden and tells them, 'You are free to eat from any tree in the garden; but you must not eat from the tree of the knowledge of good and evil, for when you eat of it you will surely die' (Gen 2:17 NIV). Here in simple, yet profound, terms are the ingredients defining what it means to be a human moral being. God placed a verbal boundary on what they might eat. They had no permission to cross that boundary, but they had freedom to cross it if they so decided. If everything is free and nothing is prohibited, if there are no boundaries, there is no relationship.

[8] 'Evil and Omnipotence', 209.

The existence of a boundary defined the possibility of a relationship. But the boundary was not a physical constraint: they were free to cross it. That is what is involved in having a moral universe—there must be a boundary but there must be freedom to cross it or not.

So what is at stake in the gift of free will is whether or not men and women will love and obey God, not simply whether or not they will be kind to each other, however important that is in its own place. God couldn't make us in such a way that we would automatically choose his will, because that is the very point at issue: shall we, or shall we not, freely decide to love him, obey him and do his will? God is not a tyrant. We must be free to choose: he will not force us to love and obey him. This is the genuine freedom with which God has dignified humanity, and God will never violate it.

WHY DOESN'T GOD INTERVENE AND STOP EVIL?

When so many men and women in the course of history have misused their God-given free will to perpetrate outrageous evil on their comparatively innocent fellow human beings—and many still do—does God not own any responsibility for this?

DOES GOD TAKE RESPONSIBILITY?

So far we have argued that in order to have human beings as moral creatures, God had to give them genuine free will and free choice; and secondly that in giving human beings free will and free choice he inevitably had to allow the possibility that they would use their freedom to choose evil.

But suppose we grant all this, it still leaves a question in many people's minds: when so many men and women in the course of history have misused their God-given free will to perpetrate outrageous evil on their comparatively innocent fellow human beings—and many still do—does God not own any responsibility for this? Why does he not intervene to stop evil, and eliminate its perpetrators, so that the rest of us innocent people can get on with our lives in peace and enjoyment?

The question is reasonable enough; but upon inspection, it turns out to be a complicated matter, and requires not just one answer but a whole array of answers. The short answer is that God has in fact intervened in the past, and will yet do so again. From this point on our arguments are taken mostly from the Bible. If the charge is that it is incredible, in light of the existence of evil, that the God of the Bible should exist, it is only reasonable to let the Bible answer that charge.

God's intervention in the past

Christ himself pointed out that at one stage in history, when the world's evil became a universal cancer, God blotted out the whole human race (except eight people) by a gigantic flood (Matt 24:37–39; Gen 6–8).[1] Similarly, when the extreme immorality of Sodom and Gomorrah became intolerable, God used natural causes to incinerate

[1] Sceptics often deride such biblical statements; and yet they will then turn round and point to evidence that at one stage in history almost all life on this planet was in fact extinguished and that, in the remote future it certainly will be extinguished once more.

those two cities, and thus cleared their influence from the whole area (Luke 17:28–30; Gen 19). What then he has done before, he will do again. So says Christ.

The problem with indiscriminate judgment

But there is a problem, which the Bible itself explicitly mentions in connection with Sodom and Gomorrah (Gen 18:23–32). When gross sin and evil infect a whole society, how can a righteous God destroy the comparatively innocent along with the extremely guilty? With a small city like Sodom, it was moderately easy to arrange for the few comparatively innocent people to escape the general destruction. But sometimes evil infects whole nations, countries, empires; and then millions of people get caught up to differing degrees in the cruel and arrogant policies of their rulers. Schoolteachers are obliged to inject the minds of their pupils with, say, rabid fascism and genocidal hatred of minorities (as in Hitler's Germany), or with God-defying atheism (as in Marxist countries). Men are forced, by a false patriotism, to engage in cruel ideological wars of imperial expansion. University professors are pressurised into reinterpreting history (and sometimes even science) in accordance with government policy, regardless of what they know to be the truth. Honourable workers may find themselves earning an honest living in the employ of some worldwide commercial organisation, that, unknown to them, and outside of their control, is exploiting third world countries and is guilty of slave labour. In that case, how could a righteous God destroy whole nations without simultaneously destroying masses of comparatively innocent (though still sinful) people along with the guilty?

God's impartiality

'But that's just the point,' says someone. 'If God is all-wise as well as all-powerful, surely he could conduct a selective judgment of everybody individually, eliminate the bad, and leave the good. Then why doesn't he do it now?'

Well, suppose he did. Suppose he intervened today and destroyed all bad and sinful individuals everywhere throughout the world without exception. Where, in fairness, would he stop? And

how many would be left? Where would he draw the line between the bad and the good? And who are the bad people anyway, and who are the good? 'Get rid of the capitalists,' say the communists, 'and you will have a good world of good people.' The capitalists, of course, say the opposite. And bringing it down to the personal level, what would God have to say about each one of us?

None of us can realistically discuss the problem of the world's evil as though we were simply spectators of a phenomenon completely extraneous to ourselves. An oft quoted story is told about the writer G. K. Chesterton once writing to a leading English newspaper in reply to the editor's request for letters answering the question: what is wrong with the world? Chesterton's famous reply was as brilliant as it was brief:

> Dear Sir,
> I am.
> Yours faithfully,
> G. K. Chesterton.[2]

He was honestly prepared to say openly what we all know in our heart: there is evil in each one of us.[3]

We too are part of the problem. Once we grasp this fact, a more realistic formulation of the problem of evil would be: 'I think and do evil. If, then, there is a God, why does he tolerate me?'

He does, of course; but why?

Since, then, God is impartial, there will not be a final judgment until the end of the world (Rev 20:11–15). Only then will it be possible to assess the full effect of an individual's evil deeds. The damage done to others by a person's sins is not limited to his lifetime, or even the lifetime of his contemporaries. A parent's harsh and loveless treatment of her child, a father's abuse of his children, can so wound their offspring psychologically that they in turn maltreat their children and their contemporaries, with consequent repercussions over

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[2] Though the lines have been attributed to Chesterton frequently, there is no documentary evidence to support the attribution. The link has likely been made (and assumed to be accurate) because of a 1908 book Chesterton wrote entitled *What's Wrong With the World*. The two-word answer remains true, however, whoever actually thought it up.

[3] It would be a healthy exercise to compare our thoughts, attitudes and practices with the checklist of evils in Galatians 5:19–21.

many generations. Only when history comes to its end, and can be viewed as a whole, will a full and correct assessment be made of each person's evil deeds, let alone the consequences of the outrageous evils perpetrated by nations and their leaders against other nations.

God's patience

In light of what has just been stated, the question 'Why does God not intervene and put a stop to evil?' appears in a very different light. God is not only impartial and just, but he is compassionate, merciful and longsuffering. He is prepared to wait, for what to us seems to be a long time, before he brings the world to an end and puts a complete stop to evil; and the Bible explains why. The Day of the Lord (that is, the day of judgment), it says, will come as promised. 'The Lord is not slack concerning his promise, as some men count slackness.' To start with, the eternal God does not count time as we do. But more than that, he is 'patient towards you' (see 2 Pet 3:8–10).

That longsuffering has meant that God has, for instance, waited for our generation to arrive, and has given us too the chance to exist. Life can be hard; but it is not one long experience of nothing but evil. It has its joys, and loves, and pleasures, interests and achievements. We find it worth living. Few of us would prefer never to have existed. Moreover, temporary life here on this earth carries with it the potential of enjoying eternal life with God in his heaven.

But there is another purpose behind God's longsuffering: he is 'patient towards you, not wishing that any should perish, but that all should come to repentance' (2 Pet 3:9). This, of course, raises a number of questions.

REPENTANCE

What is repentance? And what exactly is it that we have to repent about? And if it is true that we have free will, by what process or processes does God propose to bring us to repentance?

We will answer these questions by arguing these two points:

1. Repentance is a decision of a human being's free moral judgment about the nature of evil.

2. Repentance is the acknowledgement, produced by experience, that the human race without God cannot by itself conquer evil.

A decision about the nature of evil

First we must understand what it means to say that repentance is a decision of a human being's free moral judgment about the nature of evil. Let's use an analogy. Suppose I have in front of me a bar of solid gold. I should very much like to possess it. I can imagine all the wonderful things I could buy with it. But the only way I could possess it is to steal it; and I have been taught that stealing is wrong. At the moment, however, morality means nothing to me. The lure of gold is so strong that I would be quite prepared to steal the gold bar in order to satisfy my covetousness. Then why don't I go ahead and steal it? The reason is that I happen to know that it has a lethal electric current flowing through it: one touch and I'm dead. So I don't steal the gold.

Does that mean that my refraining from stealing is a moral act? No, of course not. I have refrained from stealing, not because I am convinced that stealing is morally wrong; but simply because I don't want to commit suicide. My motive is nothing more than self-interested prudence. The only way that refraining from stealing could become a moral decision for me would be if I came really to believe that stealing is morally wrong. In that case I wouldn't steal the gold, even if it were not wired up to a lethal electric current.

The test of invisibility

In Plato's dialogue, *The Republic*,[4] one of the characters, Glaucon, develops the thesis that most people outwardly praise justice, but in their hearts they secretly believe that injustice pays the best rewards. To illustrate his thesis he recalls the ancient myth of Gyges who is said to have discovered a magic ring and put it on his finger. He found that when he turned the ring one way he became invisible to all around him and could do what he liked without being seen. When he turned the ring back to its original position he became visible again. Taking advantage of this, from time to time he made himself invisible

[4] Book II.359b–362.

and committed all kinds of crime, including regicide and adultery, without being detected; and as a result he rose to great eminence in society. Yet he was held in great repute, because, of course, when he was visible he always acted justly and benevolently.

Glaucon then argues that the vast majority of people are like Gyges. The only reason they behave justly in public is because they like the reputation of being just. If, without ever being detected, they could make a lot of money by theft and robbery and corruption of one sort or another, they would do so. In fact, they would consider a person in that situation stupid, and not worldly-wise, if he refused to do anything unjust on the ground that injustice is always evil and harmful, even if it is undetected.

Moreover Glaucon goes on to maintain that, the world being what it is, if anyone insists on behaving justly without compromise because all injustice is evil, the world of commerce and politics, and even sport, will teach him a hard lesson:

> The just man will have to endure the lash, the rack, chains, the branding-iron in his eyes, and finally, after every extremity of suffering, he will be crucified, and so will learn his lesson that not to be but to seem just is what we ought to desire.[5]

Glaucon is exaggerating, of course, as he himself admits. But there is more than a little truth in what he says. A young man, lured by big money and power, joins a mafia group; but eventually he comes to feel that shooting rival gang leaders, widowing their wives and leaving their children fatherless, is evil. He wants to leave the gang. But now he finds himself in a very dangerous position. If he refuses to take part in these shootings, tries to leave the gang, and acts in court as a witness against them, he may well get shot himself. It turns out that, even at this level, there are consequences to his actions.

Learning what evil is by its consequences

We learn, then, the nature of evil from the nature of its consequences. In the garden of Eden, man was warned not to disobey God and eat of the tree of knowledge of good and evil, for if he did, he would die. When, however, he did disobey God, he was not immediately

[5] *Republic* II.361e–362a, Shorey trans., 125.

executed, for that would have negated his free will and choice. He was allowed to go on living. But God is the sum total of all good; and there cannot be an alternative paradise without God for those who choose to reject God and his word and authority. Man had to learn by experience, what he refused to be told on God's authority, that to choose evil led to a dark shadow over life, alienation from God, a sense of shame, guilt and fear, suffering and, ultimately, death.

Moreover, we learn the nature of evil, not merely by what we ourselves suffer, but by what we inflict on others. A man who is lured into joining the mafia, may eventually be sickened by the crimes he is obliged to perpetrate. Another may perceive the evil of his ways as he stands by the grave of his broken-hearted mother who has been brought to premature death by the shame of his crimes. Indeed, the greatest exhibition in all history of the consequences of human evil is the crucifixion of the Son of God. There the noblest man who ever lived, who taught holiness, justice and love, lived selflessly and sinlessly, and stood unwaveringly for truth, was, in fact (as Glaucon unknowingly predicted) lashed, tortured and crucified. Christians, at least, will not especially blame the men of long ago who actually engineered his crucifixion. They see the crucifixion of the Son of God as the expression of the sinfulness and evil that infects every human heart to a greater or less degree. 'Were *you* there,' asks the old spiritual, 'when they crucified my Lord?'

Taught by experience, then, repentance is the decision of a human's free, moral judgment about the nature of evil, his or her own as well as others. It means agreeing with God's judgment of evil, and renouncing it.

Acknowledging our inability to conquer evil

But repentance means something further. It is the acknowledgement, produced by experience, that the human race without God cannot by itself conquer evil. Once more the story of man's temptation in the garden of Eden may serve us as an analytic tool.

Man in the garden of Eden was at first innocent. He had not before encountered evil and had to rely on God's authority to know what was evil. He was, therefore, forbidden to eat of the tree of the knowledge of good and evil. That did not mean that God was

determined to keep man in a state of innocence forever. Consider the way we treat our own children.

A farmer, for instance, has a gun for shooting vermin and wild animals. He keeps the gun locked away in a cupboard, and strictly forbids his eleven-year-old boy ever to break into the cupboard, take the gun out and play with it. The boy is not yet capable of handling the gun properly: he has no real idea of how easily he could misuse it with lethal consequences. Later on in life, of course, under his father's strict supervision he will gradually be trained how to handle it safely. But one day the boy disobeys his father, takes the gun, and accidentally shoots his sister dead. He then discovers by experience two evils: the guilt of having killed his sister, but also the alienation from his father for having rejected his father's authority in the first place.

So it was with Adam and Eve. Instead of learning to trust God's authority, and waiting for him in his good time to prepare them under his strict supervision, to learn what evil is and to face it without being overcome by it, they rejected God's word and authority, and grasped at knowing good and evil independently of God. They immediately experienced a double consequence: a sense of guilt and alienation from God for having rejected his authority, and the anguish of having to face a lifelong, and very unequal, struggle against evil.

God continues the moral education of humankind

God did not, without delay, abandon them or his purpose to have a whole race of human beings with fully developed moral character. But part of his means to that end would be that from now on humans would have constantly to struggle against evil themselves. Eventually they would be forced to set up governments—for anarchy would prove impractical—and legal systems. They would do so with God's encouragement, says the Bible (Rom 13:1–7); and certainly Christians are taught and commanded by God to submit to lawful government and to pray for their rulers.

That does not mean, of course, that all governments are perfect and approved of by God. Governments themselves have not infrequently proved to be evil and tyrannous, and have either denied divine authority or else usurped it. And not the least part of man's anguish has been the painful experience of trying to discover the best kind of government. But though sometimes, instead of struggling

against evil, governments themselves have been a source of evil, nevertheless humankind, in its struggle against evil, cannot do without government; and all of us must be grateful for the peace, security and well-being that governments, though not perfect, bring us. Without them it is easy to see how evil would run amok; for evil is never totally eliminated, but only restrained.

But this reminds us that the hope (often confidently expressed) that, given time, advanced evolution, civilisation, technology, medicine, psychology and commerce will, without God, solve the problem of the world's evil, is an illusion.

Lessons from experience

It was an enormous advance in physics and in the human race's power over nature, when in the last century scientists discovered how to split the atom and then how to induce nuclear fusion. But the first use humans made of their discovery was to destroy hundreds of thousands of their fellow human beings. Thereafter for several decades East and West built thousands of nuclear weapons at enormous cost, ruinous to their economies, and threatened each other with them. It was the only way they knew to protect themselves from the evil intentions of their rivals. Although more are being produced in various parts of the world, many now sit unused and idle. These decaying weapons and nuclear waste from power stations have proved to be both actual and potential sources of hideous human malformations, sicknesses and death. And still the fear remains that unstable regimes, and terrorist organisations will one day use atomic weapons for mass destruction. In this respect, then, advance in science and technology has not noticeably reduced the evil in the human heart.

When people were dying in their thousands in Ethiopia, the European countries for a long while refused to give any of these vast amounts of surplus food to save Ethiopians from dying of famine, *in case it should upset their economies*!

In the last century, famine, brought on in part by senseless, brutal civil war, killed thousands of people in Ethiopia. In the West, however, the application of advanced scientific methods to agriculture had resulted in the production of mountains of cereals, meat and butter which were not needed and were stored up unused in specially built warehouses.

But when people were dying in their thousands in Ethiopia, the European countries for a long while refused to give any of these vast amounts of surplus food to save Ethiopians from dying of famine, *in case it should upset their economies*!

On the other hand, it is true to say that in some developing countries, millions of dollars of international aid have been taken by corrupt dictators and put into their own foreign bank accounts, while they leave their own people in squalor and poverty.

Meanwhile, in these last few decades advances in technology and economics have enormously raised the standard of living in the industrialised nations. Yet in those same nations, which pride themselves on their democracies and on their stand for human rights, industrialists made fortunes by manufacturing millions of land mines and selling them to countries like Angola and Afghanistan, where they have killed, or blown the legs off, thousands of innocent civilians including children. And these industrialists and their governments have sought to justify this practice by claiming that 'if we don't sell them these land mines and weaponry, other nations will, and therefore, we might as well; for it helps to maintain employment in our countries.'

Some economists suggest that the way to solve the world's economic problems is the globalisation of commerce. Already, of course, there exist a number of gigantic, international, commercial conglomerates whose individual annual budgets exceed the national budgets of many small countries. Their influence over governments is enormous; and the question of their ultimate accountability is problematic. Several times in recent years, the directors of such giant conglomerates were found to have systematically falsified their accounts to the tune of billions of dollars, and to have done so with the connivance of world famous firms of accountants.

It is all too evident, therefore, that the need to struggle against human greed, corruption and evil has not grown less with the advance of civilisation, science, technology and economics. If only the leading nations of the world could trust each other, the prodigious sums of money they now spend on ever more sophisticated defensive weaponry could be spent on a collective effort to rid the earth of its poverty, plagues and deserts. But they cannot trust each other: it would be naïve to suppose they could.

This, of course, is no reason for giving up on the struggle against evil. But it is evidence of the need for that profound change of mind that the Bible calls repentance: first, to recognise that the basic cause of humankind's evil is our alienation from, and independence of, God, and our wilful rejection of God's laws; and secondly to admit that humankind will, by definition, not cure evil by ourselves alone in continued independence of God. God has a future for earth; but according to the Bible his terms are these:

> God . . . now commands men that they should all everywhere repent; inasmuch as he has appointed a day in which he will judge the world in righteousness by the man he has ordained; whereof he has given assurance unto all men, in that he has raised him from the dead. (Acts 17:30–31, own trans.)

And it is to the whole idea of God's judgment of the world that we must now turn our attention.

GOD'S JUDGMENT OF THE WORLD

Let all creation rejoice before the LORD, for he comes,
he comes to judge the earth.
He will judge the world in righteousness
and the people in his faithfulness.

Psalm 96:13 NIV

REJOICING IN GOD'S JUDGMENT?

The idea of a coming day of judgment is not always greeted with great enthusiasm. Yet in the poetry of the Hebrew Psalms, that day is described as a prospect to be looked forward to with great joy, a day to be welcomed by all of creation with jubilation and gratitude:

> Let the heavens rejoice, let the earth be glad;
> let the sea resound, and all that is in it.
> Let the fields be jubilant, and everything in them;
> let all the trees of the forest sing for joy.
> Let all creation rejoice before the LORD, for he comes,
> he comes to judge the earth.
> He will judge the world in righteousness
> and the people in his faithfulness.
> (Ps 96:11–13 NIV)

Why, then, this rejoicing in the prospect of God's judgment? It is not the raw desire for revenge on enemies. It is that people are confident that justice is going to be done. Evil shall be eliminated. Creation herself shall be delivered from her bondage to corruption, from her groans and her tears. Earth in harmony with heaven shall fully serve the purpose of her Creator. Righteousness shall reign; peace shall be universal. Why not rejoice, then? What seriously minded person would wish evil to go on forever?

OBJECTIONS TO GOD'S JUDGMENT

At this point, however, we notice a strange contradiction in people's attitudes. One moment they are saying that they cannot believe in the existence of God. Why not? Because, they say, an all-loving, all-powerful, all-wise God would not allow evil to persist. But then, if in reply we say that God is going to judge the world, right its wrongs,

punish unrepentant evildoers, and put an end to evil, these same people will object to that as well. They don't want there to be a final judgment.

Ivan Karamazov is like that, in Dostoevsky's story referred to earlier. He cannot bear to think that the edifice of universal harmony will be built on the unavenged tears of even one little girl. And yet he adds that he rejects, equally fervently, any idea of divine vengeance. He prefers to have his own wrongs left unavenged; and he hands God back his ticket.[1]

Why, then, this strange contradiction in people's attitude to divine judgment?

One possible explanation is that, whereas they want outrageous evil dealt with, they are also very conscious of the evil in themselves, and therefore prefer to think, with Lucretius, that all ends with death, when the atoms of our body disperse, and that there is no judgment to come at which we shall have to give account for our evil. They do not want to face up to the thought that our misuse of our free will might have eternal implications.

A common misunderstanding about forgiveness

Another reason why some people object to the idea of divine judgment is that they think it runs counter to the nature of God's forgiveness, and that of the forgiveness he requires Christian people to show.

Now it is true that Christ neither retaliated against, nor threatened, those who crucified him. By suffering without retaliation, he was granting his persecutors the time and space for repentance, that they might find forgiveness through his atoning sufferings on their behalf (1 Pet 2:21–24). But that same passage tells us that he 'entrusted himself to him who judges justly'; and on his way to the cross he solemnly warned the women of Jerusalem of the judgment that must fall on those who were, contrary to their own standards of justice, crucifying their Messiah–King, unless they repented (Luke 23:28–31).

Certainly Christ prayed forgiveness for those who actually crucified him, namely the soldiers who were driving the nails through his wrists and feet. But it is important to notice on what grounds

[1] See Ch. 1.

he prayed for their forgiveness: 'Father, forgive them, for they know not what they do' (Luke 23:34). They were merely doing their duty as Roman soldiers. It would be very different for people who, with their eyes open, knew very well what they were doing—if they did not repent. Similarly, Christ calls upon all his followers to forgive those who trespass against them, but to do so on these terms: 'If your brother sins, rebuke him, and if he repents, forgive him, and if he sins against you seven times in the day, and turns to you seven times, saying, "I repent", you must forgive him' (Luke 17:3–4). We note here the important prerequisite of repentance. Now, of course, we must not harbour bitterness of heart. Indeed, we are to be kind even to those who persecute us and always prepared to forgive. But one cannot forgive a sin that is not repented of—that would be to say it doesn't matter, and so to condone it. So it is with God. His very goodness towards us is designed to lead us to repentance, but if we do not repent, we are told, 'you are storing up wrath against yourself for the day of God's wrath, when his righteous judgment will be revealed' (Rom 2:5 NIV).

One cannot forgive a sin that is not repented of—that would be to say it doesn't matter, and so to condone it. So it is with God.

There is also another consideration that ensures God must eventually deal with evil, and that is that God is the Creator and owner of the world. He cannot be neutral in face of the evil that blights his planet and destroys his creatures. Certainly he has given us his creatures free will. But it is not open to the human race's free will to vote God out of his own universe, and to set up earth as a 'no-go area' for God. It is, therefore, inevitable that he will one day assert his creatorial rights, intervene in judgment and begin the task of redeveloping creation.

God's judgment: a function of his love

Our inbuilt sense of justice, however, witnesses with the Bible in its insistence that judgment will come not least for the sake of the innocent victims of evil. Do we really think that authors of the evil genocides throughout history, including Hitler and Pol Pot and the perpetrators in Rwanda, not to mention even more recent examples, are never to be called to account? Do we really take the view that

once an event is past, nothing will ever be done about the injustice of it? Do we really think that the mere passage of time cancels guilt? That would be hideous. Not only so, but it would actually be totally inconsistent with the fact that God is a God of love. For, far from contradicting the love of God, the doctrine of the wrath and judgment of God is required by his love. After all, a God who in the end did not deal with evil and see to it that justice was done would not be a God of love. As Stephen Neill put it:

> The best way to understand the doctrine of the wrath of God is to consider the alternatives. The alternative is not love, since rightly considered, love and wrath are only the obverse and reverse of the same thing . . . The alternative to wrath is neutrality—neutrality in the conflict of the world . . . To live in such a world would be a nightmare. It is only the doctrine of the wrath of God, of his irreconcilable hostility to all evil, which makes human life tolerable in such a world as ours.[2]

Suppose I drive my car under the influence of alcohol, knock down your daughter and kill her. You will be very unlikely to say: 'She is dead now, and so it doesn't matter'; for that would be to show that you never did love or value her in the first place. However, after a few months have passed, the general public will have forgotten the incident and many will encourage you not to dwell on the past, to put it behind you. But God will never take that attitude, because he loves your daughter. And if I do not repent of my sinful act that led to her death, God will hold it against me for all eternity, since he will never say it didn't matter, precisely because he never ceased to love your daughter.

Is choice that can lead to eternal judgment really free?

Let's ask this question more fully. How can we believe in a God who would himself give us (all unasked) the capacity of free will and free choice, and then punish us eternally for not using it as he dictates we should?

Now, all of us have certainly used our free will on many occasions to disobey our Creator's commandments. But the short answer

[2] 'The Wrath of God and the Peace of God', 20–2.

to the question above is that, long before God created the human race and gave us free will, God had devised a safety net so that humans might not inevitably suffer irreversible and irreparable damage from having many times misused their free will and chosen to disobey God. All that would be required of them would be to use their free will to avail themselves of the safety net. And if it be asked by what means God could possibly induce a man or woman to use his or her free will to avail themselves of this safety net, the answer is: on the one hand, experience of the evil consequences of misusing their free will to reject God's word, and on the other, the continuing love of God for humankind in spite of our rebellion.

But with this we come to the central issue at stake in the human race's use of free will, and that is an individual's estimate of the character of God. Can God be trusted? Is he worthy to be freely loved? To see how and why this is, let us use the Genesis story once more as an analytical tool.

When Adam and Eve used their free will to eat of the forbidden tree, it was not simply an arbitrary, motiveless, breaking of God's prohibition. Their misuse of their free will was motivated by certain slanders on God's character that the serpent-tempter insinuated into their minds. 'The only reason', he suggested, 'for God's prohibition is his determination, if he can, to keep you subservient to him and to his authority. And that's why he tries to frighten you with the bogeyman's story that if you eat of the tree you will die. That's nonsense. You won't die. You will in fact be as God, knowing good and evil, and will no longer need to depend on God's authority to know what is good and what is evil. Strike a blow for freedom then. Don't let God keep you down. Be as God' (see Gen 3:1–5). It was heady stuff; and they believed the slander, disbelieved God and took the fruit. The human race's enslavement to evil and to the power of darkness had begun.

God's answer: God would become a human being

How then would God, without removing the human race's free will, win back our trust, love and obedience? First he announced to Adam and Eve that he was not intending to abandon the human race. Far from it. One day the seed of the woman, that is, a member of the human race, would free humankind from the evil tempter's slanders and slavery. God was referring, so the New Testament declares, to

the incarnation of the Son of God.[3] God's answer to Satan's insane suggestion that man should attempt to be as God was that God would become human. As God's representative, the God–man would bear the venomous hostility that evil men and women feel against all that is holy. They would crucify him, as Glaucon unknowingly predicted. And God would love them still.

Then as the human race's representative before God, the Son of Man, sinless himself, would on the cross voluntarily bear the wrath of God against humankind's sin, so making possible for repentant men and women reconciliation with God; and along with reconciliation, forgiveness, unearned status as God's children, the utterly free gift of eternal life and the guarantee of eternal glory (Rom 5:1–11; Isa 53:4–6). At Calvary, then, 'in Christ God was reconciling the world to himself, not counting their trespasses against them'; and God's appeal to humankind remains open: 'be reconciled to God' (2 Cor 5:18–21). The terms of that reconciliation are: (1) repentance towards God, that is, a profound change of mind and heart towards God; agreement with the justice of his condemnation of sin, and acceptance of his love; and (2) faith in the Lord Jesus Christ, as Saviour and Lord (Acts 20:21).

But the human race is still left with its free will. What if we use it to reject God, his love, mercy and salvation? God will not violate, or remove, human free will, not even in order to save us; for if he did, what would be saved would, without free will, be no longer a human being. But there can be no alternative paradise for those who reject their Creator.

Will God's judgment be inhuman?

Many think so. Bertrand Russell asserted: 'I do not myself feel that any person who is really profoundly humane can believe in everlasting punishment.'[4] What this objection fails to take account of is the fact that God's final judgment, when it comes, will be administered by a perfect human being, Jesus Christ, the Son of Man. He himself assured us: 'For the Father judges no one, but has given all judgment to

[3] See, e.g. Matt 1:18–23; Gal 1:4–5; Rom 16:20; Rev 20:1–3.

[4] *Why I Am Not a Christian*, 17.

the Son . . . And he has given him authority to execute judgment, because he is the Son of Man' (John 5:22, 27). It will be judgment by peer.

Evil cannot, and will not, be allowed to persist unrestrained forever; and Christ's moral worthiness to execute the judgment of God on unrepentant evil is beyond dispute: it was he who died for all that they might be saved from the wrath of God through him (Rom 5:9; cf. Rev 5:8–10). But he who wept over Jerusalem's intransigence, who prayed for those who crucified him, he himself has warned us that when the door of mercy is finally shut in the face of the unrepentant, he will say to those outside, who knowingly rejected him, 'I never knew you; depart from me' (Matt 7:23). C. S. Lewis comments:

> In some sense, as dark to the intellect as it is unendurable to the feelings, we can be both banished from the presence of Him who is present everywhere and erased from the knowledge of Him who knows all. We can be left utterly and absolutely *outside*—repelled, exiled, estranged, finally and unspeakably ignored.[5]

THE PROBLEM OF MORAL EVIL

As humans, we have our choices, then, and God will honour them. But the consequences of our choices are not for us to decide. We made neither ourselves, nor the world in which we live, and the Creator is not neutral on the question of what is good, and what is not, in this world that he has made. Given the presence of evil in this world, and its dire and long-lasting consequences, he will judge evil. Yet he calls upon all to repent and to trust in the one whom he has sent to satisfy his just wrath against sin. But he will judge. His character, his love and his promise make that a certainty.

[5] 'The Weight of Glory', 41.

THE PROBLEM OF NATURAL EVIL

THE PROBLEM OF PAIN AND SUFFERING

How can we think that a world in which natural disasters like earthquakes and volcanoes destroy thousands of human beings in one fell swoop is designed, created and maintained by an all-powerful, all-wise, all-loving God?

THE PROBLEM STATED

In this second section we are to think about the pain and suffering caused, not by the human race's evil, cruel and immoral behaviour towards their fellow human beings, for which humans themselves are responsible, but by natural disasters: earthquakes, volcanoes, tidal waves, landslides, avalanches, ultraviolet rays, droughts, blights, famines, plagues (e.g. locusts or malarial mosquitoes), for which the human race is not immediately responsible (though we may contribute indirectly to some of them by irresponsibly damaging the ecosystem); and other things like congenital deformities, traumatic accidents, personality-destroying illnesses and torturously painful diseases. For these, again, the human race is not immediately responsible (though we may contribute to some of them both directly and indirectly, as for instance to lung cancer by smoking, and to STDs by sexual promiscuity).

The problem that these things raise in people's minds is obvious: how can we think that a world in which natural disasters like earthquakes and volcanoes destroy thousands of human beings in one fell swoop is designed, created and maintained by an all-powerful, all-wise, all-loving God? The drilling apparatus that a mosquito uses to penetrate human skin in order to inject its poison is a marvellous piece of engineering. How can it be thought to be the work of a loving personal Creator? And if the human race is made in the image of God, as the Bible says we are, why are so many human babies born with congenital deformities and diseases?

By convention, this problem is usually called the problem of natural evil (or the problem of pain) to distinguish it from the problem of moral evil, which we discussed in our previous section. It is this problem of pain and suffering that we must now face and try to answer.

A complicated problem

Answering this problem is not going to be easy for the simple reason that the problem itself is a double one, which we experience at two different levels. It is, in the first place, an intellectual problem that calls for answers that can satisfy our intellects. On the other hand, when someone is in severe pain, whether physical or emotional or mental; or when parents are suffering the shock of finding that their newborn baby has some congenital handicap or deformity like Down's syndrome, or cerebral palsy; or when a loved one in early middle life begins to exhibit the symptoms of some dreadful, genetically caused, disease like Huntington's chorea; or when bereavement has overwhelmed the mind and heart with a mixture of fear, rage, loneliness and inconsolable grief; in these and a hundred other cases of pain and suffering, mere intellectual explanations of the problem of suffering are likely to seem distressingly inappropriate and unhelpful. What the sufferer needs is something that will satisfy not only the mind but also the heart, answers that will soothe the anguish and give hope and courage to endure.

Necessarily, however, we must start with answers to the intellectual problem; for while intellectual answers will not be enough by themselves, the comfort and courage we need to help us face life's pain and suffering will have little sustaining power if they are based on utterly irrational considerations.

SEEING THE PROBLEM FOR WHAT IT TRULY IS

The problem as usually stated is as we have expressed it above: how can we reconcile the existence of so much pain and suffering in the world with the existence of an all-loving, all-wise, all-powerful Creator God? The unspoken supposition is that here we have two irreconcilables, such that we cannot, logically at any rate, believe in the existence of both. Either we face the reality, extent and horror of pain and suffering, and abandon faith in God; or we continue to believe in God, and shut our eyes to the reality of evil and suffering. We cannot do both; and inventing myths about an eventual heaven is mere escapism, and no true comfort.

Atheism, as we know, chooses the first of these two options: it solves the problem of pain by denying the existence of God. We must now examine its solution.

A superficial solution

Atheism gets rid of the problem but not the pain

Atheism gets rid of the problem in the sense that if there is no intelligent Creator, then, at first sight, there is no difficulty in accounting for the existence of pain. For in that case we must suppose that our world was brought into being by mindless, impersonal forces that unconsciously produced mindless matter. Then after millions of years of random permutations, this mindless matter mindlessly gave rise to intelligent minds that could protest against all the suffering produced by these mindless forces. But it did so accidentally. It had no intention of doing it, and having done it, it did not realise what it had done. It simply continued in its thoughtless, unplanned way, without any ultimate goal in sight, untroubled by whether the result was painful or pleasurable, intellectually and emotionally acceptable, or otherwise.

On this supposition, then, there would be no problem at all in accounting for the existence of pain. What else could be expected from such processes but an enormous amount of pain at every level? What is more, there would be no point in our complaining and criticising the source of this pain and suffering. We do, of course, criticise and complain. But since, on this view, our criticisms and complaints arise from minds that were themselves constructed on mindless and nonrational principles, what possible validity could our complaints and criticisms have? Mindless forces, by definition, cannot produce any genuine philosophical, still less any theological, problem. Atheism thus gets rid of the problem of pain—but, as all can see and feel, it does not get rid of the pain! In fact, it makes it worse.

Atheism makes our pain and suffering worse

No hope

The first way in which atheism increases our pain and suffering is by removing all hope. If there is a personal God and he created us, then there could be grounds for believing that suffering is not simply

destructive and ultimately meaningless and valueless. It could be that, though evil in itself, it has been allowed by God, and that God can turn it to our eternal, if not also our present, good. But if there is no God, and this universe is nothing but the product of mindless, purposeless, forces, then there is no ground for any such hope, or meaning, or potential value in our experience of suffering. It is simply destructive.

When it comes to coping with suffering, hope is our strongest ally and resource.

Take a young mother of thirty-three years who has been diagnosed with terminal cancer. What can an atheist say to her? He will doubtless commiserate with her on her 'bad luck', as he calls it. But then he will have to add (in his mind at least, though he may not have the courage or honesty to tell her outright) that there was never any ultimate purpose behind her existence anyway, nothing but mindless, purposeless forces. Nor is there, according to him, any goal beyond her very short life for her to look forward to, and to the enrichment of which her experience of suffering might contribute. Her suffering and pain are simply destructive.

Now when it comes to coping with suffering, hope is our strongest ally and resource (Rom 8:23–25). Atheism's attempt to solve the problem of pain and suffering, however, leaves people in their pain, injury and grief, deprived of all ultimate hope—which is what the Bible means when it describes atheists as being not only (by definition) without God and without Christ, but in consequence also without hope in the world (Eph 2:12).

Only prisoners

The second way in which atheism makes our pain and suffering worse is that it represents rational human beings as ultimately the prisoners and victims of irrational forces. One of the bitterest ingredients in human suffering is disappointment and frustration. The sufferer's rational mind can see what a wonderful thing life could be if all the mechanisms of body and brain functioned as they were obviously meant to. But some non-rational virus or bacterium, or some out-of-control rogue cell, is in process of ruining some vital part of the body's system beyond what the best modern medicine can repair. The sufferer's rational mind has intelligence enough to see what is going to

happen: presently these non-rational forces and processes will destroy not only his body but his reason and intelligence as well, and—final irony—when they have done so, being mindless they will not even know what they have done.

If, then, there is no God, as atheism claims, rational human beings are ultimately the prisoners and victims of non-rational forces. It is, therefore, a very strange case that atheism argues. It uses its reason to convince us that if only we think rationally we shall see that human intellects must submit in the end to the tyrannous irrationality of pointless, hopeless suffering brought on us by mindless, heartless forces that are unfortunately our masters; and that, nevertheless, we have no rational ground for complaint. One day, indeed, these same irrational forces will bring our earth and solar system to an end, and then the whole of human history will amount to a pile of meaningless nothing. So much for human reason according to atheism!

Atheism seriously understates the problem

The problem of pain and suffering, fully stated, however, is not: how can we reconcile the existence of suffering with the existence of God? It is this: how can we reconcile the vast and ever increasing evidence that points to the world's having been designed by divine intelligence with the existence of suffering and pain that seems to question the existence of any intelligence or design behind the universe?

Hurricanes, for instance, and volcanoes and earthquakes seem to be produced by mindless forces, and from time to time destroy masses of people (but of course not every day, everywhere—it is easy to exaggerate the problem). Is that proof positive that there is no intelligence behind the universe?

Hardly! The eminent mathematical physicist Paul Davies is no theist, yet his basic position is that: 'the world is rational all the way down to the lowest level—which is beyond the domain of science', down to, in fact, 'the domain of metaphysics'.[1]

And as to our existence as rational human beings on this planet, he writes elsewhere:

> I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history, an incidental blip in the

[1] Wilkinson, 'Found in space?', 18–19.

> great cosmic drama. Our involvement is too intimate. The physical species *Homo* may count for nothing, but the existence of mind in some organism on some planet in the universe is surely a fact of fundamental significance. Through conscious beings the universe has generated self-awareness. This can be no trivial detail, no minor by-product of mindless, purposeless, forces. We are truly meant to be here.[2]

Davies does not believe in a personal Creator, but only in impersonal mathematical laws.[3] How impersonal laws can intend anything, he does not say. But we notice this admission, or rather this claim, that there was a pre-existent, deliberate intention behind humankind's appearance on this planet—in spite, we may add, of the deductions that many make from the destructive force of hurricanes and suchlike things.

Take another example. If you ever cut your finger you will discover that, even before you did so, your body already possessed a complicated repair mechanism that was designed in advance to deal with such an eventuality, in case it should occur. It consists of a veritable cascade of some twenty or more chemicals each of which must come into play in precisely the right order and in the correct combinations in order to produce blood-clotting at the point of the wound so as to prevent harmful blood loss, and then to effect all the necessary repair procedures.[4]

The simple points we wish to make are these: (1) unless you had first suffered the pain of this knife wound, you would not have discovered that you had this repair mechanism all ready and waiting in your body; and, (2) something (or had we better not say someone?) had foreseen the possibility of this painful and potentially dangerous accident occurring, and had made provision in advance to stop its having fatal consequences.

The same can be said about the almost incredible ingenuity that produced the immune system and built it in advance into our bodies so as to be ready to fight and clear up any infection that might invade the body, and to recognise and reject any foreign element that might

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[2] *The Mind of God*, 232.

[3] For further discussion of Davies' views, see Book 2: *Finding Ultimate Reality*, p. 118.

[4] See Behe, *Darwin's Black Box*, 74–97.

accidentally gain access. To be noticed once more is the foresight that anticipated the possibility of accident and illness, and designed this mechanism to limit their destructive effects and to make recovery possible.

Consider a further example. Individuals, as we all observe, grow old and die; and some scientists think that the ageing process is connected with, or even caused by, the fraying away of the ends, or, caps, of the chromosomes, in the course of the mutations that occur in the cell division.[5] But this fact does not imply that the DNA and the other mechanisms in the cell are the accidental, unplanned, undesigned result of mindless forces and random processes. The late Professor Fred Hoyle, the Cambridge astronomer, and the mathematician Chandra Wickramasinghe, writing about the basic enzymes necessary for life, remark:

> A simple calculation then shows that the chance of obtaining the necessary total of 2000 enzymes by randomly assembling amino acid chains is exceedingly minute. The random chance is . . . p to 1 against, with p minimally an enormous super astronomical number equal to $10^{40,000}$ (1 followed by 40,000 zeros) . . . If all those other relevant conditions for life are also taken account of in our calculation, the situation becomes doubly worse. The odds of one in $10^{40,000}$ against are horrendous enough, but that would have to be increased by a major degree. Such a number exceeds the total number of fundamental particles throughout the observed universe by very, very many orders of magnitude. So great are the odds of life being produced in a purely mechanistic way.[6]

That individuals grow old and die is, of course, no argument against there being a Designer–Creator, unless it can first be proved that, if there were such a Creator, individual human beings ought to have been designed to live forever on this earth. Interestingly enough, unlike telomeres, the cellular mechanisms necessary for the propagation and maintenance of the human race as a whole, were, it

[5] The technical term for these ends, or caps, on the chromosomes is 'telomeres'. It is simply Greek for 'end-parts'.

[6] *Cosmic Life-Force*, 134. For a fuller account of these and related matters, see John Lennox's book *God's Undertaker: Has Science Buried God*, Chs. 4 and 5.

appears, designed to maintain the race unfailingly for thousands of years, and show no signs of running down.

It is, then, a superficial reaction to suffering to say that the existence of suffering makes it impossible to believe in the existence of a personal Creator–Designer. The problem is how to reconcile the overwhelming evidence in the universe and in our very bodies that points to the existence of a divine Creator–Designer with the existence of widespread pain and suffering that, at first sight at any rate, seem to call his existence into question.

According to the Bible, at least, God is not the impassive God of Aristotle and the Greek philosophers; he is himself involved in the suffering of humankind.

Now, if you came across a large locomotive that had broken down and was no longer able to haul its train, you might conclude that some of its internal mechanisms had failed, or it had suffered some accident, or some saboteur had been at work. You might even suspect that the engine might not have been well enough designed. But you would not argue that the locomotive had never been designed at all by any designer in the first place.

Of course, if we believe in an all-wise, all-powerful and all-loving Creator, then by definition he cannot be thought of as having been responsible for anything less than optimal design (optimal, that is, for the purpose he had in mind). On the other hand, we have no need to shut our eyes to the fact that, say, the internal mechanisms of our body, even the repair mechanisms, blood-clotting and the immune system, do break down and result in suffering and eventual death. The Bible's explanation of this universal state of affairs—if at first we may express it simply and somewhat crudely—is that a cosmic saboteur has been at work; that God in his wisdom has allowed it, with all its resultant suffering; but that God is in process of turning this suffering to a far greater glory for humankind than could have been achieved without that suffering; and has done so and is doing so, not without immeasurable suffering to himself. According to the Bible, at least, God is not the impassive God of Aristotle and the Greek philosophers; he is himself involved in the suffering of humankind.

But before we investigate that side of our topic, we ought first to consider what attitude we human beings take—whether God exists or not—to suffering and the benefits that come from it.

OUR OWN HUMAN ATTITUDE TO PAIN

Not all pain is bad

We can quickly pass over the obvious point that we do not regard all pain as bad. Some pain is preservative, and therefore good. Catch your finger accidentally on the blade of a sharp knife, and the pain of the cut will make you involuntarily withdraw your finger, and so prevent further damage. Pains in the chest can alert you to the fact that there is something wrong with your heart that needs attention. That pain also is good. Fear of pain can be preventive. Fear of getting burned stops us putting our hands into fire. Fear of AIDS could even restrain some people from immorality. Such fear therefore is good.

Pain and suffering constantly evoke sympathy, compassion, concern and self-sacrificing devotion on the part of mothers, nurses, doctors, social workers and others, and so build up in these caring people a nobleness of character which we all admire rather than the selfishness of a person who is determined at all costs to avoid pain and sacrifice and to seek only self-gratification.

Pain can sometimes embitter the person who suffers it—but not always. Sometimes pain and suffering can mature a person's character (as the heat of an oven turns raw dough into a palatable cake); and can help him or her to see more clearly what life's true values are. There is much truth in what Dostoevsky wrote: 'Suffering and pain are always the precondition for comprehensive knowledge and a deep heart. It seems to me that truly great people have to experience deep grief on earth.'[7]

People risk pain voluntarily

But let us move on to consider the attitude that many people take towards the risk of serious injury, pain and even death. No normal person is prepared to suffer pain or death just for the sake of it. But thousands of normal people are willing to run the risk of quite serious injury, and sometimes death itself, for the sake of nothing more than sports such as rugby, Formula One motor-racing, hang-gliding,

[7] *Collected Works of Dostoyevsky*, 354.

spelunking and mountaineering. People relish the challenge of risk taking.

Ballerinas suffer severe pain in their feet, at least initially, and the pain that gymnasts and athletes voluntarily endure as they push themselves though the pain barrier in the course of their training, is notorious. But the human spirit urges them on to attain mastery of their bodies, and to achieve perfection, beauty and grace of movement; and they count the pain involved to be worthwhile.

But let us move on to still more serious things. Solely for the sake of sheer survival no nation is obliged to engage in space exploration. Yet nations do engage in it, knowing full well what the colossal risks are. People still volunteer to train as astronauts, and go on space missions, even though they are fully aware that others have already perished in similar missions. The risk involved is a carefully calculated risk; but it is a serious risk nonetheless.

Humankind's attitude to the forces of nature

The elemental forces of nature—fire, wind, wave, electricity, gravity, nuclear power—all are vastly more powerful than humans. Being impersonal and mindless, they will destroy us without compunction, if we mishandle them. Electricity will cook your dinner for you; but if you make a mistake it knows no forgiveness; it will electrocute you. The human race, however, whether we acknowledge it or not, is made in the image of God who is personal, and is made to have dominion over the works of God's hands (see Gen 1:26–28; Ps 8:6).[8] Being personal themselves, therefore, humans know in their spirit that they are infinitely more significant and important than the impersonal forces of nature; and from the earliest days they have set about the process of discovering how to harness these forces and make them serve their purposes. Fire was harnessed early. With the invention of ships and sails (without which humans would drown), the wind and waves were now made to convey them on their voyages of exploration and discovery. Nowadays, humans even harness Earth's gravity and use it to accelerate a space probe towards Earth, and then fling it, as a sling does a stone, out into space on its way to some other planet.

[8] For further discussion of this topic, see Chs. 5 and 6 in Book 1: *Being Truly Human*.

This whole scientific enterprise of harnessing the elemental forces of nature has been a magnificent expression of the human spirit. The process carried enormous risks, and achievement has been bought at the cost of endless pain and countless lives. But, in the judgment of most people, the vast benefits that have accrued to the whole human race have outweighed and justified the cost in terms of pain and death.

The universe is good but not necessarily safe

At this point another very significant thing comes into view. Harnessing elemental forces does not mean removing from them their essential power to inflict pain and death. Nor would one wish it so. In that sense no one would seriously demand that the universe should be safe. Fire that lost its potential to burn would no longer serve the purposes for which we need it. Electricity that could not electrocute us would not be able to serve us by driving our motors or lighting our homes and cities. Laser beams can destroy human tissue. If they couldn't, they could not be used in delicate eye surgery as they are.

The heat and light from the sun are absolutely necessary for our life and survival on earth. But the sun, being the atomic furnace that it is, is not altogether safe for human beings. We have to be protected from its ultraviolet rays by the ozone layer round the earth. If by our unwise use of earth's resources we create a hole in the ozone layer and suffer in consequence, whose fault is that?

Harnessing elemental forces does not mean removing from them their essential power to inflict pain and death. Fire that lost its potential to burn would no longer serve the purposes for which we need it.

Aircraft can overcome the force of gravity. Their invention and improvement has cost thousands of lives. We still fly in them, however, knowing the risk that, if the aircraft's engines were to fail, gravity would destroy both it and its passengers. Surely, however, no one would seriously think of arguing that God ought to have created our earth without any gravity, or with much weaker gravity than it now has, so that when an aircraft's engines failed, gravity did not cause it to crash. If earth's gravity became much weaker than it is, the planet would rapidly lose its atmosphere, and life would have been impossible in the first place.

Even everyday life has its risks. Accidents happen, skin can get torn, bones can get broken, and hostile bacteria can invade our bodies, which is why they are provided with a vast army of sophisticated repair mechanisms that can deal with many of these eventualities, as alluded to earlier. It is an altogether noteworthy thing that our bodies are so made that they can heal.

People generally do not admire the attitude that refuses to reach out for progress for fear that it might involve suffering and pain. Indeed, if for fear of contracting illness a child is excessively protected from coming anywhere near dirt or germs, the child's immune system will not develop as it should, and the child will run the risk of succumbing to disease when it meets its full force for the first time later on.

Moreover, we must recall what we learned in our previous section, that Nature has, and must have, a certain autonomy. In Judaism, Christianity and Islam, the universe, though created by God, is not God, or part of God or an emanation from God, as it is in pantheistic religions and philosophies. When a scientist pokes around inside an atom, or splits it, he is not splitting or interfering with God! And if he does not take sufficient care, and atomic radiation irradiates his body and makes him ill, that is not to be thought of as God irradiating him and making him sick, nor can God be blamed for it. If a rich father gives his son a high-powered sports car, and the son drives it recklessly without due care, has an accident and kills himself, that is not his father's fault.[9]

The implications of our own attitude to pain

The attitude of the human race as a whole, then, all down the centuries seems to have been—and still is—that risk of pain, and indeed of death, is acceptable if it is ultimately justified by the securing of big enough benefits. Indeed, from one point of view, the progress of the

[9] Of course, the risk of pain that the human race takes in harnessing the forces of nature is different from the pain humans suffer from sickness. The forces of nature are not sick. Many are 'natural', though not necessarily safe, even when they are working as they were meant to work. Disease and sickness are of a different order and raise a different problem. We must deal with that later on.

human race in technology and medicine has depended on the race's being willing to adopt this attitude.

Suppose, then, that in creating our world and us human beings on it, God had in mind eventually to confer on us an infinitely glorious benefit; and then suppose that this purpose could not be achieved without the risk of pain and suffering both for humankind and for God himself. How could humankind reasonably object? Of course, people will argue that God, if he is all-mighty and all-wise as he is said to be, could by definition have created our world and have achieved this wonderful purpose for us without involving us or himself in any suffering whatever.

But then, as has often been observed, there are some things that God cannot do. He cannot, for instance, create square circles, or four-sided triangles, or exist and not exist at the same time. It could be, then, that the purpose God had in mind in creating human beings was so glorious that by definition it could not be attempted or achieved without inevitably running the risk of pain and suffering—at least it is worthwhile investigating that possibility. For if the God depicted in the Bible is going to be criticised and rejected on the ground that the world is full of pain and suffering, it might be sensible to let the Bible first tell us for what purpose he created it and us in the first place.

GOD'S MAJOR PURPOSES FOR THE HUMAN RACE

When I look at your heavens, the work of your fingers,
the moon and the stars, which you have set in place,
what is man that you are mindful of him,
and the son of man that you care for him?
Yet you have made him a little lower than the heavenly beings
and crowned him with glory and honour.

Psalm 8:3–5

TWO MAJOR PURPOSES

According to the Bible God had not one, but two major purposes in mind when he placed humankind on this earth.

The first purpose was that man, alone among the thousands of God's earthly creatures, should have this unique status and function of being created in the image and likeness of God, to be God's representative and viceroy, to be in fact king of the earth, as its chief authority under God, and its supreme administrator and developer (Gen 1:26–28).

The second major purpose proposed to confer on men and women an infinitely greater status and dignity than even the first purpose did. Having begun their existence as creatures of God, men and women were to be given the possibility of becoming children of God, begotten of the very life of God, and hence with the potential to mature into fully developed sons and daughters of God.

This purpose, though in the order of history it was the second to be revealed, was, so we are informed, logically the prior, and therefore the more important of the two. It was the ultimate objective God had in mind, which necessitated the creation of the world, and the creation of humankind in the image of God, as the first necessary stage towards its fulfilment. The Bible expresses it in this way:

> He [God] chose us in him [Christ] before the foundation of the world, that we should be holy and without blemish before him in love: having foreordained us unto adoption as sons through Jesus Christ unto himself, according to the good pleasure of his will, to the praise of the glory of his grace. (Eph 1:4–6 RV)

Glorious as they were, both of these purposes inevitably involved the possibility of pain and suffering. The early Christians, many of whom experienced the additional pain of being persecuted for being Christians and believing these things, nevertheless express their conviction that it was all worthwhile:

> For I reckon that the sufferings of this present time are not worth comparing with the glory which shall be revealed to and in us. (Rom 8:18, own trans.)
>
> For our light affliction, which is for the moment, works for us more and more exceedingly an eternal weight of glory. (2 Cor 4:17 RV)

Our first task, then, is to try to understand the grandeur of these two purposes in somewhat more detail.

The first purpose: humans as God's creatures

There is no need to repeat here what we have said elsewhere in this book series about the magnificence of the human race's God-given role as God's viceroy, administrator and developer of earth, its resources and potentials (see Gen 1:26–28; Ps 8).[1] Nor is there any need to rehearse at length the great successes the human race has achieved in exercising and developing that commission. The spectacular advances in technology, science, medicine, art, music, architecture, literature and industry is plain for all to see; and we all benefit immensely from them (although unfortunately not yet all nations in the world share equally in the benefits). Two particularly impressive examples of the human race's mastery of nature may be cited, however, as symbolic of the rest.

First stands the cracking of the genetic code. It is a spectacular testimony to human intellect and ingenuity and holds out hope for the elimination of genetically caused diseases. At the same time it puts into the hands of human beings an unpredictably extensive power for the eventual reshaping of the human genome and control of the future shape of the human race. (The power of this control is so great and its potential effects so unpredictable, that incidentally it urgently raises the question: where shall moral, spiritual and ethical principles be found, adequately to control the controllers, and prevent them from attempting to play God, and thus becoming tyrants over their fellow human beings?)

[1] For a discussion of the magnificence of the human race's status and role, see Chs. 5 and 6 in Book 1: *Being Truly Human*.

The second instance of the human race's development of this God-given commission that may serve as a symbol of the rest is our race's incipient mastery of space. It is not so much our space travel (the vast distances in the universe preclude our ability to travel very far), as the twin facts that standing on earth we can with signals control a space module circling millions of miles away around Jupiter, and with visual, X-ray, ultraviolet, infrared and radio telescopes we can see what galaxies are doing at the edge of the universe. Indeed human intellect can transcend the universe itself and ask when and how the universe began, and how and when it will end.

In the light of humanity's progress, then, the words of the ancient psalmist glow with ever greater significance:

> When I look at your heavens, the work of your fingers,
> the moon and the stars, which you have set in place,
> what is man that you are mindful of him,
> and the son of man that you care for him?
> Yet you have made him a little lower than the heavenly beings
> and crowned him with glory and honour.
> You have given him dominion over the works of your hands;
> you have put all things under his feet.
>
> (Ps 8:3–6)

The second purpose: humans as God's children

Let us repeat the statement of this purpose that we cited earlier:

> He [God] chose us in him [Christ] before the foundation of the world, that we should be holy and without blemish before him in love: having foreordained us unto adoption as sons through Jesus Christ unto himself, according to the good pleasure of his will, to the praise of the glory of his grace. (Eph 1:4–6 RV)

And to this let us add the key passage in the New Testament on this topic:

> He [that is, the Son, and Word, of God, that is, the second person of the Trinity] was in the world, and the world was made through him, yet the world did not know him. He came to his own, and his own people did not receive him. But to all who

> did receive him, who believed in his name, he gave the right to become children of God, who were born, not of blood nor of the will of the flesh nor of the will of man, but of God. (John 1:10–13)

One cannot fail to notice that both these passages employ highly elevated language; but we should not conclude from this that they are using their leading terms in a vague poetic way. They are in fact using them with precise, technical and theological meaning. It is, then, as we grasp the precise meanings of the Bible's technical terms that we shall perceive the highly significant difference between God's first purpose: the creating of humankind as his creatures, and God's second purpose: the begetting of individual men and women as his children, and their subsequent maturing as his sons and daughters.

The difference between two processes and between two results

We need here to be clear about the difference between the two processes: 'creating' and 'begetting'; and between the two results: 'creatures of God' and 'children of God'. Popular religious thinking often confuses these differences and speaks as if all human beings were automatically children of God. But that is not true. God certainly loves all human beings, for he is their Creator and they are all his creatures. In non-technical language, then, we may rightly say that he looks after them in a fatherly way. But in technical biblical language, while all human beings are creatures of God, not all are children of God. A closer study of the passage quoted above from the Gospel of John 1:10–13 makes this very clear.

1. Human beings are there told that if they wish to be a child of God, they must *become* one; and you cannot become what you already are.
2. None of us was given a choice as to whether we wished to be conceived by our parents and born into this world as creatures of God. But becoming a child of God is a matter of active personal faith and choice. It is those who 'receive Christ', who 'believe in his name', who are given authority to become children of God.

3. Furthermore we are explicitly told that becoming a child of God is not something that can be achieved for us by our parents, nor indeed by our own willpower. It is the process of being 'born by God', of being born of the Spirit of God (John 3:5–9), by which means God implants his life within us.

This process, then, of being 'begotten of God', points by its very description to the difference between creatures of God and children of God: God's creatures are made by him; God's children are begotten by him. Let's use an analogy. An engineer cannot get a child by the same process as he uses to get a computer. He makes, or creates, the computer, but he has to beget a child. And, in consequence, there is a vast category-difference between his computer and his child. The computer may well be highly sophisticated and able to perform wonderfully complicated operations far beyond the capability of the infant child, but the computer would not possess the engineer's life. The infant child would; and with that life the infant child would grow up to experience a relationship with his father, and an enjoyment of his father's life, love and fellowship far beyond the capabilities of the computer.

Yet another feature of this process of becoming a child of God is this: it is not an operation that takes place only at, or after, life's end. Though it carries eternal implications for the life to come, it is a process that happens, if at all, in this life. Writing to his fellow believers, the Christian Apostle John remarks:

> See what kind of love the Father has given to us, that we should be called children of God; and so we are. The reason why the world does not know us is that it did not know him. Beloved, we are God's children now, and what we will be has not yet appeared; but we know that when he appears we shall be like him, because we shall see him as he is. (1 John 3:1–2)

We shall, as another biblical passage puts it, 'be conformed to the image of his [God's] Son' (Rom 8:29).

Finally, both the present and the eternal implications of the fact that believers in Christ have become children of God are inexpressibly glorious. Says the Bible:

> The Spirit himself bears witness with our spirit that we are children of God, and if children, then heirs—heirs of God, and fellow heirs with Christ. (Rom 8:16–17)

It is the dawning realisation of the eternal wealth of glory that this inheritance will involve that makes the Christian apostle who wrote these words and all those who share his faith assert their profound and sincere conviction:

> I consider that the sufferings of this present time [Gk. 'of the now time', meaning this present age as distinct from the age to come] are not worth comparing with the glory that is to be revealed to [and in] us. (Rom 8:18)

The two purposes and the problem of pain

We may summarise God's two major purposes for the human race as follows:

1. Being placed in this temporary world as creatures of God, to act as God's viceroy, to administer and develop earth's resources and potentials (Gen 1:26–28; Ps 8).
2. Becoming, while still in this world, a child of God by spiritual birth, thus receiving the Father's life, and enjoying fellowship with the Father (John 1:10–13; 1 John 3:1–2).
3. Being developed and educated as a child of God by the Holy Spirit, by the Word of God, by God's Fatherly discipline in life's experiences, so as to grow into a mature son, or daughter, of God (Heb 12:1–13; Rom 8:14–30).
4. Being finally brought to enjoy perfect fellowship with God in the life to come, and to reign with Christ over the eternal new heavens and earth which God shall yet create (Eph 1:9–11, 17–23; Col 1:12–23; Rev 22:5).

But with this we are back with our basic problem: if these were and are indeed God's purposes for the human race, how is it that they have proved to entail so much pain and suffering, and that not only for extreme criminals and genocidal tyrants, but for the whole of the human race?

WHY THEN SO MUCH PAIN AND SUFFERING?

If the purposes of God for the human race are in fact so glorious as Christian thought makes out, why has their fulfilment involved so much pain and suffering? The short biblical answer is: because a fundamental distortion has occurred between humans, the creatures, and their Creator, that has affected the human race's constitution, humans' relationship with nature, and nature itself. In biblical terms, the human race is sinful. But that does not simply mean that humans treats their fellow humans badly (which is the problem of moral evil). The human race is also in revolt against our Maker, and our own nature is in revolt against us.

If the purposes of God for the human race are in fact so glorious as Christian thought makes out, why has their fulfilment involved so much pain and suffering?

It is important to notice, however, what this does not mean. The Bible does not teach that if a person suffers, it is because of sins which that person committed in a previous incarnation. Neoplatonism taught that and so does Hinduism still.[2] Christianity emphatically does not.

Nor is it true that, if someone suffers some severe illness or accident, we may necessarily conclude that he or she has secretly been guilty of serious sins. Popular thought has often imagined that this must be true. But the whole book of Job in the Old Testament is a protest against this idea; and Christ in the New Testament likewise explicitly denied it. His attention was called to people who had suffered a state-inflicted atrocity, and he in turn recalled people who had died in a natural disaster. In both cases he rebuked the popular opinion that the victims of these extraordinary things must have been exceptionally outrageous sinners; though he added: 'unless you repent, you shall all likewise perish' (Luke 13:1–5), for we are all sinners.

Thirdly, when the Bible asserts that all humans are sinners, it does not mean that every human being is as bad as he or she could possibly be. Christ remarked that parents in his day, like the vast majority of parents in all ages, in spite of being sinful, know how to be kind to their children: 'If you then,' he said, 'who are evil, know how

[2] See Chs. 1 and 2 in Book 2: *Finding Ultimate Reality.*

to give good gifts to your children . . .' (Luke 11:13). And the Old Testament likewise observes that human fathers feel pity for their children (Ps 103:13), that mothers comfort them (Isa 66:13) and that it takes an unnaturally hard woman to forget, and feel no compassion for, the children that once suckled at her breast (Isa 49:15).

That said, however, history itself teaches a consistent lesson: there is something obviously wrong with human nature. In his chapter 'Human Nature in History', the Cambridge historian Sir Herbert Butterfield draws from his study of history a number of basic observations:

> The historian begins, then, with a higher estimate of the status of personality than thinkers in some other fields, just as Christianity itself does when it sees each individual as a creature of eternal moment. Having made this splendid start, however, the historian proceeds—like the tradition of Christian theology itself—to a lower view of human nature than the one commonly current in the twentieth century. . . .
>
> It seems to me, however, that in regard to the relations between human nature and the external conditions of the world, the study of history does open one's eyes to a significant fact . . . if you were to remove certain subtle safeguards in society many men who had been respectable all their lives would be transformed by the discovery of the things which it was now possible to do with impunity; weak men would apparently take to crime who had previously been kept on the rails by a certain balance existing in society; and you can produce a certain condition of affairs in which people go plundering and stealing though hitherto throughout their lives it had never occurred to them even to want to steal. A great and prolonged police strike, the existence of a revolutionary situation in a capital city, and the exhilaration of conquest in an enemy country are likely to show up a seamy side of human nature amongst people who, cushioned and guided by the influences of normal social life, have hitherto presented a respectable figure to the world.[3]

[3] Butterfield, *Christianity and History*, 44, 45–6.

Butterfield's conclusion from this is that 'the difference between civilisation and barbarism is a revelation of what is essentially the same human nature when it works under different conditions'.[4] And he adds:

> One point is fundamental, however. Nobody may pretend that there has been an elimination of the selfishness in human nature, and self-centredness of man.[5]

If in a well-run city, he argues, crime has significantly reduced, because the police have successfully restrained it, no one would argue that there is no longer any need for the police.[6] Without them basic human nature would resume its criminal activity.

Butterfield goes on to argue that unrecognised flaws in human nature such as pride and cupidity and self-centredness can produce a dangerous self-righteousness that convinces people that they are one hundred per cent right, and others similarly wrong. He writes:

> it seems to me that Christianity alone attacks the seat of evil in the kind of world we have been considering . . . It addresses itself precisely to that crust of self-righteousness which, by the nature of its teaching, it has to dissolve before it can do anything else with a man. The more human beings are . . . incapable . . . of any profound kind of self-analysis, the more we shall find that their self-righteousness hardens, so that it is just the thick-skinned who are more sure of being right than anybody else. . . . At its worst it brings us to that mythical messianism—that messianic hoax—of the twentieth century which comes perilously near to the thesis: 'Just one little war more against the last remaining enemies of righteousness, and then the world will be cleansed, and we can start building Paradise'.[7]

We should have to admit at once that sometimes Christendom itself has been guilty of this thick-skinned self-righteousness when it physically tortured heretics' bodies and burned them alive in a

4 *Christianity and History*, 46.
5 *Christianity and History*, 52.
6 *Christianity and History*, 48–9.
7 *Christianity and History*, 58–9.

supposed effort to 'save' their souls; but it has been true of great political movements, too, including Nazism and Marxism.

Butterfield makes it clear that his critique applies not only to the high-powered political movements and international affairs, but also to private citizens:

> That same human nature which in happy conditions is frail, seems to me in other conditions capable of becoming hideous, unless it has found a way of putting itself above the effects of wind and weather. I have seen little people so wilful in their little kingdoms that it seems to me merely their good fortune that they were not crowned heads or prime ministers, with peace and war depending on their coolness of mind. . . . To me, therefore, it seems that nothing could be more exact perhaps for any man than the statement that 'all men are sinners and I the chief of them'; or the thesis, 'There but for the grace of God go I'.[8]

Butterfield ends his chapter by recalling the words of a bishop who said that if we totally disarmed, he had too high an opinion of human nature to think that anybody would attack us. Butterfield comments:

> There might be great virtue in disarming and consenting to be made martyrs for the sake of the good cause; but to promise that we should not have to endure martyrdom in that situation, or to rely on such a supposition, is against both theology and history. It is essential not to have faith in human nature. Such faith is a recent heresy and a very disastrous one.[9]

If we are prepared to accept that something is wrong with human nature, we will then need to ask what exactly that something is and how it is related to pain and suffering and death.

[8] *Christianity and History*, 63–64.

[9] *Christianity and History*, 66.

BROKEN HUMAN NATURE AND NATURAL EVIL

Why, if a loving and all-powerful God created us, do we his creatures suffer natural disasters, illness both physical and mental, and eventually death? And what has this state of affairs to do with some defect, or perversion, in human nature?

WHAT EXACTLY IS WRONG WITH HUMAN NATURE?

Looking at history it is easy to see that the evil in human nature has caused untold suffering to fellow human beings. But that constitutes the problem of *moral* evil that we discussed in the first half of this book. Here, by contrast, our concern is with the problem of *natural* evil: why, if a loving and all-powerful God created us, do we his creatures suffer natural disasters, illness both physical and mental, and eventually death? And what has this state of affairs to do with some defect, or perversion, in human nature?

We can begin the biblical answer with its statement: 'sin came into the world through one man, and death through sin' (Rom 5:12).

According to this statement, then, human death in all its degrees and forms, and with all its pain and suffering right up to its final eventuation, is traceable in the first instance to deliberate disobedience to God on the part of the first originating member of the human race.

For many people this biblical story is simply an aetiological myth invented by primitive, pre-scientific, people, and is their attempt to account for human disease and death. Moreover, science, it is argued, has shown that death is a perfectly natural process in nature, and not a result of sin. This, then, they say, invalidates the 'myth'. We must and will discuss these objections later on. But first let us explore exactly what the biblical story is saying.

Adam's sin brought death

The language of this biblical statement in Romans 5:12 is both vivid and precise. Adam's disobedience is represented as opening a gate, so to speak, through which sin entered the world of humans and things. Notice the singular 'sin' (not 'sins'). The statement is referring not to the endless variety of individual sins that have since been committed, but to sin as a principle. The Bible defines the principle of sin

as lawlessness (1 John 3:4, Gk. *anomia*). It is an attitude, a frame of mind, a disposition, a spirit. It denotes a basic egotism, in which the human creature asserts, and insists on, his own will against the will and command of the Creator. And when a human creature assumes that attitude, the term that is used in biblical language to describe that creature and his attitude is 'flesh'. Consider, for instance, the following statements:

> For the mind that is set on the flesh is hostile to God, for it does not submit to God's law; indeed, it cannot. Those who are in the flesh cannot please God. (Rom 8:7–8)

It is very important here to notice that in contexts like this the Bible is using the term 'flesh' in a specialised sense. 'Flesh' in the ordinary sense of the word is part of the stuff we human beings are made of; and there is nothing wrong or unwholesome or sinful with 'flesh' in this sense. But when human beings place their confidence and trust in their own wisdom and strength rather than in God, and even more so when they assert their own will in opposition to God, then God refers to such people as 'flesh'. He thereby reminds them of their frailty as human beings, made of flesh, as distinct from the omnipotence of God who is Spirit; and of their folly as mere creatures, in rejecting God and absurdly attempting to live independently of him, when in actual fact they owe their life and everything good to him.[1]

So when the Bible says: 'to set the mind on the flesh is death' (Rom 8:6), it is not referring simply to those sins which people generally think of as 'sins of the flesh', such as gluttony, drunkenness and sexual immorality; it is thinking of that attitude of heart that determines to live independently of God and in disobedience to him. And that attitude, the Bible insists, necessarily spells death.

The nature of Adam's sin

According to the Genesis story (Gen 2 and 3) Adam's sin was to eat the forbidden fruit. Now, many people have imagined that 'to eat the

[1] See, e.g. Isa 31:1, 3; and Jer 17:5: 'Cursed is the man who trusts in man and makes flesh his strength, whose heart turns away from the LORD.'

forbidden fruit' is to engage in sexual intercourse; but there is nothing whatever in the Genesis story to suggest that.

Others try to debunk the story. They say it represents God as a little-minded tyrant. Adam's act, they maintain, was at worst a mere peccadillo, an infringement of a petty rule. To impose the death penalty for that was outrageously out of proportion. But this interpretation totally misses the central point of the story.

Adam's disobedience arose in fact from a fundamental disagreement with God over the nature of life and the serious possibility of man's experiencing death. God had explicitly warned Adam and Eve that if they ate of the fruit of the tree of the knowledge of good and evil in downright disobedience to him and independence of him, they would surely die (Gen 2:17). But the tempter concentrated Eve's attention on the tree until she 'saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise' (Gen 3:6). That is, she saw that the tree seemed to promise physical enjoyment, aesthetic enjoyment, and intellectual enjoyment. Then immediately the tempter flatly denied God's word that eating its fruit, contrary to God's commandment and independently of him, would mean death. Instead, he asserted that it would lead not only to a fuller enjoyment of life, but to a liberating independence of God ('you will be like God, knowing good and evil', Gen 2:5). Thereafter they would be able to decide for themselves what was good and what was evil without reference to God or to his word. According to the tempter's reinterpretation of God's prohibition, it was in fact motivated by his tyrannical desire to suppress humankind and keep them subservient to his arbitrary commands. They should therefore, said the tempter, assert their freedom and grasp life to the full.

Adam's disobedience arose in fact from a fundamental disagreement with God over the nature of life and the serious possibility of man's experiencing death.

We need not stay to discuss what the nature of the fruit of the tree was, or to wonder what quality it must have had so that eating it should produce the knowledge of good and evil. To interpret it that way is to miss the point of the story. To eat of any tree, indeed to do anything at all, from whatever motive, contrary to the will and word of our Creator, is itself lawlessness. It is that frame of mind that

asserts the creature's will against the Creator's, that pushes the Creator aside and makes central to life the pursuit of one's own egotistical interests and interpretation of life. That is what in principle sin is.

And sin, as God warned them, automatically leads to death. There is nothing wrong in themselves with physical enjoyment, aesthetic pleasure, and the acquiring of moral wisdom and knowledge. But to suppose that these and suchlike things are the sum total of life, so that as long as one can enjoy them, one can enjoy life to the full independently of God, and indeed in neglect, or even in defiance, of his word—is a fundamental and tragic deception. God is not only the *source* of all the good things we enjoy; he is the *supreme good* that gives ultimate meaning and significance to all the lesser goods he give us. Indeed the basic principle of life, enunciated by God in the Old Testament (Deut 8:3) and repeated by Christ in the New is: 'Man shall not live by bread alone, but by every word that comes from the mouth of God' (Matt 4:4).

Suppose one day you meet a friend you have known for a year or two, and you notice that for the first time she is now wearing an engagement ring. Naturally you show great interest in the ring and admire its shape, material and aesthetic effect. And then, of course, you ask: 'Tell me, who is the fortunate man?' Suppose she replies:

'What man?'

'Why, the man who gave you the ring,' you reply.

'There is no such man,' she says. 'I don't believe in men, nor in marriage either. I don't want any man.'

What would you say then? The engagement ring remains a beautiful work of art and aesthetically pleasing; but without a man behind it, and without love and marriage in prospect, she is denying and rejecting the ring's essential significance.

In the same way, to take the lovely things of life, which are in fact the Creator's gifts to us, and to attempt to enjoy them independently of him, and in neglect or even defiance of his commandments is to deprive oneself of the highest level of life, which is life lived in fellowship with the living God. It is, in fact, the beginning of a death that if persisted in will eventually become unalterable and eternal.[2]

[2] Cf. the way in which Christ depicted the younger son in the parable of the Prodigal Son, as being dead as far as relations with his father were concerned (Luke 15:32).

Consequences of Adam's sin

We may list here four of the notable consequences of Adam's sin, that will bring us nearer to the biblical view of the problem of pain.[3]

1. A kind of living death
2. Eventual physical death
3. The subjection of creation to futility and ineffectiveness
4. The effect of Adam's sin on his progeny

Let's now discuss each in turn.

A kind of living death

Immediately upon their transgression of God's prohibition Adam and Eve, according to the story, experienced a profound change, first in their own self-consciousness and secondly in their concept of God. They became aware of their nakedness, felt ashamed and tried to cover it up At first their feeling of shame arose out of their physical nakedness; but that shame went deeper, for when presently they heard the voice of the Lord God walking in the garden, they tried to hide themselves from the presence of the Lord amongst the trees of the garden It was a vain attempt, of course, for there is nowhere in Nature or in the whole universe where man can successfully hide himself from his Creator, though many people attempt it still. Compelled, however, to come out of his hiding and explain his behaviour, Adam said 'I was afraid, because I was naked; and I hid myself' (Gen 3:7–10).

Physically naked, however, is precisely how God had made them. Why, therefore, did they now feel afraid of being naked in God's presence? They hadn't felt ashamed or afraid before; why now? By his next question God put his finger on the reason. 'Who told you that you were naked? Have you eaten of the tree of which I commanded you not to eat?' (Gen 3:11).

Here lay the trouble: it was deliberate disbelief in God's word, and transgression of his prohibition, that had automatically induced in them feelings of guilt, shame, fear and a nakedness that was deeper than mere physical nakedness. It was a nakedness that the Bible later describes in the following terms:

[3] It is worth recalling that *'adam* is the Hebrew word for 'man'.

> Let us therefore strive . . . that no one may fall by the same sort of disobedience. For the word of God is living and active, . . . discerning the thoughts and intentions of the heart. And no creature is hidden from his sight, but all are naked and exposed to the eyes of him to whom we must give account. (Heb 4:11–13)

Sin, then, with its consequent sense of shame, guilt and fear, had ruptured man's close and intimate relationship with God, the source of his life, and brought about an alienation that made man prefer to run away from God and hide, if possible, or at least to live not too close to God. It was, by definition, a kind of spiritual death.

Eventual physical death

Upon man's disobedience and revolt, he was not immediately executed. The free will that God had given him was genuine free will; and man must be, and would be, allowed to learn by experience the consequences of refusing to listen to God and choosing to disobey him. But his sin would eventually bring about his physical death, as our initial quotation asserted: 'sin came into the world through one man sin, and death through sin' (Rom 5:12).

A strong objection to the story of Adam and Eve

A little while back we observed that atheists and many other thinkers reject the story of Adam and Eve completely as nothing but an aetiological myth and utterly unhistorical. And they particularly object to the New Testament's explicit statement that human physical death is the result of human sin (Rom 5:12). They hold, by contrast, that human death, like human birth, is perfectly natural. They do not deny, of course, that people can, if they choose to, cause premature death by unwise or foolish misbehaviour; but they hold that death which in the end comes to all humankind as a result of disease or plain old age is a perfectly natural process and is not the result of some sin on the part of the progenitors of the human race. Some (though not all) geneticists hold, as we saw earlier, that ageing and death are caused simply by the natural wearing away of the telomeres in the course of mutation and cell division.

We promised earlier that we would eventually discuss this objection; so let us do so here.

Perhaps the first thing to say is that the Bible does not deny that human death comes at the end of a more or less long natural process, and occurs by the gradual (or sudden) failure of one or more of the body's life-support, or life-protective and repair, systems. We repeat what we said a moment ago. According to Genesis, man was not put to physical death the moment he sinned: his physical death would not ensue until after a long natural process:

> By the sweat of your face you shall eat bread, till you return to the ground, for out of it you were taken; for you are dust, and to dust you shall return. (Gen 3:19)

Secondly, it is important to notice that the Bible nowhere says that man, as originally created, possessed essential, inherent, immortality. God alone has immortality, which inheres in the very nature of his being (1 Tim 6:16; cf. John 5:26, 'the Father has life *in himself*'). Created man did not have life 'in himself'. Left to himself he would have eventually grown old and died, as he eventually did.

What the Bible does say is that for Adam to have continued to live physically forever, he needed constantly to eat of the Tree of Life that was in the middle of the garden of Eden. What the nature of that sustenance was which God mediated to Adam through that real, but symbolic, Tree of Life, we are not told. (Though that it was a symbol is indicated in the New Testament in passages like Rev 2:7; 22:2; and in the ancient tabernacle where the Lampstand was a symbolic Tree of Life, Exod 25:31–40). But it was when Adam and Eve were driven out of the garden because of their sin, and their access to the Tree of Life was cut off (Gen 3:22–24), that nature took over and the natural processes of decay, ageing, and eventual death took place. It is in this sense that the Bible declares that 'sin came into the world through one man sin, and *death through sin*' (Rom 5:12).

To argue, however, that it is somehow contrary to science to believe that God could have supplied a necessary substance to the original pair that would have maintained them permanently in physical life, and would have done so if they had not sinned, is scientifically unwarranted. Professor Steve Jones (not, apparently, a theist) points out that the mechanism necessary for the propagation of life, has been designed precisely so that it should maintain the human race indefinitely, as it has already done for centuries. He writes:

> Sex resets the telomere clock. As the chromosomes pair up during the formation of sperm and egg they are revitalized by an enzyme that makes new chromosome ends. The gene—a veritable fountain of youth—produces an enzyme, telomerase (sometimes called . . . Telomere Lengthening Component). It is not active in tissues other than those producing germ cells; only sperm and egg can be rejuvenated.
>
> Telomeres . . . are just a part, perhaps a small part, of the machinery of rejuvenation that works its magic each time a baby is born . . . Biology shows . . . that, although the life of those who bear them is transient, the world of the genes will live for ever.[4]

In light of this, it would be very arbitrary to say that the Creator of this 'machinery of rejuvenation', could not have supplied our first parents with a substance, or a process, or whatever, that would have continued to rejuvenate them, if only they had not defied his warning of death.

The subjection of creation to futility and ineffectiveness

To understand this consequence of man's sin, one must bear in mind the exalted status that is given to man in biblical thought. The human race is not, as in atheistic evolution, the latest accidental product of mindless forces to appear on this planet, a planet that was never designed to accommodate us in the first place—and not in fact designed for any particular purpose at all. Man, in biblical thought, was created to be God's viceroy, to manage and develop earth in fellowship with God. In this sense creation was designed to serve man as its lord and head, that he in turn should administer it for God's glory as God's responsible steward.

This being so, man's sin and virtual revolt from God, to use earth for his own satisfaction and purpose regardless of God's word and will, carried—and still carry—profound significance. For from that time onwards this part of God's universe, namely Planet Earth, was in the hands of an administrator whose heart and motives were tainted by a fundamental egotism, independence and incipient rebellion. Viewed from outside by angels, for instance, or any other intelligent

[4] *In the Blood*, 281–2.

beings loyal to the Creator that may exist elsewhere in God's creation, this planet must have presented a strange spectacle. It still does. Indeed, when man's initial revolt should have had time to work itself out in the course of the centuries, and like a seed have come to its full harvest, this planet would witness the spectacle of the Son of the Maker of the universe, nailed by man to a cross, with a crown of thorns on his head.

The interesting thing, then, in the Genesis story is that, upon his revolt, man was not immediately ejected from his office as earth's chief administrator. He was allowed to keep his responsibility for developing earth. At the same time, however, 'creation was subjected [by God] to ineffectiveness, not through its own fault, but because of him who subjected it' (Rom 8:20, own trans.).

Once more the terms used are both precise and interesting. The Greek word for 'ineffectiveness' (*mataiotēs*) is cognate with the adverb *matēn*, which, when it is used to describe some action, denotes that the action was all 'in vain': it did not effect the goal it was designed to. And when this passage says that creation was subjected to ineffectiveness and frustration 'not willingly', or 'not through its own fault' (Gk. *ouch hekousa*) it doubtless has in mind, among other things, God's curse on the ground because of Adam's sin:

> Cursed is the ground because of you [Adam]; in pain you shall eat of it all the days of your life; thorns and thistles it shall bring forth for you. (Gen 3:17–18)

C. E. B. Cranfield comments:

> the sub-human creation has been subjected to the frustration of not being able properly to fulfil the purpose of its existence . . . We may think of the whole magnificent theatre of the universe together with all its splendid properties and all the chorus of sub-human life, created to glorify God but unable to do so fully, so long as man the chief actor in the drama of God's praise fails to contribute his rational part . . . [and] so long as man, its lord (Gen 1:26, 28; Ps 8:6), is in disgrace.[5]

[5] *The Epistle to the Romans*, 1:413–14, 416.

The human race would, over the centuries, make great and spectacular strides in the development of earth and in the administration of its resources—but never with one hundred-per-cent success, or unqualified and permanent progress: witness the many once brilliant, but now decayed, civilisations of past centuries. Time and again nature would thwart human progress with thorn and thistle, back-breaking labour, pests, disease, epidemics, droughts, famines, earthquakes, volcanoes, etc.—not to speak of the way the human race's own egotism, greed and moral corruption would pervert our administration of earth's resources. Even today in this technologically advanced twenty-first century, millions of people live on the brink of starvation, while the scientifically sophisticated nations spend billions of dollars developing and manufacturing ever more sophisticated weapons for nuclear and germ warfare. Our race's administration of earth's resources is obviously flawed.

Millions of people live on the brink of starvation, while the scientifically sophisticated nations spend billions of dollars developing and manufacturing ever more sophisticated weapons for nuclear and germ warfare. Our race's administration of earth's resources is obviously flawed.

Sometimes nature herself hits back in protest at human abuse of her systems. Sexual immorality and promiscuity have introduced into many countries a vast epidemic of AIDS which has already destroyed some millions of people, and continues to destroy multimillions more, leaving many homes in which children, scarcely in their teenage years, are obliged by the death of their parents to bring up the rest of the children.

More recent mishandling of nature's processes for the maintenance of the human race is now creating an enormous problem. In centuries gone by (and still in some cultures) parents produced large families so that their children would support them in their old age. More recently in many countries State pension schemes were introduced to maintain the older generation in their retirement years. These schemes depended, of course, on there being enough younger people of working age to pay sufficient taxes to service the pensions for the elderly. But then, in still more recent decades in many countries, abortion (virtually on demand) was legalised, and has since been used as a form of contraception, to thwart nature.

In America alone, it is estimated that since 1973 over 58 million human foetuses have been aborted.[6] Now the generation that initiated this vast tide of abortions is reaching retirement age and is beginning to discover that there are not enough younger people in their midlife working years to service the pensions of the aborting generation.

It is evident, then, that the human race's relationship with creation and creation's relationship to the human race are disordered; and it is not an accident that it is so. Earth is, after all, God's creation. The human race is not its owner, only a tenant, and a sinful tenant at that. There cannot be two paradises for humans, one in fellowship with God and one without him. Natural pain and suffering serve to remind the human race of its fallenness and alienation from God. If that in turn induces our race to cooperate with God in his purposes for the redemption and restoration both of humans and of nature, then even pain and suffering, though evil in themselves, will in God's wisdom, have been made to serve a very healthy purpose.

The effect of Adam's sin on his progeny

Two quotations will suffice us here:

> through one man sin entered the world, and through sin death; and so death came to all men in turn, because all have sinned. (Rom 5:12, own trans)[7]

> For as by the one man's disobedience the many were made sinners, so by the one man's obedience the many will be made righteous. (Rom 5:19)

These statements assert that we have all inherited from Adam a human nature that is flawed, fallen and sinful. Now once more, many people reject the story of Adam and the way that the Bible traces our sinful human nature back to him. But it has to be noted that even atheistic evolutionists assert that *Homo sapiens* sprang from one ancestor (it surely must have been two!), and still debate whether that

[6] Guttmacher Institute, 'Induced Abortion in the United States'.

[7] It is important to notice that the last clause in this quotation does not say that all men sinned *in him* (i.e. in Adam). In the original Greek of the New Testament this last clause is introduced by the conjunction *eph' hō* which cannot mean 'in whom', or 'in him', for that would have required *en hō*. *Eph' hō* means simply 'because'.

primary ancestor lived in Africa or elsewhere. And no one disputes that the long line of his descendants have inherited his genes and therefore his nature. But that by the way.

The Bible asserts that it is not altogether our fault that we are born with a flawed human nature; we have inherited it from Adam. But it is our fault that we have then gone on personally to sin; and therefore we are subject to death. We are like a child born to a mother who is a drug dealer and herself heavily addicted; and the child when born is found to have been affected by the drugs in its mother's system, and is already showing withdrawal symptoms. That's not the child's fault. But the child grows up, struggles against the inclination to drugs, but then deliberately gives way to the habit and becomes a drug dealer himself. That *is* his own fault.

We as individuals, then, have inherited a nature that is sinful, have gone on to sin on our own responsibility, and are on all sides influenced and pressurised by the prevailing ethos of a fallen world. As the Bible puts it, we are 'by nature children of wrath', that is to say, our very nature and the sinful behaviour that springs from it attract God's severe displeasure (Eph 2:3).

To many people, however, this biblical doctrine seems outrageously unfair. We did not ask, they say, to be born from a race spoiled at its root. Why should we be rejected by God as a result of what somebody else originally did? But the answer to this understandable objection is given in the second half of the second quotation above:

> For as by the one man's disobedience the many were made sinners, so by the one man's obedience the many will be made righteous. (Rom 5:19)

In other words, if we were made sinners by what some other person did, rescue and redemption is offered to us freely on the very same terms through what another person has done, rather than by what we ourselves can do. But more of that later.

PAIN, SUFFERING AND THE INDIVIDUAL

God has—and always has had—redemptive plans of big enough scope to cover the whole of humankind's history up to and including the last generation, and extensive enough to reach to the bounds of the universe, the end of time, and on into eternity. But he is no less concerned for each individual in each generation.

GOD'S CARE FOR THE INDIVIDUAL

Up to this point we have discussed the problem of pain and suffering largely in the context of the human race as a whole, and its relation to the earth, and, indeed, to the universe. That is inevitable. A great part of the problem is the natural disasters that occur on Planet Earth; and these things reoccur and affect far more than one individual, or even just one generation of humankind. Similarly diseases such as cancer, diabetes, heart failure and many others have occurred all down the centuries as diseases common to humanity as a whole. While, then, great advances have been made in understanding and treating these diseases, any one individual sufferer at the present time must be prepared to recognise that hope for the final cure, or the eradication, of these diseases necessarily awaits future discoveries and developments; it may not be realised in his or her lifetime.

Where then does this leave the individual? An individual's life at longest is comparatively brief; and when he or she sees their life—and it's the only one they have—threatened with premature death, and any enjoyment of life grievously reduced by a constant struggle with pain, disability and fear—then discussion of the problem of pain and suffering in terms of the history and future of the human race is liable to seem largely irrelevant to the individual, if not cruelly insensitive to his or her personal interests, feelings and emotions.

The Bible certainly holds out hope not only for humankind as a whole, but for the entire creation: it promises the coming of a 'time for the restoration of all things' (Acts 3:21, own trans.), when 'creation itself will be set free from its bondage to corruption' and from its pains and groanings (Rom 8:21–22). On the other hand the Bible is not a totalitarian programme that promises a utopian paradise in the future for humankind as a whole, with little or no regard in the meantime for the suffering of individuals. On the contrary, its emphasis on God's concern for the individual was famously expressed by Christ. He did not unrealistically declare that God's care for his

creatures is so great that none of them ever falls. What he did say, however, was that God is concerned about the fall of every individual:

> Are not two sparrows sold for a penny? And not one of them will fall to the ground apart from your Father. But even the hairs of your head are numbered. Fear not, therefore; you are of more value than many sparrows. (Matt 10:29–31)

The Bible, then, declares that God has—and always has had—redemptive plans of big enough scope to cover the whole of humankind's history up to and including the last generation, and extensive enough to reach to the bounds of the universe, the end of time, and on into eternity. But he is no less concerned for each individual in each generation; and this is what gives importance to the order in which, according to the Bible, the stages of redemption take place.

THE ORDER OF REDEMPTION

To see this at work we may return to the Genesis story and to the order of events that took place immediately after Adam and Eve's transgression. It is this order of events, among other things, that shows the genius of this story.

God's initiative to overcome the human race's sense of alienation

Upon their transgression, we remember, Adam and Eve were overcome by feelings of shame and guilt, and in their fear they instinctively tried to hide from God. God's response was to take the initiative, seek them out, make them confront him—all on purpose to put an end to their sense of alienation, to cover their shame, to grant them forgiveness, and to assure them of his acceptance of them. That did not imply that he minimised the gravity of their sin, or that he proposed simply to brush it under the carpet. He announced a long list of physical, emotional and relational consequences and disciplines that would inevitably follow their sin. But then 'the LORD God made for Adam and for his wife garments of skins, and clothed them' (Gen 3:21).

It was not only a practical provision: it was an extremely significant symbolic gesture. Human beings are part animal, part spirit.

But through their fall Adam and Eve had become painfully aware not only of their animality but of the fallenness of their spirit that made them feel unfit to stand in God's presence. God himself provided the answer that met this particular and highly personal distress. He sacrificed an innocent animal and with its skin clothed the guilty humans (Gen 3:21).

Without this gesture on God's part the pain and suffering they would endure as a practical consequence of their sin, together with the prospect of eventual physical death, might well have proved psychologically unbearable. But now, whatever pain they encountered, this they would know: God had not turned his back on them. God himself had clothed them and made them feel accepted in his presence. God was for them. Their final redemption was secure.

An enduring metaphor

God's clothing of Adam and Eve has provided a thought model and a metaphor that have been repeatedly used and enjoyed all down the centuries. The Jewish poet and prophet Isaiah describes how the redeemed phrase their song of gratitude to God:

> I will greatly rejoice in the LORD; my soul shall exult in my God, for he has clothed me with the garments of salvation; he has covered me with the robe of righteousness. (Isa 61:10)

In the parable of the Prodigal Son, Christ describes how the prodigal came home in all his filthy rags, shame and disgrace, and then what his father's response was: 'the father said to his servants, "Bring quickly the best robe, and put it on him"' (Luke 15:22).

The picturesque metaphors of the Revelation say of the redeemed:

> They have washed their robes and made them white in the blood of the Lamb. 'Therefore they are before the throne of God.' (Rev 7:14–15)

And this same age-long symbolic gesture and metaphor, translated into the straightforward theological language of the New Testament reads like this:

> God was in Christ, reconciling the world unto himself, not reckoning unto them their trespasses . . . him who knew no

> sin he made to be sin on our behalf, that we might become the righteousness of God in him. (2 Cor 5:19, 21 RV)
>
> For as by the one man's disobedience the many were made sinners, so by the one man's obedience the many will be made righteous. (Rom 5:19)

This, then, in any generation is the first stage of redemption.[1] The Christian gospel does not pretend that upon believing in Christ we shall never thereafter suffer any more pain, distress, sickness or death. Far from it. But it does affirm that God stands waiting to put into effect, for any who will, the first stage of redemption here and now: that is, personal reconciliation and peace with God, and the certainty that God will never reject us, because in Christ God is for us:

> If God is for us, who can be against us? He who did not spare his own Son but gave him up for us all, how will he not also with him graciously give us all things? Who shall bring any charge against God's elect? It is God who justifies. Who is to condemn? Christ Jesus is the one who died—more than that, who was raised—who is at the right hand of God, who indeed is interceding for us. (Rom 8:31–34)

It is, then, this assurance of peace with God, that radically changes the significance of any pain and suffering that arise as the temporal consequences of our own and the world's sin, and takes the edge off their bitterness. Moreover the love of God for us, expressed in the giving of his Son to die for us, produces in a believer's heart a fundamental confidence, and even a sense of triumph, in face of the worst that natural and moral evil can hurl against him or her:

> Who shall separate us from the love of Christ? Shall tribulation, or distress, or persecution, or famine, or nakedness, or danger, or sword? As it is written,
>
> 'For your sake we are being killed all the day long;
> we are regarded as sheep to be slaughtered.'

[1] The atoning sacrifice of Christ has always been the basis which has allowed God righteously to forgive the sins of the truly repentant, whether they lived before the time of Christ or after (see the explicit statement of Rom 3:25–26).

> No, in all these things we are more than conquerors through him who loved us. For I am sure that neither death nor life, nor angels nor rulers, nor things present nor things to come, nor powers, nor height nor depth, nor anything else in all creation, will be able to separate us from the love of God in Christ Jesus our Lord. (Rom 8:35–39)

God's initiative to inspire hope for the future

We return to the Genesis story. God not only reconciled Adam and Eve to himself: he inspired them with hope. God had originally told them that disobedience would lead to death. Satan's emissary had told them it wouldn't. They had made their choice—the wrong choice. For their own sake they could not be excused experiencing the consequence of their choice. If every time in life we made a wrong choice, someone intervened and miraculously saved us from experiencing its bad consequences, it would turn this world into an unreal fairyland. Moreover, we should never learn to use our power of choice responsibly. Furthermore, since God had solemnly warned them, 'You shall surely die' if they ate the forbidden fruit, how would they ever learn to believe God's word and take it seriously, if he now joined Satan's emissary and assured them that after all they wouldn't die?

God not only reconciled Adam and Eve to himself: he inspired them with hope.

They were faced, then, with the gloomy prospect of the certainty of eventual physical death. But immediately God inspired them with hope, for in their hearing God informed the serpent that one day the woman's seed would bruise its head, even though it should bruise his heel (Gen 3:15).

Here, then, was hope for Eve personally that made her life worth living. Motherhood would be worth all its pain. There was a future for her progeny. Humankind, moreover, would eventually triumph over the death into which the tempter had deceived them. Adam, we are told, immediately grasped the implication of God's announcement, responded in faith, and 'called his wife's name Eve, because she was the mother of all living' (Gen 3:20).

It is this same hope that comforts, encourages and still sustains individual believers in Christ in face of personal accident, illness,

pain and death; only now this hope, they believe, has already been fulfilled to an extent that Eve never dreamed of, and will yet be fulfilled completely. For they hold that by the term 'the woman's seed' God was predicting the coming into the world of the Son of God. Born of the Virgin Mary he would be truly man, yet without ceasing to be God. By his death and resurrection he would lay a sure foundation on which hope could rest and not be disappointed.

He demonstrated that physical death is not the end for humankind

He has, says the New Testament, 'abolished death and brought life and incorruption to light' (2 Tim 1:10 RV). Death is not to have the last word. Christ's bodily resurrection is the beginning of the restoration of the human race and of the whole of creation.

He frees from the fear of death all those who trust him

The Bible puts it this way:

> Since therefore the children [i.e. his disciples, his followers] share in flesh and blood, he himself likewise partook of the same things, that through death he might destroy the one who has the power of death, that is, the devil, and deliver all those who through fear of death were subject to lifelong slavery. (Heb 2:14–15)

We must be careful to understand exactly what this passage is saying. It is not claiming that those who trust Christ do not fear the onset of illness, severe pain and the physical anguish of the process of dying. Fear of these things is a natural, automatic reflex action of our human make-up, part of the preservative mechanisms built into our bodies, so that nature itself fights against dying. What Christ delivers his people from is death itself and what comes after it.

The devil instils fear of death into people for two opposite reasons.

He makes some people fear that there is nothing after death. Therefore this present life is all there is. Therefore, rather than lose physical life some people will compromise loyalty to God, to truth, to faith, to honour, to principle, and descend to shameful cowardice—anything to save physical life. Fear of death holds them in moral slavery and dishonour.

Other people the devil holds in fear of death, not because they are afraid that there is nothing after death, but *because they are afraid that there will be far too much after death* for their liking, namely the final judgment and its eternal consequences.

Christ's death and resurrection as a real human being deliver his believers from the first of these fears. It delivers them from blank hopelessness at the death of a loved one, when they know that their loved one, now 'absent from the body', is 'present with the Lord' (2 Cor 5:8 KJV), or as the Lord expressed it 'with me in Paradise' (Luke 23:43). It is also the secret of the courage of Christian martyrs who are prepared to die, rather than deny Christ.

Christ's death and resurrection as a real human being deliver his believers from . . . hopelessness at the death of a loved one.

Christ's death also frees his believers from the second of these fears. They have God's assurance that Christ, by his atoning, sacrificial death, has paid in full the penalty of their sins. Physical death comes but once; and the judgment comes *after* death. For the believer Christ's atoning death covers every sin of his that the judgment could take cognizance of. In consequence, the believer is assured:

> just as it is appointed for man to die once, and after that comes judgment, so Christ, having been offered once to bear the sins of many, will appear a second time, not to deal with sin, but to save those who are eagerly waiting for him. (Heb 9:27–28)

And Christ, who himself will be the final judge (John 5:22), declares:

> Truly, truly, I say to you, whoever hears my word and believes him who sent me has eternal life. He does not come into judgment, but has passed from death to life. (John 5:24)

He instils into every believer the hope of bodily resurrection

Christ's bodily resurrection instils into every believer sure and certain hope of his own eventual bodily resurrection. Christ's own resurrection is referred to as the firstfruits of a great harvest to come (1 Cor 15:20). That harvest will take place at Christ's second coming. It will comprise all persons of all centuries who are Christ's. Those who have

died before that coming will be resurrected; those who are still alive at that coming will be changed. All will be given bodies like Christ's glorious resurrection body (1 Cor 15:50–57; Phil 3:20).

An objection some will make to bodily resurrection

Some people feel that the idea of bodily resurrection is absurd since, when we die, the atoms of our bodies disperse and become part of the surrounding vegetation, and so may well subsequently become part of other animals and even other humans. How then, they argue, can it make sense to talk about a bodily resurrection of the dead? But this objection seems to overlook certain important facts.

To start with, it is true that at death the atoms in our bodies disperse. But, of course, we do not have to wait until death for this to happen. The cells (and therefore the atoms) in our bodies are constantly changing. None of the cells now present in my body was present in my body ten years ago (except, perhaps, certain specialised cells in the brain). Yet in spite of this constant change and replacement of atoms and cells, and in spite of ageing, the formal identity of my body remains the same. Clear evidence of that is fingerprinting. A person's fingerprints (which are unique to that person) remain the same throughout his or her lifetime (apart, of course, from scarring or mutilation). This fact, first demonstrated by Sir Francis Galton in 1888, plays a decisive role in the identification of culprits. Similar things could be said about identification by DNA.

The 'coding' that is responsible for maintaining the identity of a body, is known by the Almighty for every human being who has ever lived. At the resurrection God will not be hard up for atoms—or whatever substance the unique bodily identity of each person will be encoded in. The result will be that each individual believer will have a body like Christ's glorious resurrection body (and therefore with capacities and glories that our present bodies do not have). But each person will be individually identifiable through the unique form of his or her resurrection body as the same person who was identifiable by his or her bodily identity here on earth.

A deduction every believer should make

The deduction that each individual believer is taught to make, however, from the certainty of bodily resurrection, is that life in this

present body in this world is worth living to the full of one's energies, abilities and circumstances, in spite of all life's pains and sufferings, old age and eventual death.

> Therefore . . . be steadfast, immovable, always abounding in the work of the Lord, knowing that in the Lord, your labour is not in vain. (1 Cor 15:58)

In other words, though our bodies here on earth, inherited as they are from a fallen race, are subject to decay and death, what each does in the body, and the person who does it, are eternally significant.

GLORY THROUGH SUFFERING

For the creation was subjected to futility, not willingly, but because of him who subjected it, in hope that the creation itself will be set free from its bondage to corruption and obtain the freedom of the glory of the children of God.

Romans 8:21–22

THE ARGUMENT SO FAR

We are now coming towards the end of this long section on the problem of natural evil. It will be helpful, therefore, to recapitulate the stages of our discussion so far.

We began by defining the problem: How can we reconcile the existence of suffering with the existence of an all-loving, all-wise, all-powerful, Creator God?

We then investigated what humankind's attitude to pain, suffering and death has been throughout the centuries and still is to this present, quite apart from the question of whether there is a God-Creator or not. We found that humankind consistently takes the view that a considerable amount of pain and suffering and even death are justified, if the benefits achieved thereby are sufficiently large. We concluded that humankind can scarcely have any objection in principle, if God's purposes for the human race entail suffering, so long as those purposes are so grand and their achievement so glorious that they justify the pain and suffering involved in their attainment.

We therefore examined two of the Bible's stated purposes for humankind:

1. that man should have the unique honour of being God's representative and viceroy for the administration and development of earth (Gen 1:26–28; Ps 8);
2. that man, born into this world as a creature of God, should be given the opportunity to become a child of God, and then, by training, a fully developed son of God (John 1:12–13).

And we noticed in passing the opinion of the early Christians that the sufferings of this present life were, in their opinion, not worth comparing with the glories to be enjoyed when these two purposes are finally achieved.

We then asked why the attempt to achieve these two purposes should involve so much suffering and pain; and we found the answer to be, in the first place, that there is something wrong with human nature. This, we noticed, is not just a theological doctrine: the consistent witness of history over many centuries has shown that in spite of much good in human nature, there is also something positively evil, so that it can be unwise or even disastrous to overlook this fact and put one's faith, without reserve, in human nature.

The consistent witness of history over many centuries has shown that in spite of much good in human nature, there is also something positively evil, so that it can be unwise or even disastrous to overlook this fact and put one's faith, without reserve, in human nature.

We then turned to the Bible to see how it accounts for this evil streak in the human race. It states the cause to be that man early on used his God-given free will to disagree with his Creator over what constitutes life and death, to transgress the parameters God had set on human life, to disobey his word, to doubt his character, and to attempt to enjoy life independently of him. (Thousands do so still.) This thus introduced the principle of sin (that is, lawlessness) into the world and, as a consequence, death. Simultaneously, since God's own vice-regal administrator had now introduced the principle of lawlessness into God's creation, God subjected creation to 'ineffectiveness', so that, in spite of the human race's great advances in our mastery of nature, we would always find nature obstinate and in the end frustrating, a world where life and all other things are always crumbling away into the dust of death.

But next we noticed that immediately upon man's fall, God instituted the process of redemption; and we were particularly interested in the order of the stages of that redemption. Redemption did not mean that God immediately reversed all the painful consequences of man's wrong choice, and restored him to the bliss of the original paradise. That would have been unworthy of God's love and respect for man. It would have undercut the dignity of man's moral responsibility for his choices, and have given the impression that it did not matter how man exercised his free will, for however well or badly he used it, God would see to it that he never suffered any bad consequences. Man had to be allowed to learn by experience what a virulent power

is sin, which by his disobedience he had allowed to invade the world. (His very first son committed murder in the context of religion.) And so would the human race thereafter have to learn. The more sophisticated human beings became, the more sophisticated sin would become. Indeed, one of the purposes behind God's eventual giving of the Law, we are told, was to bring to the surface and expose the fact that sin which lurks in the human heart is exceedingly sinful (Rom 7:13). Sin is like a bacterium. As soon as society thinks it has found a moral antibiotic to destroy it, it mutates and becomes drug-resistant, and as virulent as before.

The first stage in man's redemption, therefore, was not—and still is not—the removal of pain and suffering, and the abolition of death. Rather the first stage was—and still is—the ending of man's alienation from God, reconciliation, forgiveness and assurance of acceptance with God, so that we can know that, whatever pain and suffering we must endure, God is for us.

On the other hand, right from the beginning, we found, God took—and still takes—the initiative to instil living hope into people's hearts that sin, suffering and death shall not have the last word. There is to be a resurrection. At Christ's resurrection, he did not leave his physical body to eventual decay, and himself return to heaven as a disembodied spirit. His physical body was raised from the dead, and he retains it eternally. At his second coming, we are told, the dead shall be raised, and those still living shall be transformed; all shall have bodies like Christ's glorified body: immortal and incorruptible (1 Cor 15:50–58; Phil 3:20–21).

Moreover, according to the Bible, the whole of creation shall be transformed: 'For the creation was subjected to futility, not willingly, but because of him who subjected it, in hope that the creation itself will be set free from its bondage to corruption and obtain the freedom of the glory of the children of God' (Rom 8:21–22). The present earth and heavens will be melted down and reconstituted (2 Pet 3:10–13; Rev 20:11; 21:1), not abandoned, but changed (Heb 1:11–12). For Christ, who is the image of the invisible God, the firstborn of all creation, in whom, through whom, and for whom the universe was originally created, and in whom the universe holds together, from the vastest galaxy to the tiniest nuclear particle along with all their forces, will reconcile the whole of nature to God and make it conform

to the Designer's original purpose (Col 1:12–23; 1 Cor 15:20–28). Then, of course, there shall be no more pain, suffering, sorrow, death and mourning (Rev 21:4), and, what is more, God's original purpose, that man should be his viceroy to reign over and administer creation for God, shall be finally and fully fulfilled as God intended it to be (Heb 2:5–10; 1 Cor 15:20–28).

THE FUTURE OF THE WORLD AND THE END OF SUFFERING

Objections to the biblical view of the future

It is now two thousand years since the New Testament issued these promises, that creation would one day be transformed, and all suffering banished; and it is several hundred more years since the Old Testament issued similar promises (cf. Isa 11:1–9). Already in New Testament times people were pointing to the long delay in the fulfilment of those promises, and arguing on that ground that the promises were valueless (2 Pet 3:3–4). It is understandable, therefore, that now, two thousand years later, many people raise the same objection on the same ground. If there is a loving God who has the power to transform creation and put an end to pain and suffering, why hasn't he long since done so, instead of allowing pain and suffering to persist, seemingly interminably, all these centuries? Does not the ever-increasing delay in the fulfilment of these promises suggest that the real explanation is this: there is no such all-loving, all-powerful God; these supposed promises are simply the wishful thinking of religiously minded people who try thereby to assuage their pain? Moreover, the uniformity of nature precludes our thinking that there will ever be any divine intervention in the course of nature. We must rely simply on evolution, now under the human race's manipulation, to improve things as best it can.

Answering objections to the biblical view of the future

Let it be said at once that neither the Bible nor Christians oppose science's endeavour to end physical pain and suffering and prolong human life. On the contrary, they enthusiastically support it. The

spectacular advances that medical science has made, particularly in this last hundred years, deserve everybody's applause and gratitude. Christians will hold that this is part of the human race's God-given commission to administer and develop nature's resources. What is more, Christians have been motivated by Christ's exhortation to heal the sick. But to the objections against the biblical view of the future listed above, there are a number of answers.

1. *As to the uniformity of nature*: see the extended discussion in Chapter 4 of Book 5 in this series.
2. *As to the delay in the fulfilment of the biblical promises* several reasons are given:
   (a) God, being eternal, does not measure time like we do (2 Pet 3:8).
   (b) For the fulfilment of his purposes the God of history requires men and women from many, many generations.
   (c) God is longsuffering and merciful, not willing that any should perish, but that all should come to repentance and so be prepared for Christ's second coming (2 Pet 3:9).
   (d) But the end of the present earth and heavens will come. God will intervene in power; the promises shall be fulfilled (2 Pet 3:10–13).

There is a still more important consideration. The argument that if there existed an all-loving, all-powerful God, his love would long ago have used his power to banish pain and suffering and to transform creation into a pain-free paradise, misses a fundamentally important point: there are some things that even divine love cannot do by the mere use of naked power. Indeed, according to the Bible, it would not be fitting for divine love to attempt to do them simply by divine power; for these things can be done only by suffering, that is, by God himself suffering (Heb 2:10).

THE SUFFERING OF GOD

Now the very idea that it is possible for God to suffer anything at all is so startling to many philosophers and theologians that later on we must briefly discuss it. Suffice it to say for the moment that according

to the Bible, Jesus Christ was truly man but not only man. He was God incarnate, both God and man simultaneously. He was not a split, or dual, personality, but one whole Christ. Therefore when Christ suffered, God suffered; when Christ was crucified, God was crucified.[1]

Why God must suffer

Before addressing whether God could or would suffer, we should first think about why, according to the Bible, it is necessary for God to suffer. There are three major reasons.

Sinful creatures must be turned into loving children before they reign

If ever humans, God's sinful, rebel creatures, are to be given the glory of reigning over restored and glorified nature, they must first be turned into loving children of God. This stands to reason. What sense would it make for creation to be restored to her full glory and potential, only to be put once more under the administration of fallible, wayward, egotistical, sinful men and women? Mere scientific progress, however great and brilliant, would not prevent them from administering that new world as badly as they have this world. This is what, in part, accounts for the delay in the fulfilment of the promised restoration. Creation is said to be waiting 'with earnest expectation . . . for the revealing of the sons of God' (Rom 8:19 RV). Only when a sufficient supply of these are prepared and ready, shall creation itself 'be delivered from the bondage of corruption into the liberty of the glory of the children of God' (Rom 8:21 RV).

But here lies the problem. How can God change the unbelieving, sinful, suspicious, hostile, and perhaps embittered, heart of one of his creatures into that of a loving, trusting child of God? Certainly not by an exercise of his naked, almighty power; that might merely increase the heart's resentment and harden its resistance. God does it by the demonstration of his love for the human race in the sufferings of God incarnate on the cross. Explaining to a contemporary

[1] Within the Holy Trinity, all three persons are God equally. But the Father, and the Son and the Holy Spirit are distinct persons. We do not say that the Father was crucified for us, or that the Holy Spirit died for us. We say, however, that the Son of God died for us, and he was God.

theologian the pivot on which a person's new birth as a child of God turns, Christ said:

> As Moses lifted up the serpent in the wilderness [see Numbers 21:4–9], so must the Son of Man be lifted up, that whoever believes in him may have eternal life. [And the Gospel continues:] For God so loved the world that he gave his only Son, that whoever believes in him should not perish but have eternal life. For God did not send his Son into the world to condemn the world, but in order that the world might be saved through him. (John 3:14–17)

There is no greater demonstration of love than sacrificial suffering on behalf of another. It is through the suffering and death of God incarnate that former enemies of God come to see what God is really like, are reconciled to him, and born anew as his children (Rom 5:10–11).

The penalty of human sin must be paid

If ever law-breaking, guilty humans are to be justly forgiven and declared to be right with God, the moral governor of the universe, the penalty of their sin must first be paid. For if not, how could God with any justice set them to reign over the restored creation?

It is in connection with God's ongoing scheme of bringing many sons to the glory of reigning with Christ over the renewed creation (Heb 2:5–9) that the writer to the Hebrews comments:

> For it was fitting that he, for whom and by whom all things exist, in bringing many sons to glory, should make the founder of their salvation perfect through suffering. (Heb 2:10)[2]

This statement tells us that if ever these sons were to be brought to glory they needed salvation. To provide that salvation and make it possible, they needed a leader (Gk. *archēgos* = founder, author, instigator, pioneer) of their salvation. But then the statement adds that the only becoming or fitting way that God could take in order to provide

[2] The term 'sons' is used here in a technical sense that denotes a high role and privilege with implications of an inheritance. The position in view for Christians is inclusive of both men and women.

that salvation justly and honourably was to make that founder of their salvation perfect through sufferings. That does not imply that the leader, or author, of their salvation (which of course is Christ) was in any way morally imperfect and needed to be improved. It means, as is later explained (2:17), that to act as a merciful and faithful high priest on behalf of humankind, he must secure for them a perfect salvation by making propitiation before God for the sins of the people. And there was no way of his doing this without suffering. God, as the author of the law and the moral governor of the universe, cannot forgive sins simply by an arbitrary act of naked power, regardless of justice. As Cranfield puts it:

> For God to have forgiven men's sins lightly—a cheap forgiveness which would have implied that moral evil does not matter very much—would have been altogether unrighteous, a violation of His truth and profoundly unmerciful and unloving toward men, since it would have annihilated their dignity as persons morally accountable. The purpose of Christ's being *hilasterion* [Greek for 'a propitiatory sacrifice'] was to achieve a divine forgiveness, which is worthy of God, consonant with His righteousness . . . far from condoning man's evil . . . it involves nothing less than God's bearing the intolerable burden of that evil Himself in the person of His own dear Son, [and so is] the disclosure of the fullness of God's hatred of man's evil at the same time as it is its real and complete forgiveness.[3]

Only one who was truly man could stand in solidarity with all humankind as their representative before God; and Jesus was truly man. But only one who was simultaneously God could bear the suffering of the wrath and indignation that the holiness and righteousness of God must express against the evil of the world's sin. And therefore Jesus Christ, who was God incarnate, 'suffered once for sins, the righteous for the unrighteous, that he might bring us to God' (1 Pet 3:18). Necessarily, therefore, suffering, God's suffering, lies at the heart of almighty God's loving relationship with the human race.

[3] Cranfield, *Romans*, 1:213–14.

Pure and genuine faith requires suffering

Faith must be demonstrated to be genuine, and purified from all unworthy elements. And that inevitably involves suffering. Salvation is a gift, not merited by human works, but received simply by faith. The New Testament everywhere insists on it (e.g. Eph 2:8–10; Rom 3:28; 4:5; 6:23). But let us not fail to see these truths about faith.

Faith has to be demonstrated as genuine faith, and therefore God must allow that faith to be tested by temptation, adversity, or even by persecution and death, so that it can be shown to be genuine faith in God, that is prepared to trust God, his word, his character and faithfulness, if need be against all else (see, e.g. the prologue to the book of Job).

Faith has to be purified. Faith is like gold that, though it is mainly genuine gold, has some dross mixed in it. So in its beginning faith can be mixed with mere self-confidence, or tradition, or social pressure or religious excitement. Suffering serves to purge out the dross and leave the pure gold (see, e.g. 1 Pet 1:6–7).

A child of God must be trained, and, if need be, disciplined by his Father in order to grow up into a mature son or daughter of God (see Heb 12:5–13).

Now all these processes involve suffering and therefore a believer's pathway through life to eventual glory will inevitably encounter pain and suffering. Therefore, once more the Bible explains that God does not simply exhort and command his people to be faithful, to live and die as courageously as they can. God has considered that in bringing his many sons to glory, the only fitting thing he could do is to provide them with a leader of their salvation who himself has suffered as they are called to suffer, and therefore knows by experience what it means to suffer. 'Son [of God] though he was, yet he learned obedience by the things that he suffered' (Heb 5:8, own trans.). In other words, he learned by experience what it costs to live a life of obedience to God in this ungodly world; 'and having been made perfect he became to those who obey him, the author of eternal salvation' (Heb 5:9, own trans.). And again: 'Because he himself has suffered when tempted, he is able to help those who are being tempted' (Heb 2:18). He is the author and perfecter of their faith (Heb 12:2); he intercedes for the maintenance of their faith (Luke 22:32; Heb 7:25);

he is the supreme example of faith (Heb 12:2); by his Spirit he unceasingly accompanies his people (Matt 28:20).

The idea of the suffering God

We began this second half of our book by stating the problem of pain as it is normally stated: how can we reconcile the existence of so much pain and suffering in the world with the existence of an all-loving, all-wise, all-powerful Creator God? The unspoken assumption that underlies the framing of the problem in this way is that we all know exactly what an all-loving Creator God would do, if such a God existed: he would not allow any of his creatures to suffer any pain. But if it is true, as we have been arguing, that God himself can suffer pain, then that profoundly alters the framing of the problem. It now becomes: if, in order to have creatures whom he could invite to share in the fellowship of love that is the Holy Trinity of Father, Son, and Holy Spirit, an all-powerful Creator had to endure enormous suffering in his dealings with those creatures and for their sake, is it conceivable that such a God would exist?

That raises a still more basic question. How do we know what an all-loving God would do, or not do? Indeed, how do we know that God, if he exists, is all-loving?

It wasn't obvious to the great ancient philosopher Aristotle that God is all-loving. But then Aristotle started from abstract philosophical principles and, on their basis, formed his concept of what absolute perfection must be. He then decided that God, if he existed, must match up to Aristotle's concept of perfection; and his resultant idea of what God was like was: he (or it) could not be engaged in creating things that involved a lower kind of thinking, and meant beginning with mere potential and proceeding to actuality. Nor could he be concerned with, or care about, things in the world, not even about human beings, because they were all in process of moving from potential to actuality, through birth, maturity and then to old age and death.[4]

Similarly the Neo-Platonist philosopher Plotinus, arguing on the basis of his philosophical concepts, asserted that 'the One' has no interest in its 'products':

[4] For a fuller discussion and summary, see Ch. 2 of Book 2: *Finding Ultimate Reality*.

> Not that God has any need of his derivatives: he ignores all that produced realm, never necessary to him, and remains identically what he was before he brought it into being. So too, had the secondary never existed, he would have been unconcerned.[5]

But this way of trying to decide what God is like, and what he would or would not do, lacks contact with the objective reality. Even the scientist, when she wants to discover what the universe is like, does not sit within the walls of her study and work out from basic philosophical principles what a universe would be like if it existed. She first goes outside and lets the universe impact itself on her mind, and then works out the implications of the universe's self-revelation.

The Christian conviction is that we can know what God is like only through his self-revelation to us, through Israel's prophets, and supremely through Jesus Christ, the incarnate Word of God.

The living God is always new, always dynamic, always doing new things. That's what his nature is. He is not limited or boxed in by his perfection.

Unfortunately, some Christian theologians, anxious to maintain the utter perfection of God's nature, but too much influenced by the Greek philosophers' concept of perfection, have insisted that God is totally impassive; that is, he cannot suffer, because suffering would imply a change in him, and he is eternally unchanging and unchangeable.

Now according to the Bible, God is certainly unchanging as to his essential nature, nor can anyone or anything do anything to change that nature. God is 'The I am that I am' (see Exod 3:14). But according to his self-revelation, his unchanging nature is neither static nor inert. His nature is dynamic. The living God is always new, always dynamic, always doing new things. That's what his nature is. He is not limited or boxed in by his perfection. There was a time when he was not Creator; but he became the Creator of the universe. That was new. God the Son was not always human; the Word, however, became flesh. God the Son had never died before he was crucified. Nor was there a human body in the fellowship of the Trinity until the ascension of Jesus.

Similarly, when in his divine freedom God created human beings, the very unchanging faithfulness of his nature meant that he

[5] *Enneads* v.3.12.40–49 (MacKenna, 404). See, again, Ch. 2 of Book 2.

would, and did, maintain personal relations with them and willingly endure all the pain that he thereby suffered in their maintenance and redemption. God so loved us that he 'sent his Son to be the propitiation for our sins' (1 John 4:10). It is impossible to think, then, that when God the Son was enduring the sufferings of the cross, God the Father was utterly unmoved and totally impassive. The Old Testament says of God in relation to his people: 'In all their affliction he was afflicted' (Isa 63:9). How much more was this true of him when his Son bore our sins in his body on the tree (1 Pet 2:24)?

And here is where theology becomes very practical. It is precisely because God's heart was involved in Christ's sufferings for us, that we can argue logically and confidently: 'He who did not spare his own Son but gave him up for us all, how will he not also with him graciously give us all things?' (Rom 8:32).[6]

SOME FINAL OBSERVATIONS ON THE GOAL OF SUFFERING

One thing especially troubles people, even if they are believers in God, and that is the disproportion in the distribution of pain and suffering. Why do I suffer so much, they ask, and others so little? There seems to be an unfairness in the amount that some people suffer, compared with others.

If for believers in God, suffering, though bad in itself, can serve as training and character-forming for the eternal life to come, then perhaps an analogy may be helpful. Here on earth a trained first aid worker does a very valuable job; but she is not put through such severe qualifying examinations as a student surgeon. Every few months airline pilots are placed in a simulator where they are put through every kind of hair-raising emergency situation to test their skills, until even strong men can break down in tears. But no one needs to question why their testing has to be so vastly greater than that of a would-be car driver. According to Christ, position and responsibility

[6] Especially helpful on this topic is the book *When God Weeps: Why Our Sufferings Matter to the Almighty* by Joni Eareckson Tada and Steven Estes. Joni has suffered quadriplegic paralysis for over thirty years as a result of a diving accident. Her book comes from her wrestling with the problem of pain and of why God allowed it, and from the way faith in, and fellowship with, God and the practical experience of God's love, have brought her through to a remarkably triumphant life.

in his coming kingdom will in part depend on a disciple's suffering here on earth (Mark 10:37–40). The greater the suffering, the greater the eventual position of responsibility.

But we are not to go out of our way to seek suffering. God gives us all things freely to enjoy; and we are surely meant to enjoy life as much as we can. Nor are we called upon to understand everything and to be able to explain all the providences of God. The longest book in the Bible on the topic of suffering is the book of Job. Though Job initially felt that there was something extremely unfair about the amount of suffering he had to endure, in the end he was brought to see that the goal of suffering is to train us to trust both the love and the wisdom of God. God will always go beyond our ability to comprehend him. Our eternal peace of mind will arise from the deep-rooted conviction, learned by experience, that 'to those who love God, God works everything together for good, even to them who are called according to his purpose' (Rom 8:28).

Someone has said that the answer to the problem of pain is not an argument but a person; and there is much truth in the saying. A sheep that knows the shepherd by experience will trust the shepherd to do the best for it when it is in pain. A sheep that doesn't know the shepherd may well resist, or run from, him.

Atheism, as we saw at the beginning of this section, has little comfort to give to those in pain, and no hope at all for the individual after death. But atheism's rejection of God does not prove that God does not exist, or that death ends everything. If Christ speaks the truth, then to pass from this life into eternity still rejecting God, means not the cessation of all pain that one has ever experienced or ever will. It means, by definition, the beginning of an eternally unalterable and inconsolable pain.

SERIES CONCLUSION

Deciding how we ought to live is good; but by itself that does not solve the inevitable question: what is life's purpose?

THE OWL AND THE GODDESS

An ancient fable tells of a conversation between a student and the owl that was traditionally depicted as sitting on the shoulder of the Greek goddess Athena, the supposed patroness of wisdom.

'Often', said the owl, 'I have sat and pondered the intriguing question: which came first, the chicken or the egg?'

'How very interesting!' said the student.

'Sometimes', continued the owl, 'when I have contemplated the aesthetically pleasing shape of the egg, and the mystery of its contents; and when I have further observed that all the chickens we have ever known or heard of, every one of them came out of an egg—I have been inclined to the view that the egg must have come first.'

'That sounds reasonable,' said the student.

'On the other hand,' went on the owl, 'at other times, when I have considered the fully grown chicken, the mechanism of its wings and feathers, its lively coordination of eye, beak and claw, and the long-established fact of experience that eggs do not suddenly fall out of the sky, but without exception are all known to have come out of fully-grown chickens—then I have been inclined to think that the chicken must have come first.'

'So what have you finally decided?' said the student.

'Decided?' retorted the owl. 'We should never try to decide.'

'Why not?' said the student.

'Because,' replied the owl, in a tone suited to its long reputation for wisdom, 'if ever we were so unwise as to decide the question, what would happen to all our delightful cogitations and discussions?'

'Then you know nothing at all,' said the student. 'What did you sit on Athena's shoulder for?'

The moral of the fable is obvious: and now that we have come to the end of our series of books, we need to make sure that we do not fall into the same trap as the owl.

In our search for sound principles to guide our ethical decisions, we have studied the views and theories of many thinkers from different parts of the world, from differing centuries, from different backgrounds and traditions. We have, moreover, sought to acknowledge the good things that we can learn from these different thinkers, while at the same time we have sought fairly (we hope) to discern their weaknesses and fallacies. This much, at least, it should have taught us: ethics requires and deserves rigorous thinking.

The danger is that the survey of so many differing views and theories might lead us to conclude that no decision is possible about ethical questions. That would be a false conclusion. The fact is that daily life faces us with many situations where we are forced to decide and to act upon our decisions. We cannot *not* decide. And where those situations involve ethical questions, our actions exhibit what ethical principle we have thinkingly, or unthinkingly, adopted.

On the other hand, we recognise that, in the practicalities of life, situations can be so complicated that we cannot be sure that the decisions we take are always right. For one thing, we cannot necessarily foresee what the result of our actions will be. None of us is either omniscient or infallible. We must act in good faith that, to the best of our knowledge, the decision we take is ethically right.

Similarly—but even more so—when it comes to the basic spiritual, moral and ethical beliefs and principles that underlie all our practical living: we cannot avoid decision. Here are some examples of the main questions we have discussed in the course of these books.

HUMAN VALUES AND SIGNIFICANCE

1. Is all human life at all its stages sacred and inviolable?
   OR
   Is human life merely a thing, or commodity, to be manipulated or destroyed for the sake of some other goal?

2. Is it always wrong to kill an innocent human being?
   OR
   Is it justifiable to kill an innocent person if his death can benefit scores of other people?

3. Is it always wrong to commit adultery?
   OR
   Is sexual licence natural and acceptable?

4. Is it always wrong to steal other people's property, whether their body, time, work or possessions? Is it wrong to exploit another person as a means for procuring one's own advantage?
   OR
   Are human beings, as well as all other things, subject to the one overriding law of market forces and/or human greed?

5. In legal proceedings or in any other context must I always tell the truth, even when it would be to the advantage of my opponent or competitor?
   OR
   Is it legitimate to tell lies, or bend the truth, in defence of my own interests?

ULTIMATE REALITY

1. Is anything objectively right or wrong independently of people's feelings, or prejudices?
   OR
   Is right and wrong always a subjective decision, controlled simply by culture and convention, by majority vote, or by individual preference?

2. Is there such a thing as absolute truth, binding on all; and is it knowable?
   OR
   Is truth simply 'what is true for me'?

3. What is the ultimate authority behind morality, that has the right to say 'thou shalt', or 'thou shalt not'? Is it God the Creator?
   OR
   Some other authority; and if so, what?

One important thing to be noticed is that our decision to accept the one or the other alternative, and to act upon it, always involves a careful weighing up of the relevant evidence; and then an act of faith based on that evidence. It is not true that in choosing the first alternative and acting upon it involves faith, but that choosing the second alternative and acting upon it does not involve faith. Both choices involve faith.

In the course of these books we, the authors, have not tried to hide our personal faith; but we have not intended to force our faith on others. Hence our survey of numerous views, and the supply of questions for every chapter, in order to encourage the widest possible debate, and to allow everyone to make up his or her mind. True tolerance is not afraid to say what it believes to be right; but it must and will also allow and encourage all others to do the same.

THE QUEST

But it must be obvious that if and when we have solved all our moral problems, life's most important question remains to be answered. Deciding how we ought to live is good; but by itself that does not solve the inevitable question: what is life's purpose? Where is life taking us? What hope is there for the future of the human race, and for every individual one of us? After all, we do not buy a car for the sole purpose of learning how to drive it well and with due consideration for the safety and well-being of others. We buy it so that we can get to some desired destination. What then is life's destination?

In this context we naturally and rightly think of the potential future of the human race as a whole. We have our vision of how wonderful a place this world could be—if only science solved all our technical problems, and if only morality, or sheer experience, could stop the world from behaving in the insane and evil way it has done up till now. But suppose that one day some utopia will be achieved; we should still have to ask: what about all the people that have lived and died, and those who will yet live and die, ourselves included, before that time comes? Must we be content to be human throwaways which evolution uses as temporary staging posts en route to utopia, and then consigns to oblivion? Is each individual human being nothing

more than a coral that along with millions of others lives and dies in order eventually to form a coral island on which thousands of years later some film stars may build their magnificent mansions?

As we stated in the series introduction, the question is not merely to what or to whom humanity as a whole owes its existence, but what the status of the individual human being is in relation to the race as a whole and to the uncountable myriads of individual phenomena that go to make up the universe. What is our significance within the reality in which we find ourselves? This is the ultimate question hanging over every one of our lives.

What ultimate hope is there for our future as individuals? We recall the answers provided by some of the major systems of thought we have considered in this series. Atheism says none, nothing but annihilation. Indian Pantheistic Monism holds out the hope of eventual union with 'the One' but at the cost of the individual's personality and unique existence. Some Greek philosophers, such as Aristotle, held to the idea of God as the Unmoved Mover but held also that he does not think about the creatures he has made, much less care providentially for their individual well-being, whether before or after death. By contrast, the Bible says that through Christ there is absolutely sure and certain hope of resurrection and glory. The choice must be our own; but before we accept atheism's bleak pessimism, the personality destroying fate of Pantheistic Monism, or the effective abandonment by Aristotle's God, self-interest, if nothing else, should insist that we examine what Christ has to say upon the matter.

As Christians, we hold that the answers to life's questions are to be found in the gospel of Jesus Christ. Indeed, we freely confess that we have found in Christ answers to satisfy the intellect, as well motivation to continue to discover the depths and heights of the mind and heart of God. We commend to you what we have found, for we do not think that the greatest quest of all—the quest for reality and significance—should be embarked upon for its own sake. Rather, it is worth the effort precisely because of the destination that is possible.

For taking the time to travel with us, whether for all or part of the journey, through the many and varied ideas and arguments, we express our gratitude. And we extend to you our sincere wish that you will come to know, if you have not already, the voice of a better guide as you continue on your way.

APPENDIX: THE SCIENTIFIC ENDEAVOUR

The doing of successful science follows no set of cosy rules. It is as complex as the human personalities that are involved in doing it.

THE CLEAR VOICE OF SCIENCE

Science rightly has the power to fire the imagination. Who could read the story of how Francis Crick and James D. Watson unravelled the double helix structure of DNA without entering at least a little into the almost unbearable joy that they experienced at this discovery? Who could watch an operation to repair someone's eye with a delicately controlled laser beam without a sense of wonder at human creativity and invention? Who could see pictures from space showing astronauts floating weightless in the cabin of the International Space Station or watch them repair the Hubble telescope against the background of the almost tangible blackness of space without a feeling akin to awe? Science has a right to our respect and to our active encouragement. Getting young people into science and giving them the training and facilities to develop their intellectual potential is a clear priority for any nation. It would be an incalculable loss if the scientific instinct were in any way stifled by philosophical, economic or political considerations.

But since one of the most powerful and influential voices to which we want to listen is the voice of science, it will be very important for us, whether we are scientists or not, to have some idea of what science is and what the scientific method is before we try to evaluate what science says to us on any particular issue. Our aim, therefore, first of all is to remind ourselves of some of the basic principles of scientific thinking, some of which we may already know. Following this, we shall think about the nature of scientific explanation and we shall examine some of the assumptions that underlie scientific activity—basic beliefs without which science cannot be done.

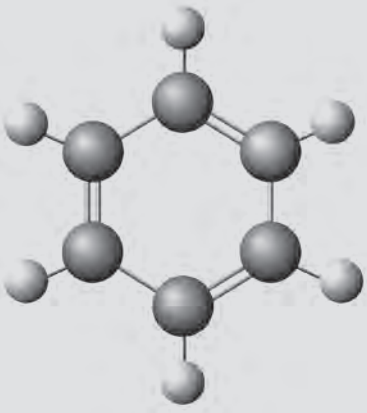
Then what is science? It tends to be one of those things that we all know what it means until we come to try to define it. And then we find that precise definition eludes us. The difficulty arises because we use the word in different ways. First of all, science is used as shorthand for:

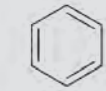
1. sciences—areas of knowledge like physics, chemistry, biology, etc.;
2. scientists—the people who work in these areas;
3. scientific method—the way in which scientists do their work.

Often, however, the word science is used in expressions like 'Science says . . .', or 'Science has demonstrated . . .', as if science were a conscious being of great authority and knowledge. This usage, though understandable, can be misleading. The fact is that, strictly speaking, there is no such thing as 'science' in this sense. Science does not say, demonstrate, know or discover anything—scientists do. Of course, scientists often agree, but it is increasingly recognised that science, being a very human endeavour, is very much more complex than is often thought and there is considerable debate about what constitutes scientific method.

SCIENTIFIC METHOD

It is now generally agreed among philosophers of science that there is no one 'scientific method', so it is easier to speak of the kind of thing that doing science involves than to give a precise definition of science.





Benzene

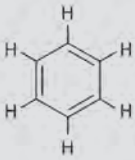


FIGURE Ap.1. Benzene Molecule.

In 1929 crystallographer Kathleen Lonsdale confirmed Kekulé's earlier theory about the flat, cyclic nature of benzene, an important milestone in organic chemistry.

Certainly observation and experimentation have primary roles to play, as well as do the reasoning processes that lead scientists to their conclusions. However, a glance at the history of science will show that there is much more to it than this. We find, for example, that inexplicable hunches have played a considerable role. Even dreams have had their place! The chemist Friedrich August Kekulé was studying the structure of benzene and dreamed about a snake that grabbed its own tail, thus forming itself into a ring. As a result he was led to the idea that benzene might be like the snake. He had a look and found that benzene indeed contained a closed ring of six carbon atoms! The doing of successful science follows no set of cosy rules. It is as complex as the human personalities that are involved in doing it.

Observation and experimentation

It is generally agreed that a revolution in scientific thinking took place in the sixteenth and seventeenth centuries. Up to then one main method of thinking about the nature of the universe was to appeal to authority. For example, in the fourth century BC Aristotle had argued from philosophical principles that the only perfect motion was circular. Thus, if you wanted to know how the planets moved, then, since according to Aristotle they inhabited the realm of perfection beyond the orbit of the moon, they must move in circles. In a radical departure from this approach, scientists like Galileo insisted that the best way to find out how the planets moved was to take his telescope and go and have a look! And through that telescope he saw things like the moons of Jupiter which, according to the Aristotelian system, did not exist. Galileo comes to embody for many people the true spirit of scientific enquiry: the freedom to do full justice to observation and experimentation, even if it meant seriously modifying or even abandoning the theories that he had previously held. That freedom should be retained and jealously guarded by us all.

Data, patterns, relationships and hypotheses

In summary form, the most widespread view, often attributed to Francis Bacon and John Stuart Mill, is that the scientific method consists of:

1. the collection of data (facts, about which there can be no dispute) by means of observation and experiment, neither of them influenced by presuppositions or prejudices;
2. the derivation of hypotheses from the data by looking for patterns or relationships between the data and then making an inductive generalisation;
3. the testing of the hypotheses by deducing predictions from them and then constructing and doing experiments designed to check if those predictions are true;
4. the discarding of hypotheses that are not supported by the experimental data and the building up of the theory by adding confirmed hypotheses.

Scientists collect data, experimental observations and measurements that they record. As examples of data, think of a set of blood pressure measurements of your class just before and just after a school examination, or of the rock samples collected by astronauts from the surface of the moon.

There are, however, many other things that are equally real to us, but which scarcely can count as data in the scientific sense: our subjective experience of a sunset, or of friendship and love, or of dreams. With dreams, of course, heart rate, brain activity and eye movement can be observed by scientists as they monitor people who are asleep and dreaming, but their subjective experience of the dream itself cannot be measured. Thus we see that the scientific method has certain built-in limits. It cannot capture the whole of reality.

Scientists are in the business of looking for relationships and patterns in their data and they try to infer some kind of hypothesis or theory to account for those patterns. Initially the hypothesis may be an intelligent or inspired guess that strikes the scientists from their experience as being a possible way of accounting for what they have observed. For example, a scientist might suggest the (very reasonable) hypothesis that the blood pressure measurements in your class can be accounted for by the fact that examinations cause stress in most people! To test the hypothesis a scientist will then work out what he or she would expect to find if the hypothesis were true and then will proceed to devise an experiment or a series of experiments to check if such is indeed the case. If the experiments fail to confirm expectation,

the hypothesis may be modified or discarded in favour of another and the process repeated. Once a hypothesis has been successfully tested by repeated experimentation then it is dignified by being called a theory.[1]

It is now generally agreed by scientists themselves and philosophers of science that our account so far of what the scientific method is, is not only highly idealised but also flawed. In particular, contrary to what is asserted about observation and experimentation above, it is now widely accepted that no scientist, however honest and careful, can come to his or her work in a completely impartial way, without presuppositions and assumptions. This fact will be of importance for our understanding of science's contribution to our worldview. It is easier, however, to consider that topic after we have first had a look at some of the logical concepts and procedures that underlie scientific argumentation and proof.

Induction

Induction is probably the most important logical process that scientists use in the formulation of laws and theories.[2] It is also a process that is familiar to all of us from a very early age whether we are scientists or not, though we may well not have been aware of it. When we as young children first see a crow we notice it is black. For all we know, the next crow we see may well be white or yellow. But after observing crows day after day, there comes a point at which our feeling that any other crow we see is going to be black is so strong that we would be prepared to say that all crows are black. We have taken what is called an inductive step based on our own data—we have seen, say, 435 crows—to make a universal statement about all crows. Induction, then, is the process of

[1] The terms *hypothesis* and *theory* are in fact almost indistinguishable, the only difference in normal usage being that a hypothesis is sometimes regarded as more tentative than a theory.

[2] Note for mathematicians: the process of induction described above is not the same as the principle of mathematical induction by which (typically) the truth of a statement P(n) is established for all positive integers n from two propositions:

(1) P(1) is true;

(2) for any positive integer k, we can prove that the truth of P(k+1) follows from the truth of P(k).

The key difference is that (2) describes an infinite set of hypotheses, one for each positive integer, whereas in philosophical induction we are generalising from a finite set of hypotheses.

generalising from a finite set of data to a universal or general statement.

A famous example of the use of induction in science is the derivation of Mendel's laws of heredity. Gregor Mendel and his assistants made a number of observations of the frequency of occurrence of particular characteristics in each of several generations of peas, like whether seeds were wrinkled or smooth, or plants were tall or short, and then made an inductive generalisation from those observations to formulate the laws that now bear his name.

Induction, then, is the process of generalising from a finite set of data to a universal or general statement.

But, as may well have occurred to you, there is a problem with induction. To illustrate this, let's turn our minds to swans rather than the crows we thought about just now. Suppose that from childhood every swan you have seen was white. You might well conclude (by induction) that all swans are white. But then one day you are shown a picture of an Australian black swan and discover that your conclusion was false. This illustrates what the problem with induction is. How can you ever really know that you have made enough observations to draw a universal conclusion from a limited set of observations?

But please notice what the discovery of the black swan has done. It has proved wrong the statement that all swans are white, but it has not proved wrong the modified statement that if you see a swan in Europe, the high probability is that the swan will be white.

Let's look at another example of induction, this time from chemistry.

Particular observations:

Time	Date	Substance	Litmus test result
0905	2015-08-14	sulphuric acid	turned red
1435	2015-09-17	citric acid	turned red
1045	2015-09-18	hydrochloric acid	turned red
1900	2015-10-20	sulphuric acid	turned red

Universal or general statement (law): litmus paper turns red when dipped in acid.

This law, based on induction from the finite set of particular observations that are made of particular acids at particular times in

particular places, is claimed to hold for all acids at all times in all places. The problem with induction is, how can we be sure that such a general statement is valid, when, in the very nature of things, we can only make a finite number of observations of litmus paper turning red on the application of acid? The story of the black swan makes us aware of the difficulty.

Well, we cannot be absolutely sure, it is true. But every time we do the experiment and find it works, our confidence in the litmus test is increased to the extent that if we dipped some paper in a liquid and found it did not go red we would be likely to conclude, not that the litmus test did not work, but that either the paper we had was not litmus paper or the liquid was not acid! Of course it is true that underlying our confidence is the assumption that nature behaves in a uniform way, that if I repeat an experiment tomorrow under the same conditions as I did it today, I will get the same results.

Let's take another example that Bertrand Russell used to illustrate the problem of induction in a more complex situation: Bertrand Russell's inductivist turkey. A turkey observes that on its first day at the turkey farm it was fed at 9 a.m. For two months it collects observations and notes that even if it chooses days at random, it is fed at 9 a.m. It finally concludes by induction that it always will be fed at 9 a.m. It therefore gets an awful shock on Christmas Eve when, instead of being fed, it is taken out and killed for Christmas dinner!

So how can we know for certain that we have made enough observations in an experiment? How many times do we have to check that particular metals expand on heating to conclude that all metals expand on heating? How do we avoid the inductivist turkey shock? Of course we can see that the problem with the turkey is that it did not have (indeed could not have) the wider experience of the turkey farmer who could replace the turkey's incorrect inductivist conclusion with a more complicated correct one: namely the law that each turkey will experience a sequence of days of feeding followed by execution!

The point of what we are saying here is not to undermine science by suggesting that induction is useless, nor that science in itself cannot lead us to any firm conclusions. It simply teaches us to recognise the limits of any one method and to found our conclusions, wherever possible, on a combination of them.

The role of deduction

Once a law has been formulated by induction, we can test the validity of the law by using it to make predictions. For example, assuming Mendel's laws to be true, we can deduce from them a prediction as to what the relative frequency of occurrence, say, of blue eyes in different generations of a family, should be. When we find by direct observation that the occurrence of blue eyes is what we predicted it to be, our observations are said to confirm the theory, although this sort of confirmation can never amount to total certainty. Thus deduction plays an important role in the confirmation of induction.

Deduction plays an important role in the confirmation of induction.

It may be that what we have said about induction has given the impression that scientific work always starts by looking at data and reasoning to some inductive hypothesis that accounts for those data. However, in reality, scientific method tends to be somewhat more complicated than this. Frequently, scientists start by deciding what kind of data they are looking for. That is, they already have in their mind some hypothesis or theory they want to test, and they look for data that will confirm that theory. In this situation deduction will play a dominant role.

For example, as we mentioned above regarding observation and experimentation, in the ancient world, Greek philosophers supposed as a hypothesis that the planets must move in circular orbits around the earth, since, for them, the circle was the perfect shape. They then deduced what their hypothesis should lead them to observe in the heavens. When their observations did not appear to confirm their original hypothesis completely, they modified it. They did this by replacing the original hypothesis by one in which other circular motions are imposed on top of the original one (epicycles, they were called). They then used this more complicated hypothesis from which to deduce their predictions. This theory of epicycles dominated astronomy for a long time, and was overturned and replaced by the revolutionary suggestions of Copernicus and Kepler.

Kepler's work in turn again illustrates the deductive method. Using the observations the astronomer Tycho Brahe had made available, Kepler tried to work out the shape that the orbit of Mars traced

against the background of 'fixed' stars. He did not get anywhere until he hit on an idea that was prompted by geometrical work he had done on the ellipse. That idea was to suppose as a hypothesis that the orbit of Mars was an ellipse, then to use mathematical calculations to deduce what should be observed on the basis of that hypothesis, and finally to compare those predictions with the actual observations. The validity of the elliptical orbit hypothesis would then be judged by how closely the predictions fit the observations.

This method of inference is called the deductive or hypothetico-deductive method of reasoning: deducing predictions from a hypothesis, and then comparing them with actual observations.

Since deduction is such an important procedure it is worth considering it briefly. Deduction is a logical process by which an assertion we want to prove (the conclusion) is logically deduced from things we already accept (the premises). Here is an example of logical deduction, usually called a syllogism:

P1: All dogs have four legs.
P2: Fido is a dog.

C: Fido has four legs.

Here statements P1 and P2 are the premises and C is the conclusion. If P1 and P2 are true then C is true. Or to put it another way, to have P1 and P2 true and C false, would involve a logical contradiction. This is the essence of a logically valid deduction.

Let's now look at an example of a logically invalid deduction:

P1: Many dogs have a long tail.
P2: Albert is a dog.

C: Albert has a long tail.

Here statement C does not necessarily follow from P1 and P2. It is clearly possible for P1 and P2 to be true and yet for C to be false.

It all appears to be so simple that there is danger of your switching off. But don't do that quite yet or you might miss something very important. And that is that deductive logic cannot establish the truth of any of the statements involved in the procedure. All that the logic can tell us (but this much is very important!) is that if the premises are true and the argument is logically valid, then the conclusion is true. In order to get this clear let us look at a final example:

P1: All planets have a buried ocean.
P2: Mercury is a planet.

C: Mercury has a buried ocean.

This is a logically valid argument even though statement P1 and statement C are (so far as we know) false. The argument says only that if P1 and P2 were true, then C should be true, which is perfectly valid. This sort of thing may seem strange to us at first, but it can help us grasp that logic can only criticise the argument and check whether it is valid or not. It cannot tell us whether any or all of the premises or conclusion are true. Logic has to do with the way in which some statements are derived from others, not with the truth of those statements.

Logic has to do with the way in which some statements are derived from others, not with the truth of those statements.

We should also note that deductive inference plays a central role in pure mathematics where theories are constructed by means of making deductions from explicitly given axioms, as in Euclidean geometry. The results (or theorems, as they are usually called) are said to be true if there is a logically valid chain of deductions deriving them from the axioms. Such deductive proofs give a certainty (granted the consistency of the axioms) that is not attainable in the inductive sciences.

In practice induction and deduction are usually both involved in establishing scientific theories. We referred above to Kepler's use of deduction in deriving his theory that Mars moved in an ellipse round the sun. However, he first thought of the ellipse (rather than, say, the parabola or the hyperbola) because the observations of Brahe led Kepler to believe the orbit of Mars was roughly egg-shaped. The egg shape was initially conjectured as a result of induction from astronomical observations.

Competing hypotheses can cover the same data

But here we should notice that when it comes to interpreting the data we have collected, different hypotheses can be constructed to cover that data. We have two illustrations of this.

Illustration from astronomy. Under the role of deduction above we discussed two hypotheses from ancient astronomy that were put

forward to explain the motion of the planets. Successive refinements of the epicyclic model appeared to cover the data at the expense of greater and greater complication in that more and more circles were necessary. Kepler's proposal, by contrast, covered the data by the simple device of replacing the complex array of circles by one single ellipse, which simplified the whole business enormously. Now, if we knew nothing of gravity and the deduction of elliptical orbits that can be made from it by means of Newton's laws, how would we choose between the two explanations?

At this point, scientists might well invoke the principle sometimes called 'Occam's razor', after William of Occam. This is the belief that simpler explanations of natural phenomena are more likely to be correct than more complex ones. More precisely, the idea is that if we have two or more competing hypotheses covering the same data, we should choose the one that involves the least number of assumptions or complications. The metaphorical use of the word 'razor' comes from this cutting or shaving down to the smallest possible number of assumptions. Occam's razor has proved very useful but we should observe that it is a philosophical preference, and it is not something that you can prove to be true in every case, so it needs to be used with care.

The principle sometimes called 'Occam's razor', after William of Occam . . . is the belief that simpler explanations of natural phenomena are more likely to be correct than more complex ones.

Illustration from physics. Another illustration of the way in which different hypotheses can account for the same data is given by a common exercise in school physics. We are given a spring, a series of weights and a ruler and asked to plot a graph of the length of the spring against the weight hanging on the end of it. We end up with a series, say, of 10 points on the paper that look as if they might (with a bit of imagination!) lie on a straight line. We take an inductive step and draw a straight line that goes through most of the points and we claim that there is a linear relationship between the length of spring and the tension it is put under by the weights (Hooke's law). But then we reflect that there is an infinite number of curves that can be drawn through our ten points. Changing the curve would change the relation between spring length and tension. Why not choose one of those other curves in preference to

the straight line? That is, in the situation just described, there are many different hypotheses that cover the same set of data. How do you choose between them?

Application of Occam's razor would lead to choosing the most elegant or economical solution—a straight line is simpler than a complicated curve. We could also repeat the experiment with 100 points, 200 points, etc. The results would build up our confidence that the straight line was the correct answer. When we build up evidence in this way, we say that we have cumulative evidence for the validity of our hypothesis.

So far we have been looking at various methods employed by scientists and have seen that none of them yields 100% certainty, except in deductive proofs in mathematics where the certainty is that particular conclusions follow from particular axioms. However, we would emphasise once more that this does not mean that the scientific enterprise is about to collapse! Far from it. What we mean by 'not giving 100% certainty' can be interpreted as saying that there is a small probability that a particular result or theory is false. But that does not mean that we cannot have confidence in the theory.

Indeed there are some situations, as in the litmus-paper test for acid where there has been 100% success in the past. Now whereas this does not formally guarantee 100% success in the future, scientists will say that it is a fact that litmus paper turns red on being dipped in acid. By a 'fact', they mean, as palaeontologist Stephen Jay Gould has delightfully put it, 'confirmed to such a degree that it would be perverse to withhold provisional assent to it'.[3]

On other occasions we are prepared to trust our lives to the findings of science and technology even though we know we do not have 100% certainty. For example, before we travel by train, we know that it is theoretically possible for something to go wrong, maybe for the brakes or signalling to fail and cause the train to crash. But we also know from the statistics of rail travel that the probability of such an event is very small indeed (though it is not zero—trains have from time to time crashed). Since the probability of a crash is so small, most of us who travel by train do so without even thinking about the risk.

On the other hand we must not assume that we can accept all

[3] Gould, 'Evolution as Fact and Theory', 119.

proposed hypotheses arrived at by scientific method as absolute fact without testing them.

One of the criteria of testing is called falsifiability.

Falsifiability

Karl Popper put the emphasis not on the verifiability of a hypothesis but on its falsifiability. It is unfortunate that Popper's terminology can be a real source of confusion, since the adjective 'falsifiable' does not mean 'will turn out to be false'! The confusion is even worse when one realises, on the other hand, that the verb 'to falsify' means 'to demonstrate that something is false'! The term 'falsifiable' has in fact a technical meaning. A hypothesis is said to be falsifiable if you can think of a logically possible set of observations that would be inconsistent with it.

It is, of course, much easier to falsify a universal statement than to verify it. As an illustration, take one of our earlier examples. The statement 'All swans are white' is, from the very start, falsifiable. One would only have to discover one swan that was black and that would falsify it. And since we know that black swans do exist, the statement has long since been falsified.

The term 'falsifiable' has in fact a technical meaning: a hypothesis is said to be falsifiable if you can think of a logically possible set of observations that would be inconsistent with it.

However, there can be problems. Most scientific activity is much more complex than dealing with claims like 'All swans are white'!

For example, in the nineteenth century observations of the planet Uranus appeared to indicate that its motion was inconsistent with predictions made on the basis of Newton's laws. Therefore, it appeared to threaten to demonstrate Newton's laws to be false. However, instead of immediately saying that Newton's laws had been falsified, it was suggested by French mathematician Urbain Le Verrier and English astronomer John Couch Adams (unknown to each other) that there might be a hitherto undetected planet in the neighbourhood of Uranus that would account for its apparently anomalous behaviour. As a result another scientist, German astronomer Johann Galle, was prompted to look for a new planet and discovered the planet Neptune.

It would, therefore, have been incorrect to regard the behaviour of Uranus as falsifying Newton's laws. The problem was ignorance of the initial conditions—there was a planet missing in the configuration being studied. In other words, some of the crucial data was missing. This story demonstrates one of the problems inherent in Popper's approach. When observation does not fit theory, it could be that the theory is false, but it could equally well be that the theory is correct but the data is incomplete or even false, or that some of the auxiliary assumptions are incorrect. How can you judge what is the correct picture?

Most scientists in fact feel that Popper's ideas are far too pessimistic and his methodology too counter-intuitive. Their experience and intuition tell them that their scientific methods in fact enable them to get a better and better understanding of the universe, that they are in this sense getting a tighter grip on reality. One benefit of Popper's approach, however, is its insistence that scientific theories be testable.

Repeatability and abduction

The scientific activity we have been thinking of so far is characterised by *repeatability*. That is, we have considered situations where scientists are looking for universally valid laws that cover repeatable phenomena, laws which, like Newton's laws of motion, may be experimentally tested again and again. Sciences of this sort are often called inductive or nomological sciences (Gk. *nomos* = law) and between them they cover most of science.

However there are major areas of scientific enquiry where repeatability is not possible, notably study of the origin of the universe and the origin and development of life.

Now of course we do not mean to imply that science has nothing to say about phenomena that are non-repeatable. On the contrary, if one is to judge by the amount of literature published, particularly, but not only, at the popular level, the origin of the universe and of life, for example, are among the most interesting subjects by far that science addresses.

But precisely because of the importance of such non-repeatable phenomena, it is vital to see that the way in which they are accessible to science is not the same in general as the way in which repeatable phenomena are. For theories about both kinds of phenomena tend to

be presented to the public in the powerful name of science as though they had an equal claim to be accepted. Thus there is a real danger that the public ascribes the same authority and validity to conjectures about non-repeatable events that are not capable of experimental verification as it does to those theories that have been confirmed by repeated experiment.

Physical chemist and philosopher Michael Polanyi points out that the study of how something originates is usually very different from the study of how it operates, although, of course, clues to how something originated may well be found in how it operates. It is one thing to investigate something repeatable in the laboratory, such as dissecting a frog to see how its nervous system functions, but it is an altogether different thing to study something non-repeatable, such as how frogs came to exist in the first place. And, on the large scale, how the universe works is one thing, yet how it came to be may be quite another.

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The most striking difference between the study of non-repeatable and repeatable phenomena is that the method of induction is no longer applicable, since we no longer have a sequence of observations or experiments to induce from, nor any repetition in the future to predict about! The principal method that applies to non-repeatable phenomena is *abduction*.

Although this term, introduced by logician Charles Peirce in the nineteenth century, may be unfamiliar, the underlying idea is very familiar. For abduction is what every good detective does in order to clear up a murder mystery! With the murder mystery a certain event has happened. No one doubts that it has happened. The question is: who or what was the cause of it happening? And often in the search for causes of an event that has already happened, abduction is the only method available.

As an example of abductive inference, think of the following:

Data: Ivan's car went over the cliff edge and he was killed.

Inference: If the car brakes had failed, then the car would have gone over the cliff.

Abductive conclusion: There is reason to suppose that the brakes failed.

However, an alternative suggests itself (especially to avid readers of detective stories): if someone had pushed Ivan's car over the cliff, the result would have been the same! It would be fallacious and very foolish to assume that just because we had thought of one explanation of the circumstances, that it was the only one.

The basic idea of abduction is given by the following scheme:

Data: A is observed.
Inference: If B were true then A would follow.

Abductive conclusion: There is reason to suppose B may be true.

Of course, there may well be another hypothesis, C, of which we could say: if C were true A would follow. Indeed, there may be many candidates for C.

The detective in our story has a procedure for considering them one by one. He may first consider the chance hypothesis, B, that the brakes failed. He may then consider the hypothesis C that it was no chance event, but deliberately designed by a murderer who pushed the car over the cliff. Or the detective may consider an even more sophisticated hypothesis, D, combining both chance and design, that someone who wanted to kill Ivan had tampered with the brakes of the car so that they would fail somewhere, and they happened to fail on the clifftop!

Inference to the best explanation. Our detective story illustrates how the process of abduction throws up plausible hypotheses and forces upon us the question as to which of the hypotheses best fits the data. In order to decide that question, the hypotheses are compared for their explanatory power: how much of the data do they cover, does the theory make coherent sense, is it consistent with other areas of our knowledge, etc.?

In order to answer these further questions, deduction will often be used. For example, if B in the detective story is true, then we would expect an investigation of the brakes of the wrecked car to reveal worn or broken parts. If C is true we would deduce that the brakes might well be found in perfect order, whereas if D were the case, we might expect to find marks of deliberate damage to the hydraulic braking system. If we found such marks then D would immediately be regarded as the best of the competing explanations given so far, since it has a greater explanatory power than the others.

Thus, abduction together with the subsequent comparison of competing hypotheses may be regarded as an 'inference to the best explanation'. This is the essence not only of detective and legal work but also of the work of the historian. Both detective and historian have to infer the best possible explanation from the available data after the events in which they are interested have occurred.

For more on the application of abduction in the natural sciences, particularly in cosmology and biology, see the books by John Lennox noted at the end of this Appendix. Here we need to consider a few more of the general issues related to the scientific endeavour.

EXPLAINING EXPLANATIONS

Levels of explanation

Science explains. This, for many people encapsulates the power and the fascination of science. Science enables us to understand what we did not understand before and, by giving us understanding, it gives us power over nature. But what do we mean by saying that 'science explains'?

In informal language we take an explanation of something to be adequate when the person to whom the explanation is given understands plainly what he or she did not understand before. However, we must try to be more precise about what we mean by the process of 'explanation', since it has different aspects that are often confused. An illustration can help us. We have considered a similar idea in relation to roses. Let's now take further examples.

Suppose Aunt Olga has baked a beautiful cake. She displays it to a gathering of the world's top scientists and we ask them for an explanation of the cake. The nutrition scientists will tell us about the number of calories in the cake and its nutritional effect; the biochemists will inform us about the structure of the proteins, fats, etc. in the cake and what it is that causes them to hold together; the chemists will enumerate the elements involved and describe their bonding; the physicists will be able to analyse the cake in terms of fundamental particles; and the mathematicians will offer us a set of beautiful equations to describe the behaviour of those particles. Suppose,

then, that these experts have given us an exhaustive description of the cake, each in terms of his or her scientific discipline. Can we say that the cake is now completely explained? We have certainly been given a description of how the cake was made and how its various constituent elements relate to each other. But suppose we now ask the assembled group of experts why the cake was made. We notice the grin on Aunt Olga's face. She knows the answer since, after all, she made the cake! But if she does not reveal the answer by telling us, it is clear that no amount of scientific analysis will give us the answer.

Thus, although science can answer 'how' questions in terms of causes and mechanisms, it cannot answer 'why' questions, questions of purpose and intention—teleological questions, as they are sometimes called (Gk. *telos* = end or goal).

However, it would be nonsensical to suggest that Aunt Olga's answer to the teleological question, that she made the cake for Sam's birthday, say, contradicted the scientific analysis of the cake! No. The two kinds of answer are clearly logically compatible.

And yet exactly the same confusion of categories is evidenced when atheists argue that there is no longer need to bring in God and the supernatural to explain the workings of nature, since we now have a scientific explanation for them. As a result, the general public has come to think that belief in a creator belongs to a primitive and unsophisticated stage of human thinking and has been rendered both unnecessary and impossible by science.

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But there is an obvious fallacy here. Think of a Ford motor car. It is conceivable that a primitive person who was seeing one for the first time and who did not understand the principles of an internal combustion engine, might imagine that there was a god (Mr Ford) inside the engine, making it go. He might further imagine that when the engine ran sweetly that was because Mr Ford inside the engine liked him, and when it refused to go that was because Mr Ford did not like him. Of course, if eventually this primitive person became civilised, learned engineering, and took the engine to pieces, he would discover that there was no Mr Ford inside the engine, and that he did not need to introduce Mr Ford as an explanation for the

working of the engine. His grasp of the impersonal principles of internal combustion would be altogether enough to explain how the engine worked. So far, so good. But if he then decided that his understanding of the principles of the internal combustion engine made it impossible to believe in the existence of a Mr Ford who designed the engine, this would be patently false!

FIGURE Ap.2. Model T Ford Motor Car.

Introducing the world's first moving assembly line in 1913, Ford Motor Company built more than 15 million Model Ts from 1908 until 1927.

It is likewise a confusion of categories to suppose that our understanding of the impersonal principles according to which the universe works makes it either unnecessary or impossible to believe in the existence of a personal creator who designed, made and upholds the great engine that is the universe. In other words, we should not confuse the mechanisms by which the universe works with its Cause. Every one of us knows how to distinguish between the consciously willed movement of an arm for a purpose and an involuntary spasmodic movement of an arm induced by accidental contact with an electric current.

Michael Poole, Visiting Research Fellow, Science and Religion, at King's College London, in his published debate on science and religion with Richard Dawkins, puts it this way:

> There is no logical conflict between reason-giving explanations which concern mechanisms, and reason-giving explanations which concern the plans and purposes of an agent, human or divine. This is a logical point, not a matter of whether one does or does not happen to believe in God oneself.[4]

[4] Poole, 'Critique of Aspects of the Philosophy and Theology of Richard Dawkins', 49.

One of the authors, in a debate with Richard Dawkins, noted how his opponent was confusing the categories of mechanism and agency:

> When Isaac Newton, for example, discovered his law of gravity and wrote down the equations of motion, he didn't say, 'Marvellous, I now understand it. I've got a mechanism therefore I don't need God.' In fact it was the exact opposite. It was because he understood the complexity of sophistication of the mathematical description of the universe that his praise for God was increased. And I would like to suggest, Richard, that somewhere down in this you're making a category mistake, because you're confusing mechanism with agency. We have a mechanism that does XYZ, therefore there's no need for an agent. I would suggest that the sophistication of the mechanism, and science rejoices in finding such mechanisms, is evidence for the sheer wonder of the creative genius of God.[5]

In spite of the clarity of the logic expressed in these counterpoints, a famous statement made by the French mathematician Laplace is constantly misappropriated to support atheism. On being asked by Napoleon where God fitted in to his mathematical work, Laplace replied: 'Sir, I have no need of that hypothesis.' Of course, God did not appear in Laplace's mathematical description of how things work, just as Mr Ford would not appear in a scientific description of the laws of internal combustion. But what does that prove? Such an argument can no more be used to prove that God does not exist than it can be used to prove that Mr Ford does not exist.

To sum up, then, it is important to be aware of the danger of confusing different levels of explanation and of thinking that one level of explanation tells the whole story.

This leads us at once to consider the related question of reductionism.

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[5] Lennox's response to Dawkins's first thesis 'Faith is blind; science is evidence-based', 'The God Delusion Debate', hosted by Fixed Point Foundation, University of Alabama at Birmingham, filmed and broadcast live 3 October 2007, http://fixed-point.org/index.php/video/35-full-length/164-the-dawkins-lennox-debate. Transcript provided courtesy of ProTorah, http://www.protorah.com/god-delusion-debate-dawkins-lennox-transcript/.

Reductionism

In order to study something, especially if it is complex, scientists often split it up into separate parts or aspects and thus 'reduce' it to simpler components that are individually easier to investigate. This kind of reductionism, often called methodological or structural reductionism, is part of the normal process of science and has proved very useful. It is, however, very important to bear in mind that there may well be, and usually is, more to a given whole than simply what we obtain by adding up all that we have learned from the parts. Studying all the parts of a watch separately will never enable you to grasp how the complete watch works as an integrated whole.

Besides methodological reductionism there are two further types of reductionism, epistemological and ontological. *Epistemological reductionism* is the view that higher level sciences can be explained without remainder by the sciences at a lower level. That is, chemistry is explained by physics; biochemistry by chemistry; biology by biochemistry; psychology by biology; sociology by brain science; and theology by sociology. As Francis Crick puts it: 'The ultimate aim of the modern development in biology is in fact to explain all biology in terms of physics and chemistry.'[6] The former Charles Simonyi Professor of the Public Understanding of Science at Oxford, Richard Dawkins, holds the same view: 'My task is to explain elephants, and the world of complex things, in terms of the simple things that physicists either understand, or are working on.'[7] The ultimate goal of reductionism is to reduce all human behaviour, our likes and dislikes, the entire mental landscape of our lives, to physics.

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However, both the viability and the plausibility of this programme are open to serious question. The outstanding Russian psychologist Leo Vygotsky (1896–1934) was critical of certain aspects of this reductionist philosophy as applied to psychology. He pointed out that such reductionism often conflicts

[6] Crick, *Of Molecules and Men*, 10.

[7] Dawkins, *Blind Watchmaker*, 15.

with the goal of preserving all the basic features of a phenomenon or event that one wishes to explain. For example, one can reduce water (H_2O) into H and O. However, hydrogen burns and oxygen is necessary for burning, whereas water has neither of these properties, but has many others that are not possessed by either hydrogen or oxygen. Thus, Vygotsky's view was that reductionism can only be done up to certain limits. Karl Popper says: 'There is almost always an unresolved residue left by even the most successful attempts at reduction.'[8]

Furthermore, Michael Polanyi argues the intrinsic implausibility of expecting epistemological reductionism to work in every circumstance.[9] Think of the various levels of process involved in building an office building with bricks. First of all there is the process of extracting the raw materials out of which the bricks have to be made. Then there are the successively higher levels of making the bricks, they do not make themselves; bricklaying, the bricks do not self-assemble; designing the building, it does not design itself; and planning the town in which the building is to be built, it does not organise itself. Each level has its own rules. The laws of physics and chemistry govern the raw material of the bricks; technology prescribes the art of brick making; architecture teaches the builders, and the architects are controlled by the town planners. Each level is controlled by the level above, but the reverse is not true. The laws of a higher level cannot be derived from the laws of a lower level (although, of course what can be done at a higher level will depend on the lower levels: for example, if the bricks are not strong there will be a limit on the height of a building that can be safely built with them).

Consider the page you are reading just now. It consists of paper imprinted with ink or, in the case of an electronic version, text rendered digitally. It is obvious that the physics and chemistry of ink and paper can never, even in principle, tell you anything about the significance of the shapes of the letters on the page. And this is nothing to do with the fact that physics and chemistry are not yet sufficiently advanced to deal with this question. Even if we allow these sciences another 1,000 years of development, we can see that it will make no

[8] Popper, 'Scientific Reduction.'

[9] Polanyi, *Tacit Dimension*.

difference, because the shapes of those letters demand a totally new and higher level of explanation than that of which physics and chemistry are capable. In fact, explanation can only be given in terms of the concepts of language and authorship—the communication of a message by a person. The ink and paper are carriers of the message, but the message certainly does not emerge automatically from them. Furthermore, when it comes to language itself, there is again a sequence of levels—you cannot derive a vocabulary from phonetics, or the grammar of a language from its vocabulary, etc.

As is well known, the genetic material DNA carries information. We shall describe this later on in some detail, but the basic idea is simply this. DNA, a substance found in every living cell, can be looked at as a long tape on which there is a string of letters written in a four-letter chemical language. The sequence of letters contains coded instructions (information) that the cell uses to make proteins. Physical biochemist and theologian Arthur Peacocke writes: 'In no way can the concept of "information", the concept of conveying a message, be articulated in terms of the concepts of physics and chemistry, even though the latter can be shown to explain how the molecular machinery (DNA, RNA and protein) operates to carry information.'[10]

In each of the situations we have described above, we have a series of levels, each one higher than the previous one. What happens on a higher level is not completely derivable from what happens on the level beneath it, but requires another level of explanation.

In this kind of situation it is sometimes said that the higher level phenomena 'emerge' from the lower level. Unfortunately, however, the word 'emerge' is easily misunderstood to mean that the higher level properties emerge automatically from the lower level properties. This is clearly false in general, as we showed by considering brick making and writing on paper. Yet notwithstanding the fact that both writing on paper and DNA have in common the fact that they encode a 'message', those scientists committed to materialistic philosophy insist that the information carrying properties of DNA must have emerged automatically out of mindless matter. For if, as materialism insists, matter and energy are all that there is, then it logically follows

[10] Peacocke, *Experiment of Life*, 54.

that they must possess the inherent potential to organise themselves in such a way that eventually all the complex molecules necessary for life, including DNA, will emerge.[11]

There is a third type of reductionism, called *ontological reductionism*, which is frequently encountered in statements like the following: The universe is nothing but a collection of atoms in motion, human beings are 'machines for propagating DNA, and the propagation of DNA is a self-sustaining process. It is every living object's sole reason for living'.[12]

Words such as 'nothing but', 'sole' or 'simply' are the telltale sign of (ontological) reductionist thinking. If we remove these words we are usually left with something unobjectionable. The universe certainly is a collection of atoms and human beings do propagate DNA. The question is, is there nothing more to it than that? Are we going to say with Francis Crick, who won the Nobel Prize jointly with James D. Watson for his discovery of the double helix structure of DNA: '"You", your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules'?[13]

What shall we say of human love and fear, of concepts like beauty and truth? Are they meaningless?

Ontological reductionism, carried to its logical conclusion, would ask us to believe that a Rembrandt painting is nothing but molecules of paint scattered on canvas. Physicist and theologian John Polkinghorne's reaction is clear:

> There is more to the world than physics can ever express.
>
> One of the fundamental experiences of the scientific life is that of wonder at the beautiful structure of the world. It is the pay-off for all the weary hours of labour involved in the pursuit of research. Yet in the world described by science where would that wonder find its lodging? Or our experiences of beauty? Of moral obligation? Of the presence of God? These seem to me

[11] Whether matter and energy do have this capacity is another matter that is discussed in the books noted at the end of this appendix.

[12] Dawkins, *Growing Up in the Universe* (study guide), 21.

[13] Crick, *Astonishing Hypothesis*, 3.

> to be quite as fundamental as anything we could measure in the laboratory. A worldview that does not take them adequately into account is woefully incomplete.[14]

The most devastating criticism of ontological reductionism is that it is self-destructive. Polkinghorne describes its programme as ultimately suicidal:

> For, not only does it relegate our experiences of beauty, moral obligation, and religious encounter to the epiphenomenal scrapheap. It also destroys rationality. Thought is replaced by electrochemical neural events. Two such events cannot confront each other in rational discourse. They are neither right nor wrong. They simply happen. . . . The very assertions of the reductionist himself are nothing but blips in the neural network of his brain. The world of rational discourse dissolves into the absurd chatter of firing synapses. Quite frankly, that cannot be right and none of us believes it to be so.[15]

BASIC OPERATIONAL PRESUPPOSITIONS

So far we have been concentrating on the scientific method and have seen that this is a much more complex (and, for that reason, a much more interesting) topic than may first appear. As promised earlier, we must now consider the implications of the fact that scientists, being human like the rest of us, do not come to any situation with their mind completely clear of preconceived ideas. The widespread idea that any scientist, if only he or she tries to be impartial, can be a completely dispassionate observer in any but the most trivial of situations, is a fallacy, as has been pointed out repeatedly by philosophers of science and by scientists themselves. At the very least scientists must already

The widespread idea that any scientist, if only he or she tries to be impartial, can be a completely dispassionate observer in any but the most trivial of situations, is a fallacy.

[14] Polkinghorne, *One World*, 72–3.
[15] Polkinghorne, *One World*, 92–3.

have formed some idea or theory about the nature of what they are about to study.

Observation is dependent on theory

It is simply not possible to make observations and do experiments without any presuppositions. Consider, for example, the fact that science, by its very nature, has to be selective. It would clearly be impossible to take every aspect of any given object of study into account. Scientists must therefore choose what variables are likely to be important and what are not. For example, physicists do not think of taking into account the colour of billiard balls when they are conducting a laboratory investigation of the application of Newton's laws to motion: but the shape of the balls is very important—cubical balls would not be much use! In making such choices, scientists are inevitably guided by already formed ideas and theories about what the important factors are likely to be. The problem is that such ideas may sometimes be wrong and cause scientists to miss vital aspects of a problem to such an extent that they draw false conclusions. A famous story about the physicist Heinrich Hertz illustrates this.

Maxwell's electromagnetic theory predicted that radio and light waves would be propagated with the same velocity. Hertz designed an experiment to check this and found that the velocities were different. His mistake, only discovered after his death, was that he did not think that the shape of his laboratory could have any influence on the results of his experiment. Unfortunately for him, it did. Radio waves were reflected from the walls and distorted his results.

The validity of his observations depended on the (preconceived) theory that the shape of the laboratory was irrelevant to his experiment. The fact that this preconception was false invalidated his conclusions.

This story also points up another difficulty. How does one decide in this kind of situation whether it is the theory or the experiment that is at fault, whether one should trust the results of the experiment and abandon the theory and look for a better one, or whether one should keep on having faith in the theory and try to discover what was wrong with the experiment? There is no easy answer to this question. A great deal will depend on the experience and judgment of the scientists involved, and, inevitably, mistakes can and will be made.

Knowledge cannot be gained without making certain assumptions to start with

Scientists not only inevitably have preconceived ideas about particular situations, as illustrated by the story about Hertz, but their science is done within a framework of general assumptions about science as such. World-famous Harvard geneticist Richard Lewontin writes: 'Scientists, like other intellectuals, come to their work with a world view, a set of preconceptions that provides the framework for their analysis of the world.'[16]

And those preconceptions can significantly affect scientists' research methods as well as their results and interpretations of those results, as we shall see.

We would emphasise, however, that the fact that scientists have presuppositions is not to be deprecated. That would, in fact be a nonsensical attitude to adopt. For the voice of logic reminds us that we cannot get to know anything if we are not prepared to presuppose something. Let's unpack this idea by thinking about a common attitude. 'I am not prepared to take anything for granted', says someone, 'I will only accept something if you prove it to me.' Sounds reasonable—but it isn't. For if this is your view then you will never accept or know anything! For suppose I want you to accept some proposition A. You will only accept it if I prove it to you. But I shall have to prove it to you on the basis of some other proposition B. You will only accept B if I prove it to you. I shall have to prove B to you on the basis of C. And so it will go on forever in what is called an infinite regress—that is, if you insist on taking nothing for granted in the first place!

We must all start somewhere with things we take as self-evident, basic assumptions that are not proved on the basis of something else. They are often called *axioms*.[17] Whatever axioms we adopt, we then proceed to try to make sense of the world by building on those

[16] Lewontin, *Dialectical Biologist*, 267.

[17] It should be borne in mind, however, that the axioms which appear in various branches of pure mathematics, for example, the theory of numbers or the theory of groups, do not appear out of nowhere. They usually arise from the attempt to encapsulate and formalise years, sometimes centuries, of mathematical research, into a so-called 'axiomatic system'.

axioms. This is true, not only at the worldview level but also in all of our individual disciplines. We retain those axioms that prove useful in the sense that they lead to theories which show a better 'fit' with nature and experience, and we abandon or modify those which do not fit so well. One thing is absolutely clear: none of us can avoid starting with assumptions.

Gaining knowledge involves trusting our senses and other people

There are essentially two sources from which we accumulate knowledge:

1. directly by our own 'hands-on' experience, for example, by accidentally putting our finger in boiling water, we learn that boiling water scalds;
2. we learn all kinds of things from sources external to ourselves, for example, teachers, books, parents, the media, etc.

In doing so we all constantly exercise faith. We intuitively trust our senses, even though we know they deceive us on times. For example, in extremely cold weather, if we put our hand on a metal handrail outside, the rail may feel hot to our touch.

We have faith, too, in our minds to interpret our senses, though here again we know that our minds can be deceived.

We also normally believe what other people tell us—teachers, parents, friends, etc. Sometimes we check what we learn from them because, without insulting them, we realise that even friends can be mistaken, and other people may set out to deceive us. However, much more often than not, we accept things on authority—if only because no one has time to check everything! In technical matters we trust our textbooks. We have faith in what (other) scientists have done. And it is, of course, reasonable so to do, though those experts themselves would teach us to be critical and not just to accept everything on their say-so. They would remind us also that the fact that a statement appears in print in a book, does not make it automatically true!

Gaining scientific knowledge involves belief in the rational intelligibility of the universe

We all take so much for granted the fact that we can use human reason as a probe to investigate the universe that we can fail to see that this is really something to be wondered at. For once we begin to think about the intelligibility of the universe, our minds demand an explanation. But where can we find one? Science cannot give it to us, for the very simple reason that science has to assume the rational intelligibility of the universe in order to get started. Einstein himself, in the same article we quoted earlier, makes this very clear in saying that the scientist's belief in the rational intelligibility of the universe goes beyond science and is in its very nature essentially religious:

> Science can only be created by those who are thoroughly imbued with the aspiration toward truth and understanding. This source of feeling, however, springs from the sphere of religion. To this there also belongs the faith in the possibility that the regulations valid for the world of existence are rational, that is, comprehensible to reason. I cannot conceive of a genuine scientist without that profound faith.[18]

Einstein saw no reason to be embarrassed by the fact that science involves at its root belief in something that science itself cannot justify.

Allied to belief in the rational intelligibility of the universe is the belief that patterns and law-like behaviour are to be expected in nature. The Greeks expressed this by using the word cosmos which means 'ordered'. It is this underlying expectation of order that lies behind the confidence with which scientists use the inductive method. Scientists speak of their belief in the uniformity of nature—the idea that the order in nature and the laws that describe it are valid at all times and in all parts of the universe.

Many theists from the Jewish, Islamic or Christian tradition would want to modify this concept of the uniformity of nature by adding their conviction that God the Creator has built regularities

[18] Einstein, *Out of My Later Years*, 26.

FIGURE Ap.3. Milky Way Galaxy.

The Milky Way galaxy is visible from earth on clear nights away from urban areas. Appearing as a cloud in the night sky, our galaxy's spiral bands of dust and glowing nebulae consist of billions of stars as seen from the inside.

into the working of the universe so that in general we can speak of uniformity—the norms to which nature normally operates. But because God is the Creator, he is not a prisoner of those regularities but can vary them by causing things to happen that do not fit into the regular pattern.

Here, again, commitment to the uniformity of nature is a matter of belief. Science cannot prove to us that nature is uniform, since we must assume the uniformity of nature in order to do science. Otherwise we would have no confidence that, if we repeat an experiment under the same conditions as it was done before, we shall get the same result. Were it so, our school textbooks would be useless. But surely, we might say, the uniformity of nature is highly probable since assuming it has led to such stunning scientific advance. However, as C. S. Lewis has observed: 'Can we say that Uniformity is at any rate very probable? Unfortunately not. We have just seen that all probabilities depend on *it*. Unless Nature is uniform, nothing is either probable or improbable.'[19]

[19] Lewis, *Miracles*, 163.

Operating within the reigning paradigms

Thomas Kuhn in his famous book *The Structure of Scientific Revolutions* (1962) pictured science as preceding through the following stages: pre-science, normal science, crisis revolution, new normal science, new crisis, and so on. Pre-science is the diverse and disorganised activity characterised by much disagreement that precedes the emergence of a new science that gradually becomes structured when a scientific community adheres to a paradigm. The paradigm is a web of assumptions and theories that are more or less agreed upon and are like the steelwork around which the scientific edifice is erected. Well-known examples are the paradigms of Copernican astronomy, Newtonian mechanics and evolutionary biology.

Normal science is then practised within the paradigm. It sets the standards for legitimate research. The normal scientist uses the paradigm to probe nature. He or she does not (often) look critically at the paradigm itself, because it commands so much agreement, much as we look down the light of a torch to illuminate an object, rather than look critically at the light of the torch itself. For this reason the

paradigm will be very resistant to attempts to demonstrate that it is false. When anomalies, difficulties and apparent falsifications turn up, the normal scientists will hope to be able to accommodate them preferably within the paradigm or by making fine adjustments to the paradigm. However, if the difficulties can no longer be resolved and keep on piling up, a crisis situation develops, which leads to a scientific revolution involving the emergence of a new paradigm that then gains the ground to such an extent that the older paradigm is eventually completely abandoned. The essence of such a paradigm shift is the replacing of an old paradigm by a new one, not the refining of the old one by the new. The best known example of a major paradigm shift is the transition from Aristotelian geocentric (earth-centred) astronomy to Copernican heliocentric (sun-centred) astronomy in the sixteenth century.

Although Kuhn's work is open to criticism at various points, he has certainly made scientists aware of a number of issues that are important for our understanding of how science works:

1. the central role that metaphysical ideas play in the development of scientific theories;
2. the high resistance that paradigms show to attempts to prove them false;
3. the fact that science is subject to human frailty.

The second of these points has both a positive and a negative outworking. It means that a good paradigm will not be overturned automatically by the first experimental result or observation that appears to speak against it. On the other hand, it means that a paradigm which eventually proves to be inadequate or false, may take a long time to die and impede scientific progress by constraining scientists within its mesh and not giving them the freedom they need to explore radically new ideas that would yield real scientific advance.

It is important to realise that paradigms themselves are often influenced at a very deep level by worldview considerations. We saw earlier that there are essentially two fundamental worldviews, the materialistic and the theistic. It seems to be the case in science that there is sometimes a tacit understanding that only paradigms which are based on materialism are admissible as scientific. Richard Dawkins, for example, says, 'the kind of explanation we come up with must

not contradict the laws of physics. Indeed it will make use of the laws of physics, and nothing more than the laws of physics.'[20] It is the words 'nothing more than' that show that Dawkins is only prepared to accept reductionist, materialistic explanations.

Further reading

Books by John Lennox:

God and Stephen Hawking: Whose Design Is It Anyway? (Lion, 2011)

God's Undertaker: Has Science Buried God? (Lion, 2009)

Gunning for God: A Critique of the New Atheism (Lion, 2011)

Miracles: Is Belief in the Supernatural Irrational? VeriTalks Vol. 2. (The Veritas Forum, 2013)

Seven Days That Divide the World (Zondervan, 2011)

[20] Dawkins, *Blind Watchmaker*, 24.

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STUDY QUESTIONS FOR TEACHERS AND STUDENTS

PART 1: THE PROBLEM OF MORAL EVIL

CHAPTER 1: LOOKING FOR ANSWERS TO THE PROBLEM OF MORAL EVIL

The extent of the problem

1.1 What are the two main sources from which suffering comes on humankind?

1.2 What is the difference between natural disasters (sometimes called 'natural evil') and moral evil?

1.3 Two questions regarding God are raised by moral evil, one more fundamental than the other. What are they?

1.4 How would you characterise Ivan's reaction to moral evil in *The Brothers Karamazov*? In what respect is Philo's reaction in David Hume's work different from Ivan's?

1.5 What is your own reaction to the problem of moral evil? Do you think there is any hope or strategy for overcoming the world's moral evil?

1.6 What practical difficulty besets any attempt to give a satisfying answer to the problem of moral evil?

A philosophical statement of the problem and the hidden faults in atheistic approaches to it

1.7 If you wanted to present the problem of moral evil in formal philosophical terms, how would you set it out?

1.8 Do you regard it as inconceivable that God could have a morally sufficient reason for allowing evil in the world? If so, why?

1.9 One form of atheism maintains that human beings are nothing more than the products of mindless matter and forces. What are the implications of this view for the categories of moral good and evil? Do you agree with this view?

1.10 Another form of atheism holds that moral standards and laws have been set not by God but by humans in the course of their social evolution; and that eventually this social evolution will achieve universal harmony. What huge inadequacy inheres in this view?

1.11 What would Ivan Karamazov have thought of the view expressed in the previous question?

1.12 What questions does the idea of the final judgment arouse in your mind? Would you regard it as (*a*) impossible? (*b*) morally unacceptable? (*c*) to be longed for and welcomed? (*d*) to be feared?

CHAPTER 2: HUMAN FREE WILL: THE GLORY AND COST OF BEING HUMAN

Freedom of will

2.1 What evidence is there to support the claim that human beings have the capacity of free will and free choice? Do you agree with the claim?

2.2 What view do extreme determinists take? What arguments do they use to establish their view?

2.3 'Nobody really believes extreme determinism.' What practical evidence suggests that this statement is true?

2.4 What is meant by:

(*a*) freedom of spontaneity?

(*b*) freedom of indifference?

What is the difference between them? Illustrate your answer with practical examples.

2.5 What is the difference between tastes, instinct, and cultural conventions on the one hand, and moral standards on the other? How does this affect our moral decisions?

2.6 What is meant by 'diminished responsibility'? How should people with diminished responsibility be treated?

2.7 Do weakened willpower and reduced freedom of choice necessarily relieve a person of moral responsibility?

The indispensability of free will for morality

2.8 What are the implications of demanding that God should have created human beings incapable of evil?

2.9 What difference is there between a sophisticated computer and a human being? How does Searle's Chinese-box thought model illustrate this point?

2.10 'Humans are moral beings; computers are not.' Explain why computers are not.

2.11 Is it true to say that human beings resent being treated as machines or as animals? If so, why?

2.12 What difference do people tend to show in their attitude to free will and moral responsibility:

(*a*) when they have done something good?

(*b*) when they have done something bad?

Do you deduce from this that people resent having free will and its accompanying moral responsibility?

The indispensability of free will for love

2.13 Do you agree with Sartre that free will is indispensable for true, mature love?

2.14 'God is not a tyrant. He has given us free will and choice, whether to love and obey him or not.' Discuss.

The proper autonomy of nature

2.15 What is meant by 'the proper autonomy of nature'?

2.16 Why does the gift to the human race of genuine free will and free choice demand a certain fixity of nature? What are the implications of this for the possibility of the evil misuse of nature?

An objection to free will

2.17 Assess the cogency, or otherwise, of J. L. Mackie's argument.

2.18 'God gave man no permission to choose evil, but gave him the ability to choose evil, if he chose to.' Use the storyline of Genesis 2 and 3 to illustrate what this means.

2.19 'To choose to disobey God's word is necessarily to choose evil.' Why is this so?

CHAPTER 3: WHY DOESN'T GOD INTERVENE AND STOP EVIL?

Does God take responsibility?

3.1 Why is it simplistic to say that God should simply eliminate the bad and leave only the good?

3.2 Why must a full and fair assessment of an individual's sins await the final judgment?

3.3 What is the danger in discussing the world's evil as though we were merely spectators?

3.4 Would you have replied to the newspaper editor's question as G. K. Chesterton did?

3.5 Test yourself against the checklist in Galatians 5:19–21. How well do you come out of the test?

Repentance

3.6 A man refrains from stealing a bar of gold because he knows he will be electrocuted the moment he touches it. Is his refraining a genuinely moral act? If not, why not? What would his motive have to be, to make his refraining count as a truly moral act?

3.7 What point is Glaucon making by retelling the Gyges myth?

3.8 Do you agree that many people who would not wish to be publicly known as criminals would engage in corrupt practices if they could be sure of never being found out? Would you?

3.9 Is it true that sometimes in this world people suffer disadvantage, or even persecution, for refusing to cooperate with evil, and insisting on doing right?

3.10 'Humankind has had to learn the nature of evil by suffering its consequences.' Comment.

3.11 Is it true that we learn the nature of evil not merely by what we suffer from other people's wrongdoing, but also by observing the hurt our own wrongdoing inflicts on others? Cite examples.

3.12 Do you see any connection between Glaucon's prediction and what happened to Christ?

3.13 'The cross of Christ exposes the nature of the evil that nestles in every human heart.' In what sense is this true?

3.14 Select two students to propose the following motion and two to oppose it. Stress the need for each speaker to cite evidence for his or her point of view. Accept contributions from the floor, and let the class vote on this motion for debate:

'In view of the moral progress made by the human race in the last four thousand years, we may be confident that within a comparatively short while humankind will have overcome evil and have banished it from the world.'

CHAPTER 4: GOD'S JUDGMENT OF THE WORLD

Rejoicing in God's judgment?

4.1 Why would anybody regard the coming of God's judgment as something to be joyfully welcomed?

4.2 Do you think that, if God exists, he should intervene in our world and finally put an end to evil?

Objections to God's judgment

4.3 Why, in your estimation, do some people resent the very idea of a final judgment such as the Bible speaks of?

4.4 What is the relationship of forgiveness to repentance? Ought we to forgive people who do not repent?

A common misunderstanding about forgiveness

4.5 What is the difference between 'power to judge' and 'worthiness to judge'? On what is based Christ's moral right to be the Judge of men and women?

Is choice that can lead to eternal judgment really free?

4.6 What is meant by saying that the human race's alienation from God rests basically on a misconception of God's character?

4.7 What has been God's response to the human race's insane desire to be equal with God?

4.8 By what means, according to the Bible, does God attempt to regain people's love and obedience without removing their free will?

Will God's judgment be inhuman?

4.9 Why, according to the Bible, will God's judgment, when it comes, not be inhuman? What is meant by 'judgment by peer'?

4.10 How will God eventually put down evil?

PART 2: THE PROBLEM OF NATURAL EVIL

CHAPTER 5: THE PROBLEM OF PAIN AND SUFFERING

The problem stated

5.1 What is meant by the term 'natural evil'?

5.2 What, as you understand it, is 'the problem of pain'?

5.3 'The problem of pain and suffering is felt at two levels.' What two levels? And why does each level require a different kind of answer?

Seeing the problem for what it truly is

5.4 What is meant by saying that atheism gets rid of the problem but not of the pain?

5.5 'Atheism removes all hope.' In what sense is this true? And in what way does that make suffering harder to bear?

5.6 What would you say to comfort a young friend who was suffering from terminal cancer?

5.7 'Human beings, though rational themselves, are ultimately prisoners and victims of irrational forces.' What does this mean? Do you agree that non-rationality will eventually triumph over rationality?

5.8 What evidence is there to suggest that some mechanisms in the human body were designed by an intelligence that foresaw potential damage and so made provision in advance for its repair?

5.9 The mechanisms of the human body are so arranged that individuals eventually die, but the race as a whole lives on indefinitely. Why do you think this is? Is the race as a whole the really important thing, and individuals not very important at all?

5.10 Read again the quotations from Paul Davies. Are his arguments convincing?

5.11 Do you agree with the quotation from Hoyle and Wickramasinghe? Give reasons for your answer.

5.12 'The existence of extensive suffering in the world is not sufficient to cancel out the evidence of the world's having been designed.' Debate the pros and cons of this proposition.

Our own human attitude to pain

5.13 Name some pains that are good and useful.

5.14 In what way can the existence of pain and suffering in the world contribute to the formation of character?

5.15 Do you agree with Dostoyevsky's statement quoted in the text about truly great people having to experience deep grief on earth?

5.16 How do you account for the fact that some people voluntarily run the risk of considerable pain, and even death, for the sake of sport?

5.17 Do you admire the adventurous spirit of astronauts? Or do you regard space missions as a foolhardy risk of human life?

5.18 Do you agree that humans feel themselves in some sense superior to the forces of nature? If so, in what sense?

5.19 Are you grateful for the invention of ships, trains, cars, aeroplanes, electricity, laser beams and nuclear power? If so, what have you to say about the loss of lives involved in their invention and use?

5.20 What is meant by saying that the universe is good, but not necessarily safe?

5.21 Would fire be good for us, if it could not burn?

5.22 What is meant by saying that there are some things God cannot do? What kind of things?

5.23 'According to the Bible God created the universe and he maintains it. But the universe is not part of God, or an emanation from him. Nature has a certain autonomy.'

(*a*) What does all this mean?

(*b*) What is the difference between creation and pantheistic emanation? (See the section on 'Plotinus and the Problem of Evil' in Ch 2 of Book 2: *Finding Ultimate Reality*.)

(*c*) What does the autonomy of nature mean?

(*d*) How does this autonomy affect the interaction between the universe and us?

CHAPTER 6: GOD'S MAJOR PURPOSES FOR THE HUMAN RACE

Two major purposes

6.1 How realistic in your view is the Bible's assertion that the human race was created to have dominion over earth and its resources? How far has history borne it out?

6.2 Describe what for you are the most significant of the human race's advances in our mastery of nature. Give reasons for your choice.

6.3 Are you proud to be a human being? If so, why?

6.4 One of the first uses to which humans put our newly obtained power over atomic fission and fusion was to invent nuclear bombs. Does the human race's recent cracking of the genetic code carry any danger for humankind? If so, how would you control it?

6.5 What is the difference in biblical terminology between being a creature of God and being a child of God?

6.6 Consider again the analogy of the electronic engineer, his computer and his child. What is it meant to illustrate?

6.7 What in biblical terminology are the conditions for becoming a child of God?

6.8 What was the attitude of the early Christians towards suffering, and what was the rationale behind it?

Why then so much pain and suffering?

6.9 Sometimes when a person suffers some disaster or painful illness and death, some people will comment: 'He was such a good man, he did not deserve to suffer like that.' What would Christianity say about such a comment? And what would it not say?

6.10 Critique Butterfield's interpretation of history:

(*a*) Would you agree that the difference between civilisation and barbarism is a revelation of what is essentially the same human nature when it works under different conditions?

(*b*) Has there ever been a time in history when human selfishness and self-centredness has been entirely eliminated? Will there ever be such a time? If so, how and by what means?

(*c*) Would it ever be safe to abolish the police entirely? If not, why not?

(*d*) What does Butterfield mean by 'self-righteousness', and why does he regard it as wrong:

(1) in political theory?

(2) in international relationships?

(3) in the lives of private citizens?

Does he mean that no one can ever be sure that some things are right and other things wrong?

(*e*) Comment on Butterfield's response to the bishop's statement. What, in this context, does he mean by saying 'it is essential not to have faith in human nature'?

(*f*) Do you agree that a study of history would confirm Butterfield's interpretation? Cite historical evidence to support your own interpretation.

CHAPTER 7: BROKEN HUMAN NATURE AND NATURAL EVIL

What exactly is wrong with human nature?

7.1 In biblical theology, what Adam and Eve did, and what happened as a result of it, is referred to as 'the fall'. What is meant by this term 'fall'?

7.2 What, in biblical doctrine, is meant by the technical terms:

(*a*) 'sin' (as a basic principle)?

(*b*) 'flesh' (as a description of humans)?

7.3 'Adam's disobedience arose from a fundamental disagreement with God over the nature of life and the possibility of death.' Comment on this as an interpretation of the Genesis story. Is it fair?

7.4 What was man's motivation in eating of the forbidden tree? What do you think was wrong with it, if anything?

7.5 Who do you think the tempter was? Consider Revelation 12:9; 20:2–3, 7–8; 2 Corinthians 11:3; John 8:44. Is there any such tempter still today?

7.6 What is 'egotism'?

7.7 'Man shall not live by bread alone'. What does this mean? Is it true? In your experience what additional elements are needed for a full life?

7.8 What is meant by saying that death can take place at different levels of human experience?

7.9 What is the point of the analogy of the girl and the engagement ring?

Consequences of Adam's sin

7.10 How does the Genesis story describe the immediate effect on Adam and Eve of their disobedience? Is it true to life?

7.11 What strong objection is advanced by many biologists against the biblical doctrine that human physical death is the result of human sin? How valid is it?

7.12 'The Bible nowhere says that man, as originally created, possessed essential, inherent, immortality.' What does this mean, and how is it relevant to the objection raised in the previous question?

7.13 What is meant by saying that creation has been subjected to ineffectiveness? Ineffectiveness for what?

7.14 Would you say that modern human administration of earth's resources is in any way defective, or even wicked?

7.15 'Nature herself sometimes revolts against human abuse of her.' Can you think of any examples of this?

7.16 Granted that there is much that is good and noble in human nature, would you agree that every human being is flawed in one way or another? If so, how do you account for it?

7.17 Consider the analogy of the child born to a mother who is a drug pusher and a drug addict. Whom would you blame for the child's later behaviour as a grown up man? The mother, or the man?

7.18 What do you think that the Bible quotation from Romans 5:19 means?

CHAPTER 8: PAIN, SUFFERING AND THE INDIVIDUAL

God's care for the individual

8.1 Which would you say is more important: the human race as a whole, or the individual? Is there such a thing as 'the human race as a whole'? Has it ever existed at any one time?

8.2 'Totalitarian systems tend to put greater value on the mass, or the race, than on the individual.' Discuss.

8.3 'God is big enough to be concerned for the feelings, concerns, and fate of every individual.' In what ways did Christ express this concern on God's part?

The order of redemption

8.4 What is meant by 'the order of redemption'?

8.5 What did God do to end Adam and Eve's alienation? How did it help them face life's sufferings? In what way was it a symbolic gesture?

8.6 How has that symbolic gesture served all down the ages as a metaphor? And what in Christian thought is it a metaphor for?

8.7 On what do Christians rest their confidence that God is for them and not against them?

8.8 How, in the Genesis story, did God instil hope in Adam and Eve as they faced pain and suffering?

8.9 Why is it important for us to be made to face and experience the painful consequences of our choices?

God's initiative to inspire hope for the future

8.10 In Christian thought in what ways does Christ fulfil God's promise about 'the seed of the woman'?

8.11 Is it true that people fear death? Why do they? Do you?

8.12 How can fear of death distort human moral values and behaviour?

8.13 In what sense, according to the Bible, does Christ free people from the fear of death?

8.14 Do you consider belief in bodily resurrection absurd? If so, on what grounds? What would a Christian say in reply?

8.15 'Faith in life after death makes life in the here and now infinitely important.' Why is that?

CHAPTER 9: GLORY THROUGH SUFFERING

The future of the world and the end of suffering

9.1 What, according to the Bible, is the role of Christ in regard to the created universe?

9.2 What is the biblical view of the future of the world and of the end of pain and suffering?

9.3 Why do Christians consider the bodily resurrection of Jesus to be of crucial significance for the future of the material universe?

9.4 'God will never abandon the material universe any more than he will abandon the human body of the Son of God.' Comment.

9.5 Do you agree that the history and development of our planet have been uniform throughout all time?

9.6 Do you think that the future of our planet will necessarily be free from any large-scale catastrophe?

9.7 Do you consider that science will eventually eliminate disease, suffering and death? Do you hope so?

9.8 Do you think the sun will last forever? What will happen to earth when the sun dies?

9.9 Do you think that the universe will (*a*) collapse in on itself, (*b*) expand and suffer heat death, or (*c*) last eternally?

9.10 What is the Christian attitude to the endeavour of medical science to find the cause and cure of disease, pain and suffering, and to prolong human life?

The suffering of God

9.11 What is the biblical answer to the criticism that the Bible's promises for the future have over many centuries not been fulfilled, and therefore are not to be trusted?

9.12 What is meant by saying that there are things that even divine love cannot do by the mere use of naked power? What kinds of things?

9.13 How can it be said that when Christ was crucified, God was crucified?

9.14 What, according to the Bible, is creation waiting for, before it can be released from its suffering. And why must it wait for this?

9.15 How, do you think, did the incident of Moses and the serpent illustrate the point that Christ was making to the theologian?

9.16 What would induce anyone not only to believe in the existence of God, but to trust him?

9.17 Why, according to the Bible, did God have to suffer in order for the human race to be forgiven? Why would it be unbecoming of God to try to convert somebody by the use of naked power?

9.18 By what means is faith demonstrated to be genuine, and why does it involve suffering?

9.19 What does it mean to say that faith has to be purified? From what? And how?

9.20 According to the Bible, Christ is now in heaven. How is he qualified to help people who are suffering here on earth?

Some final observations on the goal of suffering

9.21 If God can suffer, how does that alter the formulation of the problem of pain?

9.22 Aristotle and Plotinus based their concept of what God must be like on their own abstract philosophical principles.

(*a*) What resultant concepts of God did they arrive at?

(*b*) Were they convincing?

(*c*) What is wrong with that way of going about deciding what God is like? Compare the approach of scientists to the universe.

9.23 From where do Christians claim to get their knowledge of God?

9.24 What does it mean to say that God is impassive?

9.25 What does it mean to say that God's unchangeable nature is not static, but dynamic?

9.26 What practical implications for us human beings flow from the fact that God can suffer? What difference would it make if he couldn't?

9.27 What answers, if any, can be given to the disproportionate distribution of suffering?

9.28 Has suffering any practical benefit? If so, what?

APPENDIX: THE SCIENTIFIC ENDEAVOUR

Scientific method

A.1 In what different ways have you heard the word 'science' used? How would you define it?

A.2 How is induction understood as part of our everyday experience and also of the scientific endeavour?

A.3 In what ways does deduction differ from induction, and what role does each play in scientific experiments?

A.4 Do you find the idea of 'falsifiability' appealing, or unsatisfactory? Why?

A.5 How does abduction differ from both induction and deduction, and what is the relationship among the three?

Explaining explanations

A.6 How many levels of explanation can you think of to explain a cake, in terms of how was it made, what was it made from, and why was it made? What can scientists tell us? What can 'Aunt Olga' tell us?

A.7 In what ways is reductionism helpful in scientific research, and in what ways could it be limiting, or even detrimental, to scientific research?

A.8 How do you react to physicist and theologian John Polkinghorne's statement that reductionism relegates 'our experiences of beauty, moral obligation, and religious encounter to the epiphenomenal scrapheap. It also destroys rationality'?

The basic operational presuppositions of the scientific endeavour

A.9 What is meant by the statement 'Observation is dependent on theory'?

A.10 What are some of the axioms upon which your thinking about scientific knowledge rests?

A.11 What does trust have to do with gaining knowledge?

A.12 What does belief have to do with gaining knowledge?

A.13 According to physicist and philosopher of science Thomas Kuhn, how do new scientific paradigms emerge?

SCRIPTURE INDEX

GENERAL INDEX

ABOUT THE AUTHORS

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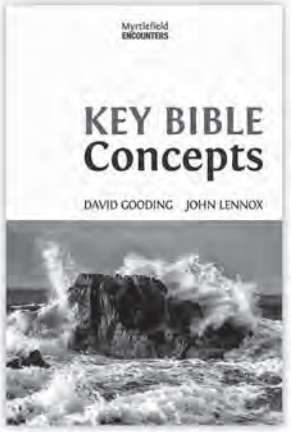
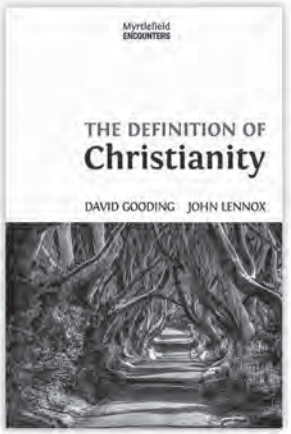
David W. Gooding (right) and John C. Lennox (left)

Photo credit: Barbara Hamilton

Myrtlefield Encounters

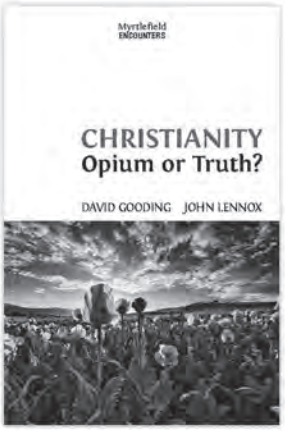


Key Bible Concepts
How can one book be so widely appreciated and so contested? Millions revere it and many ridicule it, but the Bible is often not allowed to speak for itself. Key Bible Concepts explores and clarifies the central terms of the Christian gospel. Gooding and Lennox provide succinct explanations of the basic vocabulary of Christian thought to unlock the Bible's meaning and its significance for today.

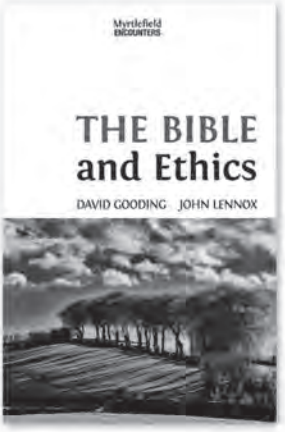


The Definition of Christianity
Who gets to determine what Christianity means? Is it possible to understand its original message after centuries of tradition and conflicting ideas? Gooding and Lennox throw fresh light on these questions by tracing the Book of Acts' historical account of the message that proved so effective in the time of Christ's apostles. Luke's record of its confrontations with competing philosophical and religious systems reveals Christianity's own original and lasting definition.

Myrtlefield Encounters



Christianity: Opium or Truth
Is Christianity just a belief that dulls the pain of our existence with dreams that are beautiful but false? Or is it an accurate account of reality, our own condition and God's attitude toward us? Gooding and Lennox address crucial issues that can make it difficult for thoughtful people to accept the Christian message. They answer those questions and show that clear thinking is not in conflict with personal faith in Jesus Christ.



The Bible and Ethics
Why should we tell the truth or value a human life? Why should we not treat others in any way we like? Some say the Bible is the last place to find answers to such questions, but even its critics recognize the magnificence of Jesus' ethical teaching. To understand the ethics of Jesus we need to understand the values and beliefs on which they are based. Gooding and Lennox take us on a journey through the Bible and give us a concise survey of its leading events and people, ideas, poetry, moral values and ethics to bring into focus the ultimate significance of what Jesus taught about right and wrong.

Clear, simple, fresh and highly practical—this David Gooding/John Lennox series is a goldmine for anyone who desires to live Socrates' 'examined life'.

Above all, the books are comprehensive and foundational, so they form an invaluable handbook for negotiating the crazy chaos of today's modern world.

Os Guinness, author of *Last Call for Liberty*

These six volumes, totalling almost 2000 pages, were written by two outstanding scholars who combine careers of research and teaching at the highest levels. David Gooding and John Lennox cover well the fields of Scripture, science, and philosophy, integrating them with one voice. The result is a set of texts that work systematically through a potpourri of major topics, like being human, discovering ultimate reality, knowing truth, ethically evaluating life's choices, answering our deepest questions, plus the problems of pain and suffering. To get all this wisdom together in this set was an enormous undertaking! Highly recommended!

Gary R. Habermas, Distinguished Research Professor & Chair, Dept. of Philosophy, Liberty University & Theological Seminary

David Gooding and John Lennox are exemplary guides to the deepest questions of life in this comprehensive series. It will equip thinking Christians with an intellectual roadmap to the fundamental conflict between Christianity and secular humanism. For thinking seekers it will be a provocation to consider which worldview makes best sense of our deepest convictions about life.

Justin Brierley, host of the *Unbelievable?* radio show and podcast