

THE SEARCH FOR TRUTH IN A REVERENT SPIRIT

BY THEODORE ROOSEVELT

THERE is superstition in science quite as much as there is superstition in theology, and it is all the more dangerous because those suffering from it are profoundly convinced that they are freeing themselves from all superstition. No grotesque repulsiveness of mediæval superstition, even as it survived into nineteenth-century Spain and Naples, could be much more intolerant, much more destructive of all that is fine in morality, in the spiritual sense, and indeed in civilization itself, than that hard dogmatic materialism of to-day which often not merely calls itself scientific but arrogates to itself the sole right to use the term. If these pretensions affected only scientific men themselves, it would be a matter of small moment, but unfortunately they tend gradually to affect the whole people, and to establish a very dangerous standard of private and public conduct in the public mind.

This tendency is dangerous everywhere, but nowhere more dangerous than among the nations in which the movement toward an unshackled materialism is helped by the reaction against the deadly thralldom of political and clerical absolutism. The first of the books mentioned below¹ is written by a Montevideo gentleman of distinction. Under the rather fanciful title of "The Death of the Swan" it deals with the shortcomings of Latin civilization, accepts whole-heartedly the doctrines of pure materialism as a remedy for these shortcomings, and draws lessons from the success of the Northern races, and especially of our own countrymen, which I, for one, am unwilling to have drawn. The

author feels that the civilization of France, Italy, and Spain is going down, and that it owes its decadence to submission to an outworn governmental and ecclesiastical tyranny, and especially to the futility of its ideals in government, religion, and the whole art of living, a futility so wrong-headed and far-reaching as to have turned aside the people from all that makes for real efficiency and success. In his revolt against sentimentality, mock humanitarianism, and hypocrisy the author advocates frank egotism and brutality as rules of conduct for both individuals and nations; and in his revolt against the theological tyranny and superstition from which the Spanish peoples in the Old and New Worlds have suffered so much in the past he advocates implicit obedience to the revolting creed which would treat gold and force as the true and only gods for human guidance; and this he does in the name of science and enlightenment and of exact and correct thinking. He speaks with admiration of certain American qualities, confounding in curious fashion the use and abuse of great but dangerous traits. He fails to see that the line of separation between the school of Washington and of Lincoln and the school of the prophets of brutal force, as expressed in the deification of either Mars or Mammon, is as sharp as that which distinguishes both of these schools from the apostles of the silly sentimentalism which he justly condemns. He sees that the really great Americans were thoroughly practical men; but he is blind to the fact that they were also lofty idealists. It was precisely because they were both idealists and

¹ *Le Mort du Cygne*. By Carlos Reyles. Translation from Spanish into French by Alfred de Bengoechea. Bernard Grasset, Paris.

Thoughts of a Catholic Anatomist. By Thomas Dwight, M.D. Longmans, Green & Co., New York.

The Classical Heritage of the Middle Ages. By Henry Osborn Taylor. Columbia University Press, New York.

Some Neglected Factors in Evolution. By Henry M. Bernard. G. P. Putnam's Sons, New York.

The World of Life. By Alfred Russel Wallace. Moffat, Yard & Co., New York.

William James. By Emile Boutroux. Librairie Armand Colin, Paris.

Science et Religion. By Emile Boutroux. Ernest Flammarion Paris.

Science and Religion. By Emile Boutroux. Translated into English by Jonathan Nield. The Macmillan Company, New York.

Creative Evolution. By Henri Bergson. Authorized

translation by Arthur Mitchell. Henry Holt & Co., New York.

The Varieties of Religious Experience. By William James. Longmans, Green & Co., New York.

Time and Free Will. By Henri Bergson. Translation by F. L. Pogson. The Macmillan Company, New York.

From Epicurus to Christ. By William De Witt Hyde. The Macmillan Company, New York.

The Sixth Sense. By Bishop Charles H. Brent. B. W. Huebsch, New York.

I need hardly say that I am not attempting to review these books in even the briefest and most epitomized fashion. I use them only to illustrate certain phases, good and bad, in the search for truth; as, for instance, the harm that comes from seeking to apply universally truth as apprehended by the mere materialist, the futility of trying to check this harm by invoking the spirit of reactionary mediævalism, and the fundamental agreement reached by truth-seekers of the highest type, both scientific and religious.

practical men that they made their mark deep in history. He sees that they abhorred bigotry and superstition; he does not see that they were sundered as far from the men who attack all religion and all order as from the men who uphold either governmental or religious tyranny. It was the fact that Washington and Lincoln refused to carry good policies to bad extremes, and at the same time refused to be frightened out of supporting good policies because they might lead to bad extremes, that made them of such far-reaching usefulness.

Dr. Dwight's book is very largely a protest against the materialistic philosophy which has produced such conceptions of life, and against these conceptions of life themselves. With this protest we must all heartily sympathize; unfortunately, it is impossible to have such sympathy with the reactionary spirit in which he makes his protest. There is much that is true in the assault he makes; but in his zeal to show where the leaders of the modern advance have been guilty of shortcomings he tends to assume positions which would put an instant stop to any honest effort to advance at all, and would plunge us back into the cringing and timid ignorance of the Dark Ages. Apparently the ideal after which Dr. Dwight strives is that embodied in the man of the Middle Ages, of whom Professor Henry Osborn Taylor in one of his profound and able studies has said: "The mediæval man was not spiritually self-reliant, his character was not consciously wrought by its own strength of mind and purpose. Subject to bursts of unrestraint, he yet showed no intelligent desire for liberty."

Dr. Dwight holds that there is an ominous parallelism between the lines of thought of the materialistic scientists of to-day and those of the French Revolution. Strongly though he disapproves of much of the thought of modern science, he disapproves even more strongly of the Revolution. In speaking of the similarities between them he says:

Among the characters of the Revolution we meet all kinds of company. There are the honest men anxious for reform, the protesters against what they conceived to be religious oppression, the dreamy idealists without definite plan, the ranting orators of the "mountain," fanatics and demagogues at once, the wily ones who make a living from the more or less sincere promulgation of revolutionary doctrines and who find legalized plunder very profitable, the army of those who for fear or for favor prefer to be on the winning side and follow the fashionable doctrines without an examination which most

of them are incompetent to make, and finally the mob of the *sans-culottes* rejoicing in the overthrow of law, order, and decency.

This is true, although it does not contain by any means the whole truth; moreover, the parallelism with the scientific movement of the present day undoubtedly in part obtains. Yet the saying which Dr. Dwight quotes with approval from Herbert Spencer applies to what he himself attempts; to destroy the case of one's opponents and to justify one's own case are two very different things. At present we are in greater danger of suffering in things spiritual from a wrong-headed scientific materialism than from religious bigotry and intolerance; just as at present we are threatened rather by what is vicious among the ideas that triumphed in the Revolution than we are from what is vicious in the ideas that it overthrew. But this is merely because victorious evil necessarily contains more menace than defeated evil; and it will not do to forget the other side, nor to let our protest against the evil of the present drive us into championship of the evil of the past. The excesses of the French Revolution were not only hideous in themselves, but were fraught with a menace to civilization which has lasted until our time, and which has found its most vicious expression in the Paris Commune of 1871, and its would-be imitators here and in other lands. Nevertheless, there was hope for mankind in the French Revolution, and there was none in the system against which it was a protest, a system which had reached its highest development in Spain. Better the terrible flame of the French Revolution than the worse than Stygian hopelessness of the tyranny—physical, intellectual, spiritual—which brooded over the Spain of that day. So it is with the modern scientific movement. There is very much in it to regret; there is much that is misdirected and wrong; and Dr. Dwight is quite right in the protest he makes against Haeckel and to a less extent against Weismann, and against the intolerant arrogance and fanatical dogmatism which the scientists of their school display to as great an extent as ever did any of the ecclesiastics against whom they profess to be in revolt. The experience of our sister Republic of France has shown us that not only scientists but politicians, professing to be radical in their liberalism, may in actual fact show a bigoted intolerance of the most extreme kind in their attacks on religion; and bigotry and

intolerance are at least as objectionable when anti-religious as when nominally religious. But in his entirely proper protest against these men and their like Dr. Dwight is less than just to Darwin and to many another seeker after truth, and he fails to recognize the obligation under which he and those like him have been put by the fearless pioneers of the new movement. The debt of mankind to the modern scientific movement is incalculable; the evil that has accompanied it has been real; but the good has much outweighed the evil. It is only the triumph of the movement led by the men against whom Dr. Dwight protests that has rendered it possible for books such as Dr. Dwight's to be published with the approval—as in his case—of the orthodox thought of the Church to which the writer belongs.

The most significant feature of his book is the advance it marks in the distance which orthodoxy has traveled. He grudgingly admits the doctrine of evolution, although—quite rightly, and in true scientific spirit, by the way—he insists most strongly upon the fact that we are as yet groping in the dark as we essay to explain its causes or show its significance; and he is again quite right in holding up as an example to the dogmatists of modern science what Roger Bacon said in the thirteenth century: "The first essential for advancement in knowledge is for men to be willing to say, 'We do not know.'" He of course treats of the solar system, the law of gravitation, and the like as every other educated man now treats of them. Now, all of this represents a great advance. A half-century ago no recognized authorities of any Church would have treated an evolutionist as an orthodox man. A century ago Dr. Dwight would not have been permitted to print his book as orthodox if it had even contained the statement that the earth goes round the sun. In the days of Leonardo da Vinci popular opinion sustained the Church authorities in their refusal to allow that extraordinary man to dissect dead bodies, and the use of antitoxin would unquestionably have been considered a very dangerous heresy from all standpoints. In their generations Copernicus and Galileo were held to be dangerous opponents of orthodoxy, just as Darwin was held to be when he brought out his "Origin of Species," just as Mendel's work would have been held if Darwin's far greater work had not distracted attention from him. The discovery of the circulation of the blood was at the

time thought by many worthy people to be in contradiction of what was taught in Holy Writ; and the men who first felt their way toward the discovery of the law of gravitation made as many blunders and opened themselves to assault on as many points as was the case with those who first felt their way to the establishment of the doctrine of evolution. The Dr. Dwights of to-day can write with the freedom they do only because of the triumph of the ideas of those scientific innovators of the past whom the Dr. Dwights of their day emphatically condemned.

But when Dr. Dwight attacks the loose generalizations, absurd dogmatism, and ludicrous assumption of omniscient wisdom of not a few of the so-called leaders of modern science, he is not only right, but renders a real service. The claims of certain so-called scientific men as to "science overthrowing religion" are as baseless as the fears of certain sincerely religious men on the same subject. The establishment of the doctrine of evolution in our time offers no more justification for upsetting religious beliefs than the discovery of the facts concerning the solar system a few centuries ago. Any faith sufficiently robust to stand the—surely very slight—strain of admitting that the world is not flat and does move round the sun need have no apprehensions on the score of evolution, and the materialistic scientists who gleefully hail the discovery of the principle of evolution as establishing their dreary creed might with just as much propriety rest it upon the discovery of the principle of gravitation. Science and religion, and the relations between them, are affected by one only as they are affected by the other. Genuine harm has been done by the crass materialism of men like Haeckel, a materialism which, in its unscientific assumptions and in its utter insufficiency to explain all the phenomena it professes to explain, has been exposed in masterly fashion by such really great thinkers—such masters not only of philosophy but of material science—as William James, Émile Boutroux, and Henri Bergson. It is worth while to quote the remarks of Alfred Russel Wallace, the veteran evolutionist: "With Professor Haeckel's dislike of the dogmas of theologians and their claims as to the absolute knowledge of the nature and attributes of the inscrutable mind that is the power within and behind and around nature many of us have the greatest sympathy: but we have none with his

unfounded dogmatism of combined negation and omniscience, and more especially when this assumption of superior knowledge seems to be put forward to conceal his real ignorance of the nature of life itself." Dr. Dwight is emphatically right when he denies that science (using the word, as he does, as meaning merely the science of material things) has taught "a new and sufficient gospel," or that, to use his own words, there is any truth "in the boast of infidel science that she and she alone has all that is worth having." He could go even further than he does in refuting the queer optimism of those evolutionists who insist that evolution in the human race necessarily means progress; for every true evolutionist must admit the possibility of retrogression no less than of progress, and exactly as species of animals have sunk after having risen, so in the history of mankind it has again and again happened that races of men, and whole civilizations, have sunk after having risen. In so far as Dr. Dwight's view of religion is that it is the gospel of duty and of human service, his view is emphatically right; and surely when the doctrine of the gospel of works is taken to mean the gospel of service to mankind, and not merely the performance of a barren ceremonial, it must command the respect, and I hope the adherence, of all devout men of every creed, and even of those who adhere to no creed of recognized orthodoxy.

In the same way I heartily sympathize with his condemnation of the men who stridently proclaim that "science has disposed of religion," and with his condemnation of the scientific men who would try to teach the community that there is no real meaning to the words "right" and "wrong," and who therefore deny free will and accountability. Even as sound a thinker as Mr. Bernard, whose book is rightly, as he calls it, "an essay in constructive biology," who in his theory of group development has opened a new biological and even sociological field of capital importance, who explicitly recognizes the psychical accompaniment of physical force as something distinct from it, and whose final chapter on the integration of the human aggregate shows that he has a far nobler view of life than any mere materialist can have, yet falls into the great mistake of denying freedom of the will, merely because he with his finite material intelligence cannot understand it. Dr. Dwight is right in his attitude toward the scientific men who thus assume that there is no freedom

of the will because on a material basis it is not explicable. Whenever any so-called scientific men develop as an abstract proposition a theory in accordance with which it would be quite impossible to conduct the affairs of mankind for so much as twenty-four hours, the wise attitude of really scientific men would be to reject that theory, instead of following the example of the, I fear not wholly imaginary, scientist who, when told that the facts did not fit in with his theory, answered, "So much the worse for the facts." M. Bergson, in his "Creative Evolution," has brought out with convincing clearness the great truth that the human brain, so able to deal with purely material things, and with sciences, such as geometry, in which thought is concerned only with unorganized matter, works under necessarily narrow limitations—limitations in reality very, very narrow, and never to be made really broad by mere intellect—when it comes to grasping any part of the great principle of life. Reason can deal effectively only with certain categories. True wisdom must necessarily refuse to allow reason to assume a sway outside of its limitations; and where experience plainly proves that the intellect has reasoned wrongly, then it is the part of wisdom to accept the teachings of experience, and bid reason be humble—just as under like conditions it would bid theology be humble. A certain school of Greek philosophers was able to prove logically that there was not, and could not be, any such thing as motion, and that, even if there were, it was quite impossible logically for a pursuing creature ever to overtake a fleeing creature which was going at inferior speed; but all that was really accomplished by this teaching was to prove the need of much greater intellectual humility on the part of those who believed that they were capable of thinking out an explanation for everything. Mr. Bernard ought not to have been caught in such a dilemma, because of the very fact that he does not cast in his lot with the crass materialists; for he admits that there are many things we do not know, that there is much which our intelligence—necessarily functioning in material fashion—cannot understand. It is just as idle for a man to try to explain everything in the moral and spiritual world by that which he is able to apprehend of the material world as it would be for a polyp to try to explain the higher emotions of mankind in terms of polyp materialism. Not only would it be quite impossible to conduct even the lowest form

of civil society without practical acknowledgment of free will and accountability—an acknowledgment always made in practice by every single individual of those who deny it in theory—but even in their writings the very men who deny free will and accountability inevitably and continually use language which has no meaning except on the supposition that both of them exist. Mr. Bernard, for instance, on the same page on which he denies freedom of the will makes an impatient plea for just laws, and explains that by “just laws” he means laws that are in accordance with the highest conceptions of human relationships; he complains that the legal idea of justice is invariably far behind that of our psychic perceptions; and elsewhere, as on page 457, he speaks of the “duties” of man and of his “moral perceptions,” and on page 473 he asks for perfection of the community, so that “social life worked out by the highest wisdom of mankind will at once rise to a newer and higher physical and psychic level.” All of this is meaningless if there are no such things as freedom of the will and accountability; and it goes to show that even a profound and original thinker, if he has dwelt too long in the realms where the pure materialist is king, needs to pay heed to M. Bergson’s pregnant saying that “pure reasoning needs to be supervised by common sense, which is an altogether different thing.” A part, and an essential part, of the same truth is expressed by Mr. Taylor when he paraphrases St. Augustine in insisting that “the truths of love are as valid as the truths of reason.”

Dr. Dwight and the many men whose habits of thought are similar to his perform a real service when they keep people from being led astray by the mischievous dogmas of those who would give to each passing and evanescent phase of materialistic scientific thought a dogmatic value; and our full acknowledgment of this service does not in the least hinder us from also realizing and acknowledging that the advance in scientific discovery, which has been and will be of such priceless worth to mankind, cannot be made by men of this type, but only by the bolder, more self-reliant spirits, by men whose unfettered freedom of soul and intellect yields complete fealty only to the great cause of truth, and will not be hindered by any outside control in the search to attain it. A brake is often a useful and sometimes an indispensable piece of equipment of a wagon;

but it is never as important as the wheels. As the University of Wisconsin declared when Dr. Richard T. Ely was tried for economic heresy, “In all lines of investigation the investigator must be absolutely free to follow the paths of truth wherever they may lead.”

It is always a difficult thing to state a position which has two sides with such clearness as to bring it home to the hearers. In the world of politics it is easy to appeal to the unreasoning reactionary, and no less easy to appeal to the unreasoning advocate of change, but difficult to get people to show for the cause of sanity and progress combined the zeal so easily aroused against sanity by one set of extremists and against progress by another set of extremists. So in the world of the intellect it is easy to take the position of the hard materialists who rail against religion, and easy also to take the position of those whose zeal for orthodoxy makes them distrust all action by men of independent mind in the search for scientific truth; but it is not so easy to make it understood that we both acknowledge our inestimable debt to the great masters of science, and yet are keenly alive to their errors and decline to surrender our judgment to theirs when they go wrong. It is imperative to realize how very grave their errors are, and how foolish we should be to abandon our adherence to the old ideals of duty toward God and man without better security than the more radical among the new prophets can offer us. The very blindest of those new scientific prophets are those whose complacency is greatest in their belief that the material key is that which unlocks all the mysteries of the universe, and that the finite mind of man can, not merely understand, but pass supercilious judgment upon, these mysteries. Mr. Wallace stands in honorable contrast to the men of this stamp. No one has criticised with greater incisiveness what he properly calls “the vague, incomprehensible, and offensive assertions of the biologists of the school of Haeckel.” He shows his scientific superiority to these men by his entire realization of the limitations of the human intelligence, by his realization of the folly of thinking that we have explained what we are simply unable to understand when we use such terms as “infinity of time” and “infinity of space” to cover our ignorance; and he stands not far away from the school of MM. Boutroux and Bergson, and, old man though he is, comes near the attitude of the more

serious among the younger present-day scientific investigators—of the stamp of Professor Osborn, of the American Museum of Natural History—in his readiness to acknowledge that the materialistic and mechanical explanations of the causes of evolution have broken down, and that science itself furnishes an overwhelming argument for “creative power, directive mind, and ultimate purpose” in the process of evolution.

The great distinguishing feature of the centuries immediately past has been the extraordinary growth in man's knowledge of, and power to understand and command, his own physical nature and his physical surroundings in the universe. It is this growth which so sharply distinguishes modern civilization, the civilization which we may roughly date as beginning about the time of Columbus's voyage, from all preceding civilizations; and it has not only immeasurably increased man's power over nature, but, when rightly understood, has also measurably added to his inner dignity and worth, and to his power and command over things spiritual no less than material. This conquest could have been achieved only by men who dared to follow wherever their longing for the truth led them, and who were masters of their own consciences, and as little servile to the past as to the present. But no such movement for the uplifting of mankind ever has taken place, or ever will or can take place, without being fraught also with great dangers to mankind. Our hope lies in progress, for if we try to remain stationary we shall surely go backwards; and yet as soon as we leave the ground on which we stand in order to advance there is always danger that we shall plunge into some abyss.

Naturally, the men who have taken the lead in these extraordinary material discoveries have often tended to think that there is nothing to discover or to believe in except what is material. Much of the growth in our understanding of nature has been due to men whose high abilities were nevertheless rigidly limited in certain directions. Our knowledge of solar systems so inconceivably remote that the remoteness is itself unreal to our senses; our knowledge of animate and inanimate forces working on a scale so infinitesimal and yet so powerful as to be almost impossible for our imaginations to grasp; our knowledge of the æons through which life has existed on this planet; the extraordinary advances in knowl-

edge denoted by the establishment of such doctrines as those of gravitation and of evolution; in short, the whole enormous incredible advance in knowledge of the physical universe and of man's physical place in that universe, has been due to the labor of students whose special tastes and abilities lay in the direction of dealing with what is purely material. Their astounding success, and the far-reaching, indeed the stupendous, importance of their achievements, have naturally tended to make those among them who possess genuine but narrow ability, whose minds are keen but not broad, assume an attitude of hard, arrogant, boastful, self-sufficient materialism; a mental attitude which glorifies and exalts its own grievous shortcomings and its inability to perceive anything outside the realm of the body. This attitude is as profoundly repellent as that of the civil and ecclesiastical reactionaries, the foes of all progress, against whom these men profess to be in revolt; and, moreover, it is an attitude which is itself as profoundly unscientific as any of the anti-scientific attitudes which it condemns. The universal truth can never be even imperfectly understood or apprehended unless we have the widest possible knowledge of our physical surroundings, and unless we fearlessly endeavor to find out just what the facts and the teachings of these physical surroundings are; but neither will it ever be understood if the physical and material explanations of life are accepted as all-sufficient. By none is this more clearly recognized than by the most acute and far-sighted of the investigators into physical conditions. Says Mr. Bernard: “There are psychic elements wholly different in kind from the physical elements . . . [they] constitute, in a way impossible to define, a new character, quality, element—or shall we at once boldly borrow a term from mathematics and call it a new ‘dimension’ of our environment, hitherto three-dimensional? These various mental conditions lead us to believe that at any moment, while being driven through this three-dimensional environment, we may also be plunged into a psychic condition which hangs like an atmosphere over our particular physical surroundings.”

Not only every truly religious but every truly scientific man must turn with relief from the narrowness of a shut-in materialism to the profound and lofty thought contained in the writings of William James, of his biographer, M. Émile Boutroux, and of another

philosopher of the same school, M. Bergson. M. Boutroux's study of William James gives in brief form—and with a charm of style and expression possible only for those who work with that delicate instrument of precision, French prose—the views which men of this stamp hold; and be it remembered that, like James, they are thoroughly scientific men, steeped in the teachings of material science, who acknowledge no outside limitation upon them in their search for truth. They have a far keener understanding of the world of matter than has been attained by the purely materialistic scientists, just because, in addition, they also understand that outside of the purely physical lies the psychic, and that the realm of religion stands outside even of the purely psychic. M. Boutroux's book on "Science and Religion" has been translated into English—and we owe a real debt of gratitude to Messrs. Nield and Mitchell for their excellent translations of M. Boutroux and Bergson. There is much talk of the conflict between science and religion. The inherent absurdity of such talk has never been better expressed than by M. Boutroux when he says that such opposition "is the result of our defining both science and religion in an artificial manner by, on the one hand, identifying science with physical science, and, on the other hand, assuming that religion consists in the dogmas which merely symbolize it." M. Boutroux's book, like M. Bergson's "Creative Evolution," must be read in its entirety; mere extracts and condensations cannot show the profound philosophic acumen with which these men go to the heart of things, and prove that science itself, if correctly understood, renders absurd the harsh and futile dogmatism of many of those who pride themselves upon being, above all things, scientific. For, as these writers point out, the work of the scientist is conditioned upon the existence of the free determination of a spirit which, dominating the scientific spirit, believes also in an æsthetic and moral ideal. They see the material, the physical body, in its relation to other physical bodies; and back of and beyond the physical they see life itself, consciousness, which is to be conceived of as something always dynamic and never static, as a "stream of consciousness," a "becoming."

As M. Boutroux finely says, religion gives to the individual his value and treats him as an end in himself, no less than treating him from the standpoint of his duties to other

individuals. This philosophy is founded on a wide and sympathetic understanding of the facts of the material world, a frank acceptance of evolution and of all else that modern science has ever taught; and so those who profess it are in a position of impregnable strength when they point out that all this in no shape or way interferes with religion and with Christianity, because, as they hold, evolution in religion has merely tended to disengage it from its own gross and material wrapping, and to leave unfettered the spirit which is its essence. To them Christianity, the greatest of the religious creations which humanity has seen, rests upon what Christ himself teaches; for, as M. Boutroux phrases it, the performance of duty is faith in action, faith in its highest expression, for duty gives no other reason, and need give no other reason, for its existence than "its own incorruptible disinterestedness." The idea thus expressed is at bottom based on the same truth to which expression is given by Mr. Taylor when he says: "The love of God means not despising but honoring self; and for Christians on earth the true love of God must show itself in doing earth's duties and living out earth's full life, and not in abandoning all for dreams, though the dreams be of Heaven." To men such as William James and these two French philosophers physical science, if properly studied, shows conclusively its own limitations, shows conclusively that beyond the material world lies a vast series of phenomena which all material knowledge is powerless to explain, so that science itself teaches that outside of materialism lie the forces of a wholly different world, a world ordered by religion—religion which, says M. Boutroux, must, if loyal to itself, work according to its own nature as a spiritual activity, striving to transform men from within and not from without, by persuasion, by example, by love, by prayer, by the communion of souls, not by restraint or policy; and such a religion has nothing to fear from the progress of science. For the spirit to which it is loyal is the faith in duty, the search for what is for the universal good and for the universal love, the secret springs of all high and beneficent activity.

It is striking to see how these two gifted Frenchmen, by their own road, reach substantially the same conclusion, which, by a wholly different method, and indeed in treating religion from a wholly different standpoint, is also reached by the President of

Bowdoin College. Mr. Hyde's short volume combines in high degree a lofty nobility of ethical concept with the most practical and straightforward common-sense treatment of the ways in which this concept should be realized in practice. Each of us must prescribe for himself in these matters, and one man's need will not be wholly met by what does meet another's; personally, this book of President Hyde's gives me something that no other book does, and means to me very, very much.

We must all strive to keep as our most precious heritage the liberty each to worship his God as to him seems best, and, as part of this liberty, freely either to exercise it or to surrender it, in a greater or less degree, each according to his own beliefs and convictions, without infringing on the beliefs and convictions of others. But the professors of the varying creeds, the men who rely upon authority, and those who in different measures profess the theory of individual liberty, can and must work together, with mutual respect and with self-respect, for certain principles which lie deep at the base of every healthy social system. As Bishop Brent says: "The only setting for any one part of the truth is all the rest of the truth. The only relationship big enough for any one man is all the rest of mankind." Abbot Charles, of St. Leo Abbey, in Florida, has recently put the case for friendly agreement among good men of varying views, when he summed up a notably fine address in defense—as he truly

NOTE.—In this article I am not dealing with Mr. Wallace's book or any of the other books save as they affect one phase of the philosophy of life; but I am unwilling to speak in such strong commendation of part of what Mr. Wallace says without indicating my equally emphatic dissent from very much else that he says. It is, in the first place, somewhat disconcerting to a student who has always been accustomed to pay much heed to Mr. Wallace's writings to find him treating seriously the grotesque imposture of the post-mortem poem of Poe—dead or alive, Poe would never have written such poor verses! In the next place, Mr. Wallace falls into the very error of the Haeckel school, which he so strongly condemns, when he dogmatically assumes the all-sufficiency of natural selection in its neo-Darwinian sense to explain the riddle of life in the universe; and, above all, when he indulges in rash and thoroughly unscientific generalizations from imperfectly known, and probably misunderstood, facts, and, what is even worse, when he makes what are pure guesses and then treats these guesses as facts which support his theories. Two examples will show what I mean:

One of his favorite theories is that of "recognition marks." He states that the horns of antelope have been developed to serve as such recognition marks, and in this volume gives plates showing the heads of twelve species of antelopes to illustrate his theory. Now of course recognition marks to be of any real value to a species must appear in the female as well as in the male; yet this elementary fact has so totally escaped Mr. Wallace's view that in nine of the species he figures the females are hornless, or with horns so insignificant that they could be of no value for the purpose supposed. Another of his

says, *friendly* defense—of his own Church by enunciating the plea for "true peace founded on justice," worked out in accordance with what he properly calls one of the "dearest blessings that Heaven can give, the spirit that springs from religious liberty." However widely many earnest and high-minded men of science and many earnest and high-minded men of religious convictions may from one side or the other disagree with the teachings of the earnest and high-minded students of philosophy whom I have quoted, yet surely we can all be in agreement with the fundamentals on which their philosophy is based. Surely we must all recognize the search for truth as an imperative duty; and we ought all of us likewise to recognize that this search for truth should be carried on, not only fearlessly, but also with reverence, with humility of spirit, and with full recognition of our own limitations both of the mind and the soul. We must stand equally against tyranny and against irreverence in all things of the spirit, with the firm conviction that we can all work together for a higher social and individual life if only, whatever form of creed we profess, we make the doing of duty and the love of our fellow-men two of the prime articles in our universal faith. To those who deny the ethical obligation implied in such a faith we who acknowledge the obligation are aliens; and we are brothers to all those who do acknowledge it, whatever their creed or system of philosophy.

species, the hartebeest, has horns in both sexes, but they are rather small and not conspicuous, whereas the antelope itself is in both shape and color exceedingly conspicuous and practically impossible to mistake for any other antelope; while its habits are such that in actual life it would be quite impossible for the individuals to fail to recognize one another, wholly without regard to the question of the horns, under any normal circumstances; and, in the enormous majority of cases, they would recognize one another at such a distance that the horns would be but indistinctly seen—the young hartebeests have them only as stubs, and yet are just as quickly and easily recognized as the adults. In but one of the dozen antelopes instanced by Mr. Wallace, the oryx, is there the slightest chance that the horns could serve as recognition marks. Even in this case I do not for a moment imagine that they so serve, or that there would be the slightest need met by their so serving, and they could never so serve save in fully adult animals. In the deer family the antlers are usually borne only by the male, and by him for but a part of the year; and in the majority of antelopes the females and young wholly lack these "recognition marks." My point is not merely that there is probably not the slightest foundation for Mr. Wallace's theory as regards antelopes' horns, but that it shows a very unscientific spirit to advance in dogmatic fashion such a theory without any adequate study of the subject, and without any attempt to get sufficient evidence, or, indeed, to get any evidence that has any bearing on the subject at all.

Again, in the case of the Porto Santo rabbits, Mr. Wallace believes that in four hundred and fifty years what is practically a new species of rabbit has been evolved on

this little island purely by the process of natural selection. Doubtless he is correct in the statement that the Porto Santo rabbit is now so different from the ordinary rabbit that it may be recognized as a "species." It is also possible that the result has arisen, as he says, purely by natural selection, operating as he describes. But there is no *proof* that this is the case; and yet he not only assumes such proof, and assumes that a new species has been formed purely by natural selection, but professes to give "the exact causes" which produced the new species, and to show how "nature actually works," in accordance with the survival of the fittest doctrine. The simple reading of his own statement shows that he has not based it on a single fact, but on a number of pure guesses unsubstantiated by any observation. He guesses that a number of things must have occurred, without even attempting to say that there is any proof that any one of them actually did occur; and he then calmly speaks as if these guesses were actual

facts; and, finally, he compares this conglomerate of guesses with a notable instance of accurately recorded observations affecting sparrows, where what we have to deal with are not guesses at all but facts carefully and accurately recorded by Professor H. C. Bumpus, of Brown University. The point I wish to make is not that Mr. Wallace's guess as to the formation of a new species in Porto Santo by natural selection is necessarily wrong; on the contrary, it may be that it is right. But Mr. Wallace, after having guessed that this is the case, then manufactures out of whole cloth a series of other guesses as a foundation for his first guess, and proceeds to treat these guesses as if they were observed facts. Any position more utterly unscientific could not possibly be imagined, and it is astounding to find one of the leaders of modern scientific thought, a man looked up to as such, willing to base his thought on guesswork no better than that of the average mediæval schoolman or Greek philosopher.