

CHRISTIAN FAITH AND MODERN SCIENCE.

IT has been the lot of Divine Truth, ever since it came into the world, to find itself in opposition, at one time or another, with all the world's greatest forces—political power, public opinion, human passion in all its forms; knowledge, finally, human knowledge, the most formidable power of all.

It is with this last that Religion has had mainly to contend during the present century, and under peculiarly unfavorable conditions; for while, on the one hand, the great Christian schools of the Old World were broken up by a series of political revolutions, secular science developed with amazing rapidity, adding year after year to its conquests, and winning to itself the admiration and trust of the whole civilized world. As a consequence, the supreme and universal homage which former ages were wont to pay to Religion has been succeeded in our time by a divided allegiance. Many, indeed, are as true to the faith now as at any other period. But many more are shaken in their loyalty; not a few have completely renounced it and turned to Science as to a new revelation that has opened to man unknown worlds, extended his empire in almost every direction, and added indefinitely to the comforts and enjoyments of his daily life. Truly, Science is the idol of the day. Its name is the greatest of all to conjure with. What Science smiles on obtains a ready acceptance; what she ignores can with difficulty get a hearing; what she decidedly objects to cannot, humanly speaking, expect to prevail. Hence the eagerness with which the defenders of Religion strive to win her sympathies, or at the least to remove all appearance of antagonism, while the chief concern of her adversaries is to prove that between Science and Faith no genuine agreement is possible.

Of course all Christians know that between true science and religion, properly understood, there can be no real conflict. Both proceed from God; both are the expression of His mind, and His words can never be in opposition with His works. But between *what is taught* in the name of Science and *what is held* in the name of Religion, the conflict is not only possible but real and frequent. Nor are the responsibilities all on one side, for the feeling of distrust is mutual, theologians often watching too suspiciously the efforts of scientific investigation, while many scientists are much too ready to disregard all religious teaching and resent any questioning of their conclusions on religious grounds.

It is among the latter that are found the most dangerous assail-

ants of religion in our day. Some combat it only when it crosses their path and interferes with the special courses of thought which they pursue. In others we find a deep and general antipathy which leads them to take up whatever line of argument is most likely to prove effective and to fling at religion anything that can hurt. Such was Voltaire in the last century; such is Ingersoll in ours. Such Dr. Draper, of New York, who, more than twenty years ago, forsook the natural sciences, in which he had acquired a name, to write a so-called "History of the Conflict between Religion and Science" for which he was neither prepared nor fitted. Violent and vulgar in tone, incorrect in language, transparently ignorant in many of the questions he undertakes to deal with, he offers a striking contrast with another opponent, Huxley, whose brilliant qualities of thought and style, coupled with the keenest wit, have made one of the most dangerous contemporary adversaries of all kinds of religion. The Christian apologist can well afford to neglect Dr. Draper; he cannot overlook Huxley. But if he wishes to find, summed up in an ingenious and striking shape, the objections that have been urged with most success against supernatural belief during the present century, he need go no farther than the work of Dr. Andrew D. White, late President of Cornell University, entitled "A History of the Warfare of Science with Theology in Christendom."

I.

Though quite recently published (1896), Dr. White's book can scarcely be called new. The chapters of which it is composed have steadily succeeded each other for several years in the pages of the *Popular Science Monthly*, and in the present work they are simply put together with a short introduction and some slight additions and alterations.

As a picture of the progress of the human mind in many directions, the book is full of interest. Nothing is more curious than to observe the workings of men's thoughts in presence of the problems of Nature with which they were confronted from the beginning. The principle of causality, once awakened, extends gradually to everything that shows a beginning or a change. The mind of the race, especially in its early stages, is, like the mind of a child, full of questionings, but easy to satisfy. It is with a continual smile that one reads at the present day of the notions that prevailed for long ages regarding the structure of the earth, the nature of the heavenly bodies, and of the manner in which the more striking phenomena of the visible world were accounted for. Theories, speculations, guesses, often of the crudest kind, empty formulas supplied the place of modern observation and induction;

and minds, sagacious and powerful in other spheres, acquiesced in them in the most childlike fashion. They were satisfied, for instance, to be told that if we see the flash of lightning before we hear the accompanying roll of thunder, it is because the sense of sight is nobler than that of hearing. Bede's conception of the Universe, representing the firmament as spherical in form and of a subtle and fiery nature, the upper heavens, where the angels reside, being tempered with ice, lest they should inflame the lower elements, while lower down a supply of water, referred to in Genesis i. 7, serves to allay the fire of the stars,—this conception, with its innumerable developments and complications borrowed from the ancients, satisfied men's minds for hundreds of years.

Dr. White's book abounds in particulars of this kind drawn from the most varied sources and spreading over the whole field of human knowledge—geology, astronomy, medicine, geography, philology, social science, etc. Taken as a whole, it forms a striking picture of the weakness of man's first attempts to solve the enigmas of nature, and shows how hard it has been for the most enlightened and gifted to pierce the crust of prejudice under which their contemporaries continued to entertain the most arbitrary and often the silliest notions. In this light the work might well be called "A History of Human Obtuseness and Credulity." But it was not as a psychological study nor as a description of human discovery, like Whewell's "History of the Inductive Sciences," that the book was meant by its author. Under a historical form it is avowedly a polemical work, having for its purpose to show how much Science has had to suffer, not from human ignorance or human folly, but from Religion and its representatives; and at the same time, how badly both have fared for having attempted to impede her irresistible progress. This is the conclusion to which each chapter leads in succession, and hence the title of the book: "Warfare of Science with Theology," than which none could be more appropriate, unless it had been "The Total Discomfiture and Defeat of Religion by Modern Science." To such a title Dr. White would, of course, object. He claims, in fact, to write in the interest of religion no less than of science, and no doubt a book very interesting and equally welcome to both sides could be written on the same general lines—but not by Dr. White. He is a believer in science, and in little more. He tells us, indeed, in his preface that he was bred a churchman, that many of his friends, as well as his dearest relatives, were deeply religious, and that he himself is a great lover of the externals of religion—ecclesiastical architecture, church music, and the like. But he claims no more, and no more can be expected in one who dismisses as legendary some of the most important facts of the Old and New Testament,

and who takes no pains to conceal his decided dislike for all the supernatural aspects of religion.

That a book written in so hostile a spirit, by so able (?) a man, and on a variety of delicate subjects of which few are able to judge for themselves, should be a serious danger to the faith of ordinary readers is something so self-evident that it need not be dwelt upon. The truth is, one can scarcely conceive how any intelligent person, not specially prepared for such a test, could, short of a special grace from God, withstand the accumulated pressure of so many insidious difficulties and lay down the book unshaken in the faith. To many priests, even, it would be far from harmless. Yet it may be a part of their professional duty to become acquainted with it. The "Warfare" has had a wide circulation and many readers in its earlier and in its latest form, and there is every likelihood of its remaining for years as an arsenal from which freethinkers will continue to draw forth some of their most dangerous weapons. To resist them effectively each chapter would require a separate and some an elaborate treatment; but this being out of the question here, we may be permitted at least to point out briefly the equivocal methods of the writer and the fallacies that underlie his principal arguments.

II.

First of all, we miss in Dr. White that judicial fairness which wins the trust of the thoughtful reader. Indeed, he hardly leaves room for expecting it, his work being professedly written to carry the fight into the very lines of those who, in the name of religion, had opposed the establishment of a university (Cornell) dissevered from all positive beliefs. He holds, and his whole work meant to prove, that such separation is a necessity, because religion, except of the vaguest kind, interferes and has always interfered with the growth of human knowledge. His sympathies instinctively go forth towards unbelievers, even to the half-crazed and wholly disreputable Giordano Bruno. In his zeal to find believers in the wrong he goes the length of putting a literal construction on the metaphors of the early Fathers and on the allegorical devices of mediæval artists. He steadily keeps out of sight the grave motives which inspired the action of those he condemns. Indeed, he seems incapable of realizing the fact that their religious beliefs were to them the dearest of treasures, and that what seemed to endanger them they were bound to resist with all their might.

Dr. White undertakes to show Science in constant opposition with what he calls Theology, but he succeeds only by giving the word theology a breadth of meaning never before heard of. He actually comprises under it every variety of religious opinion,

every individual fancy, every superstition born of ignorance, even the silliest, every notion, in a word, connected by anybody with God or the unseen world! Thus the attempts of early ecclesiastical writers to interpret the work of creation as described in Genesis; the conception of Nature, its phenomena and its laws handed down from classical antiquity and held during the Middle Ages, often mingling, as was natural, with the religious ideas of the period; the views commonly held about the more striking cosmic phenomena, such as thunder, lightning, earthquakes, storms, etc.; or, again, as to the nature, the causes and the remedies of certain forms of disease; all this, and much more of a similar kind, Dr. White sets down to the account of Theology! With such a store to draw from, it is no difficult matter for him to win victories for Science all along the line. But we know, and Dr. White should know, that Theology is in no degree responsible for the views and speculations of individual theologians, still less for the numberless vagaries of weak or disordered minds, or for the superstitious beliefs and practices current in periods of general ignorance, and which Theology as much as Science has helped to dispel.

By a similar abuse of terms Dr. White raises a prejudice in the minds of his readers against what is most dear to all believers: *dogmatic truth* and *orthodoxy*. "Dogma" means fixed doctrine; "orthodoxy" means faithfulness to it. There is nothing dogmatic in personal views or free opinions on any religious subject; so long as they are free they cannot be unorthodox, neither may they be called orthodox except in a negative sense, that is, as sinning against no canon of belief. Yet if Dr. White happens to meet an opinion proven false, which at any time was connected in men's minds with religion, he at once entitles it the "dogmatic view," the "orthodox doctrine." It is in this way that he writes at considerable length about the belief in former ages that Hebrew was the language taught by God himself to our first parents, an opinion to which nobody felt bound, as soon as reasons were seen for doubting it.

That some of these opinions have been warmly defended as belonging to the faith, and have even received in some measure the sanction of authority, cannot be denied. But to argue therefrom, as Dr. White constantly does, against the infallibility claimed by the Catholic Church, is a position into which a man of his enlightenment should not have so persistently committed himself.

III.

To make this fully intelligible to our lay readers, let it suffice to observe that the Church has never assumed, nor has she ever

been looked upon by enlightened Catholics as possessing, the privilege of infallibility on any subject beyond the principles of religion and duty. Outside these, and what is necessarily involved in the function of guarding and teaching them, mistakes, though unlikely, remain possible. Furthermore, even within the very limited sphere of infallibility thus claimed, comparatively few of the Church's acts or statements bear the seal of inerrancy. This supreme sanction is set only upon what popes, or councils, or the collective voice of pastors and faithful solemnly proclaim as belonging to revealed truth.

Beyond these narrow limits guaranteed by the divine promises the Catholic has to be satisfied with a lower degree of certitude, such as is supplied to him by the natural sources of knowledge. In his religious beliefs all is worthy of respect, but all is not equally certain. Theology, which is only religion thrown into scientific shape, besides defined dogmas, comprises an incomparably larger number of commonly accepted doctrines from which a Catholic rarely feels at liberty to depart, and, on a lower plane, a still richer harvest of deductions, opinions, speculations, conjectures, which come and go freely, and are taken up or dropped by schools or by individuals according to their personal judgment or the prevailing influences of the hour. These distinctions, familiar to theologians, are unknown, it is true, to the great majority of the faithful. The same as children, they look upon all that has been told them in their religious instruction as part of the Christian Doctrine. They grow up in that belief, and thousands live and die holding on to religious notions which rest on the slenderest foundations, simply because these notions have originally come to them with the rest, and were delivered to them as an explanation or as a development of essential doctrines.

Such then is Theology; at the centre a solid nucleus of divine truth, next, a stratum of doctrines clinging so closely as to seem part of the original formation; finally, a vast aggregate of elements floating more or less freely around the centre, and subject to all manner of changes. These distinctions all theologians admit, though they may, and often do, disagree, when it is a question of determining to which sphere such or such elements belong. Dr. White can hardly be ignorant of them. But if so, what value can he attach himself to most of his arguments against Catholic theology, Church authority and papal infallibility? What if, in ages of ignorance, people connected superstitious notions with the facts of Nature? What if individual theologians shared their error? That may have been their fault, or the fault of the age, but surely not the fault of the Church or of Theology. What if Bede and the Fathers spoke of the work of creation as they saw

it, and interpreted the Bible narratives according to the notions of their time? They claimed no special authority for their interpretations, and if later ages surrounded their views with especial reverence, it was only until other views more accurate should have established their right to supersede them. Theologians may have clung with unnecessary tenacity to the literal sense of Scripture and exhibited undue warmth in defending it; but, once more, nobody ever believed them to be infallible. Even if we admit, in the words of Dr. White, that "Conceptions held in the Church during many centuries, 'always, everywhere, and by all' (the celebrated criterion of Vincent of Lerins) were, on the whole, steadily hostile to truth," our belief in the Church's infallibility shall be in nowise lessened, so long as these conceptions were held as mere human interpretations of the divine word, not as articles of faith.

Such interpretations, it is true, have been occasionally endorsed and enforced by the Church, as in the celebrated case of Galileo. Here, according to Dr. White, the doctrine of infallibility completely breaks down. But the merest tyro of Catholic theology could have told him that the infallibility of the Church or of the Pope was not engaged in the question at any time. The case was in the hands of theologians, of cardinals, of congregations, all liable to be mistaken. The Pope, indeed, favored and sanctioned their action; but a solemn decree *ex cathedra*, in which alone a Pope is infallible, was never thought of in connection with Galileo.

The same remarks apply to the question of lucrative money-lending, on which Dr. White descants at length. Even if we admit that the aim of the Church right through the Middle Ages was to prevent making money on loans, and that Popes and theologians shared the notion of Aristotle that money, being "barren of its nature," could not lawfully be made productive, yet amid all that was held and taught on the subject, no solemn, final definition can be brought forward. In this, as in some other instances, Dr. White may point to the exercise of a certain disciplinary power, or even to minor acts of doctrinal authority, the wisdom of which may be justly questioned; but such cases, so long as they remain outside the sphere of action for which inerrancy is claimed, prove nothing, and are only so many instances of the sophism which logicians call *ignorantia elenchi*, that is, proving something different from what has to be proved.

IV.

Another sophism which pervades the whole course of Dr. White's argument is based on the ambiguous meaning of his second term, Science.

The word Science had been long employed and understood va-

riously as signifying knowledge in general, or knowledge fully ascertained, or knowledge systematized. But for some time the representatives of the natural sciences have appropriated the term to themselves and to their special department, as if it could be claimed by no other, besides implying that whatever is scientific is certain and cannot be questioned. But it takes only a little attention to see how much there is in all this of gratuitous assumption. Everybody knows that there are social, moral and metaphysical, as well as physical sciences, and that, in the latter as well as in the former there are elements of very unequal value. In the realm of Nature, endless observations and experiments have given, it is true, to a vast number of facts and laws an authority never again to be questioned; but how many others still await a more thorough verification, while, high above them all, the general theories which so powerfully captivate the popular mind are only plausible guesses? Men talk fluently of ether, electricity, chemical attraction, gravitation, molecules, and atoms, as if they could spread them all out before our eyes; yet what are they all but hypotheses, guesses—likely enough so long as they account for the facts, but liable to disappear any day in presence of some broader synthesis, or simpler explanation, or of new facts they are insufficient to account for.

All this Dr. White contrives to forget. Everything connected with scientific observation he lays down as unquestionable, and his preferences almost invariably turn to what is remotest from the lines followed by Christian writers.

Thus, for example, the question of the antiquity and early history of the human race, considered in the light of modern discovery, is assuredly much more difficult to handle to-day than a hundred years ago; but that is no reason to take for granted, as Dr. White does, the countless ages assigned to man by certain scientists, or his universal evolution from a condition much nearer that of a brute than of a rational being. Both are strongly contested by no less distinguished scientists of another school.

“Theology” and “Science” are not the only terms which need distinction and elucidation. “Evolution” is another, having many meanings, which Dr. White is never concerned to keep asunder, being always ready to endorse whatever bears the magic name. As a theory, evolution admits of all manner of forms, degrees and spheres of action. It may be confined to inanimate nature and account for the facts of astronomy and geology, without being extended any farther. Or it may be carried into the kingdom of plants and animals, and stop short at man. Or it may, in its course, be made to include man himself. There is a theistic theory of evolution which claims only to show on what lines the work

of creation was carried out by its divine Author, and there is an atheistic evolution which sets aside the notion of God altogether. There is a limited conception of evolution, with breaks which imply the introduction, from time to time, of a new form of action, as in the passage from inorganic to organized beings; from plant to animal life; from the instincts of the animal to the mind and conscience of man; and there is a radical conception of the theory which assigns to the same blind forces the formation of everything, from the primary elements of matter to the human being in his highest development. In some of its forms the theory can scarcely be questioned; in others it is utterly inadmissible; in its intermediate stages it may be a legitimate subject of controversy among scientists or among believers. But with Dr. White such distinctions do not exist. For him evolution, in all its Darwinian fullness, is a demonstrated truth by which all else is to be judged.

These are some of the methods by which Dr. White pursues his "warfare" and tries to raise a prejudice against religion as being at all times the great obstacle to the onward march of Science. It is this position that we have now to consider in itself.

V.

That mistaken religious views held by Catholics or by Protestants may have occasionally, in the course of ages, interfered—unnecessarily and unduly interfered—with scientific development, we have no reason to question on abstract grounds, no wish to deny as a fact; but that there is anything in that fact, reduced to its true proportions, to justify the animosity of Dr. White and others against Religion we utterly fail to perceive. In fact, we hold that the opposition so bitterly complained of was most natural in the circumstances; that it was even serviceable; that it was far from being the only or the principal obstacle science had to contend with; finally that, of the numerous instances of religious opposition to science brought forward by Dr. White, there are extremely few in which any appreciable delay was caused, as a fact, in the onward course of Science itself.

We say, first of all, that it was most natural that when modern science dawned on the world men should be found holding, side by side with the true faith, many mistaken notions about Nature which had become part of their religious beliefs. As we have already remarked, one of the primary exigencies of the human mind is to seek a cause for whatever is seen to begin or to change. Long after the earlier stages of man's development he remained still in primitive ignorance of the true forces of Nature; but at the same time he had an intense belief in the powers of the invisible world, and to them he naturally attributed the facts of the visible

world, especially the exceptional, striking facts he could not otherwise account for. Thus earthquakes were looked upon as special marks of God's wrath; comets were believed to be missiles hurled at a wicked world, or, at the least, signs foreboding some great calamity. Storms and lightning came from the heavens and were visibly the work of the Creator or of "the powers of the air." The strange features of nervous diseases caused them to be referred by pagans and Christians alike to similar agencies. In a word, everything unusual and striking in Nature impressed men with a mysterious dread, as the work of supernatural beings.

This religious philosophy of the visible word was very attractive. It sated that craving for the marvellous which is natural to man; it gave scope to his imagination; it fostered the religious spirit, making daily life full of heavenly signs and special providences, turning men's thought to God, and steeping their whole existence in an atmosphere of faith. Can we wonder if they eagerly clung to it and turned a deaf ear to Science so long as she could speak, as was always the case in the beginning, only with hesitating manner and uncertain voice? The older conceptions had so become a part of their mental structure, they were so wedded to their holiest impressions and dearest memories, that to exchange them for others seemed like parting with their faith and piety, or, to say the least, with what had helped to sustain one and the other. Natural explanations of what had been so long considered a direct action of God were looked upon as irreligious. As early as the fourth century we find Cæsarius, brother of St. Basil, declaring impious the opinion of those who in earthquakes saw nothing but natural phenomena, and as late as the beginning of the last century we find Newton's theory combated by the consideration that by it "he took from God that direct action on His works so constantly ascribed to Him in Scripture, and transferred it to mechanical laws," and that "he substituted gravitation for Providence." But such resistance was not generally of long duration. It had to yield to the evidence of facts or to a series of irresistible inductions, and gradually men's beliefs and devotions came to be built on different lines.

The same observations apply to the numerous mistaken notions which had been gathered from too literal an interpretation of Scripture. Our ideas of the natural world are so exclusively derived in this age from direct observation that we can scarcely conceive of their being sought for elsewhere. But in past times it was just the opposite. In their inability to sound the mysteries by which they were surrounded, men instinctively turned for information to a higher source, and they seemed to have found it in the Bible. Here was a book coming from God himself and touch-

ing on all manner of subjects, describing in particular the formation of the heavens and the earth, containing the early history of mankind, and accounting for many things, besides, of which no other explanation could be had. What more natural than to accept all this as it stood? Of course it was seen plainly enough that some things were spoken of in Scripture not as they are but as they strike the senses and affect the imagination; but partly through ignorance, partly through a mistaken reverence, much was taken literally which in the mind of the sacred writer was only metaphorical or poetic, and the rule obtained that the literal sense was to prevail when no sufficient reason appeared to depart from it. Now, during the lengthened period to which we refer, most of the reasons subsequently discovered were unknown. Thus nobody, for example, saw any reason why the visible Universe should not have begun to exist only six thousand years ago; why the earth should not have been made just as it is in six ordinary days; why the deluge should not have covered the whole surface of the earth, or why Noah might not have accommodated in the ark couples of all the animals which the flood would have destroyed. Nobody saw any special difficulty in the earth being immovably fixed on its foundations, with the sun, moon and stars revolving around it. As a consequence, the passages of the Bible bearing on these and scores of similar facts were understood literally by all, and the information which they seemed to convey was welcomed by all as introducing to a region of knowledge inaccessible at the time to any other mode of investigation, besides giving an assurance which God's word could alone impart, according to the saying of St. Augustine in this same connection: *Major est Scripturæ auctoritas quam omnis humani ingenii capacitas.*

Above all, the divine source from which this knowledge was supposed to flow gave it a special sacredness in the eyes of all true believers. They lovingly and reverently dwelt upon it; they made it a basis of speculation, and built upon it by the deductive methods of the times. It became truly a part of their philosophy and of their religion. What, then, could be expected, when all these notions came to be assailed in the name of new theories and discoveries, but a hearty denunciation of the latter "as false in philosophy (the terms employed in the case of Galileo) and heretical in religion"?

Not being himself a believer, Dr. White cannot, perhaps, understand the extreme importance which doctrines have for those who look upon them as coming from God. Yet, that belief once admitted, what more natural than the anxious solicitude with which believers watch over every particle of what, rightly or wrongly, they consider part of the sacred treasure, and the energy

with which, when it is assailed, they defend it. Far from begetting in the scientist a feeling of irritation, as is too often the case, it should rather awaken his sympathy and lead him to touch with a gentle hand what he must recognize as some of the worthiest as well as the deepest and tenderest feelings of the human heart.

And as regards himself, he, too, should remember that he is not infallible; that his great victories have been won at the cost of numberless defeats, and that the imperishable monuments which he has ultimately succeeded in erecting are built on the ruins of long-forgotten speculations, repudiated theories and spurious facts. All the sciences began humbly. For many centuries Astronomy was immersed in astrology, Chemistry in alchemy, Physics in metaphysics, History in fable. What was wanting in knowledge was supplied by the fancy—imaginary continents and seas, imaginary animals of the dry land and of the deep. Our theologians believed in them, like everybody else, and occasionally employed them as illustrations and arguments after the fashion of the day. Our commentators embodied them in their interpretations of the Bible, from which it was not easy to disentangle them when it had to be done later on. What is all this but knowledge in its infancy, of which believers have no more reason to be ashamed than scientists, nor one and the other any more than the individual man in his maturity feels embarrassed at the recollection of the childish impressions of his early conscious life.

It is, then, through all these preconceived, mistaken notions that Science had to fight its way. They were not the outcome of religion alone, but of general habit, prejudice and excessive conservatism. Even to-day among the representatives of every science there is a conservative as well as a progressive section. Inventors, discoverers, thinkers have always had to contend with them; and one of their sorest trials has been to find among their opponents the very men who should have been the first to welcome and to help them. The facts of animal magnetism, or hypnotism, as it is now called, were, up to a recent date, steadily denied or contemptuously ignored by the leading representatives of science. The possibilities of steam as a motor power, the most important appliances of electricity, were questioned even by specialists until repeated experiments had demonstrated them. Many lives have been lost by the slowness of medical men to adopt new methods of treatment.

Scientists may have to suffer from opposition of this and similar kinds, but Science fares none the worse for it. The more impetuous its rush forward, the more it needs to be kept within proper bounds, and this is the natural function of the other

forms of human knowledge. Scientists unchecked easily wander into speculations of all kinds, philosophical, historical, religious, where they are much exposed to lose themselves. It is the business of the specialists who by right occupy these grounds to awaken them from their dreams and lead them back to their own field of knowledge. This theologians have done successfully again and again, as well as historians, philosophers and their own brother scientists. Where their opposition was mistaken it was seldom effective, and never permanently hurtful to science. While theologians denounced and anathematized, investigators silently pursued their observations and developed their inductions until a full demonstration was reached, and then the battle was won. In a few cases, we are free to confess, the struggle was unnecessarily and unduly lengthened, but that was only the natural outcome of individual obstinacy or deep and widespread prejudice; nor was it by any means confined to Catholics. In fact Dr. White's narrative shows that from the beginning Protestants were generally more extreme and more unyielding than Catholics in their opposition to discoveries which disturbed their old Scriptural notions. Nor must we wonder at this, for whatever touches the Bible threatens them much more than Catholics, whose faith rests not on Scripture but on the living voice of the Church.

VI.

To sum up, Dr. White's history of the relations between Science and Religion is entirely misleading. It is unfriendly and unfair to Religion from beginning to end. This terrible war of which he has undertaken to relate the vicissitudes turns out to be little more than a lively and protracted skirmishing kept up between scientists and theologians of every calibre, and making more noise, as often happens, than doing harm to either side. It is remarkable how seldom the Church interfered, and when she did, how gently, using mostly her disciplinary power only, and never putting forth her full doctrinal authority. And as for waging war on Science, she never as much as thought of it, for Science she recognizes as coming, like herself, from God. True, she has much reason to complain of many scientists, who are constantly going outside their sphere and making unjustifiable inroads into hers. But she says little about it, remembering that among the foremost scientists of the day she reckons some of her most devoted children, and that it would be unfair, anyhow, to make Science responsible for what she neither inspires nor can prevent.

Those who undertake to speak in the name of Science would consult much better for her honor and for their own if they consented to be guided by the same spirit. Religion is not a thing

to be trifled with. Its purposes are too high, its influences too far reaching and too deep, its achievements too great, not to entitle it to respect. And then the world cannot do without it. Not only it fills an abiding need of the soul, and answers questions to which it alone can give a satisfactory reply, but it keeps together the very framework of society. Every experienced and thoughtful man must see that. Dr. White must see it. He does see it, and this is doubtless why he attempts to draw a distinction between Religion and Theology. "Science," he says, "has conquered Dogmatic Theology." (She has done nothing of the kind; just ridded us of mistaken conceptions which had long attached themselves to Theology and unduly assumed its name, that's all.) But he adds, "she (Science) will henceforth go hand in hand with Religion," as if religion without Dogmatic Theology, that is, without a body of doctrines accepted by faith, can be anything but a shadow. This, too, Dr. White's experience of life should have shown him, not perhaps in a few individuals particularly situated and particularly cultivated, but in the bulk of his fellow-men. When they lose their hold on positive belief the rest is sure to follow. In the "*Revue des Deux Mondes*," the leading European review, its gifted editor, Fr. Brunetière—to-day the honored guest of Johns Hopkins and Harvard—recently published an article which attracted much attention and gave rise to much comment. It was entitled "The Bankruptcy of Science," and its purpose was to show that Science had "failed," not in its proper sphere, not in accomplishing wonderful things, but in fulfilling the promises made, in its name, of sufficing henceforth to give guidance and strength to mankind. The responsive echo which came back to the writer almost from everywhere proved that he had struck the right chord.

If, then, neither Science nor Religion can be dispensed with, if neither can be sacrificed to the other, surely it is not a state of "warfare" that should be proclaimed, but a state of harmony and mutual good-will. This should not be difficult, if we consider how far these two great powers stand apart, or, rather, how distinct they are from each other in their objects and in their methods. "Why," to use the words of Balfour ("*Foundations of Belief*"), "may we not set up side by side with the creed of natural science another and supplementary set of beliefs which may minister to needs and aspirations which Science cannot meet, and may speak amid silences which Science is powerless to break? The natural world and the spiritual world, the world which is immediately subject to causation and the world which is immediately subject to God, are each of them real, and each of them the objects of real knowledge. But the laws of the natural world

are revealed to us by the discoveries of Science, while the laws of the spiritual world are revealed to us through the authority of spiritual intuitions, inspired witnesses or divinely guided institutions. And the two regions of knowledge lie side by side, contiguous but not connected, like empires of different race and language, without intercourse with each other, except along a disputed and wavering frontier."

Conciliation, therefore, should be the object of all who have at heart the integral satisfaction of man's needs and his full individual and social development. Sixty years ago a man of whom Dr. White speaks in terms of admiration, Cardinal Wiseman, gave the signal of the noble work in his lectures on the "Connection Between Science and Revealed Religion." Would that in this instance admiration had led to imitation!

VII.

Since we venture to admonish others, may we not, at the same time, administer with profit some admonition to ourselves? In all these quarrels are we entirely faultless? If often provoked, have we not been occasionally provoking, clinging tenaciously to antiquated notions which should have long since been given up, or withdrawing from them under a cloud of ambiguous words to hide defeat? We ask scientists to set aside prejudice and give us a fair hearing; are we always ready to listen patiently to them?

It must be confessed that many of the conclusions solidly established by historians, biblical scholars and the like, interfere most unpleasantly with some of our settled notions, and we are sorely tempted to resent the interference. Natural science, too, with its laws and forces, looks sometimes as if its chief purpose were to supersede the divine action and keep God out of sight. Yet it is thus that He would have us henceforth recognize and worship Him. Under the laws of Nature and its active forces He is ever present and ever accessible to those who seek Him. Much depends on the bent of the individual mind. There is the religious mind and there is the secular mind. The religious mind, even in the midst of modern science, still turns instinctively to God, and sees created things in their relations with God. The secular mind sees them in themselves and looks no further. The mediæval mind was religious; the modern mind is mainly secular, and it is Science that has made it so. Hence the necessity of reaction, not against Science, but against the evil to which it gives birth.

In nothing are its effects more noticeable than in the relative extension of religious beliefs. In the intellectual conditions of early and mediæval times they grew indefinitely, as we have seen. Sci-

ence has singularly narrowed their sphere. While loyal to the same creed we all believe incomparably fewer things than were believed in former days, and of much that we continue to believe our conceptions are considerably altered. To realize this we have only to take up books written a few hundred years ago, or even fifty years ago. We are, perhaps, none the happier nor the better for the change; but it was inevitable. Nor has it entirely ceased. Slowly but steadily, around the immovable centre of dogma, the religious elements of our minds are disposing themselves differently. Some are clinging more closely, others more loosely, while others still have silently dropped off. This, too, is inevitable. It is, in one shape or another, the law of all intellectual growth, the very law of life. The apologist of the faith has to bear it in mind. In his zeal for the integrity of the sacred treasure he must not add on what, though often connected with, never belonged to it. He must not extend immeasurably his line of defence at the imminent risk of weakening it.

He must not commit himself, still less the Church, to positions which ultimately may have to be abandoned, as happened in the case of Galileo. It is neither dignified nor creditable to be constantly driven back from positions which were held as if they had been vital. On the other hand, he cannot shut himself up in his citadel and fight only for what is essential in the faith. Traditional positions, views commonly held, have to be sustained; but only as a matter of prudence. He should not allow them to be questioned without reason, but there may be a reason for questioning them, and if such be alleged, it should be listened to and its full value allowed. Fairness is the supreme law of a defender of truth, human or divine. It is what most commends truth to inquirer or opponent, and it never can be ultimately harmful to a sacred cause. In times of transition the duty of apologist and theologian is one of extreme delicacy. There are concessions which at first sight seem allowable, but which logically would prove fatal; others considered most dangerous a hundred years ago have since turned out to be harmless. Perhaps the best course to follow, when all is not clear, is to watch and to wait. It is not in keeping with the dignity of religion or its representatives to get excited over every discovery that is claimed to have been made, and every view that may have been ventured upon. Most of them are worthless and soon disappear of themselves; others more plausible are tested by experts and thrown aside. Some prevail, but in a modified form, and generally not unacceptable to orthodoxy. But it takes them time to reach their definitive shape, and in the meantime why should we be concerned religiously with their transient phases? To wait, then, is best. It is the attitude that Catholics generally assumed

during the growth of geological science. While all over Europe and America Protestants were violently denouncing itself and its promotors, Catholics quietly awaited its final evolution, fully prepared to modify their old notions as to the meaning of Genesis and set them in harmony with the new facts, when fully ascertained, and with their logical consequences.

We are told in the Acts that while the Apostles were in prison the Sanhedrim assembled to decide as to how they were to be dealt with, and that Gamaliel, arising in the midst of the Council, gave it as his opinion that they should not be interfered with. He quoted several instances of recent movements which all proved abortive and he added: "Now, therefore, I say to you, refrain from these men and let them alone, for if this counsel or this work be of men, it will come to nought. But if it be of God, ye cannot overthrow it."

With a slight alteration of terms we may apply the lesson to ourselves. Be patient and wait. If there is no truth in the facts and views of those scientists, they will come to nought. But if they be true in any measure, in that measure they will ultimately prevail, and ye cannot overthrow them. For, as St. Paul (II Cor. xiii.) says: *We can do nothing against the truth but for the truth.*

J. HOGAN.

BOSTON ECCLESIASTICAL SEMINARY.
