

THE PROBLEM OF NATURAL RELIGION

THE PRESENT POSITION

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THE term natural religion admits of a somewhat varied usage. Any treatment of the problems of religion which confines itself to an appeal to the unaided "light of nature,"—any effort to show that, apart from revelation, we can attain to truth possessing a religious value, comes within the range of the meaning of the term. In scholastic philosophy there was a definite and technical distinction made between so much of religious doctrine as the unaided human reason can demonstrate, and that portion of religion which only revelation can make known to us. The distinction has ever since been insisted upon by all the more thoughtful believers in revelation. On the other hand, all those religious inquirers who, for any reason, feel doubtful concerning either the existence, or the scope, of a revealed religion, find in the study of natural religion an undertaking that has for them an especially strong interest. Yet this strong interest is in some degree shared also by the believers in revelation themselves; for while they often are disposed to set decided limits to the claims of the unaided human reason, it always remains a matter both of apologetic and of scientific interest for them to make clear how much the unaided human reason can know concerning God, and concerning man's duty and destiny. The believer uses his natural religion both to explain the truth to the doubters, and to confirm his own faith.

Hence the field of natural religion, interesting, as it does, all thoughtful people for whom religion has any value whatever, has remained, ever since the scholastic period of philosophy, a relatively neutral territory, where believer and unbeliever could take counsel together without unkindness, and where the conflicts of the sects could be for the time forgotten, while the highest interests of our common humanity were all the more clearly remembered.

I.

I have been called upon to define, in the present discussion, my own view of the present state of inquiry concerning the principles of natural religion. In undertaking this task, I find myself especially embarrassed by the fact that within the past few years I have been repeatedly required to go over this very ground of the problems of natural religion, and to

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state publicly my own opinions about them in great detail, from various points of view, and in several different forms. To repeat once again such an undertaking is to run the risk of having only my own hackneyed formulas to present. And nothing can be more unfair to the depth and to the beauty of the central problems of life than is such a repetition, on the part of any one, of his own former expressions. For both in philosophy and in religion the letter killeth, while the life giving and immortal spirit, whether it be called the spirit of wisdom or of goodness, needs constantly fresh embodiments, and declines to be imprisoned in any single form of words. Yet since the present task is assigned to me, I can only try to outline, in as direct and unhackneyed a fashion as is possible to me, what I take to be the central problems of natural religion, and also what I regard as the present position and prospects of this sort of inquiry. I ask, however, in advance, indulgence for my doubtless too frequent repetitions of formulas that, as teacher or as writer, I have used before. I confess freely, and insist, that such tedious restatements are not signs of any dull monotony in the genuine nature of this topic,—a topic which is as ancient, but also always as full of novelty, as life itself. No, my dull repetitions are but the result of the poverty of my own routine of thinking. Yet even because of this poverty, I shall all the more try, as I state my case, to go afresh to life itself, that the wealth and vitality of the religious interests of the human mind may supply, if fortune permits, something of what my own reflection lacks,—namely, freshness and individuality.

II.

First, then, for a statement of the problem of natural religion. It is one of the problems furnished to us by the relations between our ideals and the facts of the real world. Upon a certain apparent opposition between these two sorts of objects, ideals and facts, all religious problems depend. Let us try first to define these two sorts of objects themselves.

The conception of a world of facts is one of the most essential of the possessions of sane minds. Without such a conception, no conscious truthfulness of speech, no fidelity to definite plans of action, no clear understanding with our fellows, no reasonableness of life, is possible. The problem as to what we mean by this fact-world is the central problem of the branch of philosophy known as metaphysics. The contents of this world of facts form the topic which the numerous special sciences divide amongst themselves, and treat from various points of view, while vast ranges of facts remain still, in the present imperfect state of human knowledge, outside of the range of any special science, and are known

to us only in the forms in which our common sense at present chances to be able to deal with them. If we ask, quite apart from any more detailed study of metaphysical problems, what character seems most universally assignable to all facts, one answer seems to be that a fact is something which of itself determines whether a given statement that you, as observer or inquirer, make about it, is or is not true. Moreover, this character of any fact, this power of the fact to determine the truth or the falsity of statements made about it, is something that applies not only to *some* of the statements that you may make about it, but to *all* possible statements that anybody may make about it, so far as these statements have a precise meaning, and refer to one single fact. Thus, to illustrate, Mount Washington is one of the objects belonging to the fact-world. As such it determines, of its own nature, whether some statement made about it, say an assertion as to its height, is true or is false. It either is or is not over six thousand feet in height, and any statement that it is over six thousand feet in height is thus predetermined to truth or falsity, in case the statement is made with sufficient definiteness regarding the period of time in question, and is otherwise a statement possessed of a precise meaning. Moreover, the fact which this mountain embodies is equally decisive as to the truth or falsity of any other statement that, with a definite meaning, may be made about it, by anybody.

Even the most fleeting facts of the universe are viewed by us as possessing, during the instant of their existence, just as much definiteness as belongs to the most lasting of realities. Transiency, in the world of facts, does not, therefore, imply indecisiveness. A fact, in order to possess definiteness, need not be a lasting fact. The new star recently observed in Perseus increased thousands of times in brightness within two days, and then slowly faded away; but its brightness at any one instant during its brief period of flaring, was always some definite degree of brightness; and whatever one may assert as to that star,—as to its distance, its size, its temperature, its spectrum, or as to the physical causes of its wonderful outburst, such an assertion, made for any one phase of its existence, is predetermined to be true or false by the very nature of the facts to which the assertion refers, however fleeting the phase in question, in the life history of this star, may have been, and however enormous the changes which in a brief period may have entirely displaced and made no longer real the events or physical states to which the given assertion relates.

That facts give warrant to true assertions made about them, and determine the falsity of erroneous assertions,—this we often express by calling facts objective, in contrast to “mere ideas,” or to mere opinions

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or judgments formed or asserted about the facts. The ideas, opinions, or judgments, are then called, by contrast, subjective. The principle that facts are decisive not only as to some, but as to *all* judgments which may be made about them, so that *every* possible and perfectly definite assertion which may be made about any single fact is either simply true or simply *not* true,—this principle we often express by attributing to facts, what we call, in technical language, their *individuality*. Individuality as possessed by each and every fact, is opposed to that generality or abstractness which our so-called “mere ideas” often possess. Such generality or abstractness we do not attribute to the single facts themselves. The general characters common to many facts do, indeed, permit and require you to define as true or as false certain of the judgments which you make about an object possessing any such general characters. But so long as you judge merely about the general characters of things, you are left without the means of determining the truth or falsity of at least *some* of the judgments that may be made about the objects in question. Thus, if I ask whether mountains, conceived in general, are or are not over six thousand feet high, no simple answer to the question is predetermined, just because the query is not about single facts, but only about general characters. For the general term “mountain” names primarily an idea of mine, and no one fact. Some individual mountains are, while some are not, over six thousand feet high. So that no one simple answer to this question, no direct yes or no, is determined by my general idea of a mountain. An individual fact, however, is one whose nature decides, in advance, every question, without exception, that can be asked about it with a precise meaning. The individual mountain, at any one stage of its geological history, is or is not over six thousand feet high.

So much, then, as to the most universal characters which we are accustomed to attribute to the world of facts. But now as to the other member of the pair of apparently opposed terms which we mentioned a moment ago, in beginning our definition of the problem of religion. We spoke of the contrast between facts and ideals. What is an ideal?

An ideal may take the form of a plan for our own conduct, of an aspiration or hope regarding our character or fortune, or of a hypothetical account of a state of things that we have not yet observed or confirmed. An ideal does not necessarily come to our minds in a very determinate form. It often appears as a very abstract and general idea. Yet it may, upon some occasions, seem to us to be embodied in facts, as when we call a beautiful day, or person, or deed, an ideal object of its own type. But in any case, an ideal, as it first comes to our consciousness, usually seems to differ from a fact in that it appears powerless to determine of

its own self whether certain judgments that we wish to make about its relation to the world of fact are true or false, while, on the other hand, our ideal is so much our own that we ourselves seem to determine what does and what does not belong to it or agree with it. Thus facts are determinate, and so bind our assertions to determinate truth or falsity. But our ideals may appear to us in an indeterminate form, and in any case we ourselves seem to give them whatever determinateness they come to possess. Facts we just called objective. An ideal comes to us as something of our own, as something subjective. Since we ourselves, in the very act of possessing our ideals, seem to determine by our own nature and attitude what does and what does not belong to them, or agree with them, they consequently seem to change as we change, to grow as we grow, and to express, primarily, our own will and our own personal meaning. On the other hand, they suggest to us assertions, such as the hopeful assertions, "My ideal will prevail," "I shall succeed," "The facts will be found to bear out and embody my ideal." And nevertheless, as the ideals come to our consciousness, they do not appear, of themselves, to predetermine in the least whether these assertions are or are not true. It is the fact-world, as we are accustomed to say, which decides about this aspect of the matter. You may form what ideals you will. The question always is whether or no the facts permit your ideal to be realized.

In general, the nature of an ideal is definable in terms of one of the most familiar and fundamental of our conceptions, namely, in terms of the conception of the Ought. An ideal is an idea that, from our point of view as believers in this ideal, *ought to be* a fact. If it is a distinctly practical ideal, this *ought* takes the ethical form. My moral ideal is an idea that I myself ought to embody in the form of fact, by means of my own deeds. For if our human ideals seem, as such, incapable of predetermining whether or no the facts shall embody them, the power of our will to determine certain outer facts is supposed to be, in individual cases, itself one of the facts of life. And an ideal that I accept, as mine, and am able to embody, or to turn into a fact, by a deed of my own, is, for me, a matter of duty, that is, of the moral ought. There remains, however, the vast range covered by those ideals of ours which our human will seems powerless to embody. They ought, in our opinion, to be real. As subjective ideals, they seem to us, in the form in which they come to our human consciousness, to be incapable of determining, by themselves, whether the facts do or do not embody them. We also, as weak human creatures, are powerless to realize them by our personal deeds. Yet they seem to us, in at least some cases, infinitely significant.

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To confine ourselves here merely to these, the most significant ideals, we may say at once that they are, in the civilized man's mind, the topics of religious faith and doctrine. The ultimate triumph of the right, the attainment of the good as the final goal of ill, the immortal destiny of man, the accordance of the world's whole plan with the demands of reason,—these, in our civilized consciousness, are supreme and fundamental ideals. They ought, in our opinion, to be real. They are ideals about the world as a whole. As we men conceive them, we are unable, by our own individual power, to make them real. The facts which we seem so far to observe in the known world, do not yet manifestly and adequately embody them. And as subjective ideals, they do not appear to us to be capable, of themselves, of deciding between the truth and the falsity of the assertions which we make in hypothetically attributing to them a sovereignty over all facts. Hence, as they stand in our minds, they have not yet the place in the world of facts which they themselves seek or demand. Accordingly, our religious consciousness looks elsewhere than in ourselves, or in them, or in the regions of the fact-world which are so far apparently accessible to our observation, for the Being who, as we conceive, is able and willing to give them the determinate expression in the realm of facts which we think that they ought to possess. The problem of our religious consciousness is the problem whether we have any right to regard such a Being as himself a fact, or the whole world of facts, seen and unseen by us, as the expression of his will, or as destined in the end, or on the whole, to manifest this will.

Such, then, is in substance, the mere statement of our religious problem. Commonplace as this elementary analysis of the concept of fact and of ideal may seem, we shall soon find that upon precisely such elementary commonplaces, easily neglected by reflection because they are so familiar in experience, a sound method of thinking concerning ultimate problems depends.

III.

The problem of natural religion having been thus defined, we turn to the question, What does the light of nature indicate to us regarding the solution of the problem? And here at once we are met by a method of endeavoring to answer this question which in former ages was of great historical importance for the course of discussion concerning natural religion. This method consists in trying to follow the light of nature by examining the implications of what science and common knowledge reveal to us concerning the physical world, concerning its laws, its

development, its general constitution,—in a word, its reasonableness. The term *physical world* is a collective name for a vast mass of facts which we seem to have come in some measure to know. If we ask, then, as to the contents of the fact-world, our knowledge of external nature seems at first to give us our only accessible and definite reply. And this knowledge, resulting from the accumulated experience of many generations of men, has of late vastly increased, and constitutes today a comparatively well organized whole, with regard to which very large generalizations are already both possible and inevitable. It seems wise, then, to ask whether this, our knowledge of physical nature, when viewed in the most comprehensive way, gives us convincing evidence that the facts of the universe, despite their complexity and obscurity, are, on the whole, the embodiment of ideals which we can recognize and accept. In other words, does nature, as known to us, present to our view a sufficient agreement with ideal purposes to prove that some Being exists whose will is expressed in the facts and laws of nature? As we have already said, it is, indeed, true that the facts of the universe, as now known to us men, do not embody our highest ideals in a fashion that appears to us at once adequate and manifest. But, since we are also aware that at present we are acquainted only with a fragment of reality, the question is whether the fragment revealed to us through our acquaintance with outer nature is a recognizable embodiment of ideals to an extent sufficient to give us sound reason for believing that, if we could know the whole, we should see that it is in agreement with our highest ideals. Such an effort to trace, amidst all the obscurities of the fact-world, the signs of a divine plan,—to decipher the obscure inscription of which our experience shows us, as it were, fragments, to read in nature the manifestation of the purposes of God,—has, for many thinkers, of the foretime, constituted the mainstay of natural religion. The question regarding the value of this effort possesses a peculiar interest at the present time, in view of the importance which our knowledge of nature has justly acquired in modern life. But this interest has been made especially, and tragically central, in recent discussion, in view of the fact that, during the second half of the nineteenth century, the results of the study of nature have seemed, to many of the guides of popular opinion, to constitute not, as so often in former ages, a significant auxiliary to natural religion, but rather the principal barriers in the way of an ideal interpretation of the universe,—the principal obstacle to a religious assurance. The significance of this change of view, the reason for this turning of one of the principal weapons of the older forms of natural religion against every religious

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interest, can best be indicated here by means of a word regarding the general history of discussion during the nineteenth century.

In earlier centuries the doctrine of natural religion made frequent and positive use of the orderliness of nature, and of the adaptation of natural facts to man's needs, both as proof that the order of the physical world must be due to the designs of an all powerful creator, and as evidence that these designs must include a benevolent intent to fulfill the highest ideals which man is able to form regarding his own life and its meaning. But by the close of the eighteenth century, these older forms of natural theology were brought into considerable discredit amongst more critical thinkers. The scepticism of Hume had shown how little rational necessity belonged to certain of the principles which the natural theologians had all along been assuming. The profound alteration which the thought of Kant demanded regarding the foundations of all human knowledge appeared, for the time, to make utterly vain every effort to prove the existence of a creator by the signs of his purposes which one seemed to find manifest in nature. For, from Kant's point of view, what we call nature is simply the realm of man's outer experience of phenomena, of the appearances of the sense organized in accordance with the principles of our understanding. We can know nothing, theoretically speaking, about any ultimate facts whatever. We can reach, and should properly seek, no ultimate explanations of phenomena. We know, in case of nature, only the occurrences and the relations of such phenomena, such facts of experience, themselves. The order of this world of human experience, in so far as it is manifested in the laws of nature, is due to the conditions under which phenomena come to enter into the field of our knowledge. For our own understanding predetermines what forms must belong to the phenomena, in case we are to understand them. Meanwhile the ideally interesting character of nature, its beauty, where that is present, its teleology, where that appears, are objects which our judgment recognizes as present in experience, but which our limited powers forbid us to refer to any one theoretically intelligible and ultimate cause as their source. Natural theology can, therefore, never rest upon our knowledge of nature. Its source must be found elsewhere; and Kant actually looked for the true basis of natural religion not in any theoretical procedure of thought, but in the demands or postulates made by our moral consciousness. In general, Kant's result was that since phenomena alone are accessible to us, while things in themselves are unknowable, the older bases for natural religion must be abandoned.

During the transition from the eighteenth to the nineteenth century, there sprang up, upon the basis prepared by Kant, the idealistic move-

ment in philosophy. Accepting Kant's central thesis that our knowledge is necessarily confined to the realm of organized experience, and that facts outside of all experience can never be known, this idealistic movement, nevertheless, attempted to show that the principles manifested even in our very experience itself, have a certain divine and absolute significance, and so do enable us to know something of the nature of an Absolute Being, whose life is manifested even in our own personal selfhood, and whose characters are precisely such as the deepest religious consciousness has sought to define in speaking of God. With this idealistic movement we have not, at this stage of our discussion, especially to do. It suffices at the moment to say that, after a period of great activity, this movement, just because it had too much neglected to take account of the work of the special sciences of nature, fell into a certain discredit with the philosophical public. By the middle of the nineteenth century a renewed and most fruitful activity was manifested in the study of outer nature. New generalizations of vast scope and importance, derived from a study of physical phenomena, began to become more and more central in the field of human attention. The physical world came anew to appear as the one accessible revelation to man regarding the knowable nature of things. The nineteenth century became, more and more as it advanced, the century of science.

But this new study of the special sciences of nature was still very generally pursued in the spirit which Kant's rigid criticism of the limitations of our knowledge had first made conscious and definite. The further natural knowledge advanced, the less were most of the leaders of opinion disposed to use it for the sake of proving the existence or of defining the plans of any Being beyond or behind nature. The knowable, they now said, was the fact-world as manifested in human experience. The more critical students of the theory of knowledge, therefore, often insisted, quite in Kant's spirit, that all our insight into nature was concerned solely with the phenomena, with appearances, never with ultimate truths, and that we could learn from science only the ways in which human experience is capable of being organized, in such wise that the facts of our experience can be predicted in advance of their occurrence. Like Kant, such critical students of the principles of science thus rejected every effort to give ultimate explanations, and therefore declined to see any foundation for natural religion in the results of scientific inquiry. But meanwhile there were, amongst the students of nature, those who were less cautious, and who did indeed attempt, in some measure, to use the results of science for the purpose of getting a notion of the ultimate nature of things. Yet such investigators, also, were for the most part

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quite indisposed to return to the principles of the older forms of natural religion. For the one great lesson which such students were disposed to read as the result of the natural sciences was that physical nature, being subject to unchangeable law, is very strongly contrasted with the whole realm of our ideals. For our ideals, in demanding, as they do, scope for individual initiative, and endless progress towards absolute goals, and the possibility of the occurrence of novel and significant deeds, define precisely what nature, that is, the fact-world, declines (as such thinkers maintain) to present to us. For, as such students were disposed to insist, in nature, as conceived under the form of rigid law, nothing essentially novel ever happens. The natural world consists of matter whose mass is invariable. All the changes of this matter are to be conceived as mere alterations of its ultimate parts. These changes themselves all occur so as to involve a perfect conservation of energy. All that happens is essentially predictable. Hence all appearance of significant novelty is an illusion. Progress is at best no universal fact, but is only a more or less temporary appearance. Individuals are but instances of the necessary laws themselves, and have no true initiative. Free will is impossible, and our deeds are only particular instances amongst the phenomena of nature, and are, like other phenomena, wholly subject to law. Thus over against our fluent and living ideals, stands a realm of fact whose characters are essentially changeless and lifeless.

Thus both the more critical and the more dogmatic students of the general results of our modern knowledge of nature have shown a disposition, in recent times, to decline to base any doctrine of natural religion upon these results. The more critical students have declared that we can never transcend the limitations of our experience of nature, or learn anything about what lies beyond or behind this experience. The more dogmatic thinkers have indeed regarded our natural knowledge as throwing some true light upon the actual constitution of the world of facts, but have all the more been led to make a very sharp contrast between this constitution and that which our ideals define, so that, in sum, our modern knowledge of nature has been viewed as a barrier in the way of natural religion, rather than as any auxiliary in our search for a positive knowledge that the world of fact possesses an ideal character. Such, then, has been the situation of a great deal of recent thinking regarding the relations of the sciences to natural theology.

IV.

And now, what shall we say regarding the merits of this controversy? Is our modern knowledge of nature an auxiliary, or is it rather in its

whole tendency, a logical obstacle to natural theology? In answer I can here only briefly mention a few leading considerations that bear upon this side of our topic. First, then, I regard the whole investigation of the bases of our knowledge of nature, which Kant initiated, as of the most lasting importance, not only for the problems of the logic of science, but also for the true interests of natural religion. For I hold that the outcome of Kant's investigation of the bases of our knowledge, while making us justly sceptical regarding all the efforts of the pre-Kantian theologians to read in physical nature the convincing marks of God's handiwork, does, nevertheless, prepare the way for an interpretation of the true relation between facts and ideals,—for an interpretation, I say, which goes far beyond anything that those older forms of natural theology were ever able to reach. Kant and his critical followers are right in saying that no knowledge of physical nature which is accessible to us men under our present conditions is, when taken by itself, capable of giving us trustworthy proof either as to the existence or as to the purpose of any Being whom we can justly regard as the author of the physical world. The older forms of natural theology were logically unsound. They were founded upon a failure to appreciate the true place which our knowledge of the physical world occupies in the whole scheme of our life and of our rational insight. Kant justly set them aside. But, on the other hand, this negative result of Kant's critical philosophy can be reached only by means of certain general considerations concerning the very definition of facts and of ideals, of knowledge and of being. And these considerations, once rightly understood, lead us to positive results which Kant himself only dimly foresaw. I shall speak further of these results. They are of critical importance for the proving and for the proper use and improvement of the genuine principles of natural religion.

But secondly, even without going into these deeper aspects of the problem regarding the limits of knowledge, it is not hard to show that if our present knowledge of the physical world does not give us any positive proof of the existence and of the plans of God, those have been overhasty who have undertaken to show that our acquaintance with external nature is such as to furnish any definite presumption *against* the supremacy of ideals in the constitution of the universe. It is not merely true that our empirical acquaintance with the physical world is still too narrow and fragmentary to give us any power to prove a negative regarding the presence of ideals in or behind the world of facts. One can go further, and can say that the evidence which is often supposed most to tell against the claims of natural religion is in large part the result of a perfectly recognizable human illusion, of a false emphasis which certain of our

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interests strongly tend to make us give to one side only of our really very complex and diverse experience of that form of reality which we call the physical world.

For the negative evidence in question is supposed to rest upon the discovery that this physical world is a realm where unchanging law is actually universal, where the mass of matter and the quantity of energy are alike invariable, where, since all occurs according to rigid laws, everything, from the point of view of omniscience, would be predictable, where freedom and essential novelty, and all individual initiative, are consequently alike impossible. It is supposed that such a world, once shown to be the true world of facts, stands in such hopeless contrast with what our fluent and living ideals demand, that hereby a strong presumption is created against any view which tries to conceive the universe as a manifestation of ideals.

But whoever accepts this position with regard to the whole matter forgets by what sort of evidence this supposed result regarding the physical world has been reached. Man, ever since the stone age, and before, has been engaged in a ceaseless struggle with the mysteries and with the actually endless varieties of what we now call outer nature. He has been able to survive only because he has learned to organize his own conduct, and to cooperate with his fellows. But both this organization of his conduct, and this social cooperation with his fellows, have in their turn depended upon man's power to select, amidst the maze of his experience, (1) those phenomena in which he could successfully detect some definite and controllable routine, and (2) those which he could successfully describe to his fellows, and about which he could thus learn to agree with his fellows, so as consciously to observe, to define, and to use these experiences in common with the other men. Now it is precisely so much of human experience as chances to possess this sort of definite and controllable routine, which we have learned to regard as furnishing to us the signs that tell us about what we usually call the physical world. For by the physical world we very generally mean precisely so much of the whole world of our experience as we men can learn, with socially effective results, to control, to describe, to predict, and to conceive in common. But the very idea of outer nature, thus in question, is the outcome of a long struggle to select those facts of human experience which permit us to describe them and, in our social cooperation, to control them together. So much of our experience as we can so far neither describe nor control nor predict we therefore often regard as at best a faulty and relatively illusory indication of physical facts; and we do this simply because our whole long struggle to attain the mastery over our life has

trained us to search for the uniformities of experience, and to regard them as indicating the existence and the true essence of natural facts, while we have come to define either as personal and subjective, or as narrow and misleading, so much of our experience as does not bring us to a knowledge of exactly definable natural laws and facts. These are the grounds that have led us to emphasize the uniformity and mechanical characters of the physical world as its most essential ones.

Now that such a search for law, for describable uniformities of natural fact, and for an order in our experience should, after so many centuries of more or less conscious struggle, have proved at length so wonderfully successful, as it has proved in the course of the history of recent science,—this fact surely does not tend to *disprove* the tendency of great ideals to triumph at last over the confusing oppositions that long may stand in their way. For this our modern conception of nature is itself the partial but very significant realization of a great practical ideal, namely, of the ideal of man's control over the guidance of his individual and social life. So far, then, the success of our science in being able to select out of the seeming chaos of our raw experience systems of facts so coherent, uniform, describable, and common to all men, that they serve the purpose of enabling us to organize our lives, and our whole social order, this success of our science, I say, would seem to tend to illustrate how, after all, rational and ideal interests may be destined, in the long run, to win in this universe.

But, nevertheless, it is this very picture of the success of our scientific ideals which has for many of us that reverse and disheartening aspect upon which I have just dwelt. For the success of the ideal of describing and controlling certain regions of human experience has gone hand in hand with the inevitable tendency to regard just these regions of experience as furnishing the best evidence of what the real nature of the physical world and of the whole universe may be. We forget that we have all along been making in our sciences a deliberate selection of portions only of human experience. Hence we easily fall into an illusion,—the result of a false emphasis. In truth, a Shakespeare or a Plato regarded as a man amongst men, is at least just as much a part of the real world of natural fact as is a permanent mass of matter, or as is the total energy of a physical system of bodies. But since we can neither describe nor explain nor predict Plato and Shakespeare, we are obliged to be content with enjoying their ideal meaning, with estimating them as guides or as masters, and with saying very little about their describable place in the natural order. We merely presume that somehow they too must conform to natural law, we know not how. The typical natural

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facts we thus come to regard as the most rigid and describable ones ; but we tend to do this merely because our principal interest, in our struggle with outer nature, has been an interest in getting a socially organized control over it. But if we look closer, we see that this very tendency to make so vast a contrast between the rigid and permanent natural facts and laws upon the one hand, and our own ideals upon the other, is due to the very conditions which have caused the conceptions of both these classes of objects to develop together in our minds. It is just for the sake of our own ideals that we have tended to conceive external nature in so unideal a fashion. In brief, human civilization depends upon two things. It depends, namely, (1) upon making what we call the physical world appear to us more and more as a sort of storehouse and system of controllable instruments, of tools, of mechanisms, and of phenomena that we regard as behaving with mechanical uniformity, so as to be either practically or conceptually controllable. But such phenomena, viewed as realities, come to seem to us the very opposite of ideals. On the other hand, civilization depends (2) upon the growth, the intensification, the constantly increasing love of our human ideals. Hence, however, the tendency to bring into sharper and sharper contrast our ideals on the one hand, and our conceptions of external nature on the other. And since we have tended, to a very great extent, to call natural phenomena real in proportion as we have learned to think of them as instances of rigid and verifiable law, the contrast of the mechanically conceived facts and the ideals, has tended to grow disheartening. And that is why, in so much of modern thought, a theoretical materialism regarding the nature of things flourishes side by side with a growing sensitiveness to the significance of ideals. At the moment when philanthropy becomes far reaching and ardent, a belief that, after all, the universe is a cruel and heartless mechanism, becomes prevalent. And yet I repeat, all this contrast is a result of false emphasis. The resulting modern tragedy of opinion is due to a mere abstraction, a false insistence upon one of two actually correlative terms. If you look more closely you see that what we know most certainly of all about nature is that men live in it, and spring from it, and possess their ideals, and war for these ideals, and often win in their warfare. These men themselves, together with all their ideals, are at least as genuine natural phenomena as any of the others. They have at least as much right as the permanent mass and the invariant physical energy of the physical universe to be taken into account when we estimate the genuine relations of facts and ideals. By no such special estimates shall we ever come to decide ultimate questions ; but so far, if one views the whole matter in a judicial spirit, one can say, I think, that, fully

accepting all the inductively acquired results of the special sciences of nature, we have so far merely a drawn battle between the partisans and the opponents of an interpretation of the universe in terms of ideals. Neither side can win in such a contest; for every such method of dealing with our problem involves emphasizing now one and now another special group of facts of experience; and all hypotheses which undertake to unify, upon a purely empirical basis, these various groups of facts, are subject to essential alteration as soon as new groups of facts shall appear. But at all events our empirical knowledge of nature furnishes no presumption against the truth of natural religion.

I may venture to add, in leaving this branch of our topic, that despite the foregoing tendency to emphasize falsely the mechanical aspect of nature, some of the very largest of our modern inductions about the physical world are the ones that seem most to suggest, what of course by themselves they cannot prove, namely, that the physical world is rather the expression of a mental than of a mechanical process, and in so far has at least analogies with our own ideal interests. The doctrine of evolution, by indicating that we men ourselves, including also the Platos and the Shakespeares, are products of genuinely natural processes, tends to establish a relative continuity between material and mental phenomena. It seems somewhat easier to interpret the meaning of this analysis by supposing the material world to be a phenomenal manifestation of mental processes, than by the reverse hypothesis. But still more, the principle of the irreversible character of most of the processes whereby energy is transformed in the physical world, becomes, of late, more and more prominent in our conceptions of nature. This principle is certainly of very vast scope. It seems to have some very deep meaning. It is a principle which has been declared inconsistent with a purely mechanical theory of the nature of the physical world. This principle, in connection with certain other facts, has led of late to an effort to reduce all natural phenomena to transformations, or to states of more or less temporary equilibrium, of what we now call energy. This effort goes so far with some scientific thinkers, as to take the form of an attempt to do away with the concept of matter altogether, and to reduce the whole physical world to a collection of forms and transformations of energy. Where the equilibrium of a given distribution and grouping of energy remains for a long time nearly or quite invariant, we have the phenomena of masses of matter. But these need not be absolutely invariable. In long enough periods of time all natural things may undergo change. In essence the physical world thus tends to be conceived as through and through fluent. But minds, as known in our ordi-

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nary experience, have just this fluent character. Only they, as they are known to us, change at a more rapid rate. Such a conception of an essentially fluent nature,—the world of Heraclitus restored upon the basis of the generalizations of modern knowledge,—seems thus at present to be at least a tolerable empirical conception; and as such it has been suggested by at least one famous, although no doubt somewhat speculative scientific thinker,—Ostwald. He, to be sure, is not disposed to emphasize quite as much as I here do the resulting analogy between natural and mental processes. I have neither the right nor the desire to estimate the scientific worth of this conception; but it enables one to summarize a great many facts in a simple way. It suggests that the false emphasis which materialism has laid upon the contrast between matter and mind may prove in future to be not so persistent a tendency of speculation regarding nature as I myself have been accustomed, for the reasons just stated, to expect it to prove.

The analogies between certain aspects of the physical world and the processes characteristic of a mind do not here cease. I repeat that these analogies seem to me to be manifested in a number of the most important and most pervasive of the aspects of the natural order. The whole tendency of nature to the formation of new individuals,—a very widespread tendency which Professor Shaler has recently discussed in his volume entitled "The Individual," displays many analogies with the processes characteristic of mind. There exists, also, an analogy between the tendency of minds to form habits, and certain tendencies even in what we call inorganic nature, which seem to be very pervasive. This analogy has been studied at length by various thinkers. As a result of such analogies we may say that while the older natural theology was indeed faulty in its effort to demonstrate, by the design argument, the existence and the plans of God, nevertheless, at the present time the hypothesis that what we call the physical world is throughout the manifestation of mind, appears, upon a purely empirical basis, and apart from an idealistic philosophy, at least as plausible a cosmological hypothesis as is the supposition that the physical world consists, let us say, of vortex rings that move about in a frictionless fluid.

As a fact, however, no such hypothesis is thus to be demonstrated. Ultimate questions demand thoroughgoing inquiries. I have dwelt upon these ambiguous aspects and tendencies of modern inquiry partly because we are often tempted to believe that the empirical evidence regarding the bases of natural religion tends all in one direction, and partly because the cultivation of a genuinely judicial spirit involves an effort to see both sides of this great modern controversy.

V.

Yet we have not gone forth into this wilderness of physical mysteries merely to see the reed of opinion shaken by the wind. I have had a positive purpose in mind even in dwelling upon the indecisive character of our present knowledge of the natural order. The present inability of the human mind to come into the desired direct contact with ultimate facts illustrates a principle of the utmost importance regarding the true relations of facts and ideals.

I ventured, at the outset of this discussion, to define facts as individual, as determinate, that is, as decisive of the truth or falsity of all assertions which refer to them. Whatever the real world is, it consists of such precisely determinate facts, and that, too, whether these facts be finite or infinite in number and complexity, whether they be permanent or transient, material or spiritual. To deny this principle of the determinateness of all the real facts of the universe would lead to a direct self-contradiction. For if you make any given assertion about the real world, or about anything in the real world, and if that assertion has any definite meaning, then the assertion in question is either true or false. To say that it was neither true nor false would be self-contradictory. But now the truth or falsity of this assertion constitutes its relation to the facts. It has, then, a perfectly definite relation to the facts, and the facts have a determinate relationship to that assertion, just because it is true or false regarding them. Since this principle holds of every possible assertion about facts, we can only conceive the facts as themselves possessed of absolutely determinate characters. There is nothing indecisive about them. Or to sum up the matter in a well known formula of the textbooks, everything in the world is precisely what it is, and either does or does not possess any predicate that, with a precise meaning, may be assigned to it. To say all this is, indeed, to reiterate the commonplace of logic.

Yet observe in what a strange situation this, the first principle of all sane thinking, places us when we compare it with that very state of indecision, of inquiry, in which our study of the physical world has just left us. What we have just exemplified is our inability to observe for ourselves at present, any ultimate facts concerning the true constitution of the physical world. And yet, as we inevitably say: The true physical world, that is, the genuine and ultimate reality of which the natural phenomena are a hint, really has a precise, an individual, a perfectly definite constitution. Only our experience is at present too narrow, too special, too indeterminate, to reveal to us what that constitution is. Now

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precisely this imperfection of our experience which our ignorance of the natural world exemplifies, this same imperfection is illustrated by the state of our finite human experience wherever we turn. It is as Kant said: In our human experience, as at present constituted, no ultimate facts, no perfectly determinate realities, such as our thinking demands, are anywhere presented to our observation,—and yet, with perfect assurance, we, nevertheless, insist that there *are* ultimate facts, and that they *are* decisive as against all our mere opinions. Now what does this whole baffling situation of our finite life mean?

It means, I answer, above all, this: Our very conception of a world of determinate facts is one of our ideals, and is in truth the central one amongst all our ideals. When we at the outset opposed the fact-world to the whole world of ideals, we were merely emphasizing a contrast amongst our ideals themselves. This contrast has constant and practical value in life, just because the idealism of discovering determinate truth is, indeed, sovereign amongst our purposes, and hence stands in strong relief over against lesser purposes. But in truth, a genuinely determinate and individual fact remains for our finite experience an ideal object, just as much as perfect saintliness or perfect beauty or perfect blessedness remain ideal objects. A fact is an object that we ought to observe, were we only wise enough, but that, in its truly determinate individual character, we do not observe; an object that we ought to seek, and do seek through all the process of our experience, but that we could find only in case our experience won a type of constitution which at present it essentially lacks. No man hath seen God at any time. But just so, no man hath seen a single individual fact, a single perfectly determinate content of experience. A fact is merely that which we should experience if our insight had become perfectly determinate with reference to all our possible inquiries, so that we found present that which answered all conceivable questions regarding its own constitution.

Therefore, to attribute to the universe the determinate constitution which we have already found it necessary to attribute to the world of facts, is to regard the real world as the expression of at least one of our most central ideals. But while this ideal does, indeed, stand in a marked contrast with many other ideals, in the form which these ideals assume in our present stage of development, the contrast is not and cannot be such as to involve a permanent and absolute opposition.

For, in the next place, as to the point which Kant treated so negatively: The ultimate facts do, indeed, lie beyond any insight that our present human experience ever reaches; but this does not mean or imply that the ultimate facts of the universe lie beyond all experience, both human and

such as is not now human. For when we seek for facts, we simply follow any direction of research which seems to lead us towards a more determinate and definite experience. Experience grows more definite as it answers more definite questions. But it does not cease to be experience by becoming thus nearer to determination. Nor is that determinate state of things which furnishes the precise decision as to every question that can be asked, a state of things such as is able to exist apart from any and all experience. On the contrary, in order to be a world of facts, the world must be present to some experience, and in truth to an experience of absolute and divine completeness. For to possess any ideas, to make any assertions, to ask any questions, is, in us, a conscious process. And what this process seeks, in so far as it seeks to know the facts, is precisely the attainment of a conscious state wherein questions are seen to be determinately answered. No search for an ideal is a search for anything beyond all consciousness. It is a search for a complete expression of some conscious process. This state of consciousness wherein questions are determinately answered remains, from the point of view of a finite, of a searching and inquiring consciousness, an ideal object of search. And that state of consciousness is the only object that the ideal of the truth seeker can define as his goal. To say, as we must, that this ideal is actually realized, and that such realization constitutes the very nature of the true universe, is to assert simply that there is, then, a consciousness for which all questions are answered. Now such a consciousness is a mind to which all reality, natural and spiritual, is present in a perfectly determinate and individual form. No other account can consistently be given of the nature of facts. There are facts. They are perfectly determinate. They are such as to answer all questions and such as to decide regarding the truth and falsity of all assertions. For any inquiring consciousness these facts remain ideal objects, sought but not yet fully found, limited in experience, but not wholly possessed, approached as one's experience grows more determinate, but definable only as the objects that would be present were the ideal of the truth seeker now and here fulfilled, and were his experience perfectly determinate, as now it is not. To assert that this ideal is not a mere ideal, but is fulfilled, is expressed by the real world, is to assert that the real world is present to a determinate and complete experience for which all questions about fact are answered. Now such an experience has at least the character of a divine omniscience, and it has all reality as its own present object.

Yet there still remains the contrast between the ideal of the truth seeker, viewed merely as the search for determinate experience, and for the decision, through this experience, of every question,—between this

ideal, I say, and these ideals of the moralist, of the lover of beauty, of the seeker for the triumph of righteousness with which we began. Even if we regard the fact-world as thus necessarily and simply a certain total of observed contents, present to a complete and determinate conscious experience, for which and in which are all things, does that throw any light upon the question whether the fact-world fulfills any other ideals than those of mere truth seeking? Are the facts otherwise the fulfillment of ideals except as they merely possess decisive and determinate character?

To this question a very simple consideration furnishes, in my opinion, the sufficient answer. Mere contents of experience, presented as our sensations are presented to us, can never be, of themselves, precisely determinate, not even if there were present an infinite variety and complexity of them. All such facts are still general in character. A being who merely saw such facts would see nothing final or decisive. In order to possess value as a determinate fact, an experience must embody an intention, must fulfill the purposes of a will.

Even the ideal of truth seeking already illustrates this principle. For one who seeks truth does not seek mere wealth of experience, but determinateness of experience. He wants to know what is and what is not true. He wants to find out what is excluded by reality as well as what is presented. Now that some possible content of experience does not exist, this no being can recognize who merely observes various presented contents of experience, however numerous. To know that some possible object does not exist involves seeing that such a possible content is inconsistent with what does exist. Now no two mere contents of experience are inconsistent, as mere contents, with one another. But purpose can conflict with purpose, plan with plan, affirmation with negation, deed with deed. Hence I insist that in the world of our absolute experience nothing can be viewed as finally decided merely in terms of presented or absent contents of experience. The decision must be as between alternatives possessing value for a will. It is will that expresses itself determinately, and that gives individuality to facts. The absolute experience must also be an absolute will, and the universe must be the expression of such a will. Thus, then, in the world of the absolute experience, the ideal of the truth seeker cannot be fulfilled alone. In order for the ideal of the truth seeker to be fulfilled, all other ideals must be taken into account.

For the rest, as you at once see, all finite ideals have some sort of determinate relation to the world of facts. But suppose that in the world of determinate facts some particular ideal of ours, I care not what,

is found to be, from the final or absolute point of view, an ideal that the facts do not fulfill, but defeat, do not accomplish, but set aside. Now this defeat of our moral or æsthetic or personal ideals is, by hypothesis, a fact, and a fact belonging to the absolute or final world of experience. Now what merely presented fact of sense taken by itself, apart from some highly ideal interpretation, ever could show you or anybody that any ideal which you have once seriously possessed is actually defeated and excluded from any place of being? I call upon you who have waited and toiled for ideals, amidst all sorts of empirical discouragements, who have struggled with opposing fortunes, to bear me witness that the merely presented contents of experience, as our senses show them to us, can never prove that an ideal has failed, but can only illustrate how it has not yet succeeded. Ordinary common sense says, in the presence of apparent failure, "Wait and see," "Try again." In other words, it is not yet known, in any particular instance, and by mere presented experience that reality determinately excludes your ideal. Only a knowledge of the whole realm of fact could show that. Even death, taken as an empirical fact, never proves that love has really failed, losing altogether her own from the realm of reality. For faith and hope define, as at least a possibility, a higher life where love may find again her own. The mere possibility thus defined must no doubt be determinately settled, yes or no, from the point of view of that absolute experience to which we have now appealed as the knower of all reality. But from the point of view even of this absolute experience, what can be found present that would determinately say no to any once suggested possibility? What can wholly exclude a once defined possibility from being recognized and included by that absolute experience?

I answer here by brief illustrations. Once geometers sought long for the solution of the problem called squaring the circle. This problem was one of their ideals. All sorts of experiences of temporary failure came to them as they tried various constructions in the effort to solve the problem. No such particular experiences could have ever shown that the desired solution of their problem had no existence in the realm of truth. For centuries they pursued the research. At last, however, they reached, as late as the year 1882, the definitive settlement of the quest about the circumference and area of the circle. And now what settled the question? I answer, the discovery which brought the problem to a conclusion was at once a defeat and a victory, an abandonment and a fulfillment of the original ideal. One abandoned this ideal in its cruder form, but fulfilled even thereby its true meaning in a higher form. What the mathematicians had all along meant and defined as the length of the

circumference of a circle was definitely proved to be an existent object, but was shown to be one that could not be constructed or measured by any of the methods which the ancient geometers originally applied for the purpose, so that thus far the ancient effort was shown to be foredoomed to failure. On the other hand, the discovery of this very failure involved really fulfilling the immortal soul of the ancient ideal, by showing what the real and positive properties of the length of the circumference were, and what the ideal in question had all along really meant. In brief, the old ideal was included in a new one; and what it had directly undertaken was shown to be impossible, merely by showing what the deeper meaning of this undertaking was, and what the hidden implications of the ancient ideal were.

In a similar way, the seekers after perpetual motion used to aim after a certain sort of control over nature. The assurance, never absolute, was made in course of time indefinitely probable, that the ideal of the seekers of perpetual motion, as they had defined it, was false, or was excluded by the nature of things. But this very assertion has involved, in fact, a realization, upon a higher level, of the immortal soul of the very ideal itself of the seekers of perpetual motion. For upon the postulate of the impossibility of perpetual motion is founded the whole modern theory of energy, the greatest generalization of physical science, and the one which defines our highest yet attained control over natural phenomena.

These illustrations bring to light the principle which I here have in mind. No ideal, from my point of view, fails unless the absolute experience excludes its expression. But the ideal itself exists. Account must, therefore, be taken of it even in excluding it. Now one who takes account of an ideal, and who finds that, nevertheless, as it is stated, it cannot consistently with the whole of truth be fulfilled, does not merely observe particular contents of experience which here and there delay or prevent its fruition. He observes how, when carried out of its own legitimate consequences, the true meaning of this partial ideal can only be consistently fulfilled in some form which transforms, and yet in some measure retains the genuine, the deeper meaning of the original ideal itself. The absolute will, then, in confirming or defeating finite ideals, takes account of them, and fulfills their true intent even when it sets aside their cruder expression. The immortal soul of every ideal is determinately fulfilled in the absolute.

VI.

Now such is the view of the inmost nature of the fact-world to which we are led, as I hold, by an effort to think out to the end the very criti-

cism of our finite knowledge which Kant initiated. It is true that as we now are, we never experience the true nature of any ultimate facts. But that is because ultimate facts exist only as the determinate contents of an absolute experience, for which they are what they are merely because this experience, expressing as it does, ideals, excludes what is inconsistent with these ideals. This absolute Experience is also an absolute Will. Its life is the world. Its facts exist only as known and as willed. But it is not merely an Absolute Will. It takes account of every finite will, and is in fact the true fulfillment of the higher meaning of every finite will. For it excludes and defeats any special form of finite ideal only by including the true meaning of this very ideal in some higher form. Hence your religious instinct is right in affirming, as it does, what you often express thus, "God, that is, the absolute Will, takes account of me, of my ideals and intents, and opposes my will only in so far as he also includes and fulfills it. I, the individual, dwell in God, as he dwells in me. His providence takes account of my every ideal. I never fail except by winning in some higher form, the very ideal that I meant." Such are the fundamental considerations upon which, as I hold, we must today, amidst all the complexities of the modern world, and in view of the great results of modern deflection, found our efforts to use and to improve the everlasting principles of natural religion.