THE NEW KNOWLEDGE AND THE OLD GOSPEL

F. C. BRYAN, M.A.

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To My Friend
C. C.

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FOREWORD

By Dr. W. B. Selbie.

"GOOD wine needs no bush," and Mr. Bryan's little book is so good that any commendation of it would seem to be superfluous. At the same time if any word of mine can help to call attention to it and persuade people to read it, I shall be only too glad. One of the greatest obstacles to the Christian Faith in these days is the ingrained but unconscious suspicion that science has rendered it impossible for intelligent people. Mr. Bryan shows clearly and simply, not merely that this suspicion is wholly unfounded, but that there is a great deal in modern science which makes the acceptance of the Christian world view not merely possible but reasonable. It is high time that the Christian Church generally adjusted her thinking more closely to modern conditions. That she should do so is perhaps the most pressing need of the hour,

far more pressing than many of the activities on which so much time and energy are spent. In these few pages Mr. Bryan shows the way, and makes out a most convincing case. I hope that very many, both within the Churches and outside them, especially young people and students, will take him as their guide.

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INTRODUCTION

THE following pages were given in substance to my congregation at "The Downs," Clapton, and at a Summer School at Sandwich, in the form of addresses. They make no claim to any originality—I am indebted all along the line to what others have written—but are merely the attempt of a working minister to help his people to relate their religion to the new knowledge that is breaking in from one particular quarter of the scientific world to-day. The addresses met with a surprisingly warm welcome, and many requests were made that they might be printed. They

have been revised and largely re-written to be more suited for the printed page, but doubtless traces of their origin survive. The writer desires to make it clear that he did not set out to write a competent treatise on his ambitious title, for which he has neither the ability nor the leisure. He merely hopes that some of the ordinary folk in our churches who cannot cope with a scientific or a theological treatise may get help from these pages to relate together in their own thinking the Word of God revealed to us in Jesus, and the works of God as revealed to us by modern science.

One criticism that was made of the addresses may perhaps, with advantage, be answered here in advance.

It was asked, Is it not a minister's business just to preach the simple Gospel, and not to bring science into the pulpit? Did not Paul, for example, regret having been led into discussions of philosophy with the Athenians, and determine to keep to Christ, and Him crucified? The writer claims to believe in the Gospel of Jesus Christ and to preach it. He is no believer in the

necessity for a new religion, and is certainly not suggesting that science will provide one. He believes that in Jesus Christ we have the full revelation of God, and all that is necessary to the soul's salvation. But what is a minister to do when people say they cannot honestly believe, because the old Gospel and the new knowledge seem to be in conflict? If he merely says, "Shut your eyes. Shut your ears. Don't look. Don't listen. Only believe," a few simple and bewildered souls will do so and be grateful; but thoughtful people will merely conclude that the Gospel does not bear investigation, and will turn away.

It is like this. Here is a sick man. He needs nourishment. But he cannot take it. The doctor says, "There is an obstruction. Let me remove it, and gradually he will be able to take his proper food." That is precisely the case to-day. People will not take the Gospel. There are obstructions in their minds. And this is one of them. The removal of the obstruction is not, of course, in itself the spiritual food they need; but it may be a useful and even a necessary

preliminary. Let us first remove from our minds the idea that science is a fatal obstacle to belief, and then we can look again towards Jesus Christ as the Saviour men need. For all Paul may say, that is the sort of thing he did. He regretted it if he were led into contention and argumentation, or if he were drawn away from the centre; and so would any true minister of the Gospel. But though one may begin, as Paul often did, on the circumference, one is working towards the same centre all the time—"Christ, and Him crucified."

We have kept Jesus Christ too long in an out-of-date background with disastrous results. Supposing a great statesman were appealing for one's support, and a photograph of him were circulated that was thirty years old. One would never be able to get past the clothes, the shape of the hat, the horse 'bus, and the lady with long skirts and puffed sleeves in the background. He might be the finest possible man, with just the right policy for the country; but one would be prejudiced by the photo. One would get an impression that he was out-of-date, "a bit

soppy," a back number. That is precisely what is happening in the case of Jesus Christ. There are thoughtful people who are turning from Him, not because there is anything wrong with Him, or because He is not the Saviour the world needs to-day, but because we show Him in a wrong background. We must depict Him with the background not of thirty years ago even, but of the world as it is to-day, if we are to persuade men that He still has relevance. And it is the background of the universe as it is presented to us by modern physics and astronomy against which He is set in the following pages.

Chapter I.

THE IMPACT OF SCIENCE ON RELIGION.

IT seems to be increasingly recognised to-day that the new scientific knowledge gained in recent years is bringing about as great a revolution in our conception of the universe, as was brought about by the pioneers in astronomy three hundred years ago, or the pioneers in geology and biology about seventy years ago. In both these previous cases many religious people furiously rejected the new knowledge at first; for not only did it appear to contravene divine revelation, but it undermined their self-conceit and their sense of security in the universe. Instead of being comfortably planted on a flat, fixed earth, the only earth in existence, with heaven not far beyond the bright blue sky, and hell not far beneath in the fiery bowels of the earth, the first

scientific revolution asked man to regard himself as an inhabitant of a large round ball spinning rapidly on its own axis and hurtling at an incredible speed through space, he clinging to it by his feet much as a fly clings to the ceiling. A ball, too, that was not the only world in existence, but one of a great multitude of other worlds. No wonder these new ideas made him dizzy and rebellious, and left him trembling, not only as to his own security and dignity in such a universe, but also as to the fate of his belief in heaven and hell.

He had scarcely adjusted himself to this new knowledge, when further disconcerting light broke in from another quarter. This time upon his ancestry and antecedents. Instead of regarding himself any longer as a special creation of the Almighty, the descendant of an original pair who were newly and miraculously created some six thousand years previously in full mental, moral, and physical perfection (from which state they fell, passing on their taint of guilt to all their offspring), the second scientific revolution asked him to regard himself as

the latest product of an incredibly long evolutionary process, which could be traced back to the amœba of primeval swamps. Again, his dignity and self-conceit were damaged, especially when he learned which particular animals he was to regard as his nearest relatives. But still more seriously, it seemed that his whole scheme of salvation was upset. Instead of a fall of man, teachers like Henry Drummond were talking of the ascent of man; and he wondered what had become of original sin, and the doctrine of the Atonement based on it, to him the very citadel of the faith. Small surprise again that he was troubled and rebellious.

But like Copernican astronomy, it soon appeared that Darwinian biology had come to stay. And Christian thinkers began to see that if the Gospel of Jesus Christ was to retain its hold on the minds of men, it must be related to this new knowledge and, if need be, re-interpreted in its light.

And now this third scientific revolution is upon us, due this time chiefly to the rapid advances in the realm of physics, and the interpretations given thereto by the mathe-

maticians. It is impossible, without being a mathematician oneself, to follow the intricacies of their arguments or grasp the full significance of their symbols and generalisations. But without accepting or even fully understanding the new cosmology of Einstein, it appears to be established that he has made real discoveries of first-rate significance, which, together with the discoveries of pioneers in physics like Rutherford, are producing as startling a change in our conception of the universe we live in as was made by the Copernican astronomy. And already some of the main tendencies as they bear upon religion are becoming apparent. As expounded by scientists like Eddington, it looks as though the new knowledge will help rather than hinder faith in the Gospel of Jesus Christ. The two previous scientific revolutions were admittedly unsettling. Traditional doctrines had to be revised. Fundamental Christian positions appeared to many to be shaken. And even those who held to the fundamentals of the faith on the warrant of their own spiritual experience and the general authority of Christian

experience through the ages, were bound to seek new ways of defining and defending their faith. Old dogmas had to be abandoned. It looks, however, as if the reverse process is going to obtain now.

Let it not be thought that new scientific knowledge adds to or subtracts from the Gospel. Science is dealing with things physical; the Gospel, in the main, with things spiritual. They move for the most part in different realms. And yet because both are dealing with different aspects of a universe that is essentially one, held together in some sort of organic union, science and religion have points of contact, they are in some sort of living relation to each other: and, if this be ignored, both stand in the peril that besets all abstractions. Science, therefore, while in itself it can neither prove nor disprove the essential Gospel truth, may modify the form of its expression, may provide new moulds in the shape of new conceptions for it, and may erect or remove barriers between the mind and Jesus Christ. It is the contention of these pages that this time the new knowledge is tending to remove them. That the

new conception of the universe which is emerging to-day is more congruous than was the old with the Gospel.

In their encyclical letter the Bishops attending the Lambeth Conference express this same view.

"There is much in the scientific and philosophical thinking of our time which provides a climate more favourable to faith in God than has existed for generations. New interpretations of the cosmic process are now before us which are congruous with Christian Theism. The great scientific movement of the nineteenth century had the appearance, at least, of hostility to religion. But now from within that movement and under its impulse, views of the universal process are being formed which point to a spiritual interpretation. We are now able, by the help of the various departmental sciences, to trace in outline a continuous process of creative development in which at every stage we can find the Divine presence and power. Thus scientific thinking and discovery seem to be giving us back the sense of reverence and awe before the sublimity

of a Creator Who is, not only the cause and ground of the Universe, but always and everywhere active within it."

A generation ago, the leading scientists were materialists. That is by no means the case now. If the new knowledge of the Copernican and Darwinian periods broke down some of the tenets of traditional Christianity, still more is the new knowledge of to-day breaking down fundamental tenets of the Rationalist Press Association. So much so, that good free thinkers are actually being warned against the dangerous teachings of Einstein and Eddington, in much the same way that good Christian people a generation ago were being warned against the teachings of Darwin and Huxley.

There are five doctrines of the Christian faith that the new knowledge tends to confirm, in which it is now easier for a thinking man to believe than it was perhaps a generation ago.

(1) The existence of God and the reality of the unseen world.

(2) The original creation of the material universe, and its ultimate destruction.

(3) The providence of God, freedom and "miracles."

(4) The special revelation of God to a chosen world, through a chosen race and a chosen Son.

(5) The cosmic significance of Christ and His Cross.

QUESTIONS FOR DISCUSSION.

1. Are there any elements in the popular conceptions of heaven and hell that have really been destroyed by Copernican astronomy and ought to be abandoned?

2. Does a doctrine of the fall of man or the ascent of man account best for the presence of moral evil in the world, in the light of modern biology and Holy Scripture?

3. Does it seem possible that science might ever disprove the Gospel of Christ, or provide a new and truer religion? If not, why not?

Chapter II.

GOD AND THE UNSEEN WORLD.

ONCE upon a time, when Dr. Johnson was getting the worst of an argument with Bishop Berkeley, who was contending, rather like the Christian Scientists to-day, that only mind was real and matter an illusion, Dr. Johnson kicked his foot with mighty force against a stone, crying, "I refute it thus." We meet the same kind of impatience in the practical man when we talk about things spiritual to-day. They seem unreal. He claps his hand on the handle of his spade, or the steering-wheel of his car, as much as to say, "Oh, get on with all your talk about God. I live in the real world. I like concrete things to deal with. I've no patience with your abstract ideas. Give me a garden, or my wireless, or a car. You can go to church and think about God if you like. But that sort of thing is of no

interest to me." The same sort of idea as Dr. Johnson's, you see—the world we look at with our eyes and handle with our hands is the real world, the only world, therefore, a practical man need bother much about.

For a time, science gave that man a good deal of support. "Undoubtedly," it said, "this is the real world, we can tell you the various atoms it is made of, the laws that they obey, we find that matter is indestructible, it merely changes its form, it is never annihilated, and therefore can never have been created. Matter is the real stuff of the universe, the basis of all life. You are quite right to believe your eyes and ears and sense of touch; they do give you the real concrete world."

Thirty years ago scientists talked like that. They do not to-day. They talk more like the New Testament. Here is Professor Eddington: "The solid substance of things is an illusion. It is a fancy projected by the mind into the external world. We have chased the solid substance from the continuous liquid to the atom, from the atom to the electron, and there we have lost it.

Modern scientific theories have broken away from the standpoint that regards the concrete as real. The stuff of the world is not matter, it is mind-stuff." In other words, Eddington is saying in more or less scientific language what the New Testament itself says. That the concrete, visible world is not as solid and real as it looks. "The things that are seen are temporal; the unseen is eternal."

Now it is not surprising that scientists should talk like this, for what have they discovered?

(1) That the atoms this concrete world is made of are incredibly porous. If all the protons and electrons that comprise the atoms of a man's body could be collected into one mass, a man would be reduced to a speck just visible with a microscope. That is all there is of solid substance in him. He looks solid, he feels solid, but his solidity is an illusion of sight and touch.

(2) And these electrons, when you get hold of them, what are they? Well, you can't get hold of them, that is the trouble. It doesn't hurt the moon to look at it, but it

does hurt an electron. "To watch it is to wreck it," says Eddington.

(3) Moreover, if an electron collide with a proton, both are annihilated into a flash of radiation. Indeed that is what causes the light of the sun. Matter is being annihilated in that huge celestial furnace to the tune of 360,000 million tons per day; and this is the origin of the continuous stream of light and heat poured from it.

Matter being annihilated, turned into something different—energy! Where is the materialist now? Whoever heard the like of these things before? To believe that we cling with our feet to a ball hurtling through space, when we fancy we are standing on flat, solid ground, or that we are descended from an ape-like stock when we imagine ourselves a unique creation, is child's play to what we are now asked to believe. "Do you mean to tell us," we ask the scientist, "that we are not to believe the evidence of our own sight and hearing and touch? That tables and chairs and brick walls and human bodies are not really the solid concrete things they seem to be?" "That is precisely what I do say,"

he replies. "For the ordinary purposes of everyday life it is good enough to judge by appearances. Chairs are solid enough to sit on, and brick walls solid enough to stop human bodies getting through. But if you want to know the reality about it, I must tell you that matter in the old sense is an illusion—a very useful one, a very necessary one—but an illusion. With our delicate instruments we have got right into the heart of its atoms now, and we know it is not solid, not concrete, not indestructible at all. Its apparent solidity is the creation of the human mind."

Now there are some people who find the new notion that there is no concrete solidity in the world we live in difficult to grasp and disturbing to contemplate. We neither say nor mean, of course, that the world about us is an illusion, as Christian Scientists, for example, say. What scientists tell us is that the feeling of solidity and permanence it gives us is an illusion. There is something real there, but things are not what they seem. That is increasingly clear to ordinarily observant persons. An amazing

deal goes on in the universe that we are normally unaware of. You may be standing in an utterly peaceful country side, when along comes a disturbing scientist, claps an instrument on your head, and your ears are deafened by the blare of a jazz band sounding all about you. If you are going to abuse scientists and call their teachings error and falsehood, you are compelled to deny the reality of wireless, which is based on what scientists have discovered about the structure of the atom. Just as surely as some of us heard the voice of Sir James Jeans speaking one Monday night, just so surely are those things true that he says about the substance of our universe, upon which the very invention of wireless was based. The universe is not solid and concrete as it appears. The fundamental stuff of it is less like matter than it is like mind.

It is true that not all scientists make the leap of faith that the Christian does, and say that the fundamental unseen reality is spirit, is God. But a great many of them do. And there is no compelling reason why they should not. Of one thing, however, we can

be sure, namely that the materialist has no longer any justification for his dogma that the fundamental stuff of the universe is matter. Religion always denied it. Science denies it too to-day. This is how Eddington, for example, speaks: "We have learnt that the exploration of the external world by methods of physical science leads not to concrete reality, but to a shadow world of symbols beneath which these methods are unadapted for penetrating. . . . In comparing the certainty of things spiritual and things temporal, let us not forget this—mind is the first and most direct thing in our experience; all else is remote inference." One would not claim that this proves God's existence. But it is congruous with it. "All things go out in mystery." The fundamental nature of the material universe is as much a mystery as is the appearance of life, or the manifestation of the mind. It is religious faith certainly, but perfectly rational faith that bows humbly before this mystery, as the mystery of God; and holds that all things in heaven and earth, visible and invisible, issue from and cohere in Him. We have to thank

the new knowledge for breaking down the old materialistic dogmas, and proclaiming again that ultimate reality lies not in the seen but in the unseen, and that "things which are seen were not made of things which do appear"—as Christian people have always believed.

It is the recently expressed opinion of Sir Oliver Lodge that "We have concentrated too much upon matter. . . . Already science is discovering that all activity, all energy, all spontaneity is to be traced to the properties possessed by what we call empty space, and that the matter that appeals to our senses is a comparatively trivial interruption of its continuity. . . . The atoms of matter show what is going on in space, they have no initiative of their own. . . . All the genuine activity has hitherto eluded us, we have been studying pointer readings, and are only now beginning to realize the immensity of the powers which move those pointers and bring about all the phenomena. . . . The real fact is that we are in the midst of a spiritual world, that it dominates the material." In other words, the new knowledge gives us a

conception of the universe that makes it easier to believe in God, if it does not actually, as some scientists hold, necessitate it.

QUESTIONS FOR DISCUSSION.

1. "Things which are seen were not made of things that do appear." Discuss whether science confirms this to-day.

2. Consider the difference between the modern scientific view of matter, the Christian Science view, and the old-fashioned materialistic view, and discuss which accords best with the New Testament.

3. Summarise the reasons for holding that the new knowledge makes it easier or more difficult to believe in God.

Chapter III.

THE CREATION AND THE END OF THE WORLD.

IN spite of the difficulties that have been felt in recent years in believing that the material world ever had a beginning, Christian people have clung to their faith in a Creator. They have held it true that things began as the Bible in its opening words declares: "In the beginning God created the heaven and the earth." Science now believes in a creation, though it leaves it to religion to proclaim who created.

One of the most startling conceptions in Einstein's theory is his conception of a finite universe. A universe of incredible immensity certainly, but a universe definitely finite in extent and in substance. The conception of a "curved space," which it involves, is difficult to grasp, and perhaps still more difficult to believe in. It is difficult, for

example, to credit the fact that light may not travel to the confines of space in a straight line; that there is a possibility even that faint stars we see in one direction may conceivably be the back views of brilliant stars we have observed in the opposite direction, light having travelled right round space. But the theory behind these conceptions is winning its way because of its success in covering hitherto unexplained facts. Observations at recent eclipses have fulfilled Einstein's predictions and confirmed his theories; and the belief, therefore, is making headway in scientific circles, that we inhabit a universe finite in extent and in substance. This opens the way for a new examination of the whole question of ultimate origins.

Sir James Jeans declares that " the present matter of the universe cannot have existed for ever. We are led to contemplate an event or continuous process of creation of matter at some time not infinitely remote. In some way, matter which had not previously existed, came or was brought into being." Radiant energy of extremely short wave-length seems to have poured into empty

space, crystallising into electrons and protons, which finally formed fiery atoms drifting through space in great burning nebulæ, these crystallising out some eight millions of millions of years ago into masses of star clusters, of which the Milky Way was one small cluster, and our sun one of the stars.

Our earth, it would appear, was flung off from the sun. It was flung off as a globe of gas intensely hot, on which no life of any kind could gain or retain hold. In process of time it cooled and solidified, land appearing and sea; and then at last life, some three hundred million years ago; and finally man. An unimaginably vast and majestic process of creation, in which the whole universe has been involved! And to what can we attribute it? This radiant energy pouring into empty space, the directing of it, the evolving of order out of chaos, light out of darkness, the appearance in due time, on one little planet, of life, then consciousness, then reason and spirituality? All that Jeans can say is that if we want a picture of such a creation, we may " think of

the finger of God agitating the ether." The Bible may be held to give a still better account of it. "In the beginning God created the heaven and the earth. And the earth was without form and void; and darkness was upon the face of the deep.

And the Spirit of God moved . . .

And God said, "Let there be light": and there was light.

And God said, "Let the waters be gathered together . . . and let the dry land appear": and it was so.

And God said, "Let the earth bring forth grass. . . . Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth. . . ." And God made the beast of the earth after his kind: and it was so.

And God said, "Let us make man in our image, after our likeness. . . ."

So God created man in His own image, in the image of God created He him; male and female created He them." (Gen. i.)

There is the whole drama of creative evolution set before us, not in the language of science, but in the sublimer language of the

inspired poet, who does not contradict the scientist (for he speaks another language), but who sees even further into the heart of things.

A fire-mist and a planet,
  A crystal and a cell,
A jelly-fish and a saurian,
  And caves where cave-men dwell;
Then a sense of law and beauty,
  And a face turned from the clod—
Some call it Evolution,
  And others call it God.
(*Carruth*).

But whatever name we give to it, it remains a vast creative process. It is not merely the ringing of an infinite number of kaleidoscopic changes in certain given indestructible materials, it is real creation that science postulates to-day. It seems not irrational to infer that creation implies a Creator; or to see in this new development of scientific theory a confirmation of that ancient article of the faith.

But just as surely as the universe had a beginning, so it will have an ending, as the Scriptures also declare. One of the most

definite assertions of the new knowledge is this, that all the radiant energy which is the physical basis of life in the universe is changing in form, becoming with each change less and less available for use. It flows always, so to speak, in the same direction—downhill. There is no going back. It is this running downhill of energy that maintains the life of the universe.

Now this process cannot go on for ever. Sooner or later the sun and the stars will have annihilated all their radio-active matter and will have burned themselves out, as it were, in fervent heat, and all their energy will have been dissipated in the vast emptiness of space. It is hopeless to look for any immortality for the human race on this or any other terrestrial globe, which must literally one day become as extinct as the Dodo. Unless one believes that all life came out of nothing and is going to be reduced to nothing again (a belief one would have thought was hardly tenable outside of Bedlam), we are bound to posit a spiritual universe behind the material universe with which the soul of us has affinity, from

whence it came, to which it will return, and in which it will abide when the world of time and sense is no more, even as the Scriptures say: "The day of the Lord will come as a thief; in the which the heavens shall pass away with a great noise, and the elements shall be dissolved with fervent heat, and all the earth and the works that are therein shall be burned up. . . . But, according to His promise, we look for new heavens and a new earth wherein dwelleth righteousness." (2 Pet. iii. 10 and 13, R.V.)

The whole drama of human life is foreshortened in the Scriptures. Many early Christians anticipated the end of the world in their own time, just as many do to-day. But there is no scientific or religious reason for that belief. It probably arises because so many identify the coming of the Kingdom of God and the reign of Jesus Christ over the lives of men, with the end of the world. The coming of His Kingdom is to be prayed for, and worked for, and looked for, and hoped for speedily. Its coming depends on human faith, for there is no doubt about Divine readiness. We are of "those who

look for His appearing," and long for it. We are striving to prepare for it in every land, and in every human relationship. For while we know neither the day, nor the hour, nor the manner of it, we do believe that the kingdoms of this world are to become the Kingdom of Christ. But this spiritual event would not seem to affect the natural processes at work in the running down of the physical universe. Science has, of course, nothing to say one way or the other about the coming of the Kingdom of God. That is outside its province. But it has quite a bit to say nowadays about the ending of the world. This looks like being a distant end, but it is a certain end. The human race has here no continuing city.

It is sometimes contended that man must be content to find his immortality in his descendants, and find his self-fulfilment in working for his posterity. And because, as far as the scientists can foresee, life on this planet has many thousands or even millions of years yet to run before it becomes extinct, it seems at first sight to be a not unworthy contention. But if ultimately the universe

must run down like a clock and physical life cease, it is only putting off the evil day, and making the final catastrophe, when it comes, more tragic. For the longer the process, and the greater the number of human values created, and the more prolonged the agony and travail of their coming to birth, then the more terrible is it to contemplate their ultimate inevitable annihilation. Some such doctrine as the Christian doctrine of the immortality of the soul is necessary in order to acquit the universe of the charge of irrationality and futility in face of this ultimate inevitable issue. Nor is it incongruous with other observations that scientists are making. Professor Whitehead, for example, declares that the universe shows us two aspects. While on the one side it is physically wasting, on the other it is spiritually ascending. We might apply to the universe what St. Paul says of the individual, "While the outer man decays, the inner man is renewed day by day." Certain it is, in both the teachings of science and of the New Testament, that it is not in the memorials we leave behind us on this earth

that we have anything that can rightly be called immortality. The only real immortality must be that of the soul we win here, and the character we form now for the life of the world to come. Were it not for the reality of the unseen there were no such thing as immortality. The heavens we behold and the earth on which we stand are marked down for destruction. Our only hope is the hope, according to His promise, of the "new heavens and the new earth, wherein dwelleth righteousness."

QUESTIONS FOR DISCUSSION.

1. How would you reply to the man who holds
   (*a*) That the doctrine of evolution contradicts the conception of a creation and a Creator, and is therefore unchristian?
   (*b*) That the idea of a Creator is unscientific?
2. If the scientific view that the end of the world, though ultimately certain, is extremely distant were to prove true, would you feel anything vital to Christianity had been overthrown?
3. Is the man who holds his only immortality to be in his descendants and in his work for the future of humanity holding a fundamentally untenable position?

Chapter IV.

PROVIDENCE, FREEDOM AND MIRACLES.

ONE of the greatest difficulties thinking men have had in recent years has been to believe in the providence of God. The Gospel of Jesus is essentially good news about God. God is the Heavenly Father who knows, and cares, and guides, and will provide and protect. "Have faith in Him." The pain and peril of human life have always challenged that faith, though it was possible in any given case to say: "Well, if our Father wills it, it must be for a wise purpose we do not understand. All things are in His power, He can even work a miracle if He will. He guides, He controls, and He knows what is best." But faith was hard put to it when science expressed grave doubt as to whether it were possible that

God did guide and did control after all. The growth of the belief in fixed laws of Nature seemed to leave little scope for the activity of God.

Now we cannot dispute that the conception of natural law has been valuable. Every branch of science has progressed when, by means of careful observations, it has been noticed that things seem always to happen in a certain way, and a general law to that effect been formulated. For example, Newton observed that if two objects, light and heavy, are dropped from a height and there is no resistance, they will both invariably drop sixteen feet in the first second. From such observations the law of gravity was formulated. Falling bodies and circling planets seemed always to act in a way that could be predicted on the basis of such a law. Why it should be so, men could not say, but it just was so; and they concluded there must be a law in Nature to that effect. In this kind of way belief gradually grew up in laws of Nature that control everything, including the working of the human mind. Everything that happens, it

was held, must have a cause, must be the result of the operation of some law. So many things were explained in this way, and so many predictions were fulfilled. It seemed to be the key that unlocked the secrets of the universe. But it did seem to leave little room for the providence of God, or freedom, or miracle.

One might credibly believe that these laws were laid down by a great lawgiver, these processes set in motion by the great architect or engineer of the universe; but they seemed to operate quite irrespective of Him now. Things just happened according to law, as they were destined to happen. God did nothing except to sustain the laws He made. Prayer obviously was futile in such a universe. And, of course, as Matthew Arnold bluntly put it, "Miracles don't happen." No one has ever really succeeded in reconciling the laws of Nature, as scientists used to believe in them (and the man in the street still does), with faith in the providence of the God and Father of our Lord Jesus Christ. It is time, therefore, that people were made aware that scientists

themselves are vastly modifying their views of natural law to-day, and that it is no longer the obstacle to belief it has hitherto seemed. Professor Eddington tells us that progress in the exploration of the atom has only been possible as scientists have abandoned the attempt to find causes. That the laws which were thought to be causal turn out on investigation to be statistical—a very different thing. Perhaps his example will help. Insurance companies base their business on statistical laws. They can predict the percentage of people that will die at the ages of forty and sixty and eighty, shall we say, and they adjust their premiums accordingly. Whether Mr. Henry Smith will die at forty, or Mr. Robert Jones at sixty, they have not the least idea. But that such and such a percentage of people will die, is a safe reckoning. You may call it the law of averages, if you like. But it does not mean there is any direct cause for it. No destroying angel comes round and picks off each year just that percentage of people. It is not a causal law—merely a statistical one. It is the way deaths are *observed* to occur, it

is not the way they *have* to occur. A subtle, but very vital distinction. If a great war breaks out, the percentage of men of thirty dying that year is greatly increased. If a terrible epidemic of smallpox or plague devastates a country, the law of averages is upset again. It is not a binding law, a law of the Medes and Persians that altereth not; and it is not a law that tells one anything about any given individual. In fact, it is doubtful if the word "law" is the right word to apply to it. There is within it room for providence to have real play.

Now the fascinating and important thing about the new scientific discoveries is this, that scientists are coming to believe that some of the so-called fixed laws of Natureare fundamentally of this character. Professor Eddington declares, for example, that when the behaviour of the electrons in the atom is investigated, there is found no evidence of a casual law, only the operation of a law of averages; and that the reason that science has made such strides under a belief in the validity of these so-called laws of Nature is not because things were bound so to happen,

because there was a fixed cause that compelled them so to happen, but merely because they were effects depending upon average configurations of vast numbers of individual entities. Does that sound complicated and difficult? It is a distinction worth studying. Because it means that, contrary to what is commonly supposed, there is really no scientific reason whatever for bowing God out of His universe. That this deterministic notion that we are all the sport and plaything of fixed laws over which there is no possibility of spiritual control, which was always irreligious, is now being branded as unscientific.

It does not mean that natural law is unreliable, but it does mean that we must abandon the idea of mechanical causality in Nature just as we have to abandon the notion of solidity in matter. It does mean that causality is not inherent in things, but is an idea imported by the human mind, and it does make it easier to regard Nature as a plastic medium through which God works out His purposes. To use Dr. Cairns' analogy: "The world to Him is not like a

gauntlet of steel, far less of stone, but like a silken glove." It is no new thing, of course, to recognise in human action an element of real freedom, an element that can truly be called "miraculous," in the sense that the word was used by Lord Kelvin to signify an action inexplicable in scientific terms. It is no new thing even to find biologists turning away from mechanical theories; it has always been recognised by some of them that the characteristics of living things cannot be accounted for in terms of mechanism. The new thing is to find physicists talking in the same strain about the behaviour of electrons inside the atoms, declaring themselves quite explicitly to be in favour of the freedom of the individual electron. So that there is now no realm left anywhere for the undisputed sway of the mechanistic theory. Granted there are scientists who hold it; there are equally scientists who challenge it. The fact to be noted is that the new knowledge points still further away from it. It did seem previously that even if the mechanistic theory were successfully challenged in the realm of human and even animal

behaviour, it could not be challenged in the inorganic world, the world of lifeless matter. There surely natural law, the law of cause and effect, held undisputed sway. There surely was there no room for any conception of spontaneity or providence or "miracle." But even there, in the last stronghold of this anti-Christian theory, science herself has now made a breach. Not even in the physical world do the facts compel us to regard happenings as devoid of incalculable elements, elements of spontaneity and freedom, or as incapable of being ordered by an overruling providence. Dr. Cairns puts the situation thus: "Man can be a providence to his children within the realm of Nature, he can hear and answer their prayers; and if Lord Kelvin was right, he can produce effects in Nature which from the point of view of science are miracles. We press the question—if these things are possible to man, are they impossible to God?" Science to-day leaves the way open for us to say "No," as Christ certainly did. There is no scientific reason why we are compelled to doubt that God really works in

His world, and guides it and shapes its destiny; or why we must say dogmatically, "Miracles don't happen."

For anything out of the ordinary, it may be granted, we have a right to require good evidence. The more astounding the event, the more closely the evidence needs sifting. We are quite justified in asking of any alleged miracle, "Did it happen?" But it is clear we are far from justified in declaring off hand it could not have happened. Science to-day is in a much wiser and more chastened mood about miracles. Physicists are literally snowed under at the moment with the unprecedented and the inexplicable. They are working, for example, with two different theories of light, which are mutually incompatible, but each of which gives such valuable results that neither can be discarded. Sir William Bragg whimsically says, "We use one theory on Monday, Wednesday, and Friday, and the other on Tuesday, Thursday, and Saturday." "The contradictions of theology," says Lord Balfour, "are not more striking than the contradictions of science." "Heaven

knows," exclaims Professor Whitehead, " what seeming nonsense may not to-morrow be demonstrated truth." We clearly do well to keep open minds as to the possibility that some of the occurrences labelled " miracles," which are to our present knowledge inexplicable, unique, and contradictory to all we normally experience, may yet be facts, essential elements of reality; especially when they are reported of so unique, so holy, so spiritual a personality as Jesus Christ.

QUESTIONS FOR DISCUSSION.

1. What are the chief difficulties in the way of belief in the providence of God? Does the new knowledge mitigate any of them, and how are we to meet the others?
2. Get clear the difference between a casual law and a statistical law. And consider, if it be proved true that laws of Nature are of the latter character, whether this has any bearing on the religious interpretation of the universe.
3. Are we justified to-day in taking as an assumption that "Miracles don't happen"?

Chapter V.

REVELATION.

THE modern world does not take kindly to the idea of a special revelation. It appears to think that one man's ideas about God are as good as any other man's. It does not see why the Hebrews should know more about God than the Hindoos, or why Mr. Bernard Shaw should not be as great an authority on the subject as Jesus Christ. In the main, one may say, the modern world believes in a kind of a sort of a something or someone behind the universe, who for want of a better name we may call God; but it does not believe that He does very much, beyond in a general sort of way keeping things going; and it does not believe we can know very much about Him. It certainly is sceptical of special revelations. It will admit the Bible to be a noble book, an inspired book even, as

Shakespeare is inspired; it will praise its lofty teaching or its admirable English, but regard it as a special revelation, as does the Christian Church—"Well, isn't that rather an exploded idea?"

It must be admitted again that science is partly to blame for this scepticism. When it was believed that this world was the only world, and that all the celestial bodies existed in the heavens merely to supply this world with light, it did seem feasible to believe that the Almighty had shown a special solicitude for the human race, and if for the human race, then quite credibly also for a special part of it, and even a special individual. But when science proclaimed that the universe was more thickly populated with worlds than this earth is with people, the minds of men were staggered. The earth suddenly became an utterly insignificant speck in the vast cosmos of God's creation. What right had the human race to regard itself any longer as the recipient of a special revelation of God? Who knew but that there might be other races far more intelligent, far more highly evolved, in some of these myriads of

other worlds, as superior to us as we are to apes? What right had man to regard himself as formed in the image of God? Wasn't this idea altogether fantastic, the product of man's supreme egotism? Rupert Brooke gently ridiculed it, depicting the fishes as afflicted with a like egotism in imagining the Almighty to be even as themselves, a sort of super-fish, "squamous, omnipotent, and kind." The past trend of scientific theory has been to make the Christian doctrine of the special revelation of God to the inhabitants of this planet seem unscientific, egotistic, and slightly ridiculous.

To-day, however, science gives us no little aid to our faith by expressing great scepticism as to the likelihood of there being any of the higher forms of life in other worlds at all. We are confronted to-day with the strong probability that only on this earth throughout the whole vast range of the visible universe are conditions favourable for the existence of life of so high and complex a character as the life of the human race. And that man, therefore, and man's world are probably unique in the incredible

immensities of space. Let me outline in just a few words the scientific reasons for this. When the new view of the heavens was first accepted, and it was realised that stars were not just candles to lighten the darkness of night for this earth, but other vaster heavenly bodies, it was natural to ask at once if they were inhabited, and to get mentally befogged in endeavouring to imagine what forms of life might be on them. But this view, "that every point of light in the sky affords a possible home for life," says Sir James Jeans, "is quite discarded. No type of astronomical body is known in which conditions can be favourable to life except planets like our own revolving round a sun," planets where the mean temperature lies within a small range between the extreme heat and cold of stellar fires and spaces, where there is little or no radio activity, where there is atmosphere and free oxygen, and many other things. Such planets must be very, very rare. Indeed it is not known for certain that any other star than our own sun has planets revolving round it at all, let alone planets capable of

sustaining life. It is generally accepted now that the earth together with the solar planets had its origin in the sun, that it began its existence as a whirling mass of incandescent gas pulled off or flung off from the sun some two thousand million years ago, so intensely hot at first that for more than three quarters of that period, till it had cooled and solidified, no life could gain hold upon it.

Now, according to Jeans, there is only one physical cause known to astronomers that could account for such an event happening. And that is that some other star should have overtaken or have been overtaken by our sun, and have passed quite close to it, causing, by its gravitational pull, first a protuberance on the surface of the sun, then finally the formation and breaking away of great incandescent globules, that as they rotated and cooled, formed themselves gradually into the planetary globes, of which we inhabit one. Exact mathematical analysis shows that this could have happened, and could only have happened when the two stars passed within about three diameters distance of each other.

Moreover, it can be exactly calculated, that so empty is space, the chance is about 100,000 to 1 against this ever happening to any given star. And even if it should happen and planets be formed, many other conditions, such as those mentioned above, must also be fulfilled before they become possible abodes for life. Of the eight or nine planets in our solar system, only the earth, Venus, and Mars could conceivably hold life, and while it is almost certain that there is vegetation on Mars, it is increasingly regarded as unlikely that there are any higher forms of life either there or on Venus. The supposed canals of Mars have not stood the test of being photographed. Professor Jeans sums it all up by saying, "All this suggests that only an infinitesimal corner of the universe can be the least suited to form an abode of life. Primeval matter must go on transforming itself for millions of millions of years to produce a small quantity of the inert ash necessary" to form a world on which life can gain and retain a hold. "We have no real evidence of life anywhere, but on the earth." In other

words, man and man's world are in all probability unique in the incredible immensities of space. It is not merely egotism to believe this, there appear to be good scientific reasons. The more, therefore, that science enlarges the boundaries of the universe for us, the more astounding does man's situation in the midst of it all appear, and the more does it look as if the Creator had a special interest in man after all. And if that be so, then it is more than ever apparent that if He reveals Himself anywhere at all in His creation, it is in and through man. The highest type of life to be formed most obviously gives the clearest revelation of the nature of the fountain of life from which all life comes. If it be true that throughout the universe that highest type is man, then it is quite unscientific to cavil at the possibility of a special relationship existing between man and God, or at the possibility of a special revelation being given by God to man. The fact that it may gratify our egotism to think so, does not prove that it is not true. On the contrary, we should be hard put to it to explain how there ever came to be so strong

and fundamental a craving within us as this craving of our hearts to be persons who matter in the universe, whose lives in some real sense shall prove to be worth while, if it did not correspond to some reality; if it were not an inner witness to a native dignity, the Spirit's witness that we are sons of God.

And so we come back once again to the simple faith of our fathers and find it entirely congruous with the new knowledge. Here is the whole vast creation stretching to utterly unimaginable distances, travailing through utterly inconceivable stretches of time—and producing what? Gigantic celestial furnaces? Well, what of them? There is nothing of abiding significance and worth in furnaces, however big or however numerous. A furnace hasn't a soul. You cannot commune with it, you cannot love it, you cannot be loved by it. But out of these millions of celestial furnaces, out of the æons of time, out of the incredible celestial immensities, for one short space of time on one small planet life has appeared, and people—thinking, purposing, loving, living people. Something spiritual has blossomed out of

the material. A human face animated by a human soul looks upward, scanning the heavens for traces of its Maker, listening to a still small voice that whispers within. Call it chance if you can. Call mankind the mere froth and spume on the waves of a timeless, shoreless ocean, if so indeed it seems to you. But the living soul of man is, in fact, not a by-product, or an accident, but both the most amazing and the most significant product of it all, that which gives meaning and point to the whole cosmic process. Paul has it surely in one of his unerring, inspired intuitions—"The whole creation groaning and travailing in pain . . . waiting for the revealing of sons of God." With infinite care and unwearying patience God has been working and waiting for this—"sons." Faces that would look upward from the clod into His face, crying "Abba," "Father," and recognise Him and love Him.

That is the Christian faith! A majestic faith, but a perfectly rational faith! Can anyone suggest a worthier? Yet once grant it, and one has granted not only the possibility, but surely the certainty of revelation.

For it is then seen that the whole purpose of man's creation involves that God should reveal Himself as man is able to receive it. And once grant so much as the possibility of revelation (and that has hitherto been the stumbling-block), and there is no serious difficulty for most of us as to where that revelation has taken place—progressively in Israel, perfectly in Christ.

QUESTIONS FOR DISCUSSION.

1. Is it merely egotism that leads man to believe that he is made in the image of God, and that God has a special interest in and purpose for him?
2. Do the latest astronomical discoveries and theories increase or diminish the likelihood of man being the recipient of a special revelation of God?
3. If a divine revelation be granted as a possibility, is there any considerable objection to believing Christ to be such a revelation? Is there any considerable difficulty in denying it?

Chapter VI.

THE COSMIC SIGNIFICANCE OF CHRIST.

THE true artist, like the true prophet, is the man who has an eye for the significant thing. He sees in a landscape or a person or an event a beauty that is worth capturing, a significance worth portraying. And by putting it on to canvas he tries to make us see it too. But the significant thing has to be given a proper background, or we fail to see its significance. For example, in Orpen's picture of the signing of the Peace Treaty, the central and significant thing is the figure of the German Chancellor signing his name. But what would it be without its background? Just the back-view of a grey-headed, frock-coated, middle-aged, middle-class gentleman, bending over a piece of parchment. And equally what would the background be

without that figure? There is the stately and historic Hall of Mirrors, the distinguished array of the assembled statesmen, the aged French Premier, fierce, vindictive, and implacable, the stiff, austere, attentive figure of the American President, the shrewd, alert, businesslike figure of Mr. Lloyd George—all of them with gaze rivetted to one spot. But what would be the point of the picture without the filling in of the significant thing—that central, bowed, black-coated figure of humiliation, putting pen to parchment? It is that which gives the picture meaning. Newspapers set competitions sometimes—a picture is shown with a central face or figure missing, and out of many supplied, the readers have to find the right one that fits the picture, that completes and explains it. That is precisely what we have to do with the universe.

To-day science is giving us a new background for our picture, opening up new vistas, suggesting illimitable horizons and vast, awesome processes. And it is bringing up into the foreground again the human

race. But until we have found the really central and significant figure in the human race, we have not discovered the meaning of the whole picture. The eye runs over the universe trying to read its meaning. In the vast background, whirling nebulæ, burning celestial fires, vast waste spaces. Little to read there; life sleeps. It is just background, and no more. Further forward, small green oases in the wilderness, fertility, verdure, green leaf and growing herb. Life dreams. Further forward still, a still smaller fold in the oasis where there are moving creatures, fowls of the air, fish of the sea, beasts of the field. We can read more, life awakes. We are getting nearer to the significant thing. In the foreground of our picture, the human race, striving, achieving, thinking, admiring, planning, willing, and loving. Life is not merely awake, it is conscious, it is active. Here, we say, is something happening; somewhere here we shall find the meaning of the whole thing. Here somewhere will the artist reveal himself, his intention, his ideas, his message. But not till we find the focus, the central figure, the significant event,

will the meaning of the whole dawn on us.

And now suppose we try Christ for the central figure, and the Cross for the significant event, and see what we can make of it in that light. Paul had a different background from ours—not so clearly drawn as ours is, as a matter of fact—but he got the right interpretation, the interpretation we obviously want. Jesus Christ, "the image of the invisible God." Here is the Divine Artist's ideal for man, he seems to say. And since this particular Artist can have no higher ideal than Himself (being Divine), that is the same thing as saying, this is the portrait of Himself. "The image of the invisible God," "the firstborn of all creation," "pre-eminent among created things"—the most significant thing in all the picture. And if He be indeed the image of the invisible God, then it is "by Him and for Him that all things were created and made." It is for the sake of providing a truly worthy setting for the tremendous drama He was to enact that all the background of the picture was put in first. And what is this tremen-

dous drama, this significant thing He is doing for which the whole creation forms a setting? It is nothing less than the redemption of the whole human race, in the midst of which He stands. The deliverance of man from the powers of darkness, and the translation of him into the kingdom of light.

The human race in the foreground is clearly involved in struggle, life and death struggle. Things are not well with it. It wrestles not only with flesh and blood, but with principalities and powers, with foes suggested, though not visible, in the picture. And Jesus makes a stand against them, the only really effective stand that has been made anywhere, and He makes it with the weapon of the Cross, with the love that is ready to die rather than cease loving. And where men fall in behind Him, and fight with that same weapon, the clouds of darkness flee and the light breaks through. All sorts of things are happening on this vast canvas; but that is the really significant thing.

Now the new knowledge has nothing to say about this. It throws light on the field

where the battle is fought, on the stage where the drama is played; but about the issues of the battle or the denouement of the drama, it has nothing to say, nothing. And that is the really vital thing. What does it matter in the end of the day whether the field on which we fight is a big one or a little one, compared with the question as to the side on which we fight, and as to whether or not we win? We have a war to wage with sin. The whole human race has a war to wage with it. For the end of sin is death, and unless mankind maintains a ceaseless strife to drive back the armies of sin, the race will lie under sentence of death. And in that war each man of us is involved. We may suspend judgment as to the reliability of the scientists; it will not affect us vastly to-morrow if we do. But we cannot suspend judgment as to our part in the battle of life. To-morrow we shall be in it, we shall have temptation to face, decisions to make that will matter, and matter eternally. And in that battle Christ and His Cross are immensely significant. He is the Leader of the hosts of light; and His Cross is the

spearhead of the attack on evil. For there in Christ on the Cross we find focussed all the extremity of human weakness and pain and humiliation, all the failure, disappointment and agony that love experiences in the face of sin. And yet the apparent weakness proves to be strength; the failure, triumph; the death, a liberation of life and power. In the Cross we have the classic illustration and indication of the fundamental law of life which Christ Himself enunciated—"He that would find his life must lose it." In the Cross we discover the meaning and the value and the vitality of that pure, disinterested love that gives itself to the uttermost to redeem. And we are made aware that nothing else than love of that quality can do it. It is the demonstration of the winsomeness and effectiveness of such love that gets us. We become conscious that "the love of Christ constraineth us," and that in that constraint we grow to hate sin and to be made one with God, "reconciled by the blood of the Cross." So that not only is the Cross "towering o'er the wrecks of time," manifestly the spearhead of the

attack upon evil wherever men have taken it upon themselves and lived in the spirit of Him who died on it, but it is also the weapon whereby we slay the evil in our own hearts and "do our bit" in the Holy War. The Cross of Jesus Christ is the really significant happening amid all the happenings of the human race, and hence of the whole cosmos itself. It would seem impossible to exaggerate the cosmic significance of Jesus Christ.

Admittedly again this is of faith, and yet we can confront the world to-day with Jesus Christ in renewed confidence. We are not concerned to identify His Gospel with the latest scientific theories which may be superseded to-morrow, nor do we look for any scientific proof of our faith. But we do hold to the necessity of a faith that is rational; a faith that not only does not conflict with the new knowledge of the universe which science gives us, but which offers the best and truest interpretation of its significance. This, it may be claimed, the Christian faith does. We can commend the old Gospel, in new terms perhaps, but with new confidence.

And when the world says, "My dear man, we've heard that sort of talk before. But science has exploded all that. It has no room for God. It doesn't believe in a Creator, or in providence, or in the spiritual world at all. And if there were a God who made the illimitable worlds of space, and ordained the laws by which the furthest stars and the minutest atoms move, do you suppose he would have any special interest in the pigmies on our little planet, or reveal himself in a human form?" When the world talks in that sort of way, and tries to brush aside the Gospel of Jesus, we have our answer. "My dear man, a little knowledge is a dangerous thing. If you knew more science, let alone more religion, you would talk less rot. It is not the Gospel that is out of date, it is your science. Science does not pronounce on the things of the spirit. That is not its province. But the knowledge it gives us of the material universe is most definitely not incompatible with the spiritual interpretation of life. The way is still open to any man to believe in Christ, if he will; if he will not, it is not science that forbids."

QUESTIONS FOR DISCUSSION.

1. Is it legitimate to argue that the perfect man would be a perfect revelation of God?

2. It is argued in this chapter that the significant thing in human life and history is the struggle between right and wrong, in which men win or lose their souls, that the decisive battle in this struggle was fought and won by Jesus Christ in a life of love which led Him to Calvary, and that therefore the Cross is of supreme cosmic and personal significance. Consider if this argument is valid, and if so what it implies.

3. Which is more important for the world, scientific progress or the spread of the Gospel of Christ?

4. Because the Gospel is so essentially simple that even a child or a charwoman can understand it, does it legitimately follow that preachers should leave science alone and confine their preaching to the "simple Gospel?"