

## “Religion and Science.”

THE situation that confronts us to-day as religious leaders is one of extraordinary difficulty. The factors in the case are many and varied and complex. But one of these factors is undoubtedly the influence of Natural Science. Religion and Science are the two greatest forces in the life of mankind. Religion is very, very old. Science—in the modern sense of the term—is comparatively new, for, according to Sir James Jeans, it may be said to date from “January 7, 1610, when Galileo Galilei, Professor of Mathematics in the University of Padua, sat in front of a telescope which he had made with his own hands.” For some three hundred years now the attention of man has been directed—in the main—outwards, to the understanding and exploitation of the laws and forces of the physical world, and the consequent neglect of the inner life has led to the temporary overshadowing of Religion by Science. Thus our modern age is not very religious, but it is proud of its Science, and its devotion to Science is partly responsible for the decline of Religion. *On the practical side*, Science has so multiplied the conveniences and comforts and amenities of existence that it is naturally hailed as a great Benefactor, whose benefits are of the concrete kind that man is prone to appreciate most. Then, too, Science has supplied the ordinary man with many new interests, with the result that just as Wilberforce could fairly plead that William Pitt was so absorbed in politics that he never gave himself time for due reflection on Religion, so we can plead, just as fairly, that the average man of to-day is so absorbed in the new toys which Science has placed at his disposal—motor-cars, aeroplanes, the cinema and radio and what not—that he does not give himself time for due reflection on spiritual things. *On the theoretical side*, the teaching of Science has undermined not a few traditional religious ideas, with the result that, as Radhakrishnan says, “To those whose minds are dazed by the new knowledge of Science, the orthodox theologians seem to be like men talking in their sleep.” *More subtly disintegrating still*—from the religious point of view—is the influence of scientific method on the Spirit of the Age, for it has so disposed the minds of many that they are disinclined to believe anything that cannot be proved in what they call “a scientific way.” There are young people amongst us who have given up the practice of religious worship partly because the scientific truths they have learned in the laboratory seem so clear, so definite, so absolutely assured, while the religious truths they hear about in Church seem in comparison to be painfully vague,

indefinite, and problematic. They suppose that in the religious realm "we have but faith and cannot know," and they prefer to commit themselves only to what they know, in the false confidence that knowledge is solely of things they see. It is, therefore, hardly an exaggeration to say, as A. N. Whitehead does, "that the future course of history depends upon the decision of this generation as to the relations between Science and Religion."

Happily—though many are unaware of the fact—the relations between Religion and Science to-day are more cordial than they have ever been before. A few decades ago it was assumed by many intellectuals that Religion would before long be finally and for ever expelled from the world by the rational researches of Natural Science. Such a point of view is now almost as dead as Dickens' door nail. The new element in the situation is not merely the recognition that Science leaves room for Religion, but the realisation that when Science has done all it can for mankind, Religion is still the prime necessity of man.

### I.

The relations between Religion and Science are such that neither should be pitted against the other—for both have their rights, each in its own domain.

Whenever we are inclined to resent the attacks that have been made on Religion in the name of Science, it is well to recall the melancholy fact that the attacks made on Science in the name of Religion have been more frequent and more virulent. The Roman Catholic Church still proscribes what she calls "false science." As Loisy says: "The great scandal in our day is the permanent rooted and irreconcilable opposition, often cruel and disloyal, which the Roman Catholic Church has made and continues to make to the whole intellectual and scientific movement." The attitude of Protestant Fundamentalists is practically the same. This unhappy opposition to scientific research disfigures the history of the Church all the way through. The earliest form it assumed was that of amused contempt. We find, e.g., that in the second century, Tatian, of "Diatessaron" fame, made fun of the studies of the Greeks, including grammar, geography and astronomy; "How can I believe him," he exclaimed, "who says that the sun is a red-hot mass and the moon an earth?" That was the attitude of several of the Fathers. They regarded scientific enquiry as a waste of precious time that should be devoted to spiritual concerns. Though they were right enough in the insistence on the pre-eminence of Religion, they were wrong in the disparagement of scientific knowledge. The Church's methods soon became more violent. Late in the fourth

century—in the supposed interests of Religion—Bishop Theophilus destroyed one of the libraries of Alexandria; early in the fifth, Hypatia, an astronomer's daughter and herself a teacher of mathematics, was brutally murdered in the same city by a mob of Christian fanatics; while early in the sixth century the Emperor Justinian closed all schools of philosophy. So it was in the middle ages. In the thirteenth century, Roger Bacon, whose greatest achievement was the invention of the magnifying glass, endured fourteen years' imprisonment as an ecclesiastical penalty for his scientific researches, at the instance of the General of the Franciscan Order to which he belonged. When Copernicus introduced the most revolutionary change in the history of human thought, there was a terrible fluttering in the theological dove-cotes. The Reformers were as bitter in their opposition as Rome. Luther referred to Copernicus as a fool; Melancthon deplored his lack of decency; while Calvin imagined he had disposed of Copernicus for ever by the simple query, "Who will venture to place the authority of Copernicus above that of the Holy Spirit?" But we must be fair to these theologians. It was naturally a terrible shock to be told that the earth, so far from being the hub of the universe, was only one of the smaller planets. The new cosmology upset all current notions about heaven and hell, and worst of all it seemed to rob man of all significance in the cosmic scheme. Even to-day there are people who find it difficult to lay the astronomical ghost, and who react to the starry heavens, not as Immanuel Kant did—with a feeling of reverence, but as Thomas Carlyle did—with a feeling of horror at the immensity of it all and at man's apparent insignificance. In the nineteenth century the findings of Geology and Biology were met with a veritable tornado of ecclesiastical abuse. Even scientific inventions of great practical utility have been resisted on supposedly religious grounds. The use of telescopes, microscopes and spectacles was condemned as immoral and sinful, because, it was alleged, the use of such instruments made things appear in an unnatural and therefore false light, and gave one man an unfair advantage over another. Inoculation and the use of anaesthetics were denounced as unwarrantable interferences with the ways of Providence, while devout Boer farmers some years ago refused to join in an anti-locust campaign because they regarded it as an attempt to stay the hand of God. By these attacks on Science the Church has lost prestige, for she was proved each time to be in the wrong. To fight against truth is to fight against God. The nature of the physical world is primarily a scientific and not a religious issue, and in that department the man of science must be left absolutely free to find out all he can.

But if Science has often been wrongfully attacked by the representatives of Religion, it is no less true that Religion has often been wrongfully attacked by the representatives of Science. In the name of astronomy, man has been dismissed as a mere parasite infesting the epidermis of one of the meanest of the planets. In the name of Geology the life of man has been derided as a mere tick of the clock. In the name of Biology, man has been declared to be nothing more than a remarkably intelligent ape. In the name of Chemistry he has been spoken of as a mere chemical compound—a few shillingworth of fat, phosphorus, potassium, magnesium and sulphur. Science has thus sometimes been used to destroy human value, and to suggest that man has no more significance in the scheme of things than the fly of a summer's day, that human beings are mere bubbles—soon burst.

“ Let science prove we are, and then  
What matters science unto men? ”

“ O star-eyed Science, hast thou wandered there,  
To waft us home the message of despair? ”

We naturally react against such ideas, as Wordsworth reacted against the scientific ideas of the eighteenth and early nineteenth century. What moved him, we are told, was not intellectual antagonism, but moral revulsion, the feeling that something had been left out, and that what had been left out comprised everything that was most important. True, we must not reject such ideas just because we dislike them, or we expose ourselves to the charge that our religion is a mere pleasing, comforting phantasy in which we take refuge from the bleak facts about the world and the grim truth about human life. The point to note is that such ideas are fatal not only to Religion and to all cherished human institutions, but even to Science itself. If man is a mere parasite, a sort of louse, what value can be attached to his astronomy? If he is a mere ape, what reliance can be placed on his simian biology? If he is himself a mere chemical compound, his chemical theories are suspect. The plain truth is that Science, of necessity, exalts man—it is man who has measured the vast distances between the stars, ascertained their size, their weight, their temperature, their chemical composition, and resolved the complexity of their movements. It is man who has deciphered the history of the earth's crust, written the story of the forward march of life, and discovered the few elements of which all the myriad things about us are made. Science is one of the greatest achievements of the human mind, and if Science is great and significant, man, its author, must be greater and more significant still. The disparaging ideas about man some-

times put forward in the name of Science are not really scientific, for they do not take into account all the facts, and the facts left out are precisely those that are most important. Science does not deal and cannot deal with the whole of reality, and when she has explored all the territory she can, a vast realm still remains to be explored by other than scientific methods.

There are two ways of approaching reality—the way of Science and the way of Religion, and there is no necessary opposition between the two. It is one of the first duties of the religious man to be a lover of truth, with mind open to all the facts about the physical world which Science lays bare; and it is one of the first duties of the man of science to cultivate reverence for those sacred moral and spiritual interests and values upon which the worth of human life depends, which are a matter of life and death for civilisation itself, and which it is the office of Religion to foster and cherish.

## II.

The relation between Religion and Science is such that Science needs to be supplemented by Religion. It is important in this connection to note first of all that Science is by no means omniscient, even in her own domain. Take, for example, such an apparently simple problem as the greenness of grass. Why is grass green? Science replies that it is green because it contains minute grains of chlorophyl, which is a green substance. So then we ask: Why is chlorophyl green? Science replies that it is green because it is made of a substance whose characteristic it is to give off a green ray. At this point, one might ask several questions, but let one suffice: What is a green ray? Science replies that a green ray is a movement in the ether (granted, of course, that there is such a thing as ether) vibrating at the rate of 660 billion times a minute. But when we ask what causes the ether so to vibrate and why that particular vibration affects our eyes as a green ray, Science shrugs her shoulders and replies that she does not know and cannot tell. Every scientific explanation leads to an impasse of that kind—a clear proof that there is a realm of reality which Science cannot explore, and at least a hint that there is another world than the physical. Science can tell us how things work, but why they work as they do or why there are any things to work at all, she does not know. As Sir Frederick Hopkins said two or three years ago, speaking about the origin of life: "All that we yet know about it is that we know nothing." "What we are surest of," said the late Professor Arthur Thomson, "is the fundamental mysteriousness of the world." "The ultimate realities of the Universe," says

Jeans, "are at present quite beyond the reach of Science." So Science does not know all, even about her own domain.

What is far more important is that that domain, large as it is, is comparatively small, for Science can deal only with phenomena, appearances, with the witness of the physical senses. If a thing can't be seen with the naked eye or with the telescope or microscope, or heard with the naked ear or with any instrument for the detection of sound, or tasted or smelt or grasped or measured with a rule or weighed in the balances, Science cannot deal with it at all. That means that all the things which mean most to us lie outside her domain. She can deal with the chemistry and physics of the artist's pigments, but with the appeal of great art she is not concerned. She can deal with the laws of sound, but with the appeal of great music she has nothing to do. She can show us how to set up a printer's press, but the appeal of great literature is beyond her ken. She can tell us much about the human body, but human personality, and the ethical and religious experiences of men, lie outside her domain. So then, art, music, literature, culture, all that is summed up for us in the word "personality," ethics, religion—in short, all the things that make life worth living—are realities with which she cannot deal. But the passion for truth, the appreciation of beauty, admiration for nobility of soul, the hunger and thirst for goodness, the sense of duty, of moral obligation, of an imperious "ought," the feeling of dissatisfaction with the mere things of time and sense, the consciousness of a Power not ourselves making for righteousness, are as much facts of experience as our awareness of stars and rocks and trees and birds and flowers, and any knowledge we may glean of the laws which govern them; and further, they are the most significant facts in the entire range of our experience. Yet with all these facts Science cannot deal—and, as Mr. C. E. M. Joad points out—"In regard to many things the information which Science has to offer is not the kind of information that matters." In this department, then, of life's most significant facts, the methods and instruments of Science are of no avail. Aesthetic, moral and religious truth cannot be "proved" in a "scientific way." There is no proof possible that Beethoven's music is superior to that produced by the beating of tom-toms by a savage—yet it is none the less a fact that it is superior. But a man realises the fact—if he does realise it at all—not by any scientific demonstration, but by intuition. There is no proof possible that a man ought to be pure and not licentious, true and not false, courageous and not a coward. Yet we can be quite certain about these matters. It is characteristic of all moral truth that it can be neither proven nor disproven, but it needs no proof, for it proves itself and

imposes itself upon the conscience. So it is with religious experience—we cannot prove to all the world that there is an unseen Power making for righteousness, but we can be as sure of the fact as of anything. We are in touch with two worlds—a material world from which our sensuous experience is derived, and which Science can interpret to us, and a spiritual world from which arise our duties and responsibilities, and to attempt to apply “scientific method” to this realm would be as absurd as trying to “extract the square root of a sonnet.” In dealing with this spiritual world, knowledge comes by way of intuition. If “certainty” is not possible, “certitude” is. Just as there is a Science which knows the physical world, so there is a Religion which knows God. As Eddington said a year or two ago: “Are we, in pursuing the mystical outlook, facing the hard facts of experience? Surely we are. I think that those who would wish to take cognisance of nothing but the measurements of the scientific world made by our sense organs are shirking one of the most immediate facts of experience, viz., that consciousness is not wholly or even primarily a device for receiving sense-impressions.”

The main issue for every man is, after all, this: What is life for? Now Science cannot tell us what anything is for. She can only tell us how things are made. If, e.g., we ask Science what an organ is for, she will take the instrument to pieces and explain the structure and function of every part, and when she has laid the last piece on the floor, she will triumphantly exclaim: “Such is an organ.” But if we ask Art what an organ is for, she will place a John Sebastian Bach upon an organ stool and bid him play one of his Preludes; and as our souls are ravished by sublime music she exclaims triumphantly: “That reveals what an organ is.” Which answer, then, is correct? Both are correct. But which answer is more significant and gets to the root of the matter? Obviously the answer of Art. So it is in regard to life. Science can supply us with much information about the material side of life, but it cannot tell us what life is for—the thing we most need to know—and it leaves us free to choose between Secularism and Religion, which are the only alternatives, there is no middle course. According to Secularism, life is “a tale told by an idiot, full of sound and fury, signifying nothing.” According to Religion, life is a high and noble calling. According to Secularism, the spirit of man is a mere epiphenomenon, an accidental concomitant of a soulless, purposeless, mechanical, cosmic process. According to Religion, the spirit of man is allied to ultimate reality, the realest of real things. According to Secularism, the sense of moral obligation is the mere hobgoblin of the nursery, something to be contemp-

tuously brushed aside as a thing of no consequence. According to Religion, it is the master light of all our seeing, the witness within us to a higher world. The plain fact is that life won't work in the secular way, but it will work in the religious way. As Whitehead says, in a very penetrating word: "The fact of religious vision and its history of persistent expansion is our one ground for optimism. Apart from it, human life is a flash of occasional enjoyment, lighting up a mass of pain and misery, a bagatelle of transient experience." That is simply another way of saying that science needs to be supplemented by Religion.

### III.

The relations of Religion and Science are such that each can be of great service to the other. It is sometimes maintained that Religion and Science have nothing to do with each other. There are men of Science who have insisted that science proceeds on its path without any contact with Religion; and there are theologians, like the late Wilhelm Hermann, of Marburg, who have maintained that Religion stands completely apart from Natural Science. But that cannot be. They need each other and can serve each other. As Dr. Lyman has suggested: "The hormones of Science make for the health of religion and the hormones of religion make for the vigour of science." Or as Clerk Maxwell said: "I think men of science as well as other men need to learn from Christianity, and I think that Christians whose minds are scientific are bound to study science, that their view of the glory of God may be as extensive as their being is capable of."

The services that science can render to religion are obvious enough. Science has again and again proved a disinfectant, a bath of purification, that sets religion free from superstition, and there is nothing which discredits Religion more than the superstition so often associated with it, for superstition, though it poses as Religion's friend, is really its deadly enemy, and secretly devours its substance. Science saves religion from degenerating into magic. The distinction between the two is broadly this—if our religion is magical we suppose that we can somehow get God into our power and use Him for our own ends; if our Religion is pure we seek rather to put ourselves at God's disposal that He may use us for His ends. There are magical views of the sacraments and magical views of prayer which wither and die away at the touch of science. Science helps to keep religion to its proper domain. Religion is all too apt to get mixed up with ideas which have really nothing to do with it. Such beliefs as that the world was created out of nothing in six days, and that the world is about four thousand years



old, have often been foolishly declared to be Christian fundamentals—from such extraneous elements, science purifies religion. Under the beneficial influence of Science, theology has grown increasingly disposed to start, not from the clouds of speculation, but from the *terra firma* of the facts of experience and the facts of history, and to express the eternal truth of the gospel in forms that are intellectually sound. Can science do any more for religion? Has it got a religious message itself? Hardly—but very nearly, for its message to-day is in many respects favourable to Religion. Its emphasis on the wonder and order and intelligibility of the world has at least a religious value. It is perhaps not too optimistic to-day to declare that the new physics of the atom has destroyed the materialism that nineteenth-century physics encouraged by declaring that visible, tangible matter alone was real, and by implying that all concern with values and with religious experience was a mere wandering away from reality into a world of shadows and illusion. Now an atom is declared to be a field of force and is defined as an electrical rhythm—though we are to understand that the term rhythm is symbolical and electricity a name for something whose real nature is unknown. We are assured that the electrons behave as if they possessed spontaneity or free will, so that along with the old materialism the old determinism is also gone. While the old physics declared that matter alone was real, and mind a mere emanation from matter, the new physics faces the possibility that mind alone is real and matter is its creature. According to the new biology, it is becoming increasingly impossible to explain living things in terms of mechanism and chemistry and physics. “The maintenance and reproduction of a living organism,” says J. B. S. Haldane, “is nothing less than a standing miracle.” As for astronomy, let two astronomers speak: “The Universe begins to look like a great thought. We hail Mind as the Creator and Governor of matter. We discover that the Universe shows evidence of a designing and controlling power which has something in common with our individual minds.” Professor Henderson, of Harvard, declares that as an astronomer he finds strong reasons for the acceptance of the general conclusion “that we may now rightly regard the Universe in its very essence as biocentric,” and he finds that the organic world is uniquely fitted to be the cradle of life. Sir Arthur Thomson’s “Epilogue,” the last chapter of his last book (*Scientific Riddles*), contains many remarkable passages, amongst them this: “We cannot philosophically get away from Aristotle’s conviction that there is nothing in the ending that was not also in kind in the beginning. We know that there is Reason in the ending, if ending we can speak of. So there must have been

the analogue of Reason in the beginning. Thus at the limit of our intellectual tether again, we feel compelled, and it is a glad compulsion, to say with the most philosophical of the disciples, 'In the beginning was Mind, and the Mind was with God and the Mind was God'." So far as Science teaches such things as these, it is at least an aid to Religion.

Finally, what about the services of Religion to Science? There is a profound sense in which Science is the daughter of Religion, or at least the granddaughter. The modern scientific movement was born of the conviction that the world is rational, and the belief in the rationality of the world was born of religion and fostered by it. "Faith in the possibility of Science is an unconscious derivative from mediaeval theology," says Whitehead. I suppose Einstein means something like that when he says: "Our religious insight is the source and guide of our scientific insight." Then, too, just as Science saves Religion from superstition, so Religion saves Science from materialism. Religion bears ceaseless witness to the fact that man cannot degenerate in soul and at the same time advance in true knowledge. Further, as an American philosopher (G. H. Palmer) has pointed out: "Without the presupposition of God, Science is fragmentary and baseless."

And since Science supplies power, but not the control and direction of power, Science needs the help and inspiration of Religion. What a terrible creature a physician or surgeon would be if he were pure scientist and nothing more, and regarded every patient just as a "case," without the kindness and the sympathy and the sense of human value which Religion alone can inspire. Who of us would care to entrust his children to a teacher who merely knows his subject and teaches it on sound pedagogic principles, but without a warm human regard for the pupils committed to his trust—a quality which—at its highest—Religion only can supply? What a soulless, heartless thing industry becomes when it is simply organised scientifically, without reference to human needs, human feelings, human rights, human values, and in complete independence of all moral and spiritual considerations. It is a mere commonplace, too, that the greatest peril that threatens mankind to-day is the one that arises from Science, the peril lest man's mastery of the forces of Nature should so outstrip his moral and spiritual development as to lead to the destruction of our civilisation in warfare more devilish than our rude barbarian ancestors ever knew. The dark shadow of that menace hangs like a black pall over the whole of Europe. Men of science may reply that that state of affairs is not an indictment of Science but an indictment of mankind. True, perhaps—but it does reveal that man is unfit to be entrusted

with the terrible powers which Science is placing at his disposal unless his moral and spiritual advance proceeds *pari passu* with his advance in scientific knowledge. That means that the world's need of Religion is deeper and more urgent than its need of Science, and the Religion that it needs is the gospel of our Lord and Saviour Jesus Christ.

L. H. MARSHALL.

## The Baptistry of St. John at Poitiers.

“THE Church of St. John Lateran is a Baptist Church, and I hope to preach there before I die.” So said the late Dr. Fasulo of Rome about the famous basilica known to Roman Catholics as the “Mother and head of all Churches in the World”. The ancient baptistry at the Lateran, possibly the oldest ecclesiastical building still in use by any Christian communion, is well known as a monument of the primitive mode of baptism. The splendid baptistries at Florence, where it is said that Dante once saved a child from drowning, at Pisa, and elsewhere in Italy, are even more famous, but it may not be so well known that the earliest Christian monument in France is also a “Baptist Church”.

The Baptistry of St. John at Poitiers as an architectural monument cannot be compared with the great baptistries of Italy but in historical interest and significance it is their fellow. The building has an appearance of great antiquity. The central part, which is the original baptismal chamber, is a rectangular building of flat Roman bricks with low-pitched gables and roof covered with semi-cylindrical tiles. This building now forms the transept of a cruciform church, the chancel and nave being of later date. In the centre of the floor is the deep stepped octagonal basin of the baptistry, which is about eight feet wide at floor level. Typewritten notes for the use of visitors explain that this basin was used for baptism by immersion, as Christ was baptised in Jordan, and that this mode obtained till about 680 A.D.

About fifty years ago this whole site was excavated with a view to discovering the plan of the original buildings. The