

The Christian Revelation and Modern Science.¹

By the REV. E. W. BARNES, M.A., Sc.D., F.R.S., Canon of Westminster.

"I am the Light of the world."—St. JOHN viii. 12.

I HAVE been asked to preach here to-day in connection with the meeting of the British Association which has been held in this city during the past week. My subject is Christ, the Light of the world, and I ask you to think of the Christian revelation and scientific progress. For more than a hundred years there has been strife—sometimes veiled, but more often open—between "religion and science." I use the popular phraseology. More accurately, opinions as to the origins of the earth and of man which were held as a result of Christian tradition have been directly challenged by a succession of novel theories put forward by men of science. At the beginning of last century the foundations of geology were being laid, largely in this country. Gradually it became clear, from a study of our rocks and their fossil remains, that the earth had an almost unimaginable antiquity. The coal which we dig is all that is left of vast tropical forests that once flourished here for tens of thousands of years. In successive ages of vast duration the most diverse forms of animal life have existed in these lands. The East of England has repeatedly for long periods been submerged beneath the sea. The climate has varied from tropical heat to arctic severity.

Such knowledge is now a commonplace. But when it was being established by patient discovery during the early part of last century Christian theologians showed violent hostility to the new ideas. The curious may examine the expression of this hostility in Bampton Lectures of the period, which are now happily forgotten. On second-hand bookstalls it is not uncommon to find pathetic attempts to reconcile geology and Genesis such as were continually made even to our own time. But truth triumphed. Just as two centuries earlier the Roman Church had failed to prevent men from receiving the then new knowledge that the earth was not the fixed centre of the universe, so the new geological ideas won their way despite religious prejudice. Galileo triumphed; it is agreed that the earth moves round the sun; heliocentric books were removed from the Roman Index in 1835. The early nineteenth-century geologists triumphed; it is agreed that life has existed on this earth for something like a hundred million years. Though in each case the new views are directly opposed to those which Christianity took over from Judaism, we accept them with confidence and surely without harm to our faith in Christ.

But sixty years ago a far more vital controversy began when the Biblical account of man's origin was disputed. A series of discoveries in caves and river-beds in England and in France made it clear that primitive men had lived here when the

mammoth, the cave lion, and the rhinoceros flourished in Western Europe. Evidence quickly accumulated which showed that even in this corner of the world human beings existed more than a hundred thousand years ago. Scarcely had these novel conclusions been reached when a scientific theory was put forward which to the great majority of the religious people of the time seemed destructive of essentials in our faith. It was in the year 1859 that Darwin, in his book "The Origin of Species," urged the truth of the doctrine of evolution. At the ensuing Oxford meeting of the British Association, Bishop Wilberforce denounced the idea that man shared a common ancestry with the higher apes. His speech showed deplorable prejudice; it contained a grave error in taste, and Huxley's dignified rebuke of the Bishop is still remembered. For forty years after that famous encounter evolution was a *casus belli* between religion and science. Christian opinion refused to accept the new doctrine, and religious teachers traversed it by arguments good and bad. It is not fair to regard them with the scorn which the younger people of to-day, trained in modern science, not seldom feel.

Evolution was, and still is, not an observed fact, but a very probable theory. Our forefathers saw that acceptance of it meant the abandonment of the story of Adam; it meant giving up belief in the Fall, and in all the theology built upon it by theologians from St. Paul onwards. Half a century ago, the evolutionary view of man's origin meant that what then appeared to be the strongest reasons for the belief that man has an immortal soul had to be set aside. But truth has triumphed. In our own time the leaders of Christian thought have, with substantial unanimity, accepted the conclusion that biological evolution is a fact; man is descended from the lower animals. It is even becoming common to say that there is no quarrel between science and religion. But let us be honest. There has as regards the origin of man been a sharp conflict between science and traditional religious belief, and the battle has been won by science. Furthermore, let us not when driven from one position take up another that may have to be abandoned. It is dangerous to assert that, although God may not have specially created man, nevertheless He did specially create life. Probably the beginning of terrestrial life was but a stage in the great scheme of natural evolution. We may even expect that some day in the laboratory the man of science will produce living from non-living matter.

The time has come when we must not try to evade any implications of the theory of natural evolution. We must, not silently, but explicitly, abandon religious dogmas which it overthrows. We must, moreover, avoid the temptation to allegorise beliefs which it is no longer possible

¹ Sermon preached in St. John's Church, Cardiff, on Sunday, August 29, to members of the British Association.

to hold. Allegory has its value, but it is misused when we employ it to obscure the revolutionary consequences of new knowledge. Religion is too important for us to base it upon, or to join it to, any theories of the nature of the universe that are doubtful or untrue. If Christ is the Light of the world, all intellectual discovery must be a part of His revelation. If He rightly explained the nature and purpose of God, then the more accurately we discover how God planned and guided the universe so that men have come to exist upon earth, the more natural will it be to accept Christ's teaching. If, on the contrary, the progress of knowledge really discredits the Christian faith, in so far as that faith comes from Jesus Christ, we must sadly admit that Christ cannot have been the Light of mankind. Whatever the consequences, we must accept truth by whomsoever it may have been discovered. A religion not based on truth is vain. A faith that fears the progress of knowledge anticipates its own dissolution.

Now, the Christian faith is belief in Christ, in His Person, and in His teaching. If Jesus was Divine, His spiritual revelation was without error, His example perfect. In so far as He was man we expect His secular knowledge to have been that of the Galilean carpenter's son. But we can no longer call ourselves Christians if we find that we are forced to admit that He was morally imperfect or mistaken in His view of God or of man's relation to God. I contend that the progress of science has not forced us to make any such admission. It has not destroyed the spiritual infallibility of our Lord, or done anything to upset His teaching as to the nature of God, or as to man's nature and destiny. It has rather, as I hold, confirmed His insight and made His spiritual wisdom more profoundly impressive.

Traditional Christian belief was built up of other things besides Christ's teaching. The early Christian Church took over the old Jewish Scriptures because it deemed them inspired by God. It placed among its sacred books writings of St. Paul and other earlier followers of the Lord because it found that they reflected the Mind of the Master. But there never was a time when thoughtful Christians could thoughtfully have maintained that the Jewish Scriptures were free from moral and historical error. The cursing Psalms are obviously un-Christian. Books like Kings and Chronicles are rival histories which disagree in spirit and in detail. As a matter of fact, the Church has never formally defined inspiration. We may say truly that inspired books are of peculiar spiritual value; but we may find such value in St. Paul's teaching, though we freely admit that his arguments were sometimes unsound. If we discover that old Christian beliefs which did not come from Christ are erroneous let us not be troubled. For Christianity the perfection of Christ's religious teaching and His revelation of His own supreme excellence are alone of decisive importance. Views of ancient Jews or of early Apostles we can abandon when we dis-

cover that they were wrong. Christianity is belief in Christ as Way, Truth, and Life; belief that He was the Light of the world, the Guide of the spiritual evolution of humanity. It is not belief in the scientific value of Genesis or even in the infallibility of St. Paul. Grasp this fact firmly and you will understand that last century's tragic quarrel between religion and science had its origin in a natural, but none the less deplorable, mistake. The mistake was natural, for there is so much of supreme value in the books of the Bible that men will always venerate them profoundly. In the recent past veneration led to exaggeration, to the claim of infallibility. Let us thank God that men of science have forced us to get a fuller, if more difficult, type of understanding of the value of the Bible.

But some of you may say, Has not the new knowledge made it impossible to accept the teaching of Jesus with regard to God and human immortality? Can we accept evolution and yet believe that God, a loving Father, made the world? Can we accept the idea that man and the gorilla have sprung from a common stock and yet hold that man has an immortal soul? I answer emphatically that we can. I remain sure that God, Who is Love, made and rules the world, certain that man was created that he might enjoy eternal life in communion with God in the world to come. Do you doubt? Reflect for a few moments. Surely the universe had a beginning, and therefore a Creator. It cannot be a meaningless dance of atoms or a whirl of electrons that has gone on for an infinite time. Surely, too, evolution describes a wonderful development, an upward progress, which implies a design in the mind of God. Surely man is on earth the present end of this process, and his spiritual qualities, his love of beauty, goodness, and truth, are its crown. Surely, moreover, the God Who by a design extending over hundreds of millions of years has called these spiritual qualities into existence is Himself a spiritual Being Who made spiritual man for communion with Himself. And, last of all, surely the finest products of evolution have not been made for nothing. And yet, in the distant future, when all life vanishes from the earth, as it certainly must, heroes and saints will in vain have gained knowledge of God, in vain have spent their strength, unless they continue to live eternally in the spiritual world.

Evolution seemed disastrous to faith two generations ago because men fixed their attention narrowly on but one part of the process. Now a wider vista seems to be coming into view as theories are tested by experiment and unified by the speculative reason. From some fundamental stuff in the universe the electrons arose. From them came matter. From matter life emerged. From life came mind. From mind spiritual consciousness developed. At every stage, in this vast process and progress, something new has come, we know not how, into existence. There was a time when matter, life, mind, the soul of man were not; but now they are. Each has arisen

as part of a vast scheme planned by God. And the soul of man is the glory of the whole design. Because of the soul within him man, as Jesus taught, is meant to be the child of God. As our souls grow through the quickening power of the Spirit of Christ we can on earth know and serve the Father of us all and begin to enjoy that Divine communion which is eternal life. The Christ Spirit within us, the "quality of deity," as it has been called, separates us from the animals whence we have sprung just as life separates them from the matter of which they are made. And through the Spirit of Christ we put on immortality, for the things that are of God are eternally with God.

Science describes the process by which man has

come into being. Religion takes man as he is and offers him guidance towards his spiritual destiny. Between the religious revelation of Jesus and modern science there is no opposition. The two dovetail into one another with singular exactness. Evolution describes facts; the ultimate meaning of those facts Christ's teaching discloses. We need faith to accept the Lord's message; we cannot prove its truth by the methods of scientific inquiry, for the spiritual world is a type of reality which the organs of sense will not reveal. But by living the Christian life, by prayer and communion with God, we can continuously strengthen the faith which is not sight, and become ever more confident that the Lord was in very truth the Light of the world.

The British Association at Cardiff.

THE Cardiff meeting of the British Association came to an end on Sunday morning, when the Lord Mayor of Cardiff (Councillor G. F. Forsdike) and the Corporation, with the general officers of the Association and some of the members, attended the service at St. John's Church. The Association sermon was preached by Canon E. W. Barnes, F.R.S., and we are glad to be able to reproduce it this week. The scientific work of the Association concluded on Friday evening, August 27, when Sir Daniel Hall delivered a stimulating discourse under the title of "A Grain of Wheat from the Field to the Table." A comprehensive vote of thanks to the Lord Mayor, Corporation, and citizens of Cardiff was carried with acclamation, and was responded to by the Lord Mayor and by Dr. W. Evans Hoyle, whose valuable work as local secretary was much appreciated by all.

There were 1378 members present during the week, but the meeting, though relatively small, has been particularly interesting from the scientific point of view. Among the new features was a conference on "Science applied to Public Services," held on August 26, when Mr. F. E. Smith, director of scientific research at the Admiralty, described the admirable scheme of research which has recently been introduced (see NATURE, April 22, p. 245). Prof. C. F. Jenkin, Mr. J. Barcroft, Sir Francis Ogilvie, and Dr. J. W. Evans referred to similar research work in other Government Departments. It was felt that a similar conference, with perhaps some description of results obtained, so far as they can be made public, and opportunity for free and adequate discussion, could usefully be held at each meeting.

As we stated last week, a message was sent from the inaugural meeting to the King in Scotland, where the Association is to meet next year. The message was as follows:—"The members of the British Association for the Advancement of Science desire to express their loyal devotion to your Majesty, and at their meeting in the Princi-

pality of Wales hope that they may be permitted to congratulate your Majesty on the splendid work done by the Prince of Wales, which has drawn towards him the thoughts and the hearts of the whole Empire."

The King, in thanking the Association through Sir Charles Parsons, the retiring president, for this loyal greeting, added:—"I feel greatly touched at the kind references to my son, which are the more appreciated coming as these do from members of this distinguished society assembled in the Principality of Wales. I shall follow your deliberations with close interest, and I gratefully recognise all that is being done for the advancement of civilisation by the men of science."

There is probably no more remarkable example of the scientific spirit which animates the British Association than that displayed in the allocation of its annual grants for research purposes. Each section of the Association nominates research committees, and most of them apply for small grants to carry out the work and defray the clerical and other incidental expenses involved. A total of about 1000*l.* a year is voted by the Committee of Recommendations to these committees and approved by the General Committee, and every pound of this comes out of the subscriptions of the members. This year the amount voted in grants for research was about 1100*l.*, part of which will be required for expenses of publication. It is hoped some external support will be forthcoming for this branch of the Association's work, and that Government Departments interested in particular subjects will assist in the publication of some of the reports prepared by research committees.

Among the corresponding members and other foreign representatives present at the meeting were:—M. Brieux (Directeur de la Station Agronomique de Rouen, France); M. Bruno (Insp. Gén. des Stations Agronomiques, Paris); Prof. C. J. Chamberlain (Chicago); Prof. R. Chodat (Geneva); Dr. S. I. Franz (George Washington