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THE FAITH AND MODERN SCIENCE

THE FAITH AND MODERN SCIENCE

BY
REGINALD J. DINGLE ..

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"CARDINAL BOURNE AT WESTMINSTER"

WITH FOREWORD BY
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‘ Keep that which is committed to thy trust, avoiding profane and vain babblings and oppositions of science falsely so called :

‘ Which some professing have erred concerning the faith.’

(1 Tim. vi, 20 and.21, *Authorized Version.*)

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FOREWORD

THE intellectual background of this work is that unadvertised but profound revolution—the contemporary renaissance of Christian philosophy. To describe this movement merely as ‘neo-Thomism’ or as ‘the revival of scholasticism,’ with the suggestion of philosophy in chain mail chivalrously succouring theology (in a wimple), is to affix labels which are as misleading as the description of modern chemistry as Democritan or of mathematical physics as Pythagorean. The modern philosophic renaissance in Catholicism is no archaic revival of certain transitory fashions of thought, but the contemporary phase of the perennial intellectual development inspired by the Catholic Faith. The significance of St. Thomas Aquinas in this movement is of a character quite different from the significance of the founders of philosophic systems which bear their own personal stamp and suffer from all the consequential limitations and defects. His work was not innovation, but synthesis; he was not a source, but a focus. St. Thomas did not make Thomism; it was Thomism which made St. Thomas.

One cause of the current mistrust of scholasticism is the misunderstanding of the part played by its

multitudinous interlocking definitions. These are not intended to close or stop an argument, but to delimit the arena of discussion. They provide the geography of the field of future philosophic operations. Thus the scheme of the cognoscitive and appetitive faculties provides a terminology as necessary in psychology as the technicalities of anatomy and physiology are in medicine and surgery.

In relation to the special topic of this book it is necessary to state explicitly that the debate is not between Faith and Reason, properly so called. The twofold order of Knowledge recognised by the Church is distinct both in principle and in object—natural reason attaining natural truths and divine faith accepting the revelation of God. Between these two there can be no disagreement. Contradictions arise not from a clash of theology and science, but from a clash of theology and scientific opinion or of theological opinion and science.

It is as true on the intellectual plane as on the political plane that human spheres of activity tend to expand and to invade neighbouring regions. Thus in recent years we have seen mathematics invade physics, physics trespass on chemistry, chemistry penetrate into biology. Similarly theology and science regarded as *human* intellectual activities are inevitably jealous of one another's domains. The condemnation of Galileo exemplifies the contemporary invasion of scientific territory by theological opinion—a movement which, apart from this incident, gained but little ground in the Church. The negation of miracles and denial of divine

revelation exemplify the eighteenth-century invasion of theology by scientific *opinion*.

Modern movements are more complex and more difficult to interpret. The recent developments in atomic physics seem to cry out for their appropriate metaphysical setting, and here scientific speculation inclines to follow Kant and Berkeley. Those of us who have been such willing and grateful disciples of Jeans and Eddington in the domain of mathematical physics cannot but regret that they have sometimes been betrayed into these philosophical errors. But what would have been the fate of a philosopher rashly invading the realm of modern physics !

In this book the debate is not between Faith and Modern Science, but between the Faith and modern scientific opinions—the *obiter dicta* of scientists, which, in the charitable phrase of Augustine Birrell, cannot be taken to bind anyone, not even their utterers. Modern scientific opinion impinges on the Faith directly and indirectly in many diverse quarters—in speculations arising from the realms of physics, of biology, of psychology, of medicine. To summarise adequately the Catholic reply to these attacks—most insidious perhaps when disguised as proposals of alliance!—and to express this summary in non-technical language understood of the people was a most necessary but a most difficult task, and we owe a great debt of gratitude to the author for the erudition and lucidity with which he has brought it to completion.

G. TEMPLE.

INTRODUCTORY

THIS small book is not addressed to experts in either theology or modern science. It is written from the standpoint of the plain man, which is the only one from which the writer possesses any qualification to speak. I think it is timely, because the question of Science and Religion presents itself to the educated Catholic to-day in a new form and there is not, as far as I know, any popular book indicating the approach of the Catholic mind to the problems presented. It is no longer a question of 'Did men come from monkeys?' I have not thought it necessary to discuss biological evolution. The newer scientific literature, both in physics and in psychology, is written in a language so unfamiliar to Catholics that the layman with no philosophical training finds himself confused. How does it all affect the Faith? Can it be reconciled with it? I am not attempting here to provide any general summary of what the new physicists have to say. The reader who is interested will study their books for himself and such quotations as I have made are only for illustrative purposes. The object is to provide the reader with an approach.

In dealing with what is called the New Psychology I have proceeded somewhat differently. In view

of the very wide circulation of the works of Jeans and Eddington it may be presumed that large numbers of people have studied the outlines of the new physics. The public is less well served in the matter of the new psychology. The market has been flooded with a mass of rubbish. Phrases from Freud and Adler, hopelessly distorted from their real meaning, are splashed all over the newspapers. Freud's worst enemy may question whether he deserved to have the Freudians inflicted upon him, though his benevolence appears to be unlimited. But very few people will make any thorough study of his own work, nor can it be generally recommended. This is a matter to be approached with much more caution than the speculations of the physicists. I think I can claim to have given a fair *exposé* of Psycho-analysis. The value, or lack of value, of my criticisms the reader will judge for himself.

No apology, I think, is needed for my 'amateur status.' The scientist, in the sense of one who has taken all knowledge for his province, does not exist to-day. The field is too vast. We have professors and students of the special sciences. A mathematician's opinion on biology is no more authoritative than that of any reasonably well-educated man, and the fact might be considered obvious if it had not so clearly escaped the notice of his Grace the Anglican Bishop of Birmingham. Even the physicist will not accept his coadjutor the mathematician as an authorised exponent of physics. One is sometimes tempted to think that experts in each of the special sciences deny the claim of any

of the others to be considered a science at all. We may as well, therefore, abandon the search for an authorised exponent of the scientific view of life. This book is to be taken as the work of a Catholic layman, who has made some study of the main tendencies of modern scientific thought and tried to consider how the modern theories look in the light of the old faith.

The main purpose of this essay being to indicate to the intelligent Catholic how far speculation along the lines suggested by contemporary writers is legitimate within the limits of theological orthodoxy, the philosophical sections have been subordinated to that end. Hence no attempt is made at a refutation of idealism, of which we have been content simply to indicate the consequences, and we have not embarked on a metaphysical demonstration of immortality. The chapter on 'The Necessity of Theism' is an exception, but belief in God being the fundamental matter, we have thought it well to include a brief exposition of the classic proofs of St. Thomas which have lost none of their value with the advent of more modern but less impregnable apologetics.

Finally, I wish to express my indebtedness to those who have helped me. My brother, Professor Herbert Dingle, kindly cleared up certain points about the New Physics for me, but the wide divergence in our views on religion and philosophical questions makes it unnecessary to add that he must not be supposed to be responsible for any of my statements or conclusions. My friend, Dr. Temple Grey, was good enough to read the book in manu-

script and to make a number of suggestions which I have gratefully adopted. He has made a general criticism of the scheme of the book, which I give in his own words.

‘ It is to be understood,’ he writes, ‘ that the word “ science ” as used in these pages does not refer to that body of exact knowledge painfully acquired and sedulously verified by what in the main is a devoted body of men and women, more often devout than not, whose labours have done much for civilisation. It refers rather to the speculations of certain undoubtedly gifted scientific workers who, however, without any authority from their brethren, presume to speak in the name of science and, straying altogether outside their province, think to throw light on metaphysics and doubt on religion, with no special qualifications to speak on either. Science no longer means knowledge. It is a part of knowledge employing special methods that have authority only in the sphere of science. A man of science as such has no more equipment to discuss the existence of God than has a tram-driver. I myself have made many original contributions to science. I do not discuss the existence of God. I *know* that my Redeemer liveth.’

I am in sufficient agreement with this criticism to wish it to stand as a corrective of anything in these pages that may be felt to conflict with it. The reason for the concentration on the ‘ gifted scientific workers ’ to whom Dr. Grey refers is that to a very large number of people, among whom I may expect

to find my own readers, ' Science ' means the writings of these men. The man of science who is content to ' get on with his job ' does not affect the faith of the public I have in mind and so does not call for consideration here.

THE FAITH AND MODERN SCIENCE

CHAPTER I

THE STATE OF THE PROBLEM

HOW many people hold to-day that there is a permanent and irreducible opposition between religion and science? The question is not at all easy to answer. If we were to canvass those who are widely regarded in this country as the authoritative spokesmen of science on the one hand and of religion on the other, we should probably find few who would commit themselves to the proposition.

‘The old idea that there are any “contradictions” between religion and science,’ wrote Professor E. T. Whittaker, of Edinburgh, in a letter he was good enough to send me when he heard that I was preparing this book, ‘has been refuted so completely by many writers that I don’t suppose any educated and intelligent person now entertains it.’ Abundant testimony to the same effect is to be found in the declarations of many recent writers of undisputed eminence in the scientific world. And on the religious side, do we not find some of the most eminent dignitaries of the Anglican establishment

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pursuing and patronising the latest speculations of science as zealously as they eschew theology? Perhaps, then, we can regard 'the conflict of religion and science' as one of the curiosities of the Victorian era, the product of an unfortunate *malentendu* which may now be forgotten.

A little reflection, I think, will show that this tempting prospect must be abandoned. In the first place, not all scientists agree with this peace treaty and some very eminent ones are a little contemptuous of what they regard as 'clerical science.' Much more important, however, is the fact that, whatever may be thought of the science of Bishop Barnes, Dr. Inge and a host of lesser lights, it must be held by Catholics, at any rate, that they are not highly qualified as exponents of religion. The truth is that talk about 'religion and science' is very liable to degenerate into a mere logomachy, because the conception of religion—and even of Christianity—has in these days come near to being 'defecated to a pure transparency.' It will be more useful to discuss the relations of science and the Catholic Faith. We know what we mean by the latter and I hope it may not prove impossible to reach a working agreement on what we mean by science.

I doubt if even on the wider question the conception of a necessary conflict between science and any form of dogmatic religion is as completely abandoned as some would have us believe. Some vague form of religious sentiment—Matthew Arnold's 'Morality at the White Heat of Emotion'—may be generally conceded to be not incompatible with scientific study, but there must be a large number

of educated people who would subscribe to the statement I recently heard made in public by a highly intelligent speaker that 'the modern scientific mind finds it impossible to accept any form of supernatural religion.'

One obvious way of replying to a statement of that kind is to point to the undisputed possessors of 'modern scientific minds' who have been convinced and practising Catholics or otherwise devout. Had Pasteur a modern scientific mind? Can we deny its possession to the Abbé Mendel whose name is associated with the greatest of modern discoveries in the field of biology? Was the speaker, who had no recognisable scientific qualifications, quite sure that his own mind was either more scientific or more modern than that of the Abbé Lemaitre, upon whom the King of the Belgians has recently conferred a prize for original scientific work and whose contribution to the study of 'the expanding Universe' is acknowledged so fully by Sir Arthur Eddington? Than that of Professor E. T. Whittaker, Professor of Mathematics at Edinburgh, or Dr. Crommelin, past president of the Royal Astronomical Society? All these are Catholics, the last two converts to Catholicism.

In spite of these examples, there are large numbers who believe that if these things be so, they ought not to be so. The Catholic who is a scientist, they feel, is something of a freak. And, anyhow, a few very distinguished swallows do not make a summer. We must go a little deeper into this matter of religion and science.

I have encountered an objection to this enquiry

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from the Catholic side. 'Why,' it is asked, 'mix up Catholicism and Science? They have nothing to do with each other. Catholicism is a matter of faith, which is a supernatural gift, and science is a matter of evidence. The one cannot contradict the other. You may never be able to reconcile the two. You will only create confusion and unsettlement if you try.'

I admit the force of this argument, but I cannot accept it! Certainly I am not proposing that we should have Catholic chemistry, physics or astronomy. The conception is as unhappy as the idea of Catholic history. Catholicism more fully than any other form of religious belief recognises and defends the autonomy of the separate sciences in their respective fields. It does not follow, however, that we should be content to keep religion and science in watertight compartments, renouncing all attempts to harmonise the interpretations of the Cosmos that they offer us. Sir Arthur Eddington finds this attitude 'defensible,' but the robust rationalism of the nineteenth century would not have found it so and I believe it is profoundly antipathetic to most Catholic minds. St. Thomas and the scholastics used their brains in a masculine endeavour to find a philosophical interpretation of the world as known to the science of their day, and we have the highest authority for doing the same in our own generation.

Professor Whittaker, in the letter from which I have already quoted, finds in this attempt to separate science from religion, a modern example of the perennial heresy of Manicheism.

‘I think it is still the case,’ he continues, ‘that the study of science, especially if it is not a very profound study, induces in some minds a psychological attitude which, though not unfavourable to theistic belief of some kind, is unfavourable to the Catholic religion.’

‘The difficulty arises in connection with the concept of matter, and the place that matter should be regarded as occupying in the general scheme of thought. The student of science is apt to think of matter as simply chemical elements and compounds and mixtures of these, whose behaviour is governed entirely by the laws of physics and chemistry, and, as the name of God does not occur in any of the textbooks on these subjects, he comes to think of matter as lying entirely in a domain—the domain of science—which has nothing to do with religion; and so he forms the idea that religion deals exclusively with internal mental states and emotions, and, in fact, he thinks that this is what is meant by the statement that religion should be “spiritual,” and he even fears that to attempt to bring matter into the religious domain in any way would be to commit the “sin of idolatry.”’

‘All this is, I think, a hindrance in many minds to the acceptance of the Catholic doctrine of the sacraments. It is, in effect, simply the old heresy of Manicheism, which under various names and forms has disturbed the Church from the beginning.’

Whether the argument proceeds, as in the case contemplated by Professor Whittaker, from those who are unable to accept Catholicism or from Catholics who deprecate any attempt to consider science and

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the Faith in relation to one another, the principle is the same. If the present book is to be justified it must be on the ground that this attitude is an indefensible one.

If the contention were simply that a man who devotes his life to science cannot—or should not—be a Catholic, it would not be a very exciting thesis. It need mean no more than that an incapacity for religion was a sort of occupational disability of the scientist. The challenge thrown out by those who hold science and religion to be natural enemies is really this : that modern science has placed at the disposal of the educated public a body of demonstrated facts which are incompatible with the claims of religion. Perhaps it should be put more subtly. Some would prefer to say that the general view of the world indicated with increasing clearness by scientific research is different from and incompatible with the view implicit in Christian, and particularly Catholic, dogma. As one sometimes hears it expressed, science creates an atmosphere in which the tapers of ecclesiasticism cannot burn.

But this attitude, as we have indicated, is less widely held than it was. In the general opinion of the Protestant world the relations of scientists and theologians have vastly improved in this century. Fifty years ago and more, it was popular protestantism which felt the principal force of the assault. Anglican and Nonconformist divines fulminated against Darwin ; and when the doctrine of the survival of the fittest had been sentimentalised into a totally different doctrine of the survival of the best, it did not win the respect of the scientific

enemy. The men of science regarded these amiable modernisers as a retreating army, throwing successive scraps of dogma to the rationalist wolves in the hope of getting away with the rest. They were disposed to look upon the benighted Papist as in some ways more worthy of respect since he was at least honest in his convictions and—so it was assumed—whole-hearted in his superstitions.

It is different to-day. If we compare the tone of the nineteenth-century 'materialistic' science with that of the contemporary literature, we shall find that the former is much nearer to the Catholic note than the latter. Joseph McCabe was trained as a Benedictine. The weapons he turns against the Church are those of the Scholastic armoury. He uses the same terminology and fundamental conceptions to deny the existence of God as those in which St. Thomas Aquinas and his own Benedictine masters affirmed it. The modern physicist professes not to understand either the language or the modes of thought which it expresses.

'There is a doctrine well known to philosophers,' writes Sir Arthur Eddington, 'that the moon ceases to exist when no one is looking at it. I will not discuss the doctrine, since I have not the least idea what is the meaning of the word "existence" when used in this connection.'¹ That is one of many passages which illustrate the difference between the old scientific literature and the new. With the one the Catholic philosopher could argue; with the other at present, he cannot. Between science and religion there is, and can be, no conflict, but Catholicism is

¹ *The Nature of the Physical World* (London, 1928), p. 226.

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more out of touch with fashionable modes of thought in the scientific world to-day than it was in the nineteenth century.

Cardinal Newman, in the famous Tract No. 90 of his Anglican days, distinguished between the authentic teaching of the Church of Rome and 'Romish doctrines' which he held to be contemplated by the Thirty-nine Articles. That essay was more ingenious than convincing, but we may legitimately distinguish between the *obiter dicta* of scientists, however distinguished, and 'what science teaches us.' Before undertaking that task, however, there is a prior one, which is to enquire what we mean by science.

CHAPTER II

GALILEO AND ALL THAT

HERE a digression is called for. Across any discussion on the Catholic Church and Science there lies the giant shadow of Galileo Galilei. Whenever the claim is made that the Church is no enemy of scientific progress, a voice may be relied upon to interpolate, 'Remember Galileo!' Sometimes there is not much intelligence or knowledge behind the interpolation. A London evening newspaper not so very long ago spoke of the reasons why Galileo was 'burned at the stake,' and a questionnaire addressed to the whole country would probably reveal the existence of several thousand people who believe that the great astronomer was put to death by theological obscurantists. Probably a good many people vaguely associate his fate with 'the fires of Smithfield,' and would not easily be persuaded that he died peacefully in his bed with a papal benediction.

If that were all there were to it, there would be no more reason for dealing with Galileo in this book than with Maria Monk. But there is much more to it. A distinguished scientist, who has been for many years a Catholic of unimpeachable orthodoxy, told the writer recently that the case of Galileo had for a long time delayed his submission to the Church

and, in his opinion, it remained an obstacle to the appeal of Catholicism to the scientific mind.

What is the difficulty? There are two different conceptions in the minds of those who say: 'Remember Galileo!' One is that the case has a very destructive bearing on the doctrine of infallibility; the other that it indicates an opposition between the Church and scientific progress. Both contentions can be easily disposed of, but, before we examine them, it is necessary to observe that the same defence will not apply to both cases. If we deal with the second case first, we are entitled to point out that the concentration of the attack upon this one case, which happened more than three hundred years ago, greatly weakens the force of the general charge. That there should be one 'stock argument' is, as Newman pointed out, fatal to the attempt to show a general and necessary antagonism. The very emphasis laid on the condemnation of Galileo seems to stamp it as the exception that proves the rule. If, however, infallibility were in question, the case would be very different. One failure will sink a claim to infallibility as completely as ten thousand could do.

Let it be made clear at the outset, then, that the question of infallibility is in no way involved. The first condemnation of Galileo was by the Congregation of the Index in 1616. It has never been held by anybody that the Congregation is competent to make a dogmatic decree. But the Pope approved the decision to the extent of prohibiting the circulation of the condemned writings. Can it be held, by any ingenuity of argument, that this amounted to

a declaration *ex cathedrâ* by the sovereign Pontiff, defining 'a doctrine regarding faith or morals to be held by the Universal Church'? That is what is required to constitute an infallible decision according to the definition of the Vatican Council, and to ask the question is to answer it.

The second trial in 1633, as the late Father Gerard pointed out in his article on 'Galileo' in the *Catholic Encyclopædia*, 'was concerned, not so much with the doctrine as with the person of Galileo, and his manifest breach of contract in not abstaining from the active propaganda of Copernican doctrines.' No more than the earlier decree does it touch at any point on the question of infallibility.

Let us start from the fact that in the seventeenth century, a fallible body, the Congregation of the Index, made a mistake. It expressed an opinion on the Copernican doctrine of the Universe, which we now know to have been a mistaken opinion. It condemned for holding that opinion, a man who, as we now admit, was right in holding it. About this there is no dispute.

Now so far is that from proving a general and inevitable conflict between the Church and Science that it did not even represent such a contest in the seventeenth century. The Congregation was not maintaining a theological opinion against the consensus of the scientific world; it was maintaining the prevailing scientific opinion of the time against one who was regarded by his scientific brethren as a mistaken innovator.

Nothing could be more erroneous than to imagine that Catholicism was universally regarded as bound

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up with the Ptolemaic system until that system was held to be untenable and that the Church then trimmed her sails and accommodated herself to the Copernican. The Congregation of the Index made a mistake, but in a letter from Cardinal Bellarmine (who died in 1621) to Foscarini, we find these wise words :

‘ I say that if a real proof be found that the sun is fixed and does not revolve round the earth, but the earth round the sun, then it will be necessary very carefully to proceed to the explanation of the passages of scripture which appear to be contrary, and we should rather say that we have misunderstood these than pronounce that to be false which is demonstrated.’¹

The error of the Congregation of the Index is an isolated incident in the relations between the Church and the Copernican theory. One would imagine from a good deal that is written to-day that the belief in an immobile earth, with the sun revolving around it, was a part of the *depositum fidei* of the Catholic Church, challenged by bold innovators who were free from the shackles of ecclesiastical dogma, and defended by priestcraft until the game was palpably up. Niclas Koppernigk, better known as Copernicus, was a Churchman, who certainly took minor orders and was possibly a priest. He was encouraged to publish his *magnum opus*, *De Revolutionibus Orbium Coelestium*, by Cardinal Schömberg and the Bishop of Culm, and it was dedicated by

¹ I am indebted for this quotation to Father Gerard's excellent article, of which I have made free use in the chapter.

permission to Pope Paul III. The Protestants Luther and Melanchthon fiercely assailed the new doctrine, but neither from Pope nor Catholic theologians did it encounter any attack for three-quarters of a century.

There is no need here to go into details of the disciplinary measures taken against Galileo, to show how absurdly they have been exaggerated, or to dispose of the legend that Galileo said: '*E pur si muove.*' The facts can be found in any reputable history book or encyclopædia. All that is necessary in relation to this particular incident is to show that it was neither 'a failure of infallibility' nor an indication of the incompatibility of Catholicism and scientific progress.

Before leaving this aspect of the subject it may be worth while to point out that, after all the expenditure of eloquence on the importance of this question whether the sun revolves round the earth or the earth round the sun, the latest speculations of the mathematico-physicist suggest that one statement is as true—in the restricted sense in which contemporary science is concerned with truth—as the other!

We shall be wise, however, to linger over the age of Galileo, for it is undoubtedly of great importance in relation to the controversy with which we are concerned. It has seemed to many modern writers, whom we must treat with respect, to mark the end of mediævalism and the beginning of the modern world. The accident of Galileo's condemnation has given a special significance to his name, but if he had never quarrelled with the Congregation, there

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would still have been a very good reason for studying this period when scholasticism was petering out in verbal mystifications and the new science of observation came fully to birth. Did Catholicism belong essentially to the old world, the world before Galileo's telescope? Is it a picturesque survival in the new?

CHAPTER III

PHILOSOPHY AND MODERN SCIENCE

WE have said that there are some who regard the period of Galileo's quarrel with those who called themselves the Aristoteleans as marking the beginnings of modern science. They tell us that the world in the days of the mediæval schoolmen was the centre of the Universe and man was the centre of the world ; the activity of the human mind, in so far as a tyrannical church permitted it any activity, was practically limited to the study and interpretation of Aristotle, who was believed to have settled all scientific questions by a rational deduction of ' the general principles according to which nature operates.' By the time of Galileo, this excessive rationalism had gone so far that the principal professor of philosophy at Padua refused to look through Galileo's telescope ' lest the evidence of his senses should force him to admit the existence of Jupiter's satellites and the mountains of the Moon. He contented himself, instead, with arguing them out of the sky. The primary innovation, therefore, which was introduced by Galileo was the direct appeal to Nature, with a mind free from pre-conception of what her answer would be.'¹

Nobody will be found to-day to defend this

¹ *Science and Human Experience*, by Professor Herbert Dingle (London, 1931), p. 33.

attitude, which was not only sterile, but was very un-Aristotelean. This is mentioned by the writer we have quoted. The appeal to sense was, as he says, 'urged by Aristotle.' The truth is—and it is hard to exaggerate the tragedy of this—that experimental science received its great impetus at a time when the intellectual movement of scholasticism had largely degenerated into futile word-spinning. It looks like a perversity of fate that St. Thomas should belong to the thirteenth century and Galileo's telescope to the sixteenth.

Let us turn aside from the puerilities of the later scholastics and look at the golden age of scholastic philosophy. What is the truly Aristotelean attitude towards science? How did the scholastics in the golden age of scholasticism regard it? This study will lead us to appreciate a distinction which it is vital to grasp at the outset between two meanings of the word 'science'—the traditional and the modern. Before embarking upon it, let us pause to dismiss a common notion that, because the mediæval thinkers were geo-centric, they were ego-centric. Not only does St. Thomas not teach that the whole universe was created for man; he expressly guards against any such assumption.¹

How did the scholastics regard science? The ancients taught that there were three degrees of abstraction. At the bottom of the scale is physics, which consists in abstracting from objects their particular properties and studying the common properties of material objects. Next is mathematics, which dismisses from consideration all except

¹ Cf. *Summa Theologica*, I, Q. lxx, art. 2.

quantity. Three tables or three elephants—it is mathematically considered the same. At the summit is metaphysics, the science of Being as such. It is concerned only with the necessary laws of being. In the pursuit of these three kinds of study we shall use the senses, the imagination and the intellect. In physics sense-knowledge has obviously a prior importance; mathematics calls largely for the exercise of imagination; metaphysics is concerned with pure intellection.

‘Thus,’ says a modern Thomist,¹ ‘in metaphysics we should be led neither to the sense-perceptible nor to the imaginable; in mathematics to the imaginable, not to the sense-perceptible; in physics to the sense-perceptible itself.’ St. Thomas² declares that ‘they are in fault who try to proceed in a uniform manner in these three speculative disciplines.’

Besides this classification into three degrees of abstraction, there is another way in which scholastic philosophy divides the sciences. Our study of nature may proceed in two ways. We may study phenomena in order to discover their relations and their immediate causes. This is what the experimental physicist does. This is what St. Thomas calls a science of *quia*. Or we may study phenomena in relation to ultimate causes and the necessary laws of Being, that is a science of *propter quid*. In each case we may be said to be doing scientific work in the sense that we are studying things according to their causes. In the case of merely experimental science, however, the conception of

¹ M. Maritain : *La Physique de la Quantité* (Paris, 1918).

² *In Boet. de Trin.*, Q. 6, art. 2.

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cause is not the philosophical one. It really resolves itself into a correlation.

‘To say that we have “explained” a phenomenon,’ a contemporary physicist¹ writes, ‘is to suggest a kind of finality which is unattainable by science. Every scientific “explanation” will be found on examination to be the establishment of a relation between the phenomenon “explained” and other phenomena. Thus, when Franklin “explained” lightning he simply showed that it was connected with electrical experiments in the laboratory. A relation was thus established between those experiments and the lightning flash, so that knowledge of one phenomenon was available for interpreting the other: the phenomena were *co-related* with one another. This correlation contained all the “explanation” that was given. Whatever was mysterious about the electric spark remained mysterious about the lightning flash.’

Modern science, it will be seen, is a science of *quia*, not a science of *propter quid*. We shall agree that ‘science’ means ‘knowledge’ and traditionalists and moderns will agree further in restricting the term to a particular sort of knowledge. To Aristotle it meant a knowledge of things through their causes or reasons. It is not enough to know that so and so exists, that this or that happens. The true scientist, like the small boy, must be always asking why. Science differs from vulgar opinion in that it asserts the reasons for what it

¹ *Science and Human Experience* (London, 1931), p. 16.

affirms. St. Thomas Aquinas, in this echoing Aristotle, tells us: '*Scire simpliciter est cognoscere causam propter quam res est et non potest aliter se habere.*' Science tells us why a thing must be so and could not be otherwise.

So much for science in the philosophical meaning of the term. In our day, however, as we have seen, those who talk about scientific knowledge are unlikely to mean anything of the kind. They will most probably be found rejecting all attempts to investigate the causes of things in the ultimate sense, while some will even tell us that in the most restricted sense the conception of cause has no place in science. In the 'special sciences' the aim is to collect facts and to co-ordinate them. Most of our contemporary scientists are contemptuous of metaphysics—the science *par excellence*—which they regard as mere word-spinning.

It is worth while to linger at the outset on this difference in the conceptions of science because it is fundamental. In the greater part of this study it will be necessary to turn away from the contemplation of real science—that pursuit of Truth which is the highest activity of the human mind—and move in the twilight of what Aristotle called opinion. For modern science has abandoned the pursuit of truth. It has another goal. It seeks co-ordination, coherence.

If we could refuse for a moment to abandon ourselves to this contemporary scientific outlook and 'become as little children' in the belief for which there is good authority that thus and not otherwise we shall enter the Kingdom, there would

be no great difficulty in grasping the position. We shall recognise that when we ask: 'Is it true?' we mean something quite different from 'Does it work?' or 'Is it self-consistent?' We shall know that good results may be obtained even when we proceed from false assumptions. A self-consistent system may contain errors that in the popular expression 'cancel out.' Common sense, which is the beginning and end of the long journey of the mind that we call philosophy, tells us that Truth means something more than all this, and an obstinate instinct impels us to search for Truth.

Modern science demands at the outset a great refusal. It tells us to step aside from the arduous quest of philosophical truth and to content ourselves with this lesser business of co-ordination. One is reminded of Dr. Inge's remark in reference to Bergson, 'Thinking is difficult; how pleasant to be told it is mainly waste of time!'

Science has been defined by the writer already quoted¹ as 'the recording, augmentation and rational correlation of those elements of our experience which are actually or potentially common to all normal people.' Correlation which is declared to be 'perhaps the most important function of science' is the only kind of explanation which is recognised.

The ordinary reader will find no difficulty in conceiving that there may be a number of systems which correlate facts in different ways. One has heard arguments between scientists of presumably equal eminence on the question whether the known facts of the physical universe can be 'explained'

¹ *Science and Human Experience*, p. 14.

as satisfactorily on Newtonian lines as on those of Einstein. If so, must they be credited with 'equal truth?' This is a question which the modern physicist is disposed to hand over, probably with a contemptuous expression, to the metaphysician, but the plain man who is conscious of being no more a metaphysician than a physicist, feels instinctively that truth means something other than a self-contained theory which avoids internal contradictions. Let it be repeated then, as the starting-point of our enquiry, that modern science renounces the search for Truth; it is concerned with facts and their orderly arrangement.

We are now in a position to see how it is possible to err in two ways in our quest of scientific truth. We may seek to arrive at facts of the sense-perceptible order by a process of reasoning and we may seek to establish ultimate causes by the correlation of sense data. In other words we may—as the Paduan astronomer did—seek to establish by a syllogism whether Jupiter has satellites, or, with some of the moderns, we may look through a telescope or microscope for philosophical truth. The theory that metaphysics died and science was born in the age of Galileo is attractively simple but it is not true.

A word remains to be said on the place of science in the limited modern sense of the term in a total culture. One of the most marked tendencies of our time is what may be called the imperialism of the scientist. To say of a procedure that it is unscientific is tantamount in the eyes of many to saying that it is wrong or valueless. I am far from

attributing this idea to representative scientists, most of whom expressly disavow it. The idea has been created largely, I think, by newspapers and polemical pamphlets. At one time a man was not considered to be educated unless he knew something of the classical languages. In the minds of most of those who lay claim to the title of modern, scientific knowledge is vaunted as having a greater value. At the risk of saying an unpopular thing we must deny any considerable educational value to a scientific training. It is learning, schooling, call it what you will ; it is not, except to the extent that all experience is educative, an education. The worker in any of the special sciences must develop to a very high degree qualities of patience, exact observation, reasoning and judgement. His very success in this work will carry with it the penalty of a narrowness and limitation which are inimical to true culture.

It is irrelevant in this connexion to point to the remarkable achievements of physical science in the field of practice. Kinematography and the radio may have diffused culture as well as other things. Electricity will light our houses when it has not broken down. I hope we are all suitably grateful to the men whose speculations and work have made these things possible. But let us distinguish. All civilisation, according to Mr. Shaw, rests upon the art of the navy. This has not led us to any false ideas about the cultural status of the navy. The fact that there are many men of wide culture among our scientists obviously does not affect the soundness of this argument.

CHAPTER IV

THE NEW PHYSICS

A BOOK on religion and science, published in the early years of the present century, would have dealt very largely with one of the special sciences—biology. Darwin's work and the later speculations of Haeckel had created a strong impression in the Protestant world that the real battle must be fought round the opening chapters of Genesis. Perhaps this view was not so very far wrong, though the fundamentalism which was later to find its spiritual home 'way down in Tennessee' was not very well equipped for the contest. To-day the centre of popular interest has shifted. The best-sellers do not deal with biology but with physics. They are not nearly so 'popular.' Einstein's successive mathematical theories, which succeed each other almost with the rapidity of special sporting editions of the newspapers, cannot be made intelligible even in their main outlines to those who read *A Picture Book of Evolution* and the sixpenny reprints of the Rationalist Press Association. May we assume that the much larger proportion of the population which now receives 'secondary education' has created as large and understanding a public for *The Mysterious Universe* (Jeans) as there was for

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The Riddle of the Universe (Haeckel)? It must be a little depressing for really progressive minds to find that although Haeckel solved the riddle in 1899, and more than sixty years before that Carlyle had told us that 'to many a Royal Society the Creation of a World is little more mysterious than the cooking of a dumpling,' the Universe is still 'mysterious.' Indeed, we find one of the glories of contemporary science, Sir James Jeans, displaying something very like what journalists (but not psychologists) call 'an inferiority complex.'

He writes :¹

'So at least we are tempted to conjecture to-day, and yet who knows how many more times the stream of knowledge may turn on itself? And with this reflection before us, we may well conclude by adding what might well have been interlined into every paragraph, that everything that has been said, and every conclusion that has been tentatively put forward, is quite frankly speculative and uncertain. We have tried to discuss whether present-day science has anything to say on certain difficult questions which are perhaps set for ever beyond the reach of human understanding. We cannot claim to have discerned more than a very faint glimmer of light at the best ; perhaps it was wholly illusory, for certainly we had to strain our eyes very hard to see anything at all. So our main contention can hardly be that the science of to-day

¹ *The Mysterious Universe* (Cambridge, 1930), p. 149.

has a pronouncement to make, perhaps it ought rather to be that science should leave off making pronouncements : the river of knowledge has too often turned back on itself.'

It should be added, incidentally, that this candid declaration did not prevent Sir James Jeans calling at the 1934 meeting of the British Association for ' a morality and a religion consistent with our new psychological knowledge and the established facts of science! It is observable of those whose names figure most prominently in contemporary science that they have none of that reticence with which the scientific mind is so frequently credited. One hears continually the patient work of the scientist contrasted with the looseness and impetuosity of the mere journalist and populariser. No doubt there are scientists who work in the quiet of the laboratory, proceed by trial and error and have years of patient labour behind them, before they diffidently commit their findings to print. Louis Pasteur was such a man and it represents the scientific mind at its best. Let us salute these invisible workers, but our criticisms must be directed to those whose writings are accessible to us. The men who have contributed most to the formation of modern popular ideas on science have not disdained the arts of publicity nor have they shown any rigid distinction between the subjects on which, by virtue of special study, they speak with authority and those on which they give us merely inexperienced opinions. I think it was Haeckel who, in the first edition of one of his books, embarked upon the discussion not only of biology, of which presumably he

knew a great deal, but of theology and Church history, his knowledge of which may be gathered from the fact that he believed the three Persons of the Holy Trinity to be the Father, the Son, and the Virgin Mary! Sir Arthur Eddington, the Plumian Professor of Astronomy in the University of Cambridge, in *The Nature of the Physical World*, which was in its sixth impression within fifteen months, discourses, not only on astronomy and physics, but on religion, mysticism, causation and a new epistemology. The book is made up of Sir Arthur's 1927 Gifford Lectures, and, reprinting them a year later, he did not hesitate to include in the volume what he himself described as 'stop press ideas.'

Why should Catholics concern themselves with the new physics? In recent years there has been no general tendency on the part of physicists to attack religion. Professor Haeckel, armed with Darwin's discoveries and theories, declared that Science had conducted God to the boundaries of the Universe and given Him his *cong  *. The laboratory physicist has displayed no such aggressive tendencies. Great physicists have been not only believers but have been found in what may be called the narrowest sects. Faraday was a Sandemanian. Tyndall's Belfast addresses shocked Victorian orthodoxy, but could not be taken as representative of any general revolt by physicists against religion. There seems no reason why those who are engaged in studying the behaviour of matter and energy should hold any particular views for or against the creation of that matter and energy by an omnipotent Being. True, we have it on the authority of the Bolshevik,

Lunacharsky, that 'a working electrician who lights a whole town by turning a switch is in no danger of believing any longer that God created the sun!' But this, like so much that is happening in present-day Russia, merely reminds us that heads, like switches, are easily turned.

On the face of it, the new physics contains nothing to endanger friendly relations between 'religion and science.' On the contrary! Hear what comfortable words Professor Sir Arthur Eddington says to those who wish, like the Village Blacksmith, to 'go on Sunday to the church' without feeling that they are being unscientific:

'In the last century—and I think also in this—there must have been many scientific men who kept their science and religion in watertight compartments. One set of beliefs held good in the laboratory and another set of beliefs in church, and no serious effort was made to harmonise them. The attitude is defensible.'¹

This passage is interesting and reflection upon it will carry us far. A Catholic worker in any of the special sciences, or for that matter, in any branch of thought and speculation, may reach results which, for the moment, he may be unable to incorporate in his general philosophy. He may, for example, be a physiologist who finds some difficulty in arriving at a reconciliation of the doctrine of free-will with what he has learned from experience of the effects of a disbalance in the endocrine system or the *sequelae* of infective conditions such as *encephalitis lethargica*.

¹ *The Nature of the Physical World* (London, 1928), p. 194.

What is his position ? Free-will he knows to be true, because it is a part of his religion, which is the only thing of which he is certain in a world of uncertainties. The facts of experience he accepts because, when they are well attested, it would be an extravagance to deny them. Two truths cannot be in contradiction. His failure to reconcile them, therefore, may be regarded as a weakness on his own part, which he has a right to hope will be temporary. In that sense, his conduct is 'defensible' if he continues to practise his religion and pursue his scientific work. But this is not the position of Sir Arthur Eddington. He has no body of religious truth which he knows to be certainly true ; that he has religious experiences it would be impertinent to deny. He is not, however, consumed by any zeal for truth, no compulsion moves him to reconcile truth of religion with truth of science. 'Better admit,' he says,¹ 'that there was some truth both in science and in religion ; and if they must fight, let it be elsewhere than in the brain of a hard-working scientist.'

We are already in sight of the reason why the Catholic has to bother about the new physics. It lies in the fact that so many of its professors are not simply physicists, but metaphysicians. For the most part, they will 'deny the soft impeachment.' They will tell us that they are not philosophers but scientists. Even when they make this claim we are not always prepared to admit it. Sir Arthur Eddington giving us what he calls 'a new epistemology' is not really telling us simply what he has discovered with the microscope. He is taking part,

¹ Loc. cit., p. 195.

with no very adequate equipment, in controversies that go back to Heracleitus, and continue through the quarrels of realists and nominalists down to the confused *mêlée* of philosophical discussion in our own day. The modern scientist who declares himself to have no concern with metaphysics will usually be found to be some kind of idealist. He will take the Kantian postulates to be 'the Copernican revolution in philosophy' instead of a series of debatable propositions which have not worn any too well.

I shall not attempt in this chapter to give a general view of 'the new physics.' The impression left upon the general reader is one of extreme uncertainty in the whole business. Since I began to write this book the newspapers tell me that Einstein has twice reconstructed his theory of the Universe. He would be a rash man who would attempt to predict how much of what is considered most essential in the fashionable physics of the moment will remain standing in ten years' time. There would be a considerable lack of proportion in setting these evanescent theories against the majestic structure of that Faith, which, like its Founder, is 'the same yesterday, to-day and forever.'

It is generally agreed that what is known as classical physics has collapsed as a result of modern research and experimentation. Those of us who learned elementary physics at school had a fairly clear general idea of the nature of the physical world. There was matter, which could ultimately be resolved into atoms, and there was force, acting in a fixed and predictable way of which the New-

tonian law of gravitation may be taken as an example. The difference between this conception and that which is common to present-day mathematico-physicists is admirably expressed by Sir Arthur Eddington in the introduction to the book from which quotations have already been made. He explains that in his room there are two tables. One is the ordinary obvious table, 'It has extension ; it is comparatively permanent ; it is coloured ; above all it is *substantial*. By substantial, I do not merely mean that it does not collapse when I lean upon it ; I mean that it is constituted of "substance" and by that word I am trying to convey to you some conception of its intrinsic nature. It is a *thing*.'

That is the table we all know. But there is also Professor Eddington's 'scientific table.' This, we are told, is 'mostly emptiness. Sparsely scattered in that emptiness are numerous electric charges rushing about with great speed ; but their combined bulk amounts to less than a billionth of the bulk of the table itself. Notwithstanding its strange construction, it turns out to be an entirely efficient table. It supports my writing tablet as satisfactorily as table No. 1 ; for when I lay the papers on it the little electric particles with their headlong speed keep on hitting the underside, so that the paper is maintained in shuttlecock fashion at a nearly steady level. If I lean upon this table, I shall not go through ; or, to be strictly accurate, the chance of my scientific elbow going through my scientific table is so excessively small that it can be neglected in practical life.'

The first of these two tables—the one the plain man sees, and in which he has no difficulty in believing—fits in quite naturally with the traditional atomic physics in which the atom is conceived as a minute marble or billiard ball. The scientific table is built up of the new matter which, in Sir Arthur Eddington's words, is 'as porous as the solar system.' Matter is made up of protons and electrons and 'if we eliminated all the unfilled space in a man's body and collected his protons and electrons into one mass, the man would be reduced to a speck just visible with a magnifying glass.'¹

Now let us see where we are. As a plain man I believe what I see, but not only what I see. I accept table No. 1 and when I was told that its apparently continuous surface was made up of a great number of atoms, I had no difficulty in believing it. When the modern physicist tells me that with his microscopic resources he has found out a number of new things, I believe him. I will take his word for it that what seems to me a solid table is really mainly empty space in which the small quantity of matter moves at such an incredible speed that I do not 'see the holes' and it looks solid. It surprises me, but it is not irrational.

When the new physicist proceeds to elaborate his argument, I am very interested indeed. He tells me about protons and electrons. He has talked so much about them that they have now become commonplace to the man in the street. It is permissible to doubt whether it is fully recognised by newspaper readers who have become familiar with

¹ Loc. cit., p. 2.

the terminology of the new physics that no man hath seen the electron at any time and that, by definition, no man ever will see it. We used to hear a good deal about the schoolmen discussing how many angels could stand on the point of a needle. The joke has rather lost its point in these days, for, if none of us has seen an angel, it is equally true that none of us has seen an electron. In discussing the behaviour of the one and the other we have to leave the field of observation for that of speculation.

Pursuing our questions to the new physicist, we pass from the unobserved and unobservable electron to something which is called a 'wavicle.' A particle we can all understand. We can also understand a wave. A wavicle, which is the unit of light, partakes of the nature both of a wave and of a particle. It is not very easy to follow, but the physicist finds it useful to postulate 'wavicles' and we have no more to say.

Now if the new physicist were content to leave it there, we should have no quarrel with him. His object is to co-ordinate all the data he has obtained by observation. He is dealing, let us remember, with a microscopic world. I know how to deal with the table of ordinary experience. As far as I am concerned, Sir Arthur Eddington may do what he pleases with his 'scientific table.' I am not particularly interested in it. He may or may not have made mistakes in his very delicate operations. His higher mathematics may be sound or he may make the slips I usually make myself in elementary mathematics. So far there is no reason

why anybody but the expert need worry about the matter. One begins to wonder why so many people bought *The Nature of the Physical World* and why so many more took it out of the libraries. Only a handful of people after all can examine the scientific table and know whether Sir Arthur Eddington is talking sense or nonsense about it. One begins to suspect that somewhere there must be a human interest in all this, there must be something concealed under the scientific table.

Faint, but pursuing, we go on with Sir Arthur Eddington's book, until we come to a statement of the 'principle of Indeterminacy.' The author of this principle is Heisenberg, though I fancy Professor Eddington acted as godfather and gave it its name. This is how Sir Arthur states it : 'A particle may have position or it may have velocity, but it cannot, in any exact sense, have both.'¹

The plain man, I think, will have no difficulty in making a distinction between what happens to the particle and what may be observed to happen to the particle. For the purposes of physical science this distinction has absolutely no importance. If Sir Arthur Eddington or anybody else says : 'I am concerned only with what is relevant to my own special and limited field' we can have no quarrel with him. It seems to me clear that a number of modern physicists are not content with this modest statement and that it is an illegitimate extension of the data of microscopic physics to the world of general experience that has accounted both for the popular interest in their works and the uncritical

¹ Loc. cit., p. 220.

acceptance of their speculations in the Protestant world as aids to religion.

Sir Arthur Eddington follows his statement of Heisenberg's principle of indeterminacy with a paragraph headed: 'A New Epistemology.' Is he thinking of it only in relation to the world of atomic physics or does he intend to convey that this principle affects epistemology—or the science of knowledge—in its wider sense? It is at this point that Sir Arthur tells us that he has 'not the least idea' of the meaning of the word 'existence' as applied to the moon when nobody is looking at it.

Now this might merely mean an avowal, in which there would be nothing discreditable, that the writer's mind is not constituted for metaphysical thought. This might be considered, as we have said, an occupational disability. But this would not explain the popular and clerical vogue of the new physics. Who, but the expert, cares about the microscopic world? 'What's Hecuba to him or he to Hecuba, that he should weep for her?'

The cat was let out of the bag in 1930 when Sir Arthur Eddington gave a radio address in which he spoke of determinism. This is a subject of great interest. Apart from the controversies around Calvinism, one of the most heated discussions of modern times has ranged round the question whether man's will is free. About a quarter of a century ago Robert Blatchford published: *Not Guilty: a defence of the Bottom Dog*, in which the negative case was strongly urged. For every one who cared two hoots about determinism or indeterminism in the microscopic world, there were thousands

who would be interested to know what a Cambridge Professor had to say on determinism as affecting the freedom of the human will. Here are Sir Arthur's words :

' Another striking change of scientific views is in regard to determinism—the view that the future is predestined and that Time merely turns over the leaves of a story that is already written. . . . Until recently this was almost universally accepted as the teaching of science—at least in regard to the material universe. . . . But to-day physical theory . . . is built on a foundation which knows nothing of this supposed determinism. So far as we have yet gone in our probing of the material universe, we cannot find a particle of evidence in favour of determinism.'¹

Although the present writer has a vivid recollection of hearing the address and being surprised by it, the quotation is taken at second hand from a critic who points out that 'no reference is made here to the world of atoms; it is the "material universe" that is being discussed.'²

We appear, then, to have one of the most distinguished representatives of the new physics on our side in one of the most important of the controversies which have so often been held to divide scientists from Christians. Are we to welcome the Greeks when they bring gifts? Two points require to be made. The first is that these very wide conclusions are not shared by all Sir

¹ *The Listener*, November 26, 1930.

² *Science and Human Experience*, p. 83.

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Arthur Eddington's fellow-workers in the field of physics.

'It is held by Eddington and Jeans,' writes the author of *Science and Human Experience*,¹ 'that the recent developments of the quantum theory have changed the attitude of physics towards this question' (i.e. human determinism). 'I cannot, however, see that there is any change at all. The contribution of physics to the problem of human free-will seems to me to remain precisely what it always has been—namely nothing at all.'

It is, therefore, illegitimate to quote individual opinions of physicists as indicating that physics has now come over to the side of theology. I will go further. Among the new physicists—and this is my second point—it is precisely those who appear superficially to be most friendly to us who are the most dangerous. If we study carefully what Sir Arthur Eddington has to say about atomic indeterminism, we shall find that when he speaks of the behaviour of a particle being indeterminated, what he really means is that it is unpredictable. There is no reason why a Catholic should not be a strict determinist in the field of atomic physics and in a much wider field. God knows what will happen to every particle, although Sir Arthur Eddington doesn't. At this point a physicist may make one of two retorts. He may say: 'That which is known only to God does not enter into physical science and for my limited purpose may be disregarded.' That is a perfectly legitimate attitude

¹ Loc. cit., p. 89.

and one which a Catholic physicist, *qua* physicist, would adopt. But some physicists go further. By implication they tell us that what is irrelevant to science as they understand it is useless to the human mind. Hence their willingness to venture into the realms of philosophy and to discuss epistemology, religion and mysticism as scientists. As we shall see when we come to consider Einstein, many modern physicists have a tendency to stray outside their sphere and to tell us that what they hold as physics compels acceptance on wider grounds. Behind all this there is a philosophy.

Even so, it may be asked: What has that to do with Catholics? Catholicism is a religion, not a philosophy. Is there any orthodoxy in metaphysics? The answer is strictly 'No.' There is no official Catholic philosophy. The matter, however, does not end there. While there is no metaphysical system that has received the *imprimatur* of authority, there are metaphysical ideas that have been condemned on the highest authority as dangerous and inimical to sound belief. Can an orthodox Catholic be a Kantian? There are a few practising and devout Catholics who have professed to combine the two positions and we must not say that they are *formally* heretical, because they do not consciously and avowedly set up their judgement against that of the teaching church. In the opinion, however, of the vast majority of theologians they do not escape *material* heresy. They hold opinions which would lead to heresy if they correctly worked out their implications.

All the world now knows the importance which the

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Church attaches to the philosophy of St. Thomas Aquinas, the 'angelic doctor' of the Church. It is sometimes described as the 'official philosophy' of Catholicism, but this, as we have seen, is inaccurate. The mind of the Church is, however, very plainly stated in the Encyclical *Pascendi*, where it is stated that 'to depart from Aquinas, particularly in metaphysical and theological matters is very dangerous.'¹

In the nineteenth century when the waves of modern thought and speculation were beating against the Church, that great Pope, Leo XIII, made the call 'Back to Aquinas.' The course in neo-scholastic philosophy was founded at Louvain, in order to equip Catholic priests and scholars to approach the problems of modern knowledge, grounded in the principles of the *philosophia perennis* of St. Thomas. The present Pope, a few years ago, on the occasion of the sixth centenary of the canonisation of St. Thomas, issued the Encyclical *Studiorum Ducem*; in which he summed up what his predecessors had said about the teaching of this great saint, and urged the study of his work on educated Catholics.

This is no place to attempt, even if the writer were capable of doing it, any sort of exposition of that majestic philosophical system in which, as has been well said, St. Thomas baptised Aristotle. The point I want to make is that the Popes have seen that the root of the modern challenge to the Faith lies in a false philosophy. The late unlamented

¹ 'Aquinatem deserere in re philosophica praesertim et theologica, non sine magno detrimento esse potest.'

modernist movement was fought and conquered with the *Summa Theologica* of St. Thomas. The reader will begin to appreciate why we are not prepared to welcome the new physicists even when they go out of their way to offer us crumbs of comfort about free-will and tell us that there is no reason why we should not go to church! For they are really philosophers and their philosophy is some form or other of the idealism which is the *fons et origo mali* in the modern confusion. The ordinary reader, untrained in metaphysics and liable to philosophise as M. Jourdain talked prose, without knowing it, absorbs the poison of Jeans, Eddington and company and finds his faith undermined. We must deal very briefly with the issue between the philosophy implicit in these contemporary books of so-called science, and the traditional philosophy of the Catholic schools because, as we shall see later, it is concerned with nothing less than the proofs of the existence of God, which is the most important thing in Christian belief.

CHAPTER V

THE POISON OF IDEALISM

THIS insistence on the importance of metaphysics in the discussion is the feature of our Catholic approach to the questions of science which seems to many contemporary scientists to disqualify us for considering them usefully. Metaphysics, in the mind of those of whom I speak, represents an earlier phase of human thought, something which is outgrown. Just as they regard monks and nuns as figures belonging to an earlier age and tend, in this country, to speak of the Catholic Church in the past tense, so they regard the metaphysician as a rather tiresome survival.

This, of course, is not an attitude new to the twentieth century. The scepticism on which it rests is almost as old as the human mind. It finds its complete modern expression in the Positivism of Auguste Comte (1798–1853), according to which metaphysics and theology must give place to positive science. This last-named, it is held, is distinguished from the two other activities in that its movement is progressive while theirs is circular.

‘Metaphysics,’ wrote G. H. Lewes,¹ ‘has been defined *l’art de s’égarer avec méthode* ; no definition

¹ Introduction to *Biographical History of Philosophy* (London, 1892), p. xxi.

of it can be wittier or truer. The nature of Philosophy, therefore, condemns its followers to wander for ever in the same labyrinth and, in this circumscribed space many will naturally fall into the track of their predecessors. . . . Centuries of labour have not produced any perceptible progress.'

We may be permitted in passing to recall what was quoted from Sir James Jeans in the last chapter for, if he may be taken as a positive scientist, it would seem that this doctrine of the progressive nature of scientific and the circular character of metaphysical thought, has not worn any too well! Jeans' river of knowledge turning back on itself is very like Lewes's metaphysics going round in circles! It may be replied, as we have already hinted, that Jeans and Eddington are themselves really metaphysicians. Their quarrel is not with metaphysics, but with what may be broadly called Aristotelean metaphysics.

We have to ask ourselves, therefore, whether the metaphysical ideas which the Catholic Church defends are really something that belongs to an earlier age and is inapplicable to ours, or whether the questions with which they deal are not the questions that permanently interest the human mind; whether their answers are not as valid for our own day as they were for the fifth century before Christ or the thirteenth century of Grace.

As soon as the human mind begins to speculate on the world in which it finds itself there are certain problems that present themselves. They do not wait for the discovery of the microscope or the tele-

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scope, nor does the discovery of these things affect them. They are permanent questions. What is the nature of knowledge? How does it happen that man, whose experience is limited to particular things, received through the avenue of the senses, can discuss universals? We have all seen men, but who has seen humanity? We declare things to be good, but what is goodness? From where, in a world of imperfect things, do we get the idea of perfection? Finally, what is truth? There are various ways in which we can approach these questions. We can accept the answers of Plato or the different and conflicting answers of Aristotle. Or, we may say that these questions are unanswerable, that we merely befog our minds in asking them and that we shall be wiser to observe and co-ordinate and leave these primary questions alone.

On this matter the mind of the Catholic Church is clear. It insists that these questions are answerable and must be answered. This does not mean that any particular individual is capable of answering them. To say that metaphysical truth is attainable is not to say that Tom, Dick or Harry is capable of attaining it. What is the attitude of most modern scientists? I think we shall find that it is theoretically an attitude which leaves these problems alone, either as insoluble or outside the concern of the scientist, and, in practice, an acceptance of an answer to them which may be broadly described as idealist.

The attitude of the Catholic philosopher is that unless these questions be properly answered, we shall go wrong. It is fatal to approach the new

learning unless we be firmly grounded in first principles. This does not mean that there is any substitute for the telescope in settling the questions whether Jupiter has satellites and whether there are mountains in the Moon ; but it does mean that we shall not correctly interpret these facts and co-ordinate them with other facts properly unless we have a true philosophy.

Let us return to our primary problem—the problem of knowledge. How does the human mind obtain knowledge of material things ? What do we mean when we say that a man has knowledge of a tree ? According to Parmenides, thought and that which is thought about are identical. The conclusion is difficult to escape, but it seems contrary to common sense to say that a cat and my thought of a cat are the same thing. Do we become what we know ? Does the object of knowledge identify itself with the knower ? Around such problems the human mind has played for centuries, but not fruitlessly, as the positivists assert. We may answer questions rightly or wrongly ; we must not give them up because they give us a headache !

When I see a tree, does it exist outside my mind or inside it ? Has a ‘universal’—humanity, for example—any existence outside my mind, even if we admit that individual men have such an existence ?

To these questions the philosophy of Aristotle and of St. Thomas—sometimes called moderate realism—has an answer. The tree exists outside my mind and inside it, but not in the same way. Every object exists in the subject according to the mode of existence of the subject.

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What is the object of intelligence? What, reduced to its simplest form, is it that we know? The answer is 'Being.' That which exists is Being. If I am confronted with a table, it is of a table that I have an immediate intuition. I may analyse my apprehension of it, and say that it has four legs, that it is made of wood, that it has a colour, that it is hard. But the thing I know is not a logical construction reached by adding together these sense impressions. I know the table. Pursuing my thought, I realise that this one thing has more than one mode of existence. It exists as an individual thing—this table and no other. But 'table' also exists in my mind as a universal. I can think of 'tableness' or 'tabularity.' Now that is a mode of existence which is found only in the mind. Men exist in the world; humanity exists only in the mind. We are led to one of the primary distinctions of philosophy—the distinction between being and existence.

What are the sources of our knowledge? For individual things, obviously the senses. It is the teaching of St. Thomas that nothing exists in the intellect, which is not first in the senses. If you feel disposed to challenge this proposition, try to imagine something which is strictly independent of sense knowledge, which is neither something you have experienced nor a combination of things you have experienced. But our knowledge is of individual things. I repeat: we know men, but not humanity. We know good things and bad things, but where do goodness and badness exist?

Plato sought to solve this problem by his doctrine

of the Ideal world and of recollection. In considering it we must avoid the confusion of imagining that 'ideal' meant to Plato what it means in popular usage to-day. When we talk of an ideal condition, we mean something which does not exist and which we would like to exist. To Plato the ideal was the truly real and the world of daily life was a world of shadows. If we know the Good, the True and the Beautiful it is by recollection of a world of archetypal forms in which these things eternally exist.

A beautiful conception ! Any man with any poetry in his soul must have a sneaking regard for Platonism and something of a grudge against Aristotle.

We are concerned, however, with truth, and we must prefer the doctrine of Aristotle, that we obtain our knowledge of universals by abstraction from individual things. We know individuals through the senses and we know universals and essences through the abstractive power of the active intellect—what Aristotle calls *νοῦς ποιητικός* and St. Thomas *intellectus agens*.

Let us repeat, what we know is Being and we have two kinds of knowledge—sense-knowledge of individuals and intellectual knowledge of universals. Now it is at this point that we come to the great difference between the realism of Christian philosophy and the various forms of idealism which will be found explicit or implicit in almost all contemporary scientific writing of the kind which impinges upon the realm of philosophy. To the Catholic philosopher, what we know is Being and our ideas and images are the means by which we know it. To the idealist, those ideas and images are themselves

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the objects of knowledge. There may or may not be something beyond them, but that is not the concern of the modern idealist. In the Kantian form of idealism our knowledge is entirely conditioned by certain properties of the human mind and we are, therefore, forbidden to postulate anything about Being. A man with green spectacles will see everything as green spectacles show it. Is the world like that? A meaningless question, for he has only green spectacles to look at it with.

I hope the drift of all this—its inevitable end in agnosticism—is apparent to the reader. The implications of idealism are very well summarised by M. Maritain :¹

‘ If thought be in contact only with itself it is absurd to conceive anything beyond thought ; it follows that our reason is incapable of reaching things themselves, and *a fortiori* of reaching supersensible objects. That is the agnostic dogma. It follows equally that it cannot recognise a *natural* order distinct from another order of reality called *supernatural*, nor a first self-subsistent truth outside this same human reason and communicating to it a life and certainties which it does not already possess in itself. That is the metaphysical formula of naturalism, from which it follows that our reason demands from each of us a complete autonomy, imposing upon us as a primary duty that we should ‘ realise our personality,’ excluding all *magisterium* properly so-called and, in more

¹ *Réflexions sur l'Intelligence et sur sa vie propre* (Paris, 1926), p. 27.

general terms, all relation of dependence in regard to others. There we have, in its most fundamental aspect, the principle of the absolute *αὐτάρχεια* of the individual. Thus does idealism, which may be described as the systematic disregard of the other, *qua* other, falsify the very idea of knowledge, the very idea of the relations of man with God and the very idea of personality.'

This is not an exaggeration of the consequences of a departure from the sound doctrine that we know Being through ideas and an acceptance of the idealist teaching that all we can know are our own ideas. To Berkeley and to Hume, there is nothing beyond our own mental images. To Kant there is something beyond them, but we can never know it. In practice it comes to the same thing. When we reach the consideration of the proof of God's existence we shall see fully that however possible it may be to reconcile philosophical idealism and subjectivism with certain forms of religion, they are quite incompatible with the Catholic Faith.

But first let us pursue a little further our study of the new physics in order to recognise how the idealist poison permeates the system.

Sir Arthur Eddington devotes a chapter to 'Reality' which indicates that he was not unduly diffident, when, in his preface, he questioned the desirability of a scientist 'venturing so far into extra-scientific territory.' He expresses a doubt, 'if any one of us has the faintest idea of what is meant by the reality of anything but our own

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Egos,¹ and declares that 'the only subject [*sic*] presented to me for study is the content of my consciousness².'

There we have the central dogma of idealism. It is sometimes expressed in the statement: *Esse est percipi*, which implies that there is no valid distinction between Being and perception. If we accept it as true, we may make one of two assumptions. We may, in the first place, assume that there does exist something external to the mind, but all we can know is the impression—a sort of portrait or reflection—which it makes upon the mind. If this be true, of course we cannot compare impressions with realities, we cannot, in any full sense, talk of truth or falsehood. If there be a reality it is unknowable. On analysis, we find that this is really a spatial conception. It assumes that there is an unknowable reality external to ourselves and an impression, which is the only thing we know, which is internal. This is quite a gratuitous assumption. The scholastic teaching, we repeat, is that our impressions are not *what* we know, but the means *by which* we know. There is a living relation between ourselves and the object of thought. In the technical language of philosophy, the representation in our minds is 'intentional.' It is relative to that of which it is the idea.

If we proceed to the extreme of denying any objective reality, we have to say that, having certain mental experiences, we proceed to 'objectify' them. But this, it has been well said, is to explain a

¹ *The Nature of the Physical World*, p. 282.

² *Ibid.*, p. 283.

primitive fact by a derived fact ; it is like explaining sound by echo. What is the difference between a true vision and a hallucination ? Is it merely a matter of consensus of testimony ? ' It is true,' says Sir Arthur Eddington,¹ ' that I have a strong impression of an external world apart from any communication with other conscious beings. But apart from such communication I should have no reason to trust the impression.' If Sir Arthur were the only human being in the world, would there be no difference between reality and hallucination ? Does he doubt the validity of all he appears to have seen which is not corroborated by somebody else ?

If so, it is obvious that the objective value of any dogma is nil. There may be a validity in ' the varieties of religious experience,' for those to whom the experiences occur, but any idea of a True Faith, to be defended against men and angels, is out of the question.

To the man in the street, however, the specific contribution of modern science to our opinions on the deeper problems is summed up in the name of Einstein.

What is the significance for the Catholic thinker of Einstein's doctrine of relativity ? Upon the soundness of any of Professor Einstein's mathematico-physical theories I am completely incompetent to express an opinion. If I were competent to give a criticism of them I should have to face the possibility of considerable proof-correcting, for the learned Professor, it appears, has modified his views several times during the last few years and modern

¹ *The Nature of the Physical World*, p. 284.

mathematical Universes are among the 'little systems' that 'have their day'—rather short ones at that.

Let us correct a misapprehension at the outset. We sometimes hear language which implies that what Einstein has made is a 'discovery' in the same sense as Harvey may be said to have discovered the circulation of the blood, or Koch the bacillus of tuberculosis. Some people seem to have an idea that pre-Einstein physics is like pre-Copernican astronomy or pre-Harveian physiology. This is not so. Einstein has given us a theory which is intended to correlate observed facts and 'explain' them in the limited sense in which, as already stated, modern science attempts explanations. His theory, in its main outlines, has found a wide measure of acceptance among mathematical physicists. I believe it would not be an exaggeration to say that among them, in spite of its startling assertions, it has now become orthodox. Among laboratory physicists it does not command the same measure of assent and I understand that many reject it. So far, there seems little reason why it should create more than a professional interest. The laboratory physicist finds one set of conventions useful and the mathematician gets on better with another. We find the advocates of relativity, however, fatally eager, in Sir Arthur Eddington's words, to venture into extra-scientific territory. We shall find them asking us to believe that the assumptions they make as physicists are valid also for the non-physicist; that in fact they are ontologically true.

It is needless to tell any educated reader that Einstein did not discover or invent Relativity, any more than Darwin discovered or invented Evolution. We all recognise that, in many respects, our knowledge is relative, and the fact is expressed in our everyday language. In the modern and special use of the term, 'Relativity' arose after the famous Michelson-Morley experiment. This experiment was a comparison of the time that light takes to travel to and fro between two mirrors on a common support, when the line between them is in the same direction as the earth's movement on its orbit, with the time taken when it is perpendicular to that movement. One would expect the times to differ. In point of fact they proved to be the same. The experiment has been repeated with the same result.

Now assuming that it would give the same result in all circumstances—which has been challenged—there is more than one possible interpretation of this. One is that the ether in the neighbourhood of the earth is included in its movement, which would mask the movement of the earth. The reasons for rejecting this interpretation, which was that of Michelson himself, are, I believe, mainly mathematical. It suits the purposes of the mathematical physicist better to reject it and to accept the startling conclusion that the speed of light is invariable. From this a number of very bewildering conclusions arise, which there is no need to pursue here. It seems to follow logically, for example, that if we could imagine a body travelling with a velocity greater than that of light, it would arrive back at

a given point before it started from it. We are told at once that we are postulating an impossibility because the velocity of light is the absolute velocity. Now, no doubt, it is true that nothing except light travels at 186,000 miles per second. That is a material fact. If, however, we speak of a speed greater than this, it conveys no sense of absurdity to the mind. It may not be a practical possibility but it is a logical one. It is otherwise with the statement that the young lady in the limerick :

‘ Set out one day in a relative way
And got back on the previous night.’

Whatever it is that imposes a speed limit in all areas on light is of a different order of compulsion from that which says that an effect cannot precede its cause. We feel that there is a flaw somewhere. The question suggests itself: What is Einstein proposing to tell us? Is he offering us information about things, about what happens in Nature? Or is he telling us what is required by the Maxwell-Lorentz equations? As M. Maritain¹ puts it :

‘ As for the Maxwell-Lorentz equations, they do not present us with a fact to be interpreted, but solely with a certain texture of quantitative relations, an algebraic symbol, chosen as the most manageable in the present state of science and that can be taken as the direct expression of the entities concerned in phenomena only by those who have never seriously reflected on the nature of physical theory.’

¹ *De la Métaphysique des Physiciens* (Paris, 1926).

The root of the matter is in the Einstein doctrine of the relativity of simultaneity. It raises the question of the nature of time and it shows us Einstein invading the extra-scientific field. This is no place for a detailed study of the meaning of time. The classic definition—'Time is the measure of motion according to before and after'—will suit our purpose, and we shall appeal to common sense. Time is a measure ; what is measured is motion. Now the motion, considered apart from any measurement, is absolute. It is something that happens ; the measurement may vary according to the individual. One clock may register twenty minutes and another thirty during the passage of the same set of events. The distance which separates a lightning flash from the peal of thunder will vary for the observer, according to his distance from the scene, because light travels more quickly than sound. But there is a distinction which presents itself quite easily to common sense, between an event and the perception of that event. It is easy to admit, too, that, however much the measurement may vary, the relation of 'before and after' is unaffected. A later event may be perceived before an earlier one, but the fact that it happened later is absolute.

What do we mean when we say that two events are simultaneous ? We mean that they happen at the same moment. Whether they are perceived at the same moment is another matter. Now it would be perfectly legitimate for Einstein, or anybody else, to say that simultaneity of occurrence has no importance *for him*, that events have a significance

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only when they are perceived, and that, therefore, simultaneity in physics means perception at the same time. What does Einstein say?

‘We need a definition of simultaneity which will place in our hands a method according to which we can decide experimentally, for example, if two lightning flashes occurring at two points A and B have been simultaneous or not. As long as this condition is not fulfilled, I abandon myself as physicist (*and also, no doubt, as non-physicist*) to an illusion if I think I can attach a meaning to simultaneity.’

The distinguished author of *The Special and General Theories of Relativity* adds: ‘Until you share this conviction with me, dear reader, read no further.’

As non-physicists we find no difficulty, *pace* Einstein, in attaching a meaning to simultaneity apart from the possibility of recording simultaneity of perception. To quote M. Maritain¹ again:

‘It is a fault so patent in the eyes of a philosopher to confound the *signification* of a concept, or the nature presented to it by the mind, with the *use* which may be made of that concept in this or that special science, and more particularly to confound a thing (the object of a concept) with the measure that we take of it with our senses and our instruments, that one hesitates to impute such a mistake to anyone. Yet everything goes to show that Einstein commits this fault.’

¹ Loc. cit., p. 205.

We have lingered on this point, because it is of the first importance to show that those contemporary scientists who have avowedly strayed beyond the field of observation and endeavoured to philosophise are very unsafe guides. They confuse things with thoughts about things and measurements of things. If a system is self-consistent, if its parts hang together, they ask no more. But every logician knows that a false conclusion may be reached by correct reasoning. A theory which satisfies all the demands of the physicist may be no more than what Maritain calls *un jeu d'erreurs compensatrices*—a play of compensating errors.

If the idealist be right—if we cannot know reality, but only the contents of our own minds—then there is no Truth, in the sense of a correspondence between thoughts and things. Any self-consistent system is as true as any other. This is the suicide of thought, and it is easy to see what happens to any system of dogmatic religion. There is no orthodoxy, no heterodoxy. If this be sound philosophy, then we may with Kant ‘awaken from our dogmatic sleep.’

If there be any doubt that philosophical idealism is condemned by the church, let me conclude this chapter with the magistral words of the present Holy Father¹:

‘What St. Thomas teaches us of the power and the value of the human mind is indisputable. “Our intelligence naturally knows Being and that which appertains of itself to Being as Being ;

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on this notion is based the perception of first principles."

'This doctrine completely uproots the errors and the opinions of the moderns who pretend that what is perceived in intellection is not Being itself, but the modification of the thinking person¹. Agnosticism, reproved so forcefully by the Encyclical *Pascendi*, is the consequence of these errors.'

¹ Cf. Eddington : 'The only subject presented to me for study is the content of my own consciousness.'

CHAPTER VI

THE EXISTENCE AND NATURE OF GOD

THE greatest of all questions affecting religion, it will hardly be seriously disputed, is that of the existence of God. We have already quoted the arrogant claim of Ernst Haeckel that science had conducted God to the frontiers of the Universe and given him his *congé*. Few contemporary scientists are prepared to say as much. It is rare, indeed, to find an avowed atheist in any walk of life. There seems to be a tacit agreement that somehow the word 'God' must be retained. The idea may undergo extreme attenuation, until it represents, as with Matthew Arnold, 'an Eternal not Ourselves that makes for righteousness.' There was a poem popular in 'liberal religious' circles a few years ago, of which one verse ran, as far as I can remember, something like this :

A haze on the far horizon,
The infinite, tender sky,
The ripe red tints of the cornfield
And the wild geese sailing by ;
And all over upland and lowland
The charm of the golden rod ;
Some of us call it ' Autumn ' ,
—And others call it ' God ' !

There are other verses, according to which,
' Some call it evolution,' ' Some call it consecration '

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and so on. Now, as we shall see, this will not do for the Catholic. However it may be with others, he prefers a little clearer and more discriminating thought and does not, in the least, mean the same thing when he says 'Autumn' as when he says 'God.'

What has the scientist to say? He is liable to tell us that 'God does not exist for Science.' In other words, it will make no difference whatever to any experiment whether we assume the existence of God or not. As a scientific hypothesis, theism is redundant. The evidence for the existence of God, it is implied, is purely individual. It rests upon personal experience and is valid only for the person to whom the experience occurs. It is, I think, almost implied that God may exist for A and not for B. Suppose we confront two men with a poem or a sonata. One finds an almost painful beauty in it; the other is frankly bored. Now does the beauty of that poem or sonata exist? Most of us will be prepared to answer that it exists for one, but not for the other. It is essentially relative. We are all, I suppose, inclined to modify our answers to questions like this according to our own taste. We shall be disposed to say that if two men differ about 'Lycidas' one of them perceives the beauty which is there and another misses it, whereas, if we see Chinese or Indian music submitted to the same test, we may say that the listener has imagined a beauty which is not in the sounds. This, clearly, will not do. We must admit that beauty requires a percipient, because it is not a thing but a judgement. Now let us take another example. Two men search

a room, in which one sees a pearl and the other does not. Does the pearl 'exist' for one and not for the other? Does its existence depend upon it being perceived? Unless we are to fall into the error of idealism, we must reply in the negative to these questions. Now, if we are to say that God exists, in what sense do we mean it? Is it in the sense in which the beauty of poetry or music exists, or in the sense in which the pearl exists? Has God created man, or has man created God?

There is no doubt about the answer which the Catholic has to give. The Vatican Council is most prominently associated in the popular mind with the definition of papal infallibility, which lies outside the scope of this volume, but it also considered the question of the existence of God and this is what it defined:

'If anyone shall deny One true God, Creator and Lord of all things visible and invisible, let him be anathema.'

It is very questionable, I think, how far those who take the subjective view of God's existence described above, can be said to believe in 'One true God.' It would seem to be a fairer statement of their case—absurd though it sounds to a realist—to say that they believe in a number of gods with varying degrees of truth! They may, however, plead that they do not positively deny one true God, and are, therefore, not subject to the anathema. But the Council goes further:

'If anyone shall say that the One true God, our Creator and Lord, cannot be certainly known

by the natural light of human reason through created things let him be anathema.'

Here we have a statement which is definitely irreconcilable with the position we have been criticising. That position is that the proof of the existence of God requires a particular disposition or experience in the person to whom it is to be proved. It can, therefore, have no general validity.

Before proceeding to analyse the Vatican Council's decree, let us recall the fact that here, as always, the declarations of the Church, supported by a great weight of philosophical argument, are found to echo the statements of Holy Scripture. In the thirteenth Chapter of the Book of Wisdom it is said :

' But all men are vain in whom there is not the knowledge of God : and who, by these good things that are seen, could not understand Him that is. Neither by attending to the works have acknowledged who was the workman, (verse 1).

' But then again they are not to be pardoned.

' For if they were able to know so much as to make a judgement of the world, how did they not more easily find out the Lord thereof ? ' (verses 8 and 9).

If our Protestant friends are unsatisfied by a quotation from what they consider a ' deuterocanonical ' work, let us remind them that St. Paul¹ declares the heathen to be ' inexcusable ' because ' the invisible things of Him from the creation of

¹ Romans i, 20.

the world are clearly seen, being understood by the things that are made, His power also and divinity.'

The inspired writers, we may reasonably take it, do not denounce as 'vain,' 'not to be pardoned' and 'inexcusable' those who are unable to believe in God because they lack some personal and incommunicable experience which is held to be necessary to such belief. A modern writer finds 'indefensible' the position of the man 'who asserts the existence of God on the basis of the experience of others.'

Clearly, the Catholic—or any Christian who accepts the Bible—for that matter—cannot hold that belief in God depends upon some personal experience of an emotional order. It is less obviously at variance with the Faith to say: 'Undoubtedly, the existence of God is an objective fact, but the only way in which we are certain of it is by revelation.' This will not do. At the Vatican Council there were six amendments which called for the omission of the word *certo* (certainly) from the Anathema we have quoted.

'I approve,' said one objector, 'if this word be left out, for, although the proposition seems to me to be philosophically true, nevertheless, with this word, it does not appear to me to be so clearly revealed as to be defined as a dogma.' All these amendments were rejected by a very large majority. In the anti-modernist oath prescribed in 1910 by the *motu proprio*, '*Sacrorum Antistitum*,' the declaration of the Vatican Council is embodied, and it is declared that God, the beginning and end of all things, may, by the natural light of reason, through

the things that are made, i.e. by the visible works of creation, be certainly known and proved as a cause is proved by its effect.

It is quite clear from this that it is far from adequate for Catholic orthodoxy to profess belief in God in the sense in which a great many modern writers who would reject the title of atheist, profess it. Belief in 'One true God, Creator and Lord of All things' excludes any pantheistic creed, in which God and the Universe are held to be one. These ideas were indeed explicitly condemned by the Vatican Council. But also—and this is vastly important—we are required to hold that the existence of God may be proved. The validity of any particular piece of reasoning directed to prove the existence of God is not guaranteed, but the method of proof is stated. It is what logicians call the *a posteriori* method. It proceeds from effect to cause. The existence of God is to be proved from the facts of the visible Universe and in the natural light of reason, so that no special illumination or grace is required. In other words God is an object of science. We cannot hold with the moderns that science does not require Him. It is perfectly true, of course, that it will make no difference to the conduct or result of a laboratory experiment whether we assume the existence of God or not. We hold it to be a degradation of the conception of science to limit it in this way. Its object is to interpret the world and any interpretation which omits God is doomed to radical absurdity.

This is the contention of Père Garigou Lagrange in his monumental work, *Dieu, son Existence et*

sa Nature,¹ which should be studied carefully by anybody who wishes to grasp the philosophical proofs of the existence of God. It is unnecessary to say that no attempt is made here to summarise in a few pages what this great Dominican Father has taken nearly nine hundred pages of closely reasoned French and Latin to expound. It may be useful, however, to indicate the lines along which Catholic thought approaches this central problem of all religious controversy.

Enough has already been written to enable the reader to understand why the great Dominican theologian puts in the forefront of his argument a defence of the logical first principles and why he adopts as a sub-title of his book: 'A Thomist solution of the Agnostic Antinomies.' It has been laid down that the existence of God is to be proved from the facts of nature as a cause is proved by its effect. But this assumes that the first principles of logic and the law of cause and effect have what is known as an ontological as well as a merely logical validity; they must relate to being as well as to thought. What is unthinkable has to be shown also to be impossible. This involves us in an argument with the radical sceptic, which was not new when Aristotle wrote the fourth book of his *Metaphysics* and has not substantially changed since, as we shall find if we take the trouble to study contemporary writers. More is needed. We have to prove that these first principles have not only an ontological, but a transcendental value. They may be useful for informing us about facts, but can we use them

¹ Paris, 1928.

to arrive at ultimate truth? 'Will the principle of causality,' asks Père Garigou Lagrange, 'permit us to raise our finite beings to that infinitely perfect Being, distinct from the world, transcendent, of whom we think when we pronounce the name of God?' Modern thinkers, following Kant, deny this. We can easily see that if Professor Eddington is right in holding that we have nothing presented to us for study but the contents of our own consciousness, it is foolish to imagine that there can be any validity in a proof of the objective existence of God.

We really come down to this: what does the mind exist for? The specific property of the eye is to see, of the ear to hear, and so on. Catholic philosophy adds that the mind exists to know truth. It is said to be '*capax entis*,' or capable of (apprehending) Being and we go on to show that it is '*capax Dei*,' or capable of God. But the fashionable teaching to-day is that the purpose of the intelligence is purely utilitarian. It has been produced, in the course of the struggle for existence, in order to enable man to control the world of things. When it seeks to get outside this utilitarian purpose and to grasp metaphysical truth, it is merely indulging in self-deception. Abstract thought, it is suggested, is a disease of the mind, as the pearl is a disease of the oyster.

The reader will perceive how we get forced back upon philosophy whenever we consider the question of orthodoxy in relation to current speculations by some men of science. The enemy is seen to be, not anything revealed by telescope, microscope or

spectroscope, but a philosophy, a theory of knowledge. Idealism is the enemy and current scientific theories exude idealism by every pore.

It is outside the scope of this volume to argue the philosophical case for realism against idealism ; this, let us repeat, is only a Guide Book.

CHAPTER VII

THE NECESSITY OF THEISM

THE proof of the existence of God, in the sense demanded by Catholic dogma, requires, as we have shown, a proof of the soundness, not only logical but ontological and transcendental, of the first principles of reason. Otherwise, neither theism nor any other system can be shown to be objectively true. It can, however, be demonstrated that belief in God is a postulate necessary even to logical coherence and consistency. In this chapter we shall deal briefly with the classical proofs for the existence of God, which are to be found in the third article of the second chapter of the first part of the *Summa Theologica* of St. Thomas Aquinas.

Before dealing with the famous 'five ways' of St. Thomas let us consider an argument which might be presented to a modern man unacquainted with scholastic terminology. We will call it the argument from the intelligibility or coherence of the world. Let us imagine that we are presented with two sheets of paper, one covered with marks which have been made at random by a pencil striking the surface of the paper at regular or irregular intervals, and the other containing an essay written by a man. We may or may not know the language in which the essay is written and,

therefore, we may, or may not, be able to interpret it. We shall admit, however, a fundamental distinction between the two. The second is intelligible. There is a key to it. If we learn the language we shall be able to read it. Even if we never learn the language we shall admit there is something there which is capable of being read. It is intelligible to its author and to anyone who has, in common with the author, a mind and a knowledge of the language. The first paper does not, and never could, 'make sense' except by a most improbable accident. It is not the work of intelligence.

Now the world in which we live 'makes sense.' Otherwise there could be no science and no conversation among men. All the bewildering variety of the Universe has a unity and a coherence which make it intelligible to us. In other words, as in the case of the writing on the paper, there is something common to us, who read and interpret the Universe, and to Him who made it. To be intelligible to mind, the world must be the work of mind.

Here our ancient enemy, the idealist, comes along and says: 'But you are mistaken. Of course the world makes sense, but that sense is imposed upon it by the perceiving mind. It could not be otherwise. The order and coherence are not in the world, nor in its supposed Creator, but in the perceiving—or should we say creating?—mind of man.' We do not agree with the idealist, but we have to point out that, if this be so, the mind which creates the order of the world also makes this demand for an explanation of the order. After all, it is not a fact that our minds inevitably and necessarily

impose order on external things. If a monkey dips his paw in the ink and moves it over the paper nobody—except possibly a disciple of Miss Gertrude Stein—will pretend to find any meaning in the marks. All will admit in relation to our two pieces of paper that one is significant to our minds—*because there is mind behind it*—while the other is not. Why should it be otherwise with the Universe? Why do we talk of Universe, not multiverse; of Cosmos, not chaos?

If we admit this argument, we must agree that God is a necessary postulate of science. So far as the modern scientist, impregnated with idealism, is concerned, that is as much as he will concede to anything and he has no right to ask us to prove any more. Any further exigencies are those of philosophy and religion. There is, however, more than a philosophical importance in the demonstration of the existence of God. As Père Pegues, O.P.,¹ has it:

‘ From philosophy, atheism has passed into all the mechanism of everyday life. After the godless philosophers, we have seen, and we see every day, the godless State, the godless school, godless hospitals, and godless army, godless justice. Everything is, or claims to be, godless. If ever a question was necessary, it is at the present time this: Does God exist?’

The claim of the scientists with whom we are concerned is, as we have seen, that science has no

¹ *Commentaire Français Littéral de la Somme Théologique de St. Thomas d'Aquin* (Paris, 1924), Vol. I, p. 94.

need of God. Of course, it is not new. All the heresies are stale, as well as weary, flat and unprofitable. The reader will waste his time if he searches in the whole corpus of modern philosophy from Kant to Bergson, for any departure from sound reason about the nature of Being which is not considered and answered in Aristotle's metaphysics. Similarly we find this in the Article already quoted from St. Thomas :

‘ Objection No. 2. (To the existence of God.) It is superfluous to suppose that what can be accounted for by a few principles has been produced by many. But it seems that everything we see in the world can be accounted for by other principles, supposing God did not exist. For all natural things can be reduced to one principle, which is nature ; and all voluntary things can be reduced to one principle, which is human reason or will. Therefore, there is no need to suppose God's existence.’

This is one of the two objections—the other is the equally ‘ modern ’ objection based on the existence of evil in the world—to which in the thirteenth century the Angelic Doctor of the Church replied : *Deum esse quinque viis probari potest.*

These five ways in which, according to St. Thomas, God may be proved to exist do not represent a cumulative proof so that one derives its strength from the support of the others. Any one of them is conclusive. Père Garigou Lagrange, O.P.,¹ considers that they are all summed up in this general principle :

¹ *Dieu, son Existence et sa Nature*, p. 232 et seq.

the greater cannot proceed from the less. In any case we must bear in mind that the five proofs are not supposed to sum up all that reason and faith have to say about the existence of God. Although one cannot imagine a Catholic questioning their validity, their correctness is not strictly and explicitly guaranteed in any authoritative pronouncement. What the Church asks us to believe is that the existence of God is certain and may be proved *a posteriori* (i.e. from those things that are made). Before proceeding to deal *seriatim* with the 'five ways' let us set down a passage quoted by Père Garigou Lagrange¹ from Scheeben (*Dogmatique* II, No. 29).

'Although the existence of God needs to be proved, it does not in the least follow that its certainty rests solely on a conscious, scientific proof, based on our own research or the teaching of others, or that its certainty depends on the scientific perfection of the proof. On the contrary, the proof necessary to every man to acquire full certitude is so easy and so clear that one hardly perceives the implicit logical process, and the scientifically developed proofs, very far from giving man his first certitude of the existence of God, only clarify and consolidate that which already exists. Moreover, as the proof in its original form presents itself to some extent as a demonstration *ad oculos* and finds an echo in the most profound recesses of man's rational nature, it establishes, on this account, a conviction

¹ Loc. cit., p. 233.

stronger and more unshakable than any which is artificially obtained, and one which cannot be shaken by any scientific objection.'

The first of the 'five proofs' is known as the 'argument from motion,' and is declared by St. Thomas to be the 'most manifest.' Here it is :

It is certain, and evident to our senses, that, in the world some things are in motion. Now whatever is in motion is put in motion by another, for nothing can be in motion except it is in potentiality to that towards which it is in motion ; whereas a thing moves inasmuch as it is in act. For motion is nothing else than the reduction of something from potentiality to actuality. But nothing can be reduced from potentiality to actuality, except by something in a state of actuality. Thus that which is actually hot, as fire, makes wood, which is potentially hot, to be actually hot, and thereby moves and changes it. Now it is not possible that the same thing should be at once in actuality and potentiality in the same respect, but only in different respects. For what is actually hot cannot simultaneously be potentially hot ; but it is simultaneously potentially cold. It is, therefore, impossible that in the same respect and in the same way a thing should be both mover and moved, i.e. that it should move itself. Therefore, whatever is in motion, must be put in motion by another, and that by another again. But this cannot go on to infinity, because then there would be no first mover, and, consequently, no other mover ; seeing that subsequent movers move only inasmuch as they are put in motion by the first mover ; as the staff moves only because it is put in motion by the hand.

Therefore, it is necessary to arrive at a first mover, put in motion by no other ; and this everyone understands to be God.

To grasp the meaning of this proof we must avoid the mistake of some commentators who have supposed it to be concerned only with physical and local motion. It has to do with all change, and change to the philosopher is movement between the two states of potentiality and actuality. A thing is actually that which it is and it is potentially that which it is capable of becoming. Now that which is 'in potency' will remain so until it is acted upon by something which is 'in act.' If, therefore, there were no first mover, the creatures would be in eternally unfulfilled expectation of being moved. Similarly all movement from potency to act depends upon the first activity of Him who is *Actus Purus*—Pure Act.

There are two propositions in the argument : (1) Everything that is changed is changed by another ; (2) the process cannot be extended to infinity. It is the second of these which is most likely to be criticised by those who, like the French judge, *n'en voient pas la nécessité*. A considerable amount of ingenuity has been expended in discussing the first proposition in the light of the principle of the conservation of energy and debatable theories of matter and force. These arguments have proceeded mainly from hostile critics of the proof, while, on the other side, it has been suggested that the law of entropy to which Sir Arthur Eddington gives so large a place in his metaphysico-physics, might be made the basis of a proof of God's existence.

We do not propose to follow these speculations

because they do not touch the philosophical principles involved. We are no more disposed in this matter than in that of determinism to go to the physicist for our arguments. As M. Chossat sagely observes,¹ *argumenta ad hominem* based on physical theories are worth just as much as the theories. We shall do well therefore to keep in mind the warning already quoted from Sir James Jeans about the tendency of scientific thought to turn back on itself.

In relation to the second proposition it should be pointed out that the impossibility of conceiving the process as going back infinitely is not concerned with any impossibility of an infinite and innumerable multitude. St. Thomas himself found no logical impossibility in infinite succession. As Père Garigou Lagrange has it :²

‘What is repugnant is (the idea) that an actually existing movement might have its sufficient reason, its actualising *raison d’être*, in a series of movers consisting only of movers themselves moved ; if all the movers receive the impulsion that they transmit, if there is not a first one which gives without receiving, movement will never take place, because it will never have a cause.’

The Dominican scholar quotes Père Sertillanges on this theme :

‘Multiply intermediate causes to infinity and you will complicate the instrument, but you will

¹ *Dict. de Theol. Cath., Art. ‘Dieu,’* col. 938.

² *Loc. cit.,* p. 244.

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not construct a cause ; you prolong the canal, but you do not make a source. If the source does not exist, the intermediary remains powerless and the result cannot occur ; or rather, there will be neither intermediary nor result. That is to say, everything disappears.'

What reason demands is not that we shall call a halt at some point in a chain of accidental causes, but that we shall step outside it, ' to raise ourselves to a mover of another order, not itself moved and in that sense immobile, not with the immobility of the potency which is anterior to movement, but with the immobility of the act, which has no need to become because it already is : *Immotus in se permanens*.'¹

An external chain of subordinate causes will be eternally insufficient. We find in this proof the refutation of pantheism and the demonstration that God is, as the Vatican Council decreed, ' distinct from the world.' If we were concerned only with physical movement, all that we should have to demand of the prime mover would be physical immobility. The pantheist's ' World-Soul ' would meet this demand. But suppose this soul itself to be subject to a spiritual movement and we have a new fact. There is an activity in this world-soul which is not its own act. We are forced back to a Being who possesses His own action and has by Himself what others acquire only by change. ' The prime mover being essentially immobile, superior to movement, is necessarily distinct from the world

¹ Loc. cit., p. 245.

corporeal or spiritual, which is essentially changeable.¹ But that only can act by itself which exists by itself. God is the prime, unmoved, self-subsisting Act.

The First Mover cannot be matter, for we have seen that it must be pure act with no admixture of 'becoming'; and matter is *par excellence* the subject of mutation. The First Mover is in the highly philosophical language of St. James, 'the Father of lights, with whom there is no change, nor shadow of alteration.'²

An argument as old as Aristotle's *Metaphysics* has been urged against the necessity to escape from the chain of subordinate causes of movement to a First Cause. Suppose, instead of imagining a chain, we imagine a circle of causes? In such a circle the first mover may itself be moved in another order of movement. For example, will is moved by intelligence which presents to it a desirable object, and the intelligence is itself moved by the will to seek its attainment. But this circle demands two orders of causality. In philosophical language the intelligence moves the will in the order of specification, but is moved by it in the order of exercise. Nothing can be both cause and effect in the same order. If the heat of the earth depends upon sun-rays the sun-rays cannot be dependent on the heat of the earth.

Finally we have the Kantian assertion that an unmoved mover is a contradiction in terms, since a mover implies commencement, which excludes immobility. This rests on a confusion between essential and accidental qualities. If we talk of a

¹ Loc. cit., p. 245.

² James i, 17.

brave soldier or a skilful surgeon we are speaking of qualities which are essential ; in a philosophical soldier or a musical surgeon the qualities would be accidental. What is required of a mover is to be ' in act ' ; it may be accidentally itself the subject of action. ' If then a Being be essentially determined, if not only it is capable of acting, but is its own action, it will act without any need of being moved. In this highly superior sense, it will be immobile, not with the immobility of inertia, but with the immobility of the supreme activity.'¹

No further argument is needed to show that the prime mover proved by this method has the divine attributes of infinity, immateriality, intelligence, omnipresence, eternity and uniqueness. Some of these attributes are more directly demonstrated in the subsequent proofs, but everything is implicit in this first *manifestior via*.

The second of the ' five ways ' is generally known as the proof from efficient causes. It is stated in these terms :

In the world of sense we find there is an order of efficient causes. There is no case known (neither is it, indeed, possible) in which a thing is found to be the efficient cause of itself ; for so it would be prior to itself which is impossible. Now in efficient causes it is not possible to go on to infinity, because in all efficient causes following in order, the first is the cause of the intermediate cause, and the intermediate is the cause of the ultimate cause, whether the intermediate cause be several, or one only. Now to take away the cause is to take away the effect. Therefore, if

¹ Dieu, son Existence et sa Nature, p. 263.

there be no first cause among efficient causes there will be no ultimate, nor any intermediate cause. But if in efficient causes it is possible to go on to infinity, there will be no first efficient cause, neither will there be an ultimate effect, nor any intermediate efficient causes ; all of which is plainly false. Therefore it is necessary to admit a first efficient cause, to which everyone gives the name of God.

The similarity of this proof to the first is obvious, but there are one or two things that may be usefully said about it. The use of the term ' efficient cause ' may be somewhat confusing to the unphilosophical reader as ' efficiency ' is, in these days, something of a catchword. Without going into the various orders of causation recognised by philosophers, we may make a rough distinction between efficient and final causes. If, from dislike of the Prime Minister or the leader of the Opposition, I throw a stone through his window, the efficient cause of the break-ages will be the stone, and the final cause my hatred of the householder. Those nineteenth-century scientists who opposed religion were inclined, for the most part, to admit efficient causes, but they denied final or teleological causes. It is clear that we cannot discuss the validity of this second proof without considering the whole question of causation, and this may be an appropriate place to examine a little more closely the anti-intellectual theories which are at present in fashion once more.

To the plain man the idea of cause appears a natural and inevitable one. If something happens we look round for a cause. The youngest child—or for that matter, kitten, or puppy-dog—does the

same. If we hear a loud noise we may say : ' What caused that ? ' A reply that it had no cause would not seem very intelligent to anybody unless it were expressed in an imposing volume by an eminent scientist ! But when we come to analyse this simple notion it is not so simple after all. Some people tell us that cause and effect are not necessary postulates of our mind, but acquired by experience of invariable succession. This will not do. Tuesday always follows Monday, but nobody supposes Monday to be the cause and Tuesday the effect, nor do we give the soup the credit or the blame for the arrival of the fish course. The most insidious attack on the principle of causality takes the form of an attack on the general value of rational argument. One of the first principles of logic is what is known as the Principle of Sufficient Reason, which lays it down that everything which exists must have a sufficient reason for existing. Now there can be no doubt that this is a necessity of thought. Anyone who challenges it can do no other than set out to prove that there is no sufficient reason for the existence of the belief. In other words, it is necessary to accept it even to attack it.

But here the anti-intellectualist replies that it is a law of thought but not of life. Bergson is probably the most brilliant living representative of a general attack on intellectualism which may be briefly summarised and considered here.

Our philosophy, it has been seen, deals with Being. It is concerned with things and what happens to them. We consider the change of matter from potentiality to actuality. The reality is Being and

change is one of its attributes. This is challenged. The reality, we are told, is movement and the conception of matter is due entirely to an unnatural process of arresting that continual flux which is life. The intellect can deal only with what is static and it has, therefore, to break life up into fragments which it is able to examine. The conception of cause and effect, it is urged, belongs to this dead method of interpreting nature. All our examinations are post-mortem examinations.

These theories can be put with a poetic charm which captivates us, but it is delusive. The world of the senses is a world of movement, that of the mind is a world of repose. On what ground are we asked to put sense above intellect? Immobility regarded sensually is a state of repose, but what it means to the intellect is 'that which is' in opposition to 'that which is becoming.'

'Bergsonian sensualism,' says the author of *Dieu, son Existence et sa Nature*,¹ 'confounds the immutability which is above movement with that which is below it, that of the *terminus ad quem* with that of the *terminus a quo*, that of act with that of potentiality. Thus it degrades the immobile life of the intelligence, which contemplates the highest eternal laws, to the mere inertia of solid, inanimate bodies. From this point of view the vegetative life of the stomach is superior to the immobile life of the intelligence, time is superior to eternity, since it is life and eternity is death.'

¹ p. 161.

If we admit that the law of our intellects is the law also of life, we shall have no difficulty in admitting the cogency of this proof from the nature of efficient causes. It is interesting to reflect that 'Rome *versus* Reason' was a nineteenth-century cry, and to-day Rome is the champion of reason in a world which is reacting somewhat violently from extravagant rationalism to a suicidal anti-rationalism.

The argument from possibility and necessity is the third of the ways. It runs :

We find in Nature things that are possible to be and not to be, since they are found to be generated, and to corrupt, and consequently they are possible to be and not to be. But it is impossible for these always to exist, for that which is possible not to be, at some time is not, therefore, if everything is possible not to be, then at one time there could have been nothing in existence. Now if this were true, even now there would be nothing in existence, because that which does not exist only begins to exist by something already existing. Therefore, if at one time nothing was in existence, it would have been impossible for anything to have begun to exist; and thus even now nothing would be in existence—which is absurd. Therefore, not all beings are merely possible, but there must exist something the existence of which is necessary. But every necessary thing either has its necessity caused by another, or not. Now it is impossible to go on to infinity in necessary things, which have their necessity caused by another, as has already been proved in regard to efficient causes. Therefore, we cannot but postulate the existence of some being having of

itself its own necessity and not receiving it from another, but rather causing in others their necessity. This all men speak of as God.

Père Pègues,¹ in commenting on the five proofs, observes that the first two may be called dynamic and the third and fourth static. In the first and second, St. Thomas takes action as his point of departure whereas in the one we have just quoted and its immediate successor, it is Being or Nature that is considered. 'But here and always it is in the world of experience, the empirical world, the world of things seen and noted, that he seeks his fulcrum.' Although reference is made to the impossibility of going on to infinity, it must not be supposed that a time factor enters in any essential way into the argument. It rests upon the impossibility of a world of contingent beings without any necessary being. The Principle of Sufficient Reason, as we have seen, requires that all that exists must have a sufficient reason for existing. To this the law of Causality adds that what has not its sufficient reason in itself must have it in another.

We pass over at this point an argument which has been advanced that any extension of St. Thomas's argument to prove the perfection of the First Cause really requires an acceptance of what is known as the ontological proof of St. Anselm, because its refutation involves consideration of the fourth proof, 'from the gradation to be found in things.' Here it is :

Among beings there are some more and some less good, true, noble and the like. But 'more' and

¹ Loc. cit., p. 102.

'less' are predicated of different things, according as they resemble in their different ways something which is the maximum, as a thing is said to be hotter according as it more nearly resembles that which is hottest ; so that there is something which is truest, something best, something noblest, and, consequently, something which is uttermost being ; for those things that are greatest in truth are greatest in being, as it is written in Metaphysics, II¹. Now the maximum in any genus is the cause of all in that genus ; as fire, which is the maximum of heat, is the cause of all hot things. Therefore there must also be something which is to all beings the cause of their being, goodness, and every other perfection ; and this we call God.

The first question that suggests itself in face of this proof is to ask in what sense degrees of being can really be said to exist. Are we not applying to quality a conception which has really only a quantitative significance ? As far as relative qualities are concerned we have no difficulty in understanding that there may be degrees or gradations in relation both to the subject in whom the qualities exist and in the end or term towards which they tend. Absolute qualities or characters, however, are not all susceptible of 'more' or 'less.' Rationality may be taken as an example of a quality which is not so susceptible. It is true that we may develop our reasoning faculty, so that a man may be said to be more or less intelligent than another or more intelligent in later life than in earlier. The faculty of rationality, however, with its capacity for the

¹ By Aristotle, to whom St. Thomas always refers as 'The Philosopher.'

intuition of Being, either exists or it does not. The same is true of substance in the metaphysical sense. Now we are concerned in this 'fourth way' with what are called transcendentals. The transcendentals—Being, Unity, Truth, Goodness—have different specifications in different beings and are susceptible of more or less. These metaphysical proofs cannot be elaborated here. The proof that 'what is greatest in truth is greatest in being' is found in the second book of Aristotle's *Metaphysics* to which St. Thomas explicitly refers.¹

In the broad sense in which we may divide thinkers into Aristoteleans and Platonists, St. Thomas must be considered an Aristotelean, but this fourth proof is one of the many passages in his work which remind us of his debt to that 'old loving nurse' of Christianity 'the Platonick philosophy.' We have seen that he rejects the extreme realism of the Platonic system, but the argument that 'the maximum in any genus is the cause of all in that genus' is eminently Platonic.

'I think that if anything is beautiful it is beautiful for no other reason than because it partakes of absolute beauty; and this applies to everything. Do you assent to this view of cause?'

'I do,' said he.

'Now I do not yet understand,' he went on, 'nor can I perceive those other ingenious causes. If anyone tells me that what makes a thing

¹ 'Hence that is also most true which causes all subsequent things to be true.' (Loeb Library translation, p. 87.)

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beautiful is its lovely colour or its shape, or anything else of that sort, I let all that go, for all those things confuse me, and I hold simply and plainly and perhaps foolishly to this, that nothing else makes it beautiful but the presence or communion (call it which you please) of absolute beauty. . . . I believe it is safe for me or anyone else to give this answer, that beautiful things are beautiful through beauty.’¹

So Socrates proceeds to argue in the Platonic dialogue that ‘great things are great and greater things are greater by greatness, and smaller things smaller by smallness.’ The same argument is found in the sixth book of the *Republic*, where Plato argues that the multitude cannot be expected to grasp philosophical truth, because it will not understand that the beauty of anything cannot reside in itself, ‘that there is the one beautiful itself, and not many beautifuls; one thing itself which has a single subsistence, and not many such things.’²

Here then is the starting-point for a proof of the existence of God from the degrees or gradations of Being: If we find the same character in a number of Beings, none of them can be said to possess that character of itself; what is not possessed by itself must be derived from another, it is possessed by participation. But when a perfection, in the conception of which no imperfection is implied, is found in varying degrees in different beings, none of those which possess it in an imperfect degree can give a

¹ *Phaedo*, 100c. (Loeb Library translation.)

² Thomas Taylor’s translation.

sufficient reason for its existence. It must have its cause in a superior Being, who is that perfection itself.

But here we meet a very plausible argument of the Kantians that when St. Thomas proceeds to argue that the first Cause is perfect he is unconsciously relying on what is known as the ontological argument of St. Anselm, although he himself declares that argument to be insufficient. Let us consider St. Anselm's proof and ask ourselves how far this objection is well-founded.

The proofs of St. Thomas, as we have seen, are *a posteriori* proofs, demonstrating the existence of God as the Vatican Council says it may be proved 'from those things that are made.' St. Anselm endeavours to show that an *a priori* demonstration is possible. The existence of God, he says, is implied in the idea. When we say 'God' we mean to speak of a Being so great that none greater or superior can be conceived. If, however, God did not exist, it would be possible to conceive of a Being with all His perfections, and the additional one of existence. Thus we should have something superior to the greatest conceivable—which is absurd.

We must follow St. Thomas in rejecting this proof. Its value is purely hypothetical. It proves that existence is a necessary quality of the highest Being that we can conceive but not that such a Being actually exists. Dr. Inge¹ holds that it is 'invalid in its original form, but may be so corrected as not to involve the error of ontologism' (i.e.

¹ Essay 'Confessio Fidei' in *Outspoken Essays* (London, 1922), p. 12.

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the doctrine that 'the existence of God is a necessary and fundamental truth of reason'). We question whether any correction which is adequate will not be found really to involve the abandonment of the argument in favour of one more solidly based. All we are concerned to prove here is that St. Thomas is not relying upon ontologism or any *a priori* demonstration; that his conclusion follows from the impregnable principle of non-contradiction.

The famous argument of Kant is that St. Thomas has simply made a logical conversion of St. Anselm's argument. The ontological proof is supposed to have established that what exists by necessity is perfect. It follows that some perfect existence is necessary. Since we cannot make a distinction between perfect beings, we are entitled to hold: 'Every perfect being is necessary.'

This is how Kant expresses it:¹

'If the proposition, that every absolutely necessary being is likewise the most real of all beings, is correct (and this is the *nervus probandi* of the cosmological proof), it must, like all affirmative judgements, be convertible at least *per accidens*. It therefore follows that some *entia realissima* are likewise absolutely necessary beings. But one *ens realissimum* is in no respect different from another, and what is true of *some* under this concept is true also of *all*. In this case, therefore, I can convert the proposition *simpliciter* not only *per accidens*, and say that every *ens realissimum*

¹ *Critique of Pure Reason*, Prof. Norman Smith's translation (London, 1929), p. 510.

is a necessary being. But since this proposition is determined from *a priori* concepts alone the mere concept of the *ens realissimum* must carry with it the absolute necessity of that being; and this is precisely what the cosmological proof¹ has refused to admit, although the conclusions of the latter are indeed covertly based on it.'

Now, as we have seen, St. Anselm did not prove the *de facto* existence of a perfect being. What he proved was that if such a being exists, it must exist of itself. If we convert this proposition we reach the conclusion: 'If a being exists by itself it will be perfect.' But this self-existent Being is precisely what St. Thomas has proved by the argument from contingency. The ontological argument which was inadequate to prove the existence, in fact, of God is valid for the demonstration that the self-existent Being, whose existence has been demonstrated, is perfect.

There remains the final proof, which is 'taken from the governance of the world.' Here it is:

We see that things which lack intelligence, such as natural bodies, act for an end, and this is evident from their acting always, or nearly always, in the same way, so as to obtain the best result. Hence, it is plain that not fortuitously, but designedly, do they achieve their end. Now whatever lacks intelligence cannot move towards an end, unless it be directed by some being endowed with knowledge and intelligence; as the arrow is shot to its mark by the archer. Therefore, some intelligent being exists by whom all Natural

¹ i.e. the proof 'from those things that are made.'—R.J.D.

things are directed to their end ; and this being we call God.

This argument probably will never be better expressed in English than in the noble words of Francis Bacon.¹

‘ I had rather believe all the fables in the Legend, and the Talmud, and the Alcoran, than that this universal frame is without a mind. And therefore God never wrought miracle to convince atheism, because his ordinary works convince it. It is true that a little philosophy inclineth man’s mind to atheism ; but depth in philosophy bringeth men’s minds about to religion.’

The only way in which the validity of this argument from design can be effectively challenged is by a destructive idealism which makes an end of all human argument. In no way can it be shown that the reasons for belief in God are less compelling than those upon which the findings of ‘ experimental science ’ rest.

We have endeavoured to show that the existence of God is a necessary conclusion of the Pure Reason, arguing from ‘ the things that are made.’ That is what the Church requires us to believe. We have no intention of denying that is also required by the ‘ practical reason ’ as Kant was ready to concede. Let us consider for a moment the argument from the moral law. We say, *Fiat justitia, ruat coelum*—let justice be done, though the heavens fall. If we said : Let justice be done *lest* the heavens fall, we might find a utilitarian and naturalistic defence of the

¹ Essay XVI, ‘ Of atheism.’

moral law. What we actually say, however, implies that there is an ultimate and absolute value in right-doing. Let us not be misled, in this or in other matters, into misconceiving the proper place of relativity. It is perfectly true that—apart from revelation—what is considered right in one place or in one age, may be considered wrong in another. The *diagnosis* of right and wrong is relative ; the compulsion to do right as we conceive it is absolute. Now, something which is absolute cannot find its justification in something which is contingent. All attempts to found morality upon ‘the religion of humanity’ or upon ‘the greatest good of the greatest number’ founder on this rock.

Let the reader try to find for himself a justification, on purely humanistic principles, of altruistic conduct on the part of one who is strong enough to be egotistic and whose preferences run that way ! It is no use to appeal to posterity or the good of society. You will have to persuade the egotist why he should consider these things if he does not feel inclined to do so. If we leave God out of account, ‘right’ and ‘wrong’ become meaningless terms. Whenever we make a comparison, we imply an external standard which it is legitimate to apply to both the terms compared. If I say that A is longer than B, I imply the foot rule, which has an equal validity for both of them. If I say that Plato’s delight in philosophy is ‘higher’ or ‘better’ than a roué’s love of profligacy, what is the common standard ? The welfare of the race ? The profligate is not interested in it. Unless I am prepared to admit some absolute standard, I may talk of

difference but not of superiority. All moral values depend ultimately on theism. 'If there be no God, all is permitted.' Of course I am not arguing that all who profess atheism or agnosticism are immoral. But I do say that they are illogical if they practice any self-restraint.

The more we study these matters, the more clearly shall we perceive the hand of Providence in the pontificate of that great Pope Leo XIII. When the Encyclical *Aeterni Patris* was issued in 1879 with its call: 'Back to Aquinas', how many people saw any actuality in it? Darwin's *Origin of Species* had been published twenty years. Materialistic science was at its zenith. What a curious retreat into mediævalism! By the time the modernist heresy called for the Encyclical *Pascendi Dominici Gregis*, the relevance of scholastic philosophy was becoming apparent. To-day, with the Einsteins and the Eddingtons dressing old errors in new clothes, who can over-estimate the value of a clergy trained in the principles of the *philosophia perennis*? It is with the *Summa* of St. Thomas that we must meet the newest assaults on the Faith. *In hoc signo vinces*. The history of the Thomist revival is the commentary on Our Lord's promise.¹

'When, he, the spirit of truth is come, he will teach you all truth. . . . And the things that are to come, he shall show you.'

It may be asked: Is it necessary to be able to follow all these metaphysical arguments in order 'to know God and Jesus Christ whom He has sent?'

¹ St. John xvi, 13.

The answer, of course, is 'No.' The most resplendent saints have known nothing of 'the wisdom of men.' St. Thomas himself¹ tells us :

'The truth about God such as reason could discover, would only be known by a few, and that after a long time, and with the admixture of many errors. Whereas man's whole salvation which is in God, depends upon the knowledge of this truth, therefore, in order that the salvation of men might be brought about more fitly and more surely, it was necessary that they should be taught divine truths by divine revelation.'

The man in the street is inclined to be a little unreasonable about metaphysics. He would not expect to run a race or lift a heavy weight without a careful training of his muscles. He expects to have abstract thought made clear to him at once, though his only use of his brain may have been in concrete things. The knowledge of metaphysical truth requires a training, an *ascesis*. We can never hope to compress it into a few smart phrases of the sort that make a newspaper article.

'But, Simmias, because of all these things which we have recounted, we ought to do our best to acquire virtue and wisdom in life. For the prize is fair, and the hope great.'²

¹ *Summa Theologica*, Q. i, art. 1.

² *Phaedo*, 1141.

CHAPTER VIII

THE POSITION OF MIRACLES

THERE was a time when the question of miracle appeared to stand in the very forefront of the 'contest between religion and science.' The outstanding difference between the scientist and the believer was held to be that, whereas the former postulated an unvarying system of natural law, the theologian asserted that interference with the course of nature on the part of a higher power could and did occur. Matthew Arnold's well-known dictum: 'Miracles do not happen,' represented one of the fundamental convictions of nineteenth-century science, and one of the principal efforts of modernists of all schools who sought to reconcile Christian teachings with the latest developments of the thought of their time was directed to purging the scriptural accounts of all traces of the miraculous. It was sometimes sought to justify this proceeding in the name of 'historical science,' although as a matter of fact no claim could be less well-founded. No evidence was produced to show that these parts of the sacred records which deal with miraculous occurrences were entitled to less credence than those dealing with more normal or usual events. It was because the critics believed that miracles did not happen that they rejected any testimony purporting

to show that they had happened. This attitude has survived to our own day, although, as will be shown, the scientific attitude towards miracles has undergone a remarkable change. Dr. J. B. S. Haldane, for example, in one of his popular essays, endeavours to show that the miracles of healing in the New Testament were cures of nervous diseases which, he implies, are of a kind now recognised to be susceptible to treatment by suggestion.

‘Diseases of the nervous system and chronic diseases of the skin,’ he writes,¹ ‘are particularly amenable to cure by suggestion and other psychological methods. Jesus’ recorded healing work was mainly confined to these complaints.’

It would be difficult to find a more thoroughly slovenly or unscientific pronouncement than this, which follows on an airy statement that ‘the Christian attitude to faith probably rests on a misunderstanding’! As far as chronic skin conditions are concerned, there are no doubt dermatological neuroses. A well-known Catholic physician² has written an excellent monograph on the subject. Does Dr. Haldane wish us to believe that at a time when leprosy was relatively common, the physician did not know how to distinguish it from a neurosis? Or is he advancing the even more extravagant proposition that leprosy can be cured by suggestion? Are the cases of raising from the dead, the cure of hæmorrhage and the healing of the blind to be relegated to the category of ‘diseases of the nervous

¹ *Possible Worlds* (London, Phoenix Library, 1930), p. 219.

² Dr. W. J. O'Donovan in *Psyche Miniatures*.

system' ? On no subject into which his anti-theological prejudice did not enter, it may safely be asserted, would Dr. Haldane write such nonsense as this about the cures being 'mainly confined' to skin complaints and nervous diseases.¹ The sceptic offers us an argument in a circle. The cures wrought by Jesus, he asserts, are not miracles, because they are concerned with neurotic cases. Turning to the evidence, we find many cases which cannot by any stretch of imagination be brought into this category. We are then asked to reject them because they do not fit the theory. We are, in fact, asked to assume the very thing which the critic purports to prove. Dr. Haldane may feel himself entitled to divide diseases into categories as 'organic' and 'functional', and to suggest that one class may be cured by psychotherapeutic methods which appear miraculous to the uninformed. This is a very favourite thesis with many people. They have, however, no right to say that they find in the New Testament any evidence which would lead them to form this conclusion if they approached the documents in a really scientific spirit without preconceptions. It is not irrational to say : ' Because miracles do not happen, any account of an alleged miracle is necessarily false ' ; but let us not pretend to have reached on historical grounds a conclusion which really rests upon a prejudice.

Uneducated people, in whom popular science had produced intellectual indigestion, were fond of asserting not only that miracles had been rendered impossible by the discovery of the reign of law, but

¹ It should perhaps be pointed out that Dr. Haldane, though a distinguished scientist, holds no medical degree.

that the activities attributed by theists to God were actually 'caused' by laws. Thus, for example, if one had asked a hundred 'free-thinkers' a few years ago: 'Why does the apple fall to the ground?' a very considerable proportion would have replied: 'Because of the law of gravitation.' A moment's thought will show that this kind of talk rested upon a confusion of different meanings of the word 'law.' We may be said to drive our motor cars at a particular speed because of the traffic law, and when we use the word in this legalistic sense we think not only of law but of a lawgiver. The argument, therefore, leads to a theistic conclusion. A scientific law, however, causes nothing. It is merely a statement of the results of observation, a classification of experience. In order to say that the conception of natural law is fatal to miracles, it would be necessary to prove that the experience on which the generalisations have been based is universal. Such proof is obviously impossible, and it is a complete misuse of words to say that the possibility of miracles has been or could be disproved by experience. The most that can be said on the ground of our experience of the universality of natural law within the limits of our observation is that if anyone assert that a miracle has happened the onus of proof lies upon him who has made the assertion. That is a very reasonable contention.

However it may be with other religious bodies, there is no doubt that, to the Catholic, belief in miracles is an integral part of his faith, which he cannot surrender without undermining the whole structure. This was laid down clearly by the

Vatican Council and, indeed, has never been in any doubt apart from the short-lived eccentricities of the modernist school. It is worth while to ask, however, what we mean by miracle and how far it is necessary to develop our apologetic with special reference to the fashion of the moment. As long as 'modern science' meant the compact system of nineteenth-century thought, the challenge to the conception of miracle was so direct that it was natural to think in terms of an antagonism and to develop the argument with special reference to physical science. But conditions have entirely changed and nothing would be easier than to make a series of quotations from the scientific thinkers who are now most in vogue in order to show that, so far from excluding miracle, science demands it in any complete view of the Universe.

I suggest that this attractive proceeding is to be resisted. One is sometimes tempted to ask whether strictly orthodox people, with the most excellent intentions, are not unconsciously influenced by the modernist heresy that the Faith must accommodate itself to modern modes of thought, when they set out to find crumbs of comfort in the works of Eddington, Jeans and the other scientific best-sellers of the moment. Our faith was not shaken by Huxley and Darwin; we must not try to base it on Eddington and Jeans. From the point of view of this controversy, the outstanding change which has come over scientific thought is the abandonment of the doctrine of the rigidity of natural law. A few years ago one might have stated, without being challenged, that an experiment carried out in the

same conditions would always yield the same result. In the world of atomic physics, however, this statement would be rejected by some of the most honoured representatives of science to-day.

‘When an observation is made on any atomic system that has been prepared in a given way and is thus in a given state,’ writes Dirac,¹ ‘the result will not in general be determinate, i.e. if the experiment is repeated several times under identical conditions, several different results may be obtained.’

To a nineteenth-century or early twentieth-century scientist any such statement must have appeared pure obscurantism, much more like the claim of a Hot Gospeller than that of a scientist. The fact is that to modern science the laws of nature in certain departments of the Universe have come to be regarded as statistical in character. There is no theoretical certainty, only a mathematical probability. Let me give a simple example which, I can assure the reader, is not at all fanciful. It is a matter of common experience that if we bring water at a particular pressure to a temperature of 100° Centigrade, it will boil. Simple-minded people, asked a few years ago why this happened, would probably have replied: ‘Because it is a law of nature.’ The behaviour of water in these conditions was held to be determined. It must boil; if not, there is a miracle. Analysis of the water into its molecules, however, shows, according to con-

¹ Quoted by Jeans, *The New Background of Science* (Cambridge, 1933), p. 44.

temporary scientists, that the behaviour of any one of those molecules is undetermined.

Some modern physicists—the more clear-thinking among them—recognise a distinction which the plain man has no difficulty in grasping between what is really determined and what may be known or predicted. They would deny that the inability of the observer to say what any molecule is going to do, justifies the destructive conception of ‘indeterminism in nature’ which Sir Arthur Eddington seems to favour. Many distinguished men, however, would accept this statement—that the behaviour of any one of the molecules is undetermined.

It may do one thing or another. When Sir Arthur Eddington visited the P.E.N. Club as its guest of honour, Mr. Maurice Browne, who presided, thanked the distinguished visitor for having confirmed people like himself in their feeling that if you put two and two together, the result is as likely to be poached eggs as anything else! Now, theoretically, if any one of the molecules may fail to act in the orthodox way, they may all fail. Therefore, there is a theoretical possibility that instead of the water boiling it may freeze. No doubt if anything of the kind were reported to have happened, Sir Arthur Eddington would be as much surprised as anybody else. He would probably deny the truth of any statement that it had occurred unless he was presented with irrefutable evidence. The mathematical probability in favour of the water boiling is so great that for practical purposes there is no more doubt than there ever was that this is what will happen.

Take another example. Any person of the forty

million and odd inhabitants of these islands may die to-morrow. It is perfectly certain that from natural causes and the ordinary accidents of life, a number, which can be estimated with fair accuracy, will so die. It would be difficult, therefore, to deny logically that the whole population of Great Britain may die to-morrow. If this happened a French *libre penseur*, reading of the occurrence in the Parisian Press, might be very bewildered, but he could declare quite reasonably that it was not a miracle in the sense in which he understood the term. It would be a highly improbable event—as improbable as can be conceived—but in the sense in which the nineteenth century understood the controversy it would not be a miracle because it would not be a contravention of the laws of nature. What would the nineteenth century have made, however, of the contention that if we put a kettle of water on the gas ring in normal conditions, it might be found after five minutes to be freezing into ice? Would it have regarded this as in exactly the same position as the other hypothetical case I have quoted—an unlikely event but not against nature? It must be at once apparent that, however little practical difference it may make, there is a gulf between the traditional conception of iron natural law and the modern idea of an immense mathematical probability.¹

This changed outlook is not confined to physics. We find it in medicine. At a very interesting meeting of the Hunterian Society in 1925, the late Dr. F. G. Crookshank made a remarkable state-

¹ For a further treatment of this point, see Appendix.

ment. 'As a plain man,' he said, 'I hold that whatever the historical evidence in favour of miraculous intervention, the conception of the miracle is as necessary to our philosophy of the healing art as is our knowledge of the reparative power of the salamander or the amoeba.' We shall have to consider later whether Dr. Crookshank is accurate in his use of the term 'miracle,' but meanwhile it is useful to follow his application of his doctrine.

'All living creatures,' he said, 'exercise the healing art, as we may say, instinctively, and for their own personal benefit. We hypostatise the power of self-repair possessed by an amoeba and an archbishop alike as the *vis medicatrix naturæ*. But the lower forms of life possess this power to an extent and in a degree denied to or lost by those higher. Cut off the leg or pluck out the eye of a salamander. He knows at once what has happened, and sets to work to do something that the archbishop cannot do by himself; he grows another eye, another limb. We do not regard this proceeding on the part of the newt as extraordinary or miraculous, because we are familiar with it. But those who regard this world as directed by Omnipotence see nothing strange in supposing that He who endowed the salamander with the power of reparation should, if he willed, temporarily so endow an archbishop.'

Let me say, in passing, that this fine physician was not a Catholic, nor did he call himself a Christian. The writer treasures his monograph on

Nietzsche presented by the author 'with affectionate hostility' a few weeks before his tragic death deprived contemporary medicine of one of its finest lights. But let us see where we are. Does this new scientific conception really help the case for miracle? It certainly deprives those who accept it of the right to deny out of hand the credibility of certain events in scriptural and later times, but if we are to look at the controversy as the last century regarded it, one is more inclined to say that it destroys the possibility of miracle. It rules out the supernatural by indefinitely extending the territory of the natural. If a miracle means an invasion of the order of nature, modern science may be said to render the controversy meaningless by abolishing the conception of an order of nature in the sense in which the term has been understood.

Before entering into controversy on miracles it will clearly be worth while to consider what we mean by the miraculous. If we survey the history of the conception of miracle in the Christian Church we shall find that consideration in terms of a breach in a supposedly uniform system of law—which was the way in which the nineteenth century most naturally regarded it—represents a brief phase. The discussion had gone on for a long time before the modern conception of 'iron law' was at all active and, as we have seen, that conception appears now to be disintegrating. *Miraculum*, being derived from *mirari* (to wonder), means, etymologically, no more than a wonderful thing. From this point of view it might appear legitimate to say that the question of miracle really belongs to the subjective order,

since that will cause wonder in one man which will have no such effect on another. An aeroplane or a radio set may be a miracle to an aborigine, though not to a modern Englishman. It might be argued from this that the extension of knowledge means a progressive shrinking of the sphere of miracle, and the idea is suggested—though it does not follow by any necessity of logic—that fullness of knowledge will one day eliminate the miraculous, or wonderful, altogether. On the other hand, it may be replied that we show a lack of imagination in allowing our capacity for wonder to diminish with the growth of our learning, that to a really devout mind the whole universe would be miraculous, since all is ultimately incomprehensible. In such subterfuges have the exponents of ‘liberal Christianity’ sought to justify a continued tenure of their pastorates. The Catholic mind, as we have indicated, mistrusts these flights into the subjective order. If this be all we mean by miracle there is no conflict between religion and the scientists and the question of the apologetic value of miracles does not arise. That is not the mind of the Church. She requires us to hold that miracles may be used to defend the faith. That is an objective matter and the objective truth of Christianity cannot be defended by anything which rests on a merely subjective experience.

This matter of the evidential value of miracles is one of the points on which the so-called liberal Christianity of our day has most notably departed from the mind of Christ and from the tradition of the Christian centuries. Even where the miraculous is not felt to be ‘a stumbling-block to the modern

mind'—was not the Cross of Christ a stumbling-block to the Jews?—it is insisted that it can be no aid to the acceptance of the good news. In nothing is the extraordinary provincialism of some present-day writers in the name of science more strikingly illustrated than in their frequent assumption that the speculations of a small and not very distinguished body of liberal theologians in the Protestant world can be taken as representative of modern religious thought. One contemporary writer speaks of 'the quite irrational idea that the ability to perform a miracle was a guarantee of authority in matters of conduct and belief and that somehow the credentials of Jesus were the authenticity of His miracles.' It is added that 'this idea is not active to-day.'

This is almost incredibly inaccurate. If the idea which is attacked is that thaumaturgic powers are a guarantee of sound doctrine or saintliness, of course, it never was active in the Christian world. From the earliest times the existence of false wonder-workers has been recognised. It would be nearer the truth to accuse the ages of faith of an excessive credulity in the matter of 'black magic' than to say that they equated miracles and divinity. But what is the origin of the idea that 'somehow the credentials of Jesus were the authenticity of His miracles'? When the disciples of John the Baptist asked the momentous question: 'Art Thou He that art to come, or look we for another?'¹ among the 'credentials' quoted by Our Lord Himself are 'what you have heard and seen. The blind see, the lame walk, the lepers are cleansed, the deaf hear,

¹ Matt. xi, 3-5.

the dead rise again.' In Mark xvi, 17, we are given on the same authority the signs (σημεῖα) that shall follow belief and they are all of a thaumaturgic order. And what could be more definite than the statement in John xv, 24: 'If I had not done among them the works that no other man hath done, they would not have sin.' The word here rendered 'works' is ἔργα. The Protestant scholar, Dr. R. F. Weymouth, in his *New Testament in Modern Speech*, renders the text: 'If I had not done among them, as I have, such miracles as no one else ever did, they would have had no sin.' Not active to-day! If that were so, Christendom would indeed have forgotten Christ. The fact is that to the vast majority of Christians, simple and learned, the miraculous is an essential element of faith. All Catholics—that is to say, most Christians, throughout the world—accept the anathema pronounced by the Vatican Council against the two propositions 'that miracles can never in any case be certainly known to be such' and 'that by miracles the divine origin of the Christian religion cannot be properly proved.' Has the writer never heard of Lourdes? The idea is 'active' wherever a little learning has not tempted man to try to instruct his Creator.

The requirements of our conception of miracle are beginning to emerge with increasing clearness. The *Dictionnaire de Théologie Catholique*, summing up the discussion, gives three points characterising a miracle. (1) It is an extraordinary fact, outside the usual order of natural phenomena. (2) It is connected with a religious teaching of which it

attests the truth. (3) It is the work of divine omnipotence, acting immediately or mediately.

There is room for controversy here, particularly on the third clause, for it may be questioned whether there is any occurrence which cannot be described as '*l'œuvre de la toute-puissance divine, agissant soit immédiatement, soit médiatement.*' This definition has, however, the mark of all serious attempts by theologians to define miracle, in that it requires a combination of factors and notably the association of an extraordinary event with a religious teaching or an evidential purpose. If the kettle of water were to behave as some physicists ask us to believe it might act, it would not be miraculous because it would be, as far as our knowledge goes, a purposeless occurrence. It will be noted, however, that the definition in no way binds us down to the nineteenth-century conception of natural law. If the event is unusual in the sense that it is something other than we would normally expect from the existing circumstances, the presence of the other factors is sufficient to entitle us to call it a miracle.

Albertus Magnus gives us four criteria for a miracle. ' (i) It is the work of the sole will of God. (ii) It could not be produced by natural powers. (iii) The production of the miracle is contrary to the natural law, sudden and instantaneous. (iv) It is accomplished with an end of public justice, to edify believers.' This is a definition which may provide edifying reflections for the believer, but it could hardly be made the basis of any useful controversy with a sceptic.

With St. Thomas Aquinas, as usual, we enter on

a work of analysis which brings us nearer to modern conceptions. The angelic doctor recognises three categories of miracle. (i) The miracle *quoad substantiam facti* where we have an occurrence which created Nature could not produce in any way. (ii) The miracle *quoad subjectum in quo* in which the miraculous element resides in the fact that Nature could not produce it in the subject in which it is realised. (iii) The miracle *quoad modum quo fit* where Nature could produce it in the subject, but not in the actual manner. Sudden cure of disease is a representative miracle of the third category.

It is, I think, clear that the question of miracle as St. Thomas conceives it is intimately related to that of the normal possibilities of Nature. It provokes the retort immediately, that since we have no complete knowledge of what Nature can do, there can never be any certainty that a particular occurrence is beyond Nature. We must know the limits, it is said, before we can say that they are overstepped. This is the contention, now stigmatised for all time as heretical, that a miracle can never be definitely known as such.

I think the flaw in the argument is fairly obvious. The Vatican Council does not require us to say that in every case we can be sure whether an event is miraculous. What it condemns is the proposition that we cannot be sure in any case. The boundaries between the animal and vegetable kingdoms are, I believe, rather difficult to define. At any rate, I cannot fix them. Yet I have not the faintest doubt that an elephant is an animal and a cabbage a vegetable. Doctors may differ on the delimitation

of the physiological and the pathological, but nobody doubts that cancer and epilepsy are pathological.

In the light of what has been stated here, what is the attitude we should adopt towards any alleged miracle—the miracles at Lourdes for example? The Catholic is entitled, and indeed required, to adopt a strictly scientific attitude. He must judge any case that is presented to him entirely on the evidence without prepossessions. It is sometimes suggested that in this matter the Catholic cannot approach the evidence with an open mind, but the materialist is a free-thinker. This is the precise opposite of the truth. If a Catholic journalist, with more piety than learning, serves up the story that Miss A went to Lourdes with a 'gastric stomach' and came back cured, I am entitled, without in any way prejudicing my orthodoxy, to say that this is a mistake; that no miracle has occurred. I can examine a thousand cases reported from Lourdes and decide that in each of them the cure, if it occurred, was due to entirely natural causes. I am an entirely free thinker in my approach to miracles. My materialist friend who holds that 'miracles do not happen' is compelled to hold, in face of any evidence, that the cure is due to natural causes and could not possibly have a supernatural explanation. A thousand or a million alleged miracles exploded would leave the Catholic position untouched; one miracle admitted will bring down the materialist case like a house of cards. I am not arguing here that the Catholic is right and the materialist wrong, though that, of course, is what I hold. I merely want to be sure that we understand their respective positions correctly.

Granted that our business is to approach the evidence from Lourdes in a critical spirit, it is surely particularly desirable that Catholics should do so, if they are to make full use of the evidential value of miracles in this age. The writer has never been to Lourdes.¹ He does not question for a moment anything that he has been told about the wonderful spiritual atmosphere. It may well be that in that spot which, as Belloc has it, is nearer to Heaven than any other place on earth, the mere mechanism of physical healing seems a small thing. The abiding miracle of Lourdes is a miracle of devotion. Even so, it happens that Our Lady has been pleased in this place and in our day to heal the sick. It seems unmistakably to be the intention of Divine Providence that these miracles should be an evidence for her in an unbelieving age. Thus, in considering the evidential value of those miracles, we must discount all that will not appeal to the contemporary mind. The *argumentum ad hominem* imposes itself.

There are two dangers in the apologetic for miracles of healing. One is that we shall identify it too closely with particular medical theories ; the other that we shall ignore medical knowledge. It is a waste of time to tell an agnostic doctor that a case has been miraculously cured when he knows that the symptomatology of the case could be due to hysteria and could be cured by suggestion. It may well be that, in the case in question, the trouble was not hysterical, but the onus of proof is upon us. We must not expect critics to give us the benefit of any doubt.

¹ Since this chapter was written, he has done so and the result is to confirm his conviction of the reality of the miracles there.

A case that is possibly hysterical must be held to be so. Presumably Our Lady of Lourdes, like her Lord and Master, comes not to call the righteous, but sinners and sceptics to repentance.

Let us not lose ourselves in speculations about those convenient words 'organic' and 'functional.' Dr. Crookshank, who has already been quoted, has some witty words on this point. 'We had better be frank,' he says,¹ 'and admit that this antinomy was invented in order that we might say that organic disease is what we say we cure, but don't, while functional disease is what the quacks cure, and we wish to goodness we could!'

It is not really so bad as that. The distinction between organic and functional is a valid one, but it needs to be drawn with care. There are cases which it seems reasonable to describe as purely functional, because a thorough examination fails to reveal any organic injury which is relevant to the disturbance of function. Others appear just as clearly to be entirely organic, since the symptoms are fully explained by and, indeed, follow inevitably from the pathological findings. A man who is unable to walk because he has broken his leg would come in this latter category. In practice, however, it is less useful to draw the distinction between functional and organic 'cases' than to recognise that in the vast majority of cases of illness there are both functional and organic elements, and it may defy the skill of the physician to distinguish them. For practical purposes it may seem that this distinction, too, is not very helpful. If I am ill, it is little

¹ *Diagnosis and Spiritual Healing* (London, 1927), p. 89.

consolation to me that the illness is due to my way of reacting to an organic lesion and that somebody with a different psychological make-up would escape the symptoms which prostrate me. If medicine is as incompetent to cure one set of conditions as another, what value is there in the distinction ?

We must admit that a cure of a functional case at Lourdes may actually be as miraculous as a cure of an organic case. It cannot, however, be proved to be so and we have seen that the evidential value of a miracle is an essential element. If a woman from a poor district, who has been ill for many years, goes to Lourdes and is restored to health, so that she returns to her home and is a visible object lesson to all her neighbours, they are not likely to challenge the assertion that a miracle has happened. A medical man, however, whether he be Catholic or unbeliever, will be compelled to say that we cannot declare dogmatically that such a cure was beyond the power of Nature in this case, and in this manner. He will, therefore, decline to commit himself to the assertion that a miracle has happened.

A case which came under the writer's notice will illustrate the dangers of assuming that every apparent cure of an ' organic ' case at Lourdes or elsewhere is miraculous. The patient was a woman, who, it was agreed by the doctors, was suffering from disseminated sclerosis. This is a serious nervous disease, usually of slow onset and of very uneven duration. The early symptoms usually fit into no known category of central nervous malady and are likely to be regarded as hysterical. In time, however, certain symptoms make their appearance which,

when found in combination, are considered indicative of the disease. Speech is altered, there is a condition of nystagmus, the abdominal reflex is lost and so on. The pathological basis of this is a hardening, or sclerosis, of the spinal cord and brain in patches. Complete certainty is not possible, obviously, without a post-mortem examination, but there are some cases in which, on a study of the symptoms, no neurologist would hesitate to diagnose disseminated sclerosis. There is a test of the cerebro-spinal fluid which, in the opinion of some pathologists, is conclusive. The disease is liable to spontaneous arrest for indefinite periods, though no curative treatment is known and when the last stage is entered decline is usually rapid.

The case now under review was declared both on the clinical symptoms and the pathological findings to be one of disseminated sclerosis, the patient had taken to her bed and was not expected to leave it. At this stage a visitor suggested that it was 'tempting Providence' to have peacock feathers in the house, they being notoriously unlucky. The idea was at first scorned, then considered and finally adopted. The 'unlucky' feathers were burned and the patient left her bed on the following day and at the time of writing—eighteen months later—is walking about. She walks with a limp and there are indications of ill-health, but nothing which at present would lead any doctor to diagnose disseminated sclerosis.

What are we to conclude? That this is a miracle? It is practically certain that if it were possible to examine the spinal cord we should find it in exactly the same position as it was before the ritual burning of the peacock feathers. What the case illustrates

is the fact that, even in a case of organic disease, symptoms which are quite capable of being produced by the lesion may actually represent a hysterical fringe. There is much talk in these days of pain and other symptoms being of 'psychogenic origin.' Nothing is easier than to make fun of it and a clever writer might show that the field of ignorance is so vast in relation to the field of knowledge that we may as well admit the miraculous nature of any cure.

This would be a profound mistake. Nothing is gained by what the nineteenth-century rationalists called 'the theology of gaps' which seizes upon every gap in the knowledge of the scientist and, where there is no certainty, refuses to admit probability. There are many diseases which are psychogenically produced and can be psychogenically cured in the natural order, without any necessity to postulate a miracle.

Having said this, we must add the firm conviction that it is impossible for any open-minded person to approach the accessible evidence about Lourdes without admitting that miraculous cures, in the most rigorous sense of the term, occur there. To what category do they belong? Not usually to the first, the miracles *quoad substantiam facti*. The work of healing cannot be said to be outside the power of created nature. Man has long recognised the *vis medicatrix naturae*. It is possible to argue that some of the cures fall into the second class, that of the miracle, *quoad subjectum in quo*, when we consider the advanced illness of those who are cured. We shall probably be on sounder ground, however, in placing them under our third heading, as miracles

quoad modum in quo fit. What distinguishes them from natural cures is really the time factor. Nature can produce new tissue in place of old. She is always doing it. Normally speaking, however, she does not do it 'in the twinkling of an eye.' Under hypnotism, a subject, told that a table is red-hot and induced to put a finger on it, may produce a blister as quickly as though it were hot. We have then a psychogenically produced condition, which is capable of being brought about by physical means. The sudden appearance of new tissue would be a miracle of the third category. There is evidence of such miracles.

Dr. Halliday Sutherland, whose right to speak on tuberculosis will not be questioned, tells us that he saw at Lourdes a cure of the disease which might have been brought about by tuberculin, but could not have been so produced instantaneously, as it was at Lourdes.

The De Rudder¹ case has often been described and there is no need to recapitulate the evidence here. We are entitled to say this: If that case, with the available testimony, were submitted to any medical body as evidence for some recognised form of medical treatment, it would be accepted as supporting the claims.

It is impossible to study the general attitude towards the phenomena of Lourdes without marveling at the distorting effect of prejudice on the mind. It is blandly assumed that if a man holds the Christian faith his approach to questions must be biased. If he holds the dogmas of the materialistic

¹ For this and other cases, see *Medical Proof of the Miraculous*, by Dr. Le Bec (London, 1922).

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sect he is unbiased! Look at the facts about Lourdes. The *cultus* was not built up by theologians. On the contrary, the ecclesiastical authorities, with a discreet scepticism, fought it as long as they could. Set aside, for a moment, all question of any miraculous cure having been effected at Lourdes and consider the conditions which prevail there, from an ordinary hygienic standpoint. Why on earth is the place not riddled with epidemics? The question which presents itself about many of those who go, is not whether they will be cured, but whether they will survive the journey. 'Faith cure,' says the sceptic. 'Influence of mind over matter.' These are mere words! It is indisputable that many who go to Lourdes go in despair, with not the faintest expectation of cure. All attempts to associate the results with the degree of confidence of the invalids have completely failed. Would those physicians who so glibly talk about the power of mind over matter take the risks that the Lourdes pilgrims take? If they really believe the theories they invoke to discredit Lourdes, why do they not 'throw physic to the dogs' and take to psycho-therapy?

But let us leave the medical aspect out of account and consider the origin of the Lourdes stream. As far as we know, it is not challenged. When little Bernadette Soubiroux in 1850 was told by the 'beautiful lady' of her vision to drink of a mysterious fountain in the grotto, the existence of this fountain was unknown, and there was no sign of it. We may be told that Bernadette's vision of Our Lady was an hallucination. The fact that the water gushed out at the place indicated and grew in volume until it

reached 12,000 gallons a day is an objective fact which is not to be explained away. To believe in the accidental coincidence of Bernadette's vision and the appearance of the stream in the place where she was told to look for it, places rather a strain on our belief.

To sum up : we consider these three propositions established : (1) Catholics are required to believe that miracles which may certainly be known as such, do occur, and are to be considered as evidence of the divine origin of our Faith. (2) There is nothing in a sound philosophy that should lead us to doubt the possibility or likelihood of miracles. (3) A critical study of the evidence compels the conviction that ' signs and wonders ' are worked by God in these days as surely as they were nineteen hundred years ago.

CHAPTER IX

THE CHURCH AND THE DOCTORS

NOBODY will question the points of contact and possible conflict between religion and medicine. At some stages of civilisation the priest and the medicine man have been the same person and there is a tendency among the psycho-analysts in our day to reunite their function, with religion swallowed up in medicine. With their separation, priest and doctor have tended to be antagonistic at some periods. The dictum '*Ubi tres medici, duo athei*'—where there are three doctors, there are two atheists—is said to be mediæval, and in the heyday of materialism in the nineteenth century those doctors who wrote popular books tended largely to be irreligious. All this merely illustrates the truth of the saying that 'a little learning is a dangerous thing,' for even in these times the physician has acquired very little learning indeed in relation to the vastness of his problems. To say that a thing has dangers is not to say that those who are faced with them will necessarily succumb, and it would be a libel on the physicians of any age to say that as a class they were irreligious. The proportion of atheists, or even sceptics, has probably never been so high as is stated in the proverb we have quoted. St. Luke, the beloved physician, is one of the four

primary sources of our knowledge of Our Lord's earthly mission, and in all ages there have been many doctors to agree with the old curé in *Maria Chapdelaine* that 'the doctors do their best, but only the good God understands illness.'

Crude materialism is not popular in medical circles at present, but there are a few minds still affected by the spirit of '*le stupide dix-neuvième siècle*' who hold the wild idea that life will one day be expressed in physico-chemical terms. This conception finds naïve expression in a work published a few years ago by no less a person than Professor Ch. Achard, of the French Academy of Medicine.¹

'To some minds,' he writes, 'vital phenomena, and consequently the digestive system, belong to a different order from physico-chemical phenomena and are not subject to the same laws. But does the mystery which surrounds these vital phenomena suffice to endow them with a specific nature? The unknown is not the unknowable and all that we learn from the continuing progress of science about matter, its properties and the forces that govern it, entitles us to hope that the problem of life and of nutrition will one day find a complete solution in the play of physico-chemical activities, more complicated, it is true, than those whose effects we are at present able to measure.'

This is a contemporary quotation, but it is a voice from the past. The numbers and the personnel of the Catholic Guild of St. Luke are a sufficient indication that there is nothing in the existing state of medical

¹ *Troubles des Echanges Nutritifs* (Paris, 1926).

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knowledge which is incompatible with a full and enthusiastic profession of the Catholic Faith.

There are at present certain directions in which individual Catholic doctors may find themselves handicapped by their faith in relation to public appointments and it is necessary to refer to them. Two subjects which immediately suggest themselves are 'sterilisation' and the forms of unnatural vice which are euphemistically described as birth-control. Under the influence of neo-pagan ideas, legislation has recently been enacted in various parts of the world providing for the mutilation of persons who may desire—or in whose case others may desire—that they should continue to live a full sexual life without the natural consequences. Also, by a strange irony, the public services for 'child welfare' have, in some cases, been prostituted to the purposes of artificial birth prevention. It may happen in some cases that a Catholic who on religious grounds—or a doctor of any shade of belief or unbelief, who on grounds of natural decency—refuses any participation in such things, may thereby be hindered in his or her professional career.

It would be very far from the truth to suggest that these are matters on which the Catholic Church is 'in conflict with medical science.' Let us consider briefly the subjects of sterilisation, artificial birth prevention, abortion and 'eugenics' as a preliminary to some general remarks on the relations between the Church and medicine.

The demand for sterilisation, which is conducted with the wildest use of figures, has not been made mainly by doctors. A sober enquiry into the evils

which it is supposed to prevent shows that it would be of very little efficacy. This is not a case of Catholicism conflicting with the opinion of the scientific world. The weight of scientific authority is at present against sterilisation. The large representation of spinsters and childless married women among the active advocates of the policy, like the similar phenomenon in the birth prevention movement, is most satisfactorily explained in accordance with the principles of the new psychology, to say nothing of Aesop. As these pages are being written the newspapers contain the account of a fatal operation for sterilisation in a London hospital. A doctor, or doctors, having decided that it would endanger a woman's health to bear more children, she was submitted to an operation which, though 'quite properly performed' resulted in her death from hæmorrhage. Comment is unnecessary.

On the question of what is called birth-control, it is possible to cite the names of a considerable number of doctors in support of the practices, though, here again, the driving-power is mainly non-medical, and some of the most noisy advocates, though decorated with various irrelevant degrees and diplomas, have no medical qualifications or experience. However saddened any Catholic, or, for that matter any Christian, must be by the harm done to body and soul by this campaign, we are able, as far as the relations between the Church and science are concerned, to regard it with equanimity. The weight of expert opinion is with the Catholic protest. The supporters of contraception are not found to any appreciable extent among gynæcologists and those

who are brought into direct contact with its evil results. The President of the League of National Life, which is expressly concerned with this subject, is a non-Catholic, Dr. McCann, whose eminence as a gynæcologist will not be questioned. We might leave theology out of account and concern ourselves only with biology. Those who know how Nature punishes any misuse of function will have no difficulty in appreciating what will be the penalty demanded for a misuse of the most fundamental of all.

‘ So careful of the type, she seems,
So careless of the single life ! ’

Too late, nations wake up to the terrible consequences of this sin. France has legislated against it, ineffectually, as was to be expected. It is more than probable that before this century is out Great Britain will be driven to take some steps. At present the ‘ birth controller ’ enjoys such a vogue that some of those who have smiled on the movement are shocked and frightened.

The occasional tragedy of the excessively large family has been exploited with no sense of proportion and with a total disregard of the maxim that ‘ hard cases make bad law.’ Who will draw for us the tragedy of the childless marriage ? To say nothing of the social calamity of the only child ! The early days of these marriages that are no marriages pass well enough. As the woman approaches the climacteric her unconscious mind—of which we shall have more to say in the next chapter—begins to remind her that she has been cheated of her natural right. This is not the same case as that of the unmarried woman,

for there has been no attempt to sublimate, as the psychologists have it, her sexual life. Her manner of living has been such as to reinforce the strength of the unconscious maternal instinct. The marriage, especially where both partners are engaged in business, has had no chance to develop on normal lines, nor is there that mutual adaptation and compatibility which is the consequence of normal marital relations. The chance is that the husband will seek consolation in other quarters in relief from a wife who at the critical period of her life, is overstrained and unbalanced for reasons which may be only partially comprehended by herself. Ask an experienced physician about the incidence of mental disturbance in married women at the change of life in these days. Too often the physical penalty is paid, too, in uterine fibroids, an operation for the removal of which is for some reason considered less disagreeable than the process of childbirth.

We hear a great deal in these days about maternal mortality, and the most natural of all functions bids fair to be regarded as if it were a disease. We must not dogmatise on these subjects beyond the warrant of the evidence. We will content ourselves by setting down undisputed facts and asking certain questions which may be left to the common sense of the reader.

First for the facts. It is admitted that although there has been an advance in medical science and general hygiene, which has reduced the incidence of disease and the death-rate in many directions, the deaths from childbirth show no corresponding decrease. Those who are concerning themselves with the matter usually urge two sets of remedies.

We are told that we must increase the efficiency of our midwifery services and spend more money. By all means. But those services are more efficient to-day than they have ever been. The trained nurse has ousted Sairey Gamp and more cases than ever are attended by doctors. Never was so much public money spent.

Another school of social reformers talks about 'starved mothers' and tries to relate the problem of maternal mortality to the general poverty question. We have every sympathy, but there is not more poverty than there was; there is less. Moreover, this is not a question of nutrition in most cases. At the 1934 Conference of the British Medical Association, a doctor said: 'We want the poor to have what the rich have got.' An eminent pathologist, attached to a maternity hospital, asked: 'Including their higher maternal mortality?' The rate is higher in the West End of London than in the East End.

Now for the questions. In face of these facts, is it not reasonable to assume that the explanation of the maternal deaths should be sought in something directly concerned with the maternal function? If we lose proportionately more mothers to produce ever fewer babies is it not worth while to ask whether the two sets of figures are connected?

No physiologist will deny the part played by the increasing age of first child-birth. When the optimum time has passed, every year increases the risk of having a baby. Is it any wonder that the 'deferred child' so often never comes? Well did Cardinal Bourne declare the ravages of 'birth-

control ' to be worse than the ravages of war. There is no doubt who will rise up to curse its advocates on the Day of Judgement.

' A voice in Rama was heard, lamentation and great mourning ; Rachel bewailing her children and would not be comforted, because they are not.'¹

The recent development in this country of a campaign for legalised abortion—which is one of the ' fruits of philosophy ' in Soviet Russia—is an implicit admission of the unreliability of contraceptive measures. It used to be argued by advocates of ' birth-control ' that the spread of these practices would reduce the number of abortions, but this policy of ' casting out devils by Beelzebub ' cannot claim the merit of success. As the late Professor Paul Bureau pointed out in his book, *L'Indiscipline des mœurs*, the number of abortions increases with the practice of contraception, which is precisely what we should expect, since they are both symptoms of the same moral decadence.

What of eugenics ? There is no reason why Catholics should not support any really scientific methods of raising the physical standard of the community which are not contrary to natural morality. On the contrary there is every reason why we should be most active in such measures. Enthusiastic Catholics who sometimes use language which seems to imply that there is a benediction on complete improvidence, do a considerable amount of harm. The Church does, however, set her face

¹ Luke ii, 18.

resolutely against all policies which imply that humanity can be treated on stud principles. Let the enthusiasts for the extreme forms of eugenics cast their eyes over a list of undoubted benefactors of humanity in the arts and sciences and ask how many would have been allowed to be born if the eugenists had their way.

There is no need for us to be apologetic in this matter. Not only is the Catholic attitude not an obstacle to progress in medicine ; it is a very positive help. To-day, by resisting exaggerated theories of heredity, the Faith checks the most paralysing tendency with which medical progress has ever been challenged. That tendency was very strongly marked in the late nineteenth and early twentieth century, when Zola and Ibsen were largely responsible for a conception of the hereditary physical curse which went far to make life a nightmare. It was not suspected by many that, as Chesterton put it, ' the curse of Rougon-Macquart is as superstitious as the curse of Ravenswood.' This extreme emphasis on heredity is a sort of medical Calvinism. It leads to the horrible idea proclaimed by Mr. Bernard Shaw that once a man is born, there is no more to be done with him.

Now it would be folly to deny the great influence of hereditary transmission. The more we study the subject, the more we shall be impressed by the uncanny way in which physical characteristics, down to the smallest detail, are transmitted from generation to generation. We shall find, however, that what is transmitted is, for the most part, a particular morphology and a type of constitution. These

things are, in themselves, indifferent. They are compatible with health or illness. Hereditary qualities may expose us to special dangers in one direction and give us particular opportunities in another. There may be the same physical and constitutional background to dipsomania and to genius.

How are we to regard disease? Shall we say that the constitutional soil—the part with which heredity is concerned—is the essential matter? Or shall we say that what matters is the way that we use our constitution? Now if we take the first of these views we shall be led to wild experiments in ‘breeding’ for which we are insufficiently equipped, and our message for existing humanity can be one only of despair. It seems a little rough on the men and women who are alive to-day that they should not be conceded equal rights with an unborn generation, but ‘eugenisists’ think only of posterity. It is easy to see how this attitude by concentrating attention on the so-called science of genetics removes incentive to make any progress in the main business of the healing art, which is to treat and, if possible, cure sick people here and now.

The Catholic attitude, on the other hand, has a stimulating effect. Turning his back on the contraceptionist and the abortionist, the physician is required to fight illness in the belief that he can often defeat it. Every day the discovery of remedial measures—the correction of endocrine unbalance for example—registers a fresh triumph for curative medicine against the black despair of the exaggerated ‘heredity’ school. The fanciful, and often disgusting, theories of the ‘eugenist’ are a menace to

medical progress and the Church does a service to progress, as well as to decency, in fighting them.

This leads us to a feature of modern medical speculation on which authority has not pronounced but on which the mind of Catholicism may, we think, be indicated with some confidence. A great deal of attention has been attracted in recent years by experiments in glandular treatment, by which it is sought to defeat the natural process of advancing age. Glands from the lower animals are grafted on to human beings. At present it looks as though the visible results of this method will discredit it. There is, however, an idea behind it. That idea is that the doctor's function is not to restore sick people to what we usually regard as normality, but to transform man, as God made him, into a different creature. This is the avowed doctrine of Nietzsche who declared man to be a bridge. The imagery was a little confused, for a bridge does not evolve into something else. The idea is, however, that humanity is a transitional type to be developed by conscious methods into superman. The Church, as we have said, has not pronounced on these things, but it may not be inopportune to recall that 'your bodies are temples of the Holy Ghost.'

A word remains to be said on the subject of vivisection. The Church does not condemn experiments on live animals for the increase of knowledge which may be beneficial to man. It is sometimes said that a Catholic may not be an anti-vivisectionist, but this is not strictly accurate. A Catholic may hold the belief that experiments on animals are so misleading in view of the important differences

between man and other species, that more harm than good is done by treatment based on animal experimentation. Such a view would not conflict with Catholic, nor, as far as we know, with any other theology, being no more relevant to theology than is a 'theory of irregular verbs.' It finds its place in the armoury of anti-vivisectionist propaganda and may be considered on its merits. For the most part, however, it will not be denied that the campaign against vivisection rests upon a contention that man has no right to use the bodies of animals for experimentation with the object of helping humanity. This assertion is contrary to the clear opinion of our theologians in all ages and it would be extremely temerarious in a Catholic to maintain it. The teaching of the Church is that of St. Thomas, that the irrational creatures are made on account of man, for whose sake they exist. Cardinal Newman's words sum up Catholic teaching in this matter.¹

'You know we have no *duties* towards the brute creation ; there is no relation of justice between them and us. Of course we are bound not to treat them ill, for cruelty is an offence against that holy law which our Maker has written in our hearts, and it is displeasing to Him. But they can claim nothing at our hand ; into our hands they are absolutely delivered. We may use them, we may destroy them, at our pleasure, not our wanton pleasure, but still for our own ends, for our own benefit and satisfaction, provided that we can give a rational account of what we do.'

¹ Sermon before the Catholic University of Dublin.

In so far then as there is a controversy on vivisection, it is, for the Catholic, a purely scientific one. Do animal experiments benefit humanity? On this point the weight of evidence is overwhelming and it may be doubted if there exist any anti-vivisectionists on purely scientific grounds. People sometimes tell us that, even if they believed vivisection to be morally defensible, they would reject it on the scientific evidence. This is a hypothetical statement and one which we are bound to regard with some scepticism. We should be equally sceptical if the objection to 'birth-control' were confined to those who regard it as morally objectionable. Not, of course, that a moral objection is not more important than any other, but we have to be on our guard against holding views professedly for scientific reasons when we really hold them on moral grounds. This point was admirably made by Mr. Chesterton some years ago.

'We have actually contrived to invent,' he wrote,¹ 'a new kind of hypocrite. The old hypocrite, Tartuffe or Pecksniff, was a man whose aims were really worldly and practical, while he pretended that they were religious. The new hypocrite is one whose aims are really religious, while he pretends that they are worldly and practical. The Rev. Brown, the Wesleyan Minister, sturdily declares that he cares nothing for creeds but only for education; meanwhile in truth, the wildest Wesleyanism is tearing his soul. The Rev. Smith of the Church of England

¹ *What's Wrong with the World* (London, 1910), p. 16.

explains gracefully, with the Oxford manner, that the only question for him is the prosperity and efficiency of our schools ; while in truth all the evil passions of a curate are roaring within him. It is a fight of creeds masquerading as policies.'

We must point out, therefore, that there is a strong and growing opinion against contraceptive practices among those who hold them to be morally permissible. Among those who have pointed to their dangers, as we shall see in the next chapter, is Professor Freud, by no means a Catholic obscurantist !

CHAPTER X

THE NEW PSYCHOLOGIES

THE word ' Psychology ' has a different meaning in the Catholic schools of philosophy from that which attaches to it in popular usage to-day. Etymologically it may be defined as the study of the soul. Now the ' psyche ' is the principle of life in living organisms, animal and vegetable. It is not to be confused with the mind or intellectual soul which is the immortal part of man. The scholastics studied inanimate nature in ' Cosmology ' which embraced the studies now comprised in physics and chemistry, while their psychological curriculum contained much that would now be divided among such sciences as biology and physiology. In its modern acceptation, psychology means the study of the psychic life of human beings.

Considered in this sense, it can be divided into two parts which Catholic writers usually describe as rational and empirical. A more modern way of putting it would be to call them theoretical and practical. Such questions as the freedom of the will and the immortality of the soul come properly within the scope of psychological study, though the study of the nature and limitations of human knowledge—which also is concerned

with an activity of the soul—is the subject of a special branch of scholastic philosophy known as criteriology.

When people talk in these days of psychology, they usually mean empirical or experimental psychology. There is a popular movement in America known as behaviourism which holds that psychologists should be concerned exclusively with conduct, and medical psychology in our day is for the most part, purely behaviouristic. The 'new psychologies,' as they are called, are empirical. It is claimed that they are built up by observation of what happens. In reality if we study this branch of psychology in the writings of St. Thomas Aquinas and, let us say, Professor Sigmund Freud, we shall find that the difference of method is not so very great after all. St. Thomas did not seek to determine the nature of our psychic processes *a priori*. His starting-point is the study of facts and from it he gets what may be called a sort of map of our psychological make-up. We have the senses, giving us the first material of our knowledge, the active and passive intellect, the faculties of the soul and so on. We are not to imagine these things as representing objects like the knee and the elbow. They are methods of describing and co-ordinating our mental activities. I do not think it would be misleading to describe them as scientific hypotheses in the modern sense. If we turn to Freud, we shall find nothing about the active and passive intellect or the faculties of the soul. We shall read about the conscious, the pre-conscious and the unconscious, the Censor of dreams and so on. If we read Cardinal Newman we shall find a great deal

about ' the illative sense ' which is not mentioned by either of the other writers.

It is rather important to have these facts in mind at the outset, because some ultra-realist people have a tendency to hypostatise conceptions like the active intellect and the unconscious mind. There is a difference here between anatomy and psychology. A treatise on the former subject which ignored the thyroid gland, let us say, would be imperfect in an easily definable way. We can cut out the gland and examine it. The physical organs of the body are ' things ' that have been discovered at different epochs. The ' faculties of the soul ' and ' the unconscious mind ' are not discovered, they are postulated.

When we hear about the challenge of modern psychology to religion, or when Sir James Jeans calls for a religion which will be accordant with the discoveries of psychological science, it is of this experimental psychology that they are speaking. There is one important distinction between the way in which St. Thomas built up his psychology from observation and the way in which Freud and the ' new psychologists ' build up theirs. The system of St. Thomas is built upon ordinary behaviour ; the new psychologies take disease as their starting-point. They are what are called abnormal or morbid psychologies. They seek to determine the normal character and working of the mind from a study of its distortion in neurosis, hysteria and psychosis. We shall find this fact of importance in considering some of the rasher statements of the writers on psycho-analysis.

For practical purposes we may consider the new psychologies as comprised in the three systems of Freud, Adler and Jung. With the system of Jung we do not propose to deal here. Its influence on thought in this country has been negligible and it raises no questions of moment which cannot be adequately covered in a study of the other two.

In what light are we to regard these systems? Their originators are medical men and they may be said to belong primarily to the sphere of medical treatment. If that were the end of the matter, there would be little to be said beyond deploring the fact that technical literature should be diffused so indiscriminately among the public. If we are to consider Freudian Psycho-analysis and Adlerian Individual Psychology as therapeutic methods employed by doctors in the treatment of neurosis and psycho-neurosis, there would be no more reason to display on the bookstalls and review in the general press the literature of this subject than there is for books on artificial pneumothorax in the treatment of tuberculosis or treatises on the relative merits of the perineal and supra-pubic operations for prostaticectomy. We do not, for example, find works on the technique of insulin administration thrust at us in the way that books on psycho-analysis are forced on our notice.

There is, however, no intention on the part of Freud to regard psycho-analysis simply as a contribution to medical technique. Even in the strictly therapeutic application of the system he favours its practice by persons with no medical training.¹

¹ See *Die Frage der Laienanalyse* (Vienna, 1926).

‘Hand in hand with the geographical extension of psycho-analysis,’ he writes,¹ ‘went an expansion in its content ; its application was pushed forward from the field of the neuroses and psychiatry to other fields of knowledge . . . I myself ventured the first approach to the problems of the psychology of religion in 1910. . . . In four essays called *Totem and Tabu* I have made an attempt to deal with the problems of race-psychology in the light of analysis . . . the first example of an application of the analytic mode of thought to the problems of æsthetics was contained in my book on *Wit*.’

It will be seen that psycho-analysis claims to cover a very wide field and that it calls for consideration in any attempt to discuss the interaction of Catholicism with contemporary intellectual movements.

Now it would be very easy by confining our attention to the interpreters and disciples of Freud—even to those of whom the master has expressed his approval—to present the whole psycho-analytic system as a mass of absurdities and obscenities. Neither the absurd nor the obscene is lacking from Freud’s own writings. There are times when, with the best intentions, any normal reader of the psycho-analytic literature must be inclined to throw the whole thing aside with an exclamation of disgust. Mr. Chesterton has declared wittily of the founder of the movement :

¹ *On the History of the Psycho-analytic Movement* (London: International Psycho-Analytical Library, 1924), No. 7, pp. 319 *et seq.*

The ignorant pronounce it Frood
To cavil or applaud ;
The well-informed pronounce it Froyd
And I pronounce it fraud.

Natural as this reaction is to many of the absurdities of the cult and its offences against the most elementary good taste, it is hardly adequate. There is such a thing as finding a pearl in a muck-heap.

For our purposes, in dealing with Freud, we shall entirely ignore his satellites and go to original sources for our information. We have already had occasion to remark that the reader who is accustomed to the rigorously logical methods of St. Thomas and the greater scholastics, or to the general atmosphere of Catholic philosophical writing, will find a considerable relaxation of logical rigour when he turns to 'modern science.' The decline is far sharper—in fact reason makes a vertical nose-dive—when we turn to psycho-analysis. Freud is about as scientific as a Bond Street palmist !

Sigmund Freud was born at Freiburg, a small town in Moravia—now a part of Czecho-Slovakia—in 1856. His parents were Jews and he tells us¹ that he has remained a Jew. Both Freud and Adler are Jews and those with a tendency to anti-semitism have not altogether unnaturally seen in this fact and the Jewish origin of Bergson an argument for the contention that the Jewish mind is engaged in a conspiracy against the bases of Christian civilisation. Freud himself is aware of the prejudice in which his race has involved him.

¹ In his contribution to *Die Medizin der Gegenwart in Selbstdarstellungen* (Leipzig, 1925).

'I have sometimes been inclined to suppose,' he writes,¹ 'that the reproach of being a citizen of Vienna is only a euphemistic substitute for another reproach which no one would care to put openly.'

At the University, which he entered at the age of seventeen, he tells us that he was expected to feel inferiority on account of his race, but he resolutely refused to do so. The present writer, who is entirely without sympathy with any form of anti-semitism, has no wish to pursue this aspect of the subject. As a medical student, Freud was not a conspicuous success. It was not until 1881—at the age of twenty-five—that he qualified. At the general hospital, he appears to have impressed American doctors by his addresses in pidgin-English on certain cases, but a diagnostic 'howler' brought what he humorously calls his 'professorship' to a premature end in a well-justified critical revolt among his hearers.

In 1885 Freud went to Paris to study at the Salpêtrière, that famous school of psychological medicine, and offered his services as German translator to Charcot. He tells us—and the information is interesting in view of the criticism which we shall have to direct against psycho-analysis—that, in the opening years of his medical practice, suggestion became his principal instrument. He abandoned the treatment of organic nervous diseases and observes frankly that 'it was no great loss'!

Here we have the background of the founder of

¹ International Psycho-Analytical Library, Vol. 7, p. 325.

psycho-analysis—an acute Jewish mind, not particularly successful in exact work, but early attracted to flashy ‘spot diagnosis.’ He was drawn by methods of suggestion and abandoned without regret the more exact study of organic maladies.

The Psycho-Analytic movement may be said to have begun in 1893 with the publication by Freud and Breuer of a study of *The Psychic Mechanism of Hysterical Phenomena*, followed two years later by *Studies in Hysteria*. Freud and Joseph Breuer were acquainted before the former went to Paris, when Breuer reported to him his observations on a case of hysteria, which, as Freud puts it, ‘he had treated from 1880 to 1882 by a special process, through which he had gained very deep knowledge of the cause and significance of hysterical symptoms.’ Freud brought the matter to the attention of Charcot, who was not particularly interested; ‘with the result,’ says the impressionable Freud, ‘that I did not concern myself with the matter any further.’

On his return to Vienna, however, Freud renewed contact with Breuer and obtained more details about this case of hysteria. It was the case of a girl of more than average culture and aptitude. She was suffering from a bizarre collection of paralysis, contractures, inhibitions and states of mental confusion. Breuer discovered, by a lucky chance, that it was possible to relieve the patient of her conscious anxieties when she could be induced to talk about them. He then proceeded to hypnotise his patient and allowed her to relate what was troubling her mind. Having disposed of the

depressive psychic states in this way, her physician turned his attention to the physical symptoms. In her waking state she could give no account of their causes nor associate them with any particular impression or experience. Under hypnosis the connection was made clear. All the symptoms stood in relation to some event which had strongly impressed her at the time when she was nursing her sick father. The symptoms of the hysteria, then, were not meaningless. They 'made sense' and they were the results and recollections of her experiences. By bringing everything into the open the patient was cured. Before passing to consider the elaborate structure of modern psycho-analytic theory, let us consider what may be legitimately deduced from this and similar cases.

The first conclusion—and it is central in the new psychologies—is that symptoms have a meaning. To the older physicians the precise form taken by hysterical manifestations was of no interest or value when the underlying condition had been diagnosed. It follows also from this experience that conduct may be influenced by memories which are not present in the normal waking consciousness but can, by certain procedures, be brought into it. A great deal of the theoretical criticism which Freud, his coadjutors and rivals have encountered, especially from Catholics, has been directed to the conception of the unconscious mind. It is easy to make it look foolish and not easy to put up a satisfactory philosophical defence. Both the word and the idea are considerably older than Freud. Considered as

a working hypothesis we consider that 'the unconscious' has justified itself. It permits the co-ordination of a number of facts which cannot be so successfully handled without it. We should be prepared to say, therefore, that Freud has thrown light on the fact that conscious actions may be motivated by impulses of which the actor is not consciously aware, though a knowledge of them is present below the conscious level and may, in certain circumstances, be brought into consciousness.

The first interpretation of these facts was that the hysterical symptoms were due to the displacement of nervous energy from normal to abnormal channels. Here, once more, a rigidly critical mind objects. Have we any warrant for talking about 'nervous energy' or 'psychic force' or anything of the kind? Again, we think the procedure of the new psychologists is justified. Janet had already made a postulate of this kind to distinguish hysteria from neurasthenia. Breuer's conception of treatment was cathartic. The displaced nervous energy had to be brought back to normal channels in order that it might be discharged or 'abreacted.' The reason why this 'hysterical conversion' took place, according to Breuer, was that the impressions were received during what he called hypnoid states. Freud tells us that the practical results of this cathartic treatment were excellent, and, in view of the later developments of psycho-analysis, it is interesting to note that according to Breuer, the sexual side of this first patient was astonishingly little developed. Freud tells us that 'it would not be easy, from *Studies in Hysteria* to divine the

importance of sexuality in the etiology of neuroses.'¹

The divergence between Freud and Breuer begins with the answer to the question: When does an impression follow an abnormal course? What is it that decides that one experience shall be assimilated and dealt with in a healthy fashion, while the other becomes the starting-point of hysteria? Freud was dissatisfied with Breuer's explanation—'to some extent physiological' he calls it—in terms of 'hypnoid states.' It is at this point that he introduces the conception, so vitally important in psycho-analysis, of 'repression.' The experiences that become the starting-point of a neurosis are those which conflict with powerful currents in the psychic life and, as a result of that conflict, are repressed, driven out of consciousness into the underworld of the mind. Henceforth the problem is not the 'abreaction' of the psychic tendency, but the bringing into consciousness of a conflict in the unconscious in order that it may be resolved. The treatment is not by catharsis, but by analysis.

We are now definitely in touch with psycho-analysis; not the fully developed body of belief and practice which bears the name to-day, but its essential basis. We are not prepared to adopt a merely negative attitude towards it. We are far from denying that many cases of neurotic illness may have their origin in an unconscious conflict of the kind postulated by Freud. Whether we may reasonably expect to resolve the conflict by bringing it

¹ The biographical and historical matter in this chapter is taken from the French edition of Freud's autobiography, *Ma Vie et Psychanalyse*, and the article in Vol. 7 of the International Psycho-Analytical Library.

into consciousness is another matter. The tendency to repress in certain circumstances appears to be a normal part of our psychological make-up, and it seems not unreasonable to regard it as self-preservative. There are insoluble difficulties in life, positions from which there is no outlet that the individual can tolerate. Before, then, we seek to deal with a neurosis by the analytic method, we shall want to be reasonably sure that the effect of bringing it on to the conscious level will not be to make matters worse. We shall have occasion later to consider the moral and physical effects of psycho-analytical treatment and of the public discussion of the subject¹. At this point we can see enough of the outline of the system to anticipate the possibility—for which, in fact, there is some evidence—that analytical treatment may turn mildly neurotic conditions into grave mental breakdown.

Freud pursued his work alone and abandoned hypnotism in favour of waking suggestion. He is never tired of insisting in his writings that the developed doctrine of psycho-analysis, with all its highly controversial features, is derived from patient study of facts. He denies vehemently that he imagined his theories and then found facts to fit them, declaring on the contrary, that he was surprised by what he found and compelled to accept it by his experience. Nobody has the right to criticise his findings, he claims, who has not made the experiments. Now this, as we shall have occasion

¹ The December, 1934, issue of *The Practitioner* (London) contains a very damaging criticism of Psycho-Analysis from the medical standpoint.

to admit in dealing with the spiritualists, is not an unreasonable attitude to adopt. It looks like Galileo's telescope over again. If we found that psychiatrists universally, or even generally, accepted Freud's theories, there would be a strong *prima facie* case for believing that they had their origin in experience. There would be a presumption in their favour. This is not the case. The psycho-analytic doctrines are rejected by the majority of psychiatrists as well as by the non-medical psychologists. Among those who followed Freud since the original defection of Breuer, there has been a very large number of deserters. We have already warned the reader that he must not expect the atmosphere or the methods of exact science when he turns to the Freudian literature. The tone is not that of a worker with whom other workers have disagreed, but—in spite of his frequent protestations of scientific method—it is that of a religious leader, the founder of a sect whose followers are deserting him to go after false gods. He explains their heresies without condoning them. Adler, he says, had a thirst for power and was unwilling to live in the shadow of Freud. Jung's modification of the Freudian sexual theories is denounced as an *ad captandam benevolentiam* argument. Dr. Crookshank compares the psycho-analytical movement with the Catholic Church in 'the similarity of their inner politics.'¹

The reader will not always find it easy to decide whether Freud, in any particular case, is giving his discoveries or his speculations; the indicative mood usually suffices for him and he writes: 'We find,'

¹ *Psyche*, January, 1931.

when the proper rendering would be : ' We should expect to find.' This, it will be remembered, was very much the method of the biologist Haeckel, whose drawings to illustrate a thesis were widely taken to have an evidential value.

' Under hypnosis,' Freud writes¹, ' we discover painful ideas of precisely this character underlying the hysterical phenomena (e.g. in the hysterical deliria of saints and nuns, of abstinent women and well-brought-up children).'

An intelligent reader will have no difficulty in deciding whether Freud or Breuer in 1892 had had an opportunity to hypnotise enough ' saints and nuns ' to permit them to generalise !

The specific feature of psycho-analysis in the public mind is its emphasis on sex. What has been called the pan-sexualism of Freud is what chiefly distinguishes his position from that of the other new psychologists. As the position has been much misrepresented both by friends and opponents of psycho-analysis it is advisable to clear away some of the rubbish before we examine the theory. There are people who honestly believe that psycho-analysis is a system of unlimited self-indulgence, that it holds abstinence to be the cause of all evil and indulgence the cure. This interpretation might be supported by quotation from the wilder Freudians who are *capable de tout*, but it is unjust to Freud. He teaches that a recommendation of sexual indulgence

¹ *On the Psychical Mechanism of Hysterical Phenomena*, written in collaboration with Breuer in 1892 and published in No. 7 of the International Psycho-Analytical Library, p. 33.

is rarely a satisfactory way of dealing with a case. While, as we shall see, he is in a complete conflict with Christian sexual morals, he recognises a certain value in a natural asceticism. This passage from an essay on *The Most Prevalent Form of Degradation in Erotic Life*, published in 1912, may surprise some who have obtained their view of Freud at second-hand.¹

‘The injurious results of the deprivation of sexual enjoyment at the beginning manifest themselves in lack of full satisfaction when sexual desire is later given free rein in marriage. But, on the other hand, unrestrained sexual liberty from the beginning leads to no better results. It is easy to show that the value the mind sets on erotic needs instantly sinks as soon as satisfaction becomes readily obtainable. . . . In times during which no obstacles to sexual satisfaction existed, such as, may be, during the decline of the civilisations of antiquity, love became worthless, life became empty, and strong reaction-formations were necessary before the indispensable emotional value of love could be recovered. In this context it may be stated that the ascetic tendency of Christianity had the effect of raising the psychical value of love in a way that heathen antiquity could never achieve.’

The reader will not make the mistake of assuming that Freud has any comprehension of Christian asceticism, but a passage like this helps to correct some mistakes. Another point may be mentioned.

¹ International Psycho-Analytical Library, No. 10, p. 213.

Most of the intellectual bright young people who call themselves Freudians, are supporters of various forms of decadence, including contraception and abortion. Freud with his special experience, could hardly be expected to overlook the harmful effects of 'birth-control.' Nor does he. In his article on *The Justification for Detaching from Neurasthenia a Particular Syndrome; the Anxiety-neurosis*,¹ he declared that misuse of the sexual functions is invariable in the anxiety-neurosis, and the form of contraception which is usually held by doctors to be the least harmful is specially named by him in this connection as a cause of the neurosis. It goes without saying that Freud has no ethical objection to contraceptives, which, he declares 'become a necessity in married life at some time or other,' but he is compelled to add that it is 'well known that at present we possess no method of preventing conception which satisfies all the requirements which may properly be asked of it.'² In an article on *Sexual Morality and Nervousness*, he declares: 'All the contraceptives hitherto available impair sexual enjoyment, disturb the finer susceptibilities of both partners, or even act as a direct cause of illness.'³

The *ad captandam benevolentiam* attitude which Freud attributes to Jung is sometimes found among those who wish to make psycho-analysis 'respectable' and they are fond of telling us that, although Freud attributes so large a place to sexual factors,

¹ International Psycho-Analytical Library, No. 7, pp. 76 *et seq.*

² *Ibid.*, No. 7, p. 238.

³ International Psycho-Analytical Library, No. 8, p. 89.

he does not use the term 'sex' in the ordinary sense. This is certainly true, but an exposition of his sexual theory, which must be reserved for another chapter, will enable the reader to decide how much real point there is in this qualification.

CHAPTER XI

THE NEW PSYCHOLOGIES (CONTD.)

ACCORDING to ordinary conceptions of sex, it makes its first significant appearance at puberty. We are accustomed to regard the infant as sexless except in the physical sense. Freud takes what we can only regard as a morbid pleasure in having assaulted the general conviction of the purity of infancy. Again and again we find him and his disciples enlarging on the point.

‘One found oneself,’ he writes,¹ ‘faced with the fact of infantile sexuality, which, once more, was a novelty, conflicting with one of the strongest of man’s prejudices. Infancy must be “innocent,” free from sexual lusts, and the battle with the demon “sensuality” ought not to commence until the stormy period of puberty. The occasional incidents of sexual activity in children were considered as a sign of degeneracy, precocious depravity, or a freak of nature. Few of the findings of psycho-analysis have excited such general aversion or provoked such a storm of indignation as this assertion that the sexual function begins with life itself and shows itself even in infancy by important phenomena. Yet none of the analytic discoveries is more easily and completely demonstrable.’

¹ Author’s translation from *Ma Vie et Psychanalyse* (Paris, 1928), p. 50.

We shall have occasion later to consider the value of these 'findings' or 'discoveries' of psychoanalysis and to discuss their demonstrability. At present we are concerned with the exposition of the Freudian theory. According to it, all the activities of the child in what is normally considered the pre-sexual stage are really sexual. The infant suckling at the breast or stretching out its hands to its mother is really, according to Freud, indulging sexual proclivities. As the late Dr. Crookshank wittily observed, it is about as rational as if one decided to call all ivory potential billiard balls ! The period of adolescence in this theory is not that of the birth of sexuality, but simply the period of the concentration and centralisation of what had previously been diffused. This entirely unproved assertion is fundamental in the Freudian theory.

Another conception which plays an important part is that of the Œdipus complex. The myth of Œdipus is familiar to all. Œdipus was destined to kill his father and to marry his mother. According to Freud it is a universal experience that the small boy experiences a sexual desire for his mother with corresponding sentiments of jealousy and resentment against his father. 'The erotic nature of the small child's attachment to his mother,' according to Freud, 'admits of no doubt.' There is, according to the theory, a similar attitude of the small girl to her father. This incestuous desire, repressed by conventional morality, is, according to psychoanalysis, found playing a great part in all neurosis. At some point in the analysis the Œdipus complex will reveal itself. Not content with this pretty theory,

Freud attributes a vast anthropological meaning to the Œdipus complex. It is responsible for the origin of religion and conscience ! In *Totem and Tabu* (1913) and other works, Freud, who is ludicrously ill-equipped for the task, strays into the field of anthropology. Here is the theory. In a primitive state of society the young men of the tribe, displaying jealousy of the father's free access to the women, are driven out of the community. They plan together, kill and eat the father and take possession of his women. We shall not soil these pages with the obscenities and blasphemies with which Freud and his followers seek to associate this hypothetical 'ritual meal' with the central mysteries of the Faith. They will be easily imagined. The essential matter is that this murder of the father gives rise to feelings of remorse and so we have the beginnings of conscience.

This unsavoury theorising has been blown sky-high by real anthropologists, including Professor Wilhelm Schmidt of Vienna University. An excellent summary and exposure of the theory will be found in an article in the *Clergy Review* by Dr. J. G. Vance on 'Religion and Conscience.'¹ It is sufficient to say here that Freud has adopted, with no capacity for weighing them against the weight of the evidence, the speculations of two arm-chair anthropologists. Totemism is neither general nor primitive. 'Sir James Frazer,' as Dr. Vance points out, 'has shown that at least three leading races in history and among them the Indo-Germanic and the Semitic, originally knew nothing of Totemism.'

¹ April, 1931.

Whatever may be said of Freud as a psychiatrist, his speculations on wider subjects must be dismissed as eccentricities. A later contribution to anti-religious polemics entitled *The Future of an Illusion* is beneath serious comment for Catholic readers.

There remains the Freudian theory of dreams, which may be briefly summarised. To begin with, Freud holds, in the matter of dreaming, as in that of neurotic symptoms, that it has a meaning, however jumbled and apparently senseless it may be. All dreaming represents a wish-fulfilment. In children this is undisguised. The child, forbidden cherries by day, dreams at night that he is eating them. The adult, however, has many wishes that he will not admit to himself because they are shocking. When they come into consciousness during sleep they would put an end to sleep and the dream, in which they are disguised out of recognition, has the function of preserving the slumber. The starting-point of a Freudian analysis of a dream is a distinction between its 'manifest content,' which is what we remember and its 'latent content,' which is what the dream really means. The manifest content is not shocking because the offensive parts have been dramatised by a faculty or demon that Freud calls 'the censor of Dreams.' The building up of the original material into the manifest content—'the elaboration of the dream'—is on very primitive lines. It belongs to a period of human development when ideas found pictorial representation. There are only substantives and there are no negatives. It will be seen that when the work of analysing the dream has

been done, the subsequent interpretation is like the work of translating the picture-writing of a primitive tribe. It is interesting to note in passing how the imagination of modern speculators of the less disciplined kind is haunted by the evolutionary idea. Haeckel in the beautiful and touching words, 'Ontogeny recapitulates phylogeny,' taught that the embryonic history of the individual recapitulates the history of the race and it was his zeal to give the world these glad tidings that led him to take such deplorable liberties with his diagrams.

To return to Freud. In order to get from the manifest content of the dream to its latent content, the former must be broken up into its elements. Each thing or action must be allowed by 'free association' to call up some associated image. 'Table : what does that suggest to you ? ' and so on. Ultimately a 'real meaning' will be found for the dream which is wildly remote from its apparent significance. The same process is followed with slips of the tongue and other errors, as explained in *The Psycho-pathology of Everyday Life*.

It need hardly be said that Freud's system is strictly deterministic. Human thoughts and acts are as fully determined as the behaviour of chemicals in a test-tube. In this, Freud, unlike the Adlerians, is untouched by the tendencies to which we have had to refer in dealing with the new physicists. In a chapter on 'Les Actes Manqués' in the *Introduction à la Psychanalyse*¹ he replies to an objection that a slip of the tongue may be a mere accident with no significance.

¹ Paris, 1926. Author's translation.

‘In breaking the universal determinism at a single point,’ he writes, ‘one upsets the whole scientific conception of the world. We must point out to our objector how much more self-consistent is the religious conception of the world, when it expressly affirms that not a sparrow can fall from the roof-top without a particular intervention of the divine will.’

It is Freud’s assertion that, in the analysis of cases, the root cause, whatever the immediate occasion of the illness, will always be found in some experience of a sexual character in infancy. ‘The doctrines of resistance and repression, of the unconscious, of the etiological significance of the sexual life and the importance of events in infancy,’ he writes, ‘are the essential parts of the psycho-analytic edifice.’¹

We have endeavoured to give a summary but not misleading account of these things. There are two questions to be faced. The first is how the doctrine and practice of psycho-analysis should appeal to Catholics. The second, what grounds there are for believing the psycho-analytic theory to be based on truth.

Let us take these questions in order. Here we have a system which pretends to give us authentic information about the activities of the human mind. If it can establish itself it may reasonably be expected to be incorporated in our general education and in the treatment of psychological illness, the scope of which appears to be continually extended with an increasing recognition of the importance of the

¹ *Ma Vie et Psychanalyse*, p. 61.

psychological factor in disease. The wider and, so to speak, extra-territorial exercises of the Freudian mind need not trouble us. No Catholic will go to Freud for an explanation of religion and conscience. The Viennese physician explaining God away provokes only a shrug of the shoulders. It may be said, however, that the discoveries of the psychological clinic, like the revelations of Galileo's telescope, must be accepted. Should a Catholic, in any circumstances, submit to treatment by a Freudian?

Let us see what it means. In every case, the analyst will start with the assumption that the illness has a sexual origin. Whatever the upbringing or temperament of the patient it will be necessary to discuss matters which the majority of well-bred people, rightly or wrongly, consider unsuitable for discussion. That is a psychic shock for which we must be prepared. Now it may be argued that psychic shock, like physiological shock, is a reputable and occasionally necessary therapeutic process. We must make up our minds about that. Secondly, the analyst holds views which are irreconcilable with Christian morals. It is really a waste of time and money—to put it no higher—to ask a Freudian analyst to cure a case, while recognising the claims of Christian morality. We have quoted Freud on a certain value in restraint, but there should be no misunderstanding concerning his views on the question of chastity.

‘The position sanctioned by every authority,’ he writes,¹ ‘that sexual abstinence is not harmful and

¹ International Psycho-Analytical Library, No. 8, p. 88.

not difficult to maintain, has also obtained a good deal of support from physicians. It may be said that the task of mastering such a mighty impulse as the sexual instinct is one which may well absorb all the energies of a human being. Mastery through sublimation, diverting the sexual energy away from its sexual goal to higher cultural aims, succeeds only intermittently ; while the period of passionate youth is precisely that in which it is most difficult to achieve. Of the others, most become neurotic or otherwise come to grief. Experience shows that the majority of those who compose our society are constitutionally unfit for the task of abstinence. . . . Anyone who understands how to penetrate to the factors conditioning nervous illness will soon be convinced that its increase in our society originates in the greater stringency of sexual restraint.'

The looseness and flabbiness of all this are eminently characteristic of Freud. Catholics at any rate do not need to be told that 'every authority' does not sanction the idea that sexual abstinence is 'not difficult to maintain.' Father Martindale in his excellent little book on the sixth¹ commandment, calls it *The Difficult Commandment*. In the evidence before the Royal Commission on Venereal Disease, it will be found that the Catholic witness was most outspoken on the physical difficulties of abstinence. And what are we to say of the reference to an increase of nervous illness in our day originating in 'the greater stringency of sexual restraint'? Since Freud wrote this, there has been, by general

¹ The seventh, according to Protestant reckoning.

consent, an almost incredible relaxation of sexual restraint. Is there less neurosis ?

What concerns us here, however, is the fact that the subject of psycho-analysis will be treated on the assumption that there is a causative connexion between chastity and illness, that for the greater part of humanity it is impossible to avoid this association and that in Freud's words, ' we know no better security against the menace to normal sexual life caused by defective predisposition and disturbances in development than sexual satisfaction itself.'¹

The normal Catholic will have no difficulty in assessing the value of a theory according to which the majority of our clergy would be, *ex hypothesi*, neurotics, and it should be unnecessary to emphasise the dangers, physical and moral, of a treatment of nervously unbalanced people on assumptions like these.

There is another feature of psycho-analytical practice which must be mentioned here. When the Freudian analyst digs down into the unconscious life of his patient—we had almost written victim—to bring out into the daylight all that the processes of the mind have endeavoured to repress, there comes a time at which the psychic energy which has supported the neurosis is directed towards the analyst. It may be directed in hatred or ' in a passionately amorous, frankly sensual ' emotion.² ' This,' says Freud, ' paralyses the co-operation of the patient and imperils the success of the treatment.

¹ Loc. cit.

² *Ma Vie et Psychanalyse*, p. 65.

But it would be senseless to wish to escape: *an analysis without transference is an impossibility.* This fact must be duly weighed by anyone contemplating 'analytical' treatment.

But is it all true? Are we faced with the deplorable fact that scientific investigation has revealed truths at variance with all our convictions? It is no use emulating the Frenchman who, when told that the facts contradicted the theory, replied: 'So much the worse for the facts!' What is the evidence for the Freudian theory?

A study of the evidence is the only way of settling the point. The first question a scientific critic will ask is whether the findings of other investigators confirm the evidence that is placed before us. The answer is that they do not. Freud is far from being the only physician to deal with neurotic invalids and question them. The other investigators, however, had never arrived at these extraordinary theories of his and, although the psycho-analytic data have been before the world for forty years, the overwhelming majority of physicians fail to confirm them. Let us distinguish. Most psychiatrists now make use of the hypothesis of the unconscious. They recognise the facts of repression. Psychiatrical practice to-day is something quite other than it would have been if Sigmund Freud had not lived and laboured, and it would be blind prejudice to deny him the credit due to a pioneer. On the outstanding points of psycho-analytical teaching, however, those things that conflict with Catholic doctrine and are, therefore, our concern in this volume, the general body of practitioners has

entirely failed to support Freud. He may reply that they are not using the psycho-analytic technique. This is hardly an effective retort, however, for those who at first walked with Freud and afterwards left him, presumably used his technique at the beginning. The scarcely veiled suggestion that Adler and others were mere time-servers who fought shy of a 'disrespectable' teaching need not detain us.

But is the psycho-analytic technique reliable? Is it really analysis or is it a process of suggestion? Let us see. We have already noted that Freud was early attracted to the practice of suggestion and that it was on his own confession the principal feature of his practice. Now there was a curious feature about the early cases analysed by Freud. All his patients appeared to have had unfortunate experiences in infancy. They had all been assaulted sexually by fathers, uncles, and brothers! If Freud's mental equipment had included an adequate sense of humour, he might have been on his guard. But he swallowed these stories whole! 'While I am bound now to recognise,' he says, 'that these scenes of seduction never took place, that they were fantasies imagined by my patients, *imposed on them perhaps by myself*, I was for some time upset. My confidence in my method and its results received a rude shock.'¹ He goes on to say that he regained confidence, that he no longer believes he suggested these things. The real basis of all this imagining was the famous Œdipus complex. Let us admit at once that if it were a universal human practice to imagine scenes of infantile sexual seduction, although

¹ *Ma Vie et Psychanalyse*, p. 57. [Italics mine. R. J. D.]

it would not be the same thing as if the events actually occurred, it would be a fact of very great psychological importance. But, with great respect, we must point out that people who go to the psycho-analyst are not only not the whole of humanity, they are not representative of normal humanity. We are tempted to add : Thank God !

Let us imagine our patient lying down in the psycho-analytical clinic and being questioned by the analyst. Theoretically the process is to let the patient divulge what is in his or her own mind. Actually the literature of the movement makes it abundantly clear that from the beginning suggestions will be made to the patient, many of them very filthy suggestions. Freud naïvely tells us that the analyst 'in virtue of his experience is prepared for what is coming.'¹

It is remarkable that those who have been so active in calling attention to the supposed dangers of the Catholic confessional with all its safeguards should be complacent in face of psycho-analysis. Even if this method yielded good therapeutic results it would not be worth the price. 'What shall it profit a man if he gain the whole world and lose his own soul ?'

But does it yield good therapeutic results ? We have seen no evidence of it. A number of war neuroses are said to have cleared up after prolonged 'analytical' treatment, but, as the late Sir William Whitla, that wise physician, remarked to the present writer, a good many neuroses clear up without any treatment at all. It would be interesting to know—

¹ *Ma Vie et Psychanalyse*, p. 63.

though we never shall—how many of the patients of psycho-analysts acquired their ‘maladies’ from psycho-analytic literature. When Mr. Jerome’s hero read medical literature, he got every complaint except housemaid’s knee. It is easy to see how impressionable people of both sexes can acquire ‘complexes’ by reading about them. To be psycho-analysed is, for those who can afford it, one of the ‘thrills’ of the present age. In some cases, no doubt, it does no more harm than any other form of erotic stimulation. Who can say, however, how many people become permanently unbalanced? The experienced psychiatrist who wrote on the question in a recent issue of *The Practitioner*¹ asked whether psycho-analysis had caused more neurosis than it had cured. Precise evidence is unobtainable, but it is highly probable.

It is a relief to turn from Sigmund Freud to another Viennese psychologist, Alfred Adler, and from psycho-analysis to his system of Individual Psychology. This, also, is a system which begins as a branch of medicine and has greatly extended its frontiers, but it has no such developed body of doctrine as the Freudian movement, and, however much we may dissent from the speculations of its representatives, there seems to be nothing essential to Adlerian teaching which makes Individual Psychology impossible for Catholic physicians or unsuitable for Catholic patients. That is the opinion of Dr. Rudolf Allers, Reader in Psychiatry at the University of Vienna, whose book, *The Psychology of Character*,² should be read by Catholics

¹ December, 1934.

² London, 1931.

who wish to understand the Adlerian system. Dr. Eric Strauss, who is responsible for the English translation, says: 'If one wished to label Allers, one would describe him as a Catholic Adlerian; he has managed a, to my mind, satisfying synthesis between Catholic thought and all that is most valuable in Individual Psychology.'¹

Because of its bearing on extra-medical questions, Individual Psychology has given rise to the formation of non-medical groups in various countries. The tendency of such bodies is always to split on some fad. Many Adlerians are socialists and some attempt a synthesis between the movement and various forms of theological heresy. There is, however, a flourishing Medical Society of Individual Psychology in London, consisting of practising physicians who, without exclusiveness, seek to give Adlerian work a place in their practice.

What will impress the Catholic student of that work is not that it contains anything offensive, but that, in the hands of most of its practitioners and speculators, it is incomplete. Adler's work may be said to begin with the study of the sense of inferiority. What is the first sentiment of a child in the world? The sense of weakness and dependence. Together with that sentiment, there is a desire to excel, to be strong. The 'will to power' exists in all of us. Besides the general inferiority of the infant, there may be special causes. The child may be smaller than its fellows, malformed, weak-sighted; there may be some physiological deficiency of the glandular or digestive system, obscurely felt. This

¹ Op. cit., Introduction, p. vii.

has to be compensated, and one of the useful classifications of men is according to the way they respond to the sentiment of inferiority and the necessity to compensate it. Sometimes we get over-compensation. Thus the deaf Beethoven becomes a musician, the stammering Demosthenes an orator, and so forth. What one would expect to be an obstacle becomes a spur. But there are other aspects of the will to power expressing itself. A weak character may seek to dominate by weakness. The professional 'invalid' upon whom all the family has to dance attendance, is really able to dominate and to secure in this way what he or she could not obtain in any other. Hence, in any case of illness, the Adlerian approach to its psychological side will take the form of the question: What purpose does this illness serve? What advantage does the patient get out of it? Adler himself tells us that one of the most useful approaches is to ask the patient: What would you do if you were cured?

Of course, it is not contended that this covers the whole field of illness and that we are unwell simply because we wish to be, though Adler and his followers are no more immune than the rest of us from the temptation to overwork a good theory.

A prominent place is given in Adler's system to the failure of the neurotic to adapt himself to reality. 'The problems of every neurosis,' he writes, 'is for the patient the difficult maintenance of a style of acting, thinking, and perceiving which distorts and denies the demands of reality.'¹ For the practical purposes of life we all construct fictions.

¹ *Problems of Neurosis* (London, 1929), p. 1.

According to Adler, the difference between the normal person and the neurotic is that, whereas the former recognises their fictional character, the neurotic turns them from means into ends; he 'substantialises' them.¹ In all this part of his work Adler leans heavily on the so-called 'Philosophy of the As If' of Vaihinger. According to this system we commit an error in ascribing truth to certain notions whereas they have really only uses. For example, we should not say that Koch's bacillus is the cause of tuberculosis, but that events happen *as if* it were. This is extended to the whole field of thought with, as might be expected, a destructive effect upon theism and all religious dogma.

It is not necessary, however, that in making use of Adler's clinical method, we should adopt this puerile philosophising. Of course if God and the postulates of religion are unreal, if the only realities are 'the earth, these solid stars, this weight of body and limb,' then religion, taken seriously, may be a neurosis. But suppose these religious conceptions answer to the deepest realities? Suppose an older philosopher than Adler was right when he said: 'Thou hast made us for Thyself, and our heart is restless till it find its rest in Thee?'² In that case, shall we not expect to find the neurosis, which arises from imperfect adaptation to reality, among those who are engaged in the unnatural attempt to live without God? The relation between saintliness

¹ See *Le Tempérament Nerveux* (Paris, 1926), pp. 20 *et seq.*

² 'Fecisti nos ad Te, et inquietum est cor nostrum donec requiescat in Te.' St. Augustine, *Confessions*.

and neurosis is discussed in an illuminating fashion by Dr. Allers.¹

Adler has been more fortunate than Freud in his interpreters. The latter seem to have been mainly occupied in advancing on the extravagances of the master. In this country it may be said, without disrespect to any other writer, that the most brilliant and illuminating exposition of Individual Psychology has been the late Dr. F. G. Crookshank's. His speculations go beyond the system of Adler in some important respects, but they do not seem to us to misrepresent it at any point. He was probably unique among non-Catholic medical men in this country in the degree of attention he had given to Catholic philosophy. A less brilliant and more accurate mind would have saved him from several errors about it. He gave a disproportionate place to William of Occam, whose system he never really grasped and whom he delighted to call 'greatest of English philosophers.' To attempt to find a coherent system in Dr. Crookshank's brilliantly provocative writings on philosophy and religion is a hopeless task. He was influenced by the speculations of the new physicists to the extent of denying causality which, if he had really thought it out, would have made nonsense of medicine. That the attribution of causes should be made with much more discrimination in medicine than is usually the case, is another matter, and is doubtless true enough.

A valuable feature of Dr. Crookshank's work, which has exerted considerable influence on medical

¹ *Op. cit.*, pp. 343 *et seq.*

thought, is his protest against an excessive philosophical realism in medicine. There is a tendency in the public mind to hypostatise diseases. We talk of catching 'influenza' as though it were something like a ball. There is even an idea in some quarters that so many diseases 'exist' and not all of them have yet been discovered. Crookshank was, of course, not the first to assail this false way of looking at things. The late Sir James Mackenzie did it less wittily but perhaps not less weightily. Dr. Crookshank, however, advanced from this reasonable protest to a complete nominalism in philosophy and fathered it on the unfortunate William of Occam, whose departures from sound philosophy were really less extreme.

The general trend of contemporary thought and the genius of Dr. Crookshank have given to the Individual Psychology movement in this country rather an anti-Christian appearance and some of those who are attracted to it seem to lean in the direction of Freudianism. Dr. Allers has, however, proved that a synthesis of Catholic philosophy with what is essential in Adler's teaching is not difficult, and we are disposed to welcome this aspect of the New Psychology as making rather for the harmony than for the opposition of the Faith and Modern Science.

CHAPTER XII

SURVIVAL AND IMMORTALITY

DISCUSSION on religious beliefs in relation to science usually turns on Kant's 'metaphysical trinity'—God, freedom, and immortality. Having denied the competence of the pure reason to deal with these matters, Kant sought to restore belief in them as postulates of the practical reason. For this weakness he was roundly condemned by materialistic scientists in the nineteenth century. It was the thesis of Haeckel's *Riddle of the Universe* that modern science had disposed of the possibility of intelligent belief in these postulates. Robert Blatchford, who did for Haeckel as a controversialist in England very much what Huxley had done for Darwin—unless we say that Haeckel's Huxley was Joseph McCabe—declared that Kant reduced him to laughter.

At present there is no very widespread disposition among scientists to tell us that we may not believe in God, freedom, and immortality without being unscientific. Sir Arthur Keith presumably would go that far and so would a few other men eminent in their own departments of science and of undoubted honesty. For the most part, the scientists tend to be, like Kant, embarrassing and dangerous allies. They

will concede us the matters in which we believe, but they destroy the foundations of rational belief.

As far as the existence of God is concerned, as we have seen, we are sometimes told that it is an unnecessary hypothesis in science. The question is transferred from the intellectual to the æsthetic field.

On the question of man's freedom, we shall find three schools among modern scientists. One will tell us that the whole basis of science is deterministic and that the idea of free-will in man is repugnant to the scientific mind. The second school, of which Professor Eddington is a distinguished representative, can find no evidence of determinism anywhere in nature and tells us that if molecules are free, we may hold *a fortiori* that the human will is free. The third, and as we think the wisest, opinion is that the contribution of physical science to the question is 'nothing at all.'

What of the third subject? What of immortality? It is not the teaching of the Church in this matter, as it is where the existence of God is concerned, that its truth can be proved unaided by the natural reason. The immortality of the soul is a part of revelation, of that 'faith which was once delivered to the saints' for which the apostle urges us to contend earnestly. It is, therefore, a truth of the highest certainty. Philosophers and theologians within the Church have produced arguments in support of its truth and we all know the wonderfully seductive reasoning and imagery with which, before the Christian era, Plato argued for man's immortality.

We do not propose here to recapitulate the scholastic arguments, generally accepted as valid by Catholics, which prove the immortality of the soul step by step from the fact of its immateriality. We are concerned with philosophy only to the extent that is necessary to indicate some of the weakness of contemporary scientific thought. Those who wish to study the impressive arguments by which St. Thomas and others have proved the doctrine of the immortality of the soul will find them summarised in any book of Catholic apologetics. If we linger on the subject now, it is because a claim has been made by some modern scientists that the immortality of the soul has been proved scientifically—in the sense of experimentally—and by others that it is quite possible, and even probable, that it will be so proved one day.

There is some confusion of thought here. Immortality cannot be proved by experiment. The most we can learn in that way is that annihilation has not occurred, not that it never will. Those who talk of experimental proof of immortality really mean proof of survival after death. It is one thing to say that the soul does not die at the moment of separation from the body and quite another to say that it will live for ever.

The attraction of spiritualistic theories for the experimental scientist has puzzled many people, but does not seem to us to be difficult to explain. Most scientists in this country have had an early religious training and associations of a Protestant kind. Now religious training to Protestants is something very different from what it is with us. It

is almost entirely emotional. A divinity student will, of course, learn some theology, though—as eminent Anglican dignitaries continually demonstrate—it need not be much. The ordinary public school boy, however, associates religion with chapel, singing hymns, and with certain emotional experiences which he is very unwisely expected and encouraged to undergo at adolescence. Of Christian doctrine as a matter to be intellectually apprehended he has no conception. When a boy trained in this way comes to do scientific work in a laboratory, he gets that sense of satisfaction and euphoria which any well-ordered mind gets from proof and regularity and the proper use of reason. He feels that this is man's true atmosphere, in which he ought to live. But the fragments of belief and devotion which he learned at school and Sunday-school or from his mother seem quite discordant. He is asked to make a number of postulates for which there is no experimental evidence. Yet this religiosity answers to a real need of his nature, something as real as the need he satisfies by falling in love. Here then are two demands—one for religious emotion, the other for experimental proof. Spiritualism offers to satisfy both. A literary or artistic culture, a strong natural sense of humour, are very inimical to the claims of 'Mr. Sludge the Medium'; a scientific training with no adequate theological or philosophical background makes a most favourable soil.

It is not contended, of course, that no Catholic public schoolboys become spiritualists, though it is extremely rare for them to do so. When it happens we shall find that we are dealing with an essentially

unscientific mind. If a good speculative intellect goes wrong among Catholics, it will not be in the direction of table-rapping.

The case of the late Sir Arthur Conan Doyle deserves special mention, and it is impossible to refer to him without a tribute to his complete honesty, great natural kindness and very real goodness. Anyone who was thrown in contact with him must have felt a great admiration for his unselfish devotion to a cause in which he passionately believed.

It must be added that he was a man of extreme and almost painful credulity. A personal experience may be pardoned as illustrating the impressionability of Sir Arthur Conan Doyle's mind when 'psychic phenomena' were in question. Some years after the war, when I was editor of the National Press Agency, I called on Sir Arthur at his London flat in connexion with an article on survival which he wrote for a series issued by the Agency. In the course of conversation, he showed me a picture of the Cenotaph showing a haze round the top of it. This, he told me, indicated the spirits who were present there at the Armistice Day Service. Then, pointing to one spot in the haze he said: 'That is my son,' and to another: 'That is my nephew.' I found myself unable, by any exercise of imagination, to see anything remotely resembling a human face in the variations of consistency in the mist and I remarked that I had no mediumistic faculty. Sir Arthur immediately assured me that he was not mediumistic either. He was merely asking me to see what was visible to any normal sight.

This was embarrassing, for I could not honestly pretend to see what I was invited to see. I contented myself with remarking, quite truly, that I was astigmatic. The astigmatism, as a matter of fact, was fully corrected by the spectacles I was wearing. As I had been invited to ask questions freely, and as I was anxious to understand what was to me rather a psychological puzzle, I suggested to Sir Arthur Conan Doyle that it was rather surprising, considering the thousands of soldiers whose spirits might be presumed to be interested in this service, that within this small space his own son and nephew should both appear. Sir Arthur replied to the effect that in science we have to deal with what we find, not with what we should expect to find.

This was unexceptionable, and I asked him if he would tell me how he identified these two spirits. 'By the crisp hair,' he replied, pointing to one spot, and 'By the high forehead,' pointing to the other.

The incident revealed to me what one might have gathered from Father Ronald Knox's very amusing higher criticism of the Sherlock Holmes stories, that the first impression made by Sir Arthur Conan Doyle's work on an exact mind is very misleading. He was a lovable and romantic man and a poor judge of evidence.

Leaving personalities, what is the likelihood of proving human survival by scientific experiment in the *séance* chamber? The subject cannot be dismissed lightly, for not all the extravagant writing on this subject has proceeded from the spiritualists. Some Catholics have argued that the whole of the

'phenomena' adduced by mediums is fraudulent and can be explained by conjuring. To the present writer this appears quite untenable and he confesses his dislike of a controversial use of the sensational 'confessions' of mediums. They are liable to bear an unpleasant resemblance to the disclosures of 'ex-nuns' which figure so largely in what an Anglican Bishop has called 'the Protestant Underworld.'

Other Catholics find evidence of diabolic intervention in every psychological experiment. Between these extremes a refreshingly sane treatment of the whole subject will be found in the writings of Fr. Herbert Thurston, S.J.¹ The Church for good and sufficient reasons forbids the laity to take part in spiritualistic practices, though genuine students, with an adequate equipment, are allowed to do so. This aspect of the subject will be found fully dealt with in the literature. We are concerned here with the general question whether survival can be scientifically proved and it is not necessary that the reader should have first-hand experience in order to reach a conclusion. On any scientific subject, the people who actually make laboratory experiments are very few. The rest of us have to weigh the evidence presented to us.

The spiritualist is entitled to make the same claim as any scientist, and as the man who reports a miracle, that we shall not deny his assertion in matters where he has experience and we have not. If his statement involves a logical contradiction, we

¹ *Spiritualism* (C.T.S., 2d.); *The Church and Spiritualism* (U.S.A.).

must reject it. But we have no right to do so merely because it is unusual, or, as Sir Arthur Conan Doyle put it, not what we would expect.

Such experiences as the one I have quoted with Sir Arthur and the admissions of prominent spiritualists concerning the amount of fraud in the movement justify us in receiving reports cautiously and requiring something more than good faith in the witnesses. Let it be admitted however—as the present writer would certainly admit—that there is a considerable volume of residual evidence accumulated by psychical researchers which cannot be dismissed as due either to fraud or to hallucination. Does it amount to proof of human survival?

What is the nature of the evidence? We have cases in which material objects are moved when none of the participants in the *séance* is in a position to move them. This, if accepted, amounts to a proof that some other agency is at work. The postulate that this agency is a discarnate spirit which had formerly been united to a human body does not follow by any logical necessity. We may well think it improbable. The materialist will, of course, reject human souls and demons with an equal contempt. Christians accept the existence of both. It is not easy to imagine anyone living who would argue that man has an immaterial soul, capable of living and functioning outside his body, and would dogmatically deny the existence of any non-human spiritual entities. The advance from table-rapping, tambourine playing, etc., to the proof of survival demands, therefore, evidence of identity. This is really the crux of the matter.

Now how does the agent in the manifestations prove its identity? Few people probably would care to rest the case for identification on the recognition by excited and expectant people in a darkened room of the actual features of an alleged materialised ghost. The snags in the police court identity parade are well-known to lawyers, and visual identification in a *séance* would be very shaky indeed. An examination of this class of evidence shows that we are usually expected to believe that the 'spirit control' is the person he or she claims to be because of the possession of knowledge which is not possessed by anybody in the room at the time, is subsequently verified and might be expected to be possessed by the 'spirit visitor.'

This is a good class of evidence, but there are two comments to be made on it. The first is from a general point of view. Modern psychology has proved that none of us holds in his waking consciousness all the knowledge he possesses. This can be proved by hypnotism, when the subject will speak on matters of which, in the normal state, he has no recollection. There are even authentic cases of what is loosely called 'multiple personality.' It will be seen, therefore, that it is not so easy as it looks to say precisely what knowledge is possessed by the sitters in a spiritualistic circle. As I write these lines workmen are talking to each other under the window, a church clock is striking, a dog barks. I am so absorbed in my work that I do not consciously hear any of these things. Yet they all obtain entry to my brain through the ear, are registered somewhere, and might be described by me

if I were hypnotised. Few people would ascribe the phenomena of hypnotism to separate intervention of disembodied spirits. The fact of telepathy, though not universally accepted, has obtained a very wide measure of credence. Now if we find a large number of facts in the domain of normal and abnormal psychology which do not require any hypothesis of ghostly interference, and if the hypothesis with which psychologists co-ordinate these phenomena will also cover the evidence of the *séance*, the principle of economy¹ would seem to require that we should not introduce the new postulate of disembodied visitors.

This is an argument that we may fairly address to any scientist. Catholics, however, pray to St. Michael, that he will 'by the power of God thrust down into hell Satan and all wicked spirits, who wander through the world for the ruin of souls.' All who believe the Bible must recognise the possibility and the occurrence on certain occasions of demoniacal possession. It would be as irrational for us to leave out of account the probability that our spiritual enemies take advantage of the special opportunities presented by the spiritualistic *séance* as it would for a doctor to leave bacteria out of account in considering illness. But not all diseases are caused by germs and when they are present their importance in the etiology of the case varies. We may well believe that it is the same with evil spirits.

That is a matter for speculation. Our main purpose in this chapter has been to show that man's

¹ Occam's razor—'Entia non sunt multiplicanda praeter necessitatem.'

hope of immortality cannot be based on physical science which is, indeed, powerless to prove even the survival of the body in the present state of our knowledge. We confess that we do not see how the obstacles to satisfactory experimental proof can ever be overcome. 'Blessed are they who have not seen and have believed.'

CHAPTER XIII

THE CLERGY AND MODERN THOUGHT

WE have concluded our wanderings in the mists of 'modern science.' It remains only for a layman to express his gratitude that our parochial clergy in sharp distinction from 'the clergy and ministers of all denominations,' as they put it on toast lists, have shown so admirable a sense of the scope and limitations of their mission as far as these speculations are concerned. Who can estimate how many sermons were preached from Anglican and Nonconformist pulpits on the appearance of Sir James Jeans's *Mysterious Universe* and after the broadcast address on determinism by Sir Arthur Eddington? The advertisement columns of the newspapers testify every Saturday to the prevalence of the belief among the Protestant clergy that it is their duty to comment on the latest pronouncements of the scientists and to draw edifying conclusions from them. For the most part, they are quite incompetent to do so. But competent or incompetent it is not their business. If men want economics they will go to economists, if they want biology they will go to biologists. They will be extremely foolish if they go to priests for either. The Church has her own sacraments to dispense, her own message to proclaim. To offer a congregation the latest specu-

lations of the scientists is to proclaim the bankruptcy of the Church. There is a story of an old lady who, on seeing the film *Quo Vadis*, exclaimed: 'What splendid evidence for the truth of Christianity!' Not thus has the Catholic Church in all ages retained her hold on the greatest intellects. Louis Pasteur was content to receive the Blessed Sacrament from a simple Breton priest and to hear expounded in his parish church 'the faith that was once delivered to the saints.' It is permissible to doubt whether he would have listened very respectfully to the speculations of his parish priest, or even of his bishop, on the question of spontaneous generation.

It is too commonly assumed that the scientific attitude is valid for all departments of life. This is not so. The realm of experimental science is the realm of the measurable. Even when we take science in its highest form, as the pursuit of ultimate truth, it does not represent the principal activity of the parish priest. An impeccable proof of the existence and attributes of God may, in some circumstances, move the heart and soul no more than a demonstration that any two sides of a triangle must be greater than the third. Behind the medical practitioner lies the impressive corpus of medical science which should be available for his use, and at the back of the priest is theological science. In their daily practice neither the one nor the other should be a scientist.

Science is concerned with measurement and with numbers, and not all the facts of experience are facts of science. The emotion felt by an individual on reading a poem by Shelley, the religious excitement

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felt by a worshipper at Mass, are both facts of experience. Neither of these facts in what is individual and incommunicable about it—that is to say, in its most vital element—can be said to belong to science. It cannot be repeated. But that which cannot be repeated has no scientific value. In this fact, we have at once the strength and the limitation of scientific knowledge. By its general validity it creates the impression of being the one real certainty in a world of uncertainties ; by its necessary neglect of the individual it gives us the feeling of explaining the world by leaving out all that most matters.

We have quoted a definition of science as dealing with what is ‘ actually or potentially common to all normal people.’ But the doctor of soul or body dealing with his penitent or his patient is not concerned with ‘ all normal people ’ ; he is concerned with the individual before him. Science is interested in what is common to a number of cases ; its task is generalisation. The priest and doctor have to concern themselves with what is peculiar to one man or woman.

‘ Are there many that shall be saved ? ’ may be a question for the scientific statistician. Not so, ‘ what shall *I* do to be saved ? ’ We know with reasonable accuracy, how many people will die in Great Britain in the next twelve months, how many will have cancer, and so on. But science cannot tell us *who* will die and *who* will have cancer. It is equally foolish to deny the claims of science in its own sphere and to try to establish a sort of scientific hegemony by applying them to spheres in which they are inoperative.

The model for the priest in the modern world is surely St. Paul.

‘ And I, brethren, when I came to you, came not in loftiness of speech or of wisdom, declaring unto you the testimony of Christ.

‘ For I judged not myself to know anything among you but Jesus Christ, and him crucified.¹

‘ That your faith might not stand on the wisdom of men, but on the power of God.’²

There are many evidences of the apostle’s dialectical power. He might have left us many speculations of his own on the theories of those contemporary Greeks who ‘ employed themselves in nothing else, but either in telling or in hearing some new thing.’³

He recognised that ‘ the foolishness of God is wiser than men, and the weakness of God is stronger than men.’⁴ The lesson unceasingly given to the early Church by its apostolic mentors is to keep the deposit of the faith, not to add to it, nor to take from it. If the mistake about Galileo has taught us nothing else, it should serve to remind us that the Faith must not be linked to the speculations of men.

There is every reason why the speculative intellect should be seeking ever fresh light on new knowledge and the old faith. It can do no other. As far as our pastors are concerned, however, their attitude towards scientific speculation is largely negative. They have to warn their flock against dangers, and such warning will usually be given

¹ 1 Corinthians ii, 1 and 2.

³ Acts xvii, 21.

² Ibid., verse 5.

⁴ 1 Corinthians i, 25.

better to individuals than in sermons. There is a banquet of the intellect which, as Belloc says, is one of the keenest joys known to man, but it all seems very small and poor in that supreme moment when the priest says the words of consecration and God is really present in the species of bread and wine. Then all the mumblings and stutterings of new physics, psychology and all the rest of it dwindle to very little, and ignorant and learned alike can echo the words of the master :

‘ I confess to Thee, O Father, Lord of heaven and earth, because Thou hast hid these things from the wise and prudent and hast revealed them to little ones.

‘ Yea, Father ; for so hath it seemed good in Thy sight.’¹

¹ Matt. xi, 25 and 26.

APPENDIX

SIR ARTHUR EDDINGTON AND THE PHILOSOPHERS

AFTER the portions of this book which deal with the New Physics had been completed, a new volume by Sir Arthur Eddington made its appearance. It is entitled *New Pathways in Science*,¹ and contains the Messenger Lectures delivered at Cornell University in 1934 with some additional chapters.

It has received in the Press the welcome to which its author's eminence as a scientist and his brilliantly lucid style amply entitle it. If the philosophic reader feels compelled to qualify his admiration, this may be in part due to Sir Arthur's admitted endeavour 'to convey exact thought in inexact language.' A fellow Professor at Cambridge, Sir Arthur Quiller-Couch, could enlighten Sir Arthur Eddington on the degree of success he is entitled to anticipate in an effort of this kind !

One point which may be noted in the new volume is a lucid and entertaining account of the author's views on certainty and probability which may be commended to those who may have been tempted to imagine that the account given in our chapter on miracles was a caricature. Here is what Sir Arthur Eddington has to say :²

We observe certain regularities in the course of phenomena and formulate these as laws of Nature.

¹ Cambridge University Press (1935).

² p. 79.

Laws can be stated positively or negatively, 'Thou shalt' or 'Thou Shalt Not.' For the present purpose we shall formulate them negatively. Here are two regularities in the sensory experience of most of us :

(a) We never come across equilateral triangles whose angles are unequal.

(b) We never come across thirteen hearts in a hand dealt to us at Bridge.

In our ordinary outlook we explain these regularities in fundamentally different ways. We say that the first holds because a contrary experience is *impossible* ; the second because a contrary experience is *too improbable*.

The distinction is theoretical. There is nothing in the observations themselves to suggest to which type a particular observed regularity belongs. We recognise that 'impossible' and 'too improbable' are both adequate explanations of any observed uniformity of experience ; and formerly physics rather haphazardly explained some uniformities one way and others the other way. But now the whole of physical law (so far discovered) is found to be comprised in the secondary scheme which deals only with probabilities ; and the only reason assigned for any regularity is that the contrary is too improbable. Our failure to find equilateral triangles with unequal angles is because such triangles are too improbable.

Sir Arthur adds : ' Of course, I am not here referring to the theorem of pure geometry ; I am speaking of a regularity of sensory experience and refer, therefore, to whatever measurement is supposed to confirm this property of equilateral triangles as being true to actual experience.'

It is difficult to know how much to read into this qualification. It is patent (as Newman would say) of an

interpretation which would make Sir Arthur's general attitude less paradoxical than it appears to us to be, and would suggest that in some of his wilder flights, 'he only does it to annoy, because he knows it teases.' The reference to 'sensory experience,' however, leads us to the indications given in this book of what the Professor means by what he sometimes calls 'physical science' and, at others, 'Science' *tout court*. He appears to equate it with the particular branch of microscopic physics in which he is specially eminent. Here, for example, is a definition of science more radical than anything we have yet quoted.¹

Broadly speaking the task of physical science is to infer knowledge of external objects from a set of signals passing along our nerves.

Let us observe that the existence of an external world seems to be here admitted. This is the kind of question on which, in general, Sir Arthur Eddington is liable to display a certain coyness. His general attitude when faced with the ultimate questions of epistemology is, as we have seen, that adopted sometimes by an alien defendant in an English Court. He takes refuge in a 'no compromny.' Now it will be agreed that the matter of our daily experience is not simply a number of sensory impressions. Our psychological make-up is such that, by a process which is only theoretically divisible, the external world is interpreted to us by the *intellectus agens*, operating upon the sensory data. Why should the sense data, arbitrarily abstracted from the whole, be supposed to have a superior value?

We are left in no doubt of Sir Arthur's attitude.²

The material from which we have to make our inferences is not the signals themselves but a fanciful

¹ p. 6.

² pp. 6 and 7.

story which has been in some way based on them. It is as though we were asked to decode a cipher message and were given, not the cipher itself, but a mistranslation of it made by a clumsy amateur.

Why a 'fanciful story'? Why a 'mistranslation'? And why should the *intellectus agens* be described as 'a clumsy amateur'? How it could lose the stigma of amateurishness and acquire a professional status, we confess that we have not the faintest idea, nor does Sir Arthur Eddington enlighten us. And what is it that sits in judgement on the normal activities of the mind? Surely that same mind in its ratiocinative capacity! Throughout Sir Arthur Eddington's writings—so great is the primacy of inexactitude of language over exactitude of thought—one is baffled in the attempt to discover what he means by 'the self or mind.' He tells us:¹

At a point of contact of the physical world with consciousness, we have acquaintance with the conscious unity—the self or mind—whose physical aspect and symbol is the brain cell.

We shall have occasion to return to this later. Meanwhile we must ask whether 'we' are other than 'the self' and if not, what is meant by 'having acquaintance' with ourselves 'at a point of contact with the physical world.' Inexactitude can go too far!

This insistence on the primacy of sensory impressions over normal psychological perception is very like the modern decadent 'return to the primitive.' We are really asked by implication to accept the monstrous hypothesis that man was specially created to misunderstand the Cosmos. It is a sad decline indeed, when 'man's unconquerable mind' has become a 'clumsy amateur' who messes up the picture!

¹ p. 88.

Sir Arthur Eddington seems to be angry with the philosophers and he addresses to them a question which emphasises his misunderstanding of their position.¹

In view (he says) of the closer contact which now exists between science and philosophy, I would like to raise one question which affects our co-operation. A feature of science is its *progressive* approach to truth. Is there anything corresponding to this in philosophy? Does philosophy recognise and give appropriate status to what is not pure truth, but is on the way to truth?

The answer surely is obvious. Philosophy is concerned with Being in its necessary aspects. The idea of progress is as alien to it as it is natural to experimental science. The essential difference between logical truth and experimental truth is that the motive for credibility in the latter case is strengthened by repetition; in the former it is not. That adrenalin raises blood pressure when administered intravenously is a fact of experience and could only be established tentatively after experience in a number of cases. But *pace* Sir Arthur Eddington, we do not go about measuring the angles of equilateral triangles nor would a million measurements strengthen our conviction that they will always be equal. That is why we can talk of a *philosophia perennis*, but not, in the modern sense, of a *scientia perennis*.

But the crux of Sir Arthur Eddington's new book, it will be felt by many, is in his treatment of determinism, on which we have already had something to say in relation to his earlier pronouncements. All his speculations on this question will be found to be coloured by the confusion which runs through his writings, between what is required for the purposes of physical science—or even

¹ P. 24.

one department of physical science—and what is philosophically true. The argument runs something like this :

Science has been supposed to require the postulate of strict causality for all its investigations.

The doctrine of Free Will implies a denial of this strict causality in one important field.

Therefore belief in Free Will appears unscientific.

No Catholic philosopher would accept this for a moment. The scientist is entitled to use any conventions that simplify his task, but we have never concluded, because he finds strict determinism in the laboratory, that he was entitled to apply it to the human will. On the basis of his determinism he has built exact science. Who has produced an exact science of the human will ?

Sir Arthur Eddington is careful to remind us¹ that ' it is not suggested that determinism has been disproved. What we assert is that physical science is no longer based on determinism.' Our obvious reply, of course, is that, for the most part, it is so based, if we accept determinism as a doctrine affecting physical phenomena without reference to the human will. This restriction of the field of science to a few people at work on a new corner of it, tempts one to say to these distinguished men :

' You think the rustic cackle of your bourg the murmur of the world.'

Let us be clear about this. Catholics, at any rate, never admitted it as any difficulty in the way of accepting the *liberum arbitrium* that the physical world seems to be governed by strict causality, any more than they questioned the immortality of the soul on account of the undoubted fact that the body decomposes after death. Even, therefore, if we assume Sir Arthur Eddington to

have established the fact that there is a department of physical science which can proceed on indeterministic assumptions, we shall not feel that the case for free will has been strengthened. The argument that, as electrons are not determined, we may say *a fortiori* that the will is not, leaves us entirely cold.

Having made this clear, we can discuss the probabilities of the thesis which Sir Arthur Eddington defends. Is it true that science does not require the assumption of strict causality? If we were to ask the biologist, the physiologist, the pathologist—all men of science, surely—their answer would be that they proceed, as they have always done, on the assumption that events are strictly determined; the laboratory physicist and the chemist, I believe, would give the same answer. If a meeting of the Royal Society were called and a vote taken on the proposition: ‘That undetermined events occur in the physical world’ what sort of vote would be obtained in its favour? If anyone finds himself dissatisfied with the philosophical arguments for the freedom of the will, we should advise him to regard with great caution the suggestion that a stronger argument is to be found in the fact that determinism has been expelled from science.

The difficulty of discovering what Sir Arthur Eddington means by cause and effect again presents itself in this book. We are told¹ that ‘the denial of determinism . . . does not mean that it is denied that effects may proceed from causes. The common regular association of cause and effect is a matter of experience; the law of causality is an extreme generalisation suggested by the experience.’ Surely this is begging the question. The matter of experience is the succession of events. It is not, and could not be, a matter of experience that an event must have a cause. The conviction is universal, is displayed

¹ p. 74.

instinctively even before the age of reason and is not strengthened or weakened by evidence. Those who tell us that our belief that every event must have a cause is the product of a repeated experience of succession should explain why, as often as not, we declare ourselves unable to find the cause, without being led thereby, to doubt for a moment that a cause exists. The suggestion of Herbert Spencer that the idea of causation is the product of an inherited predisposition of the brain to function along certain lines merely pushes the difficulty further back, for our ancestors, no less than we, were often at a loss to assign causes.

The Kantian theory makes causation a convention belonging to our own minds which they force upon phenomena. The objection persists as Père Garigou-Lagrange puts it :¹

The application of the Kantian categories remains arbitrary. How do some phenomena come to be ranged under the category of substance, others under that of causality? Why does not all succession—that of day and night for example—appear as a case of causality?

If we place the differences in the objects themselves, we range ourselves on the side of the realist, and the Kantian categories lose their value. Unless the first principles of thought are also the laws of reality, what guarantee have we that phenomena will consent to come within the categories? 'What guarantee is there that the world of sensations will always be susceptible of becoming objects of thought and will not one day present the image of disorder, hazard and chaos?'

There is an escape from this dilemma for the subjectivist in the belief that phenomena themselves owe their origin to us. Then indeed, *eritis sicut dii*, for our

¹ *Dieu, son Existence et sa Nature*, p. 116.

knowledge becomes the measure of all things. But it leaves us to explain the admitted gaps in our knowledge. The unavoidable admission that we know the causes of some events and not of others carries us very far and is ultimately fatal to the attempt to dispense with causality.

Admittedly causality holds in macroscopic science. Sir Arthur Eddington¹ for some reason which eludes us speaks of the deterministic attitude as having been 'adopted consistently for more than 200 years.' When did science ever proceed on other than deterministic assumptions? But we are now told that microscopic physics, in the last ten years, has found it better to proceed on other assumptions. It seems to us almost incredible that any man of science should venture, on this sort of evidence, to talk about determinism being 'expelled from physical science.' The presumption is surely overwhelming that this difference between microscopic physics and the general field of science is a temporary one. One is inclined irreverently to apply the words of Alfred Lord Tennyson :

' Birdie, wait a little longer, till your
little wings are stronger.'

Sir Arthur Eddington thinks a story will help us :²

About the year 2000 the famous archæologist, Professor Lambda, discovered an ancient Greek inscription which recorded that a foreign prince, whose name was given as *Κανδείκλῆς*, came with his followers into Greece and established his tribe there. The Professor, anxious to identify the prince, after exhausting other sources of information, began to look through the letters C and K in the *Encyclopædia Athenica*. His attention was attracted by an article on Canticles, who it appeared was the Son of Solomon. Clearly that was

¹ p. 73.

² p. 84.

the required identification ; no one could doubt that *Κανδείκης* was the Jewish Prince Canticles. His theory attained great notoriety. At that time the great powers of Greece and Palestine were concluding an Entente and the Greek Prime Minister in an eloquent peroration made touching reference to the newly discovered historical ties of kinship between the two nations. Some time later Professor Lambda happened to refer to the article again and discovered that he had made an unfortunate mistake ; he had misread 'Son of Solomon' for 'Song of Solomon.' The correction was published widely, and it might have been supposed that the Canticles theory would die a natural death. But no ; Greeks and Palestinians continued to believe in their kinship, and the Greek minister continued to make perorations. Professor Lambda one day ventured to remonstrate with him. The minister turned on him severely, 'How do you know that Solomon had not a son called Canticles ? You are not omniscient.' The Professor, having reflected on the rather extensive character of Solomon's matrimonial establishment, found it difficult to reply.

Now this is *ben trovato*, but are we really expected to see any proportionality between the careless slip of Professor Lambda and a conception which is indispensable over almost the whole area of physical science ? If the Greek minister had come across the article, he would probably have verified his reference. Certainly his political opponents would have turned their secretaries on to the Encyclopædia so incomprehensibly written in English. Even a professor would not have confused *ῥῶή* with *υἱός* !

We shall require stronger evidence than has been adduced before we can agree either that determinism has been expelled from the field of physical science or that it

is in any way necessary to the doctrine of free will that it should be. Sir Arthur Eddington tells us¹ that the question of the application of determinism to human activities 'has often been confused by assuming that human activity belongs to a totally separate sphere—a mental sphere.' The educated Catholic reader will find it difficult to believe that anybody worth troubling about has made such a confusion or that it is necessary to remind us² that 'man has a body as well as a mind. The movements of his limbs, the twinkle in his eye, are all phenomena of the physical world, and unless expressly excluded would be pre-determined, along with other physical phenomena.'

Here is what a representative modern Catholic writer has to say on that point.

Much the larger part of man's ordinary life is administered by the machinery of reflex action, the automatic working of the organism and acquired habits. In the series of customary acts which fill up our day, such as rising, meals, study, work, etc., probably the large majority are merely 'spontaneous' and are proximately determined by their antecedents according to the combined force of character and motive.³

Sir Arthur Eddington notes⁴ what he calls 'a semi-deterministic view which asserts determinism for inorganic phenomena but supposes that it can be over-ridden by the interference of consciousness.' The Catholic reader may be inclined to retort inelegantly: 'That's me!' He is promptly crushed. 'It would be difficult,' says Sir Arthur,⁵ 'to accept such a view nowadays.' Why 'nowadays'? This is the usual exaggerated

¹ p. 86.

² Ibid.

³ Father M. Maher, S.J., *Catholic Encyclopædia*, Art. 1. 'Free Will.'

⁴ p. 87.

⁵ p. 87.

deference to what we used to call the *Zeitgeist*. The opinion is either sound or unsound. There is nothing in specifically modern discoveries to affect it ; with the movements of intellectual fashion, thinkers should not concern themselves.

Sir Arthur himself regards the human will as sharing with electrons—but not with everything—a degree of indeterminacy and he seeks to explain it on strictly physiological grounds.

I should conjecture (he writes)¹ that the smallest unit of structure in which the physical effects of volition have their origin contains many billions of atoms. If such a unit behaved like an inorganic system of similar mass, the indeterminacy would be insufficient to allow appreciable freedom. My own tentative view is that this 'conscious unit' does in fact differ from an inorganic system in having a much higher indeterminacy of behaviour—simply because of the unitary nature of that which in reality it represents, namely the ego.

We can see no advantage in this 'tentative view,' based on physiology, over the philosophical proofs based on the simplicity and immateriality of the soul. But we are a little bewildered by Sir Arthur's general attitude to brain cells. We have already had occasion to refer to this.

At a point of contact of the physical world with consciousness he tells us² we have acquaintance with the conscious unity—the self or mind—whose physical aspect and symbol is the brain cell. Our method of physical analysis leads us to dissect this cell into atoms similar to the atoms in any non-conscious region of the world.

¹ p. 88.

² pp. 88 and 89.

With great respect, I cannot dissect any of my brain cells. I can dissect the cells of a dead brain, but that is a different matter and I am not in the least prepared to found my conviction of freedom on a speculation based upon very new and immature speculations in the field of microscopic physics. To tell me that the one thing I know is my brain is to make a proposition which I decline to accept. The brain is the instrument with which I know, but my knowledge of it is less than my knowledge of the pen with which and the paper upon which I am writing.

In *New Pathways in Science*, as in other writings which we have had occasion to criticise, we find the assumption that religion is a branch of æsthetics.

So long as physics in tinkering with the familiar world was able to retain those aspects which appeal to the æsthetic side of our nature, it might with some show of reason make claim to cover the whole of experience; and those who claimed that there was another religious aspect of our existence had to fight for their claim. But now that its picture omits so much that is obviously significant, there is no suggestion that it is the whole truth about experience.¹

The first comment we have to make about this is that, as Dr. Temple Grey reminds us, the man of science has for the most part not been inclined to make any such claim as is here conceded him, though it may have been made on his behalf by controversialists and journalists.² The new physicist, however, is claiming to pronounce upon philosophical questions in a way which, as we have endeavoured to show, is quite destructive of traditional Christianity. What kind of God does Professor Edding-

¹ p. 315.

² Cf. Littré: 'Science does not say there is no God but that everything happens as if there were none' (*Philosophie Positive*, VI, 159).

ton leave us? An experience of the æsthetic order. Religion, poetry, art and music belong to the same order as the ordinary table, which we have seen contrasted with the scientific table. But that table is a distortion, it represents the extent to which we are deluded, it is 'a fanciful story,' a mistranslation by a clumsy amateur. Having relegated all that is not 'a set of signals along our nerves' to a secondary and inferior order of reality, Sir Arthur asks us to believe that they are significant. We cannot get on without them. God seems to be to Sir Arthur Eddington a necessary illusion, as He is to Professor Freud an unnecessary one.

This latest book reveals more clearly than ever that Sir Arthur Eddington is confined in the prison of idealism. He repeats his assertion that 'mind is the first and most direct thing in our experience; all else is remote inference.'¹ This, of course, is precisely what realists deny. Sir Arthur finds that what he regards as a truism is regarded by philosophers as 'a hoary fallacy,' and he regards it as an indication of 'a tendency in modern philosophy to adopt a view which is scientifically untenable.'

The reader will note the word 'modern.' This is pure *politesse*. Sir Arthur would not consider that he was being polite to anyone whom he did not concede to be modern. It is true that a movement away from idealism distinguishes philosophic thought in the present century from that of the last. The refutation of idealism, however, is as old as human thought and nothing essential has been added to it since Aristotle. We have an illuminating indication of Sir Arthur Eddington's position when he tells us:²

I do not suggest that the new physics 'proves religion' or indeed gives strong grounds for religious

¹ p. 5.

² p. 308.

faith. But it gives strong grounds for an idealistic philosophy which, I suggest, is hospitable towards a spiritual religion.

That is the fallacy which it has been the principal object of these pages to combat. The reader will see behind the reference to 'spiritual religion' that Manicheism to which Professor Whittaker refers in the letter we have quoted. Philosophical idealism is no friend of true religion ; it is destructive of it, and ultimately fatal to rational thought. Woe to those who seek to base their religion upon it.

And the rain fell, and the floods came, and they beat upon that house ;

And it fell : and great was the fall thereof.¹

¹ Matt. vii, 27.

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