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Lecture IV

“God and Nature; Evolution and Ethics”

Transcribed by Aaron Pratt Shepherd

The topic of this evening's lecture, and of the following lecture of this course, is the problem of the relation between God and Nature.

We come to the study of this problem with a Conception of God in our possession—a conception that we reached and defined quite apart from any special study of the physical world. The secret as to the existence of God gets revealed to us, so we have maintained, by virtue of the very limitations of our finite knowledge; and we know God best when we do not venture [2] outside the circle of our personal experience, ignorant as that personal experience is with regard to all the particular facts of nature, but when, not venturing out, we devote ourselves to patient reflection within. You must find God at home, in the very recesses of your inner life, or you will not find him by searching outer nature. To be sure, as your inner and personal experience comes to you, it is indeed narrow and blind enough. But reflect upon what this experience means, and then you will find that it means something far deeper than you had conceived possible.

For what is your very essence as a finite being, seeking to know the truth? It is this, that you, knowing but little by your actual experience, are endlessly appealing to an universe of definite possible experience, [3] whose unity and completeness you affirm in the very effort to define your own finitude and ignorance. By reality you mean what would be present as given fact, as realized datum, to that complete possible experience. Your own ignorance of reality means your individual failure to possess the contents of that ideally complete experience. But in thus defining your ideal, that complete possible experience for which reality exists, you discover, as we argued in our second lecture, that you have defined something whose truth cannot be questioned without self-contradiction. The ideally complete possible experience must be, so we maintained, more than possible. It must be, as the soul and the presupposition of all truth and of

all your finite failure to reach the truth, not only the possible possessor of the real, but also itself reality, and consequently a reality for its own self, and so the self-possessed, the self-conscious, [4] and the absolute being. This Being is God.

The argument thus briefly sketched was developed at great length in our second discussion. And then, at the last time, I tried to show how, in the moral world, we have a peculiarly definite realization of our concrete relations to the Absolute, whose personality, as the self-conscious Spirit of the Universe, finds in our own moral personality a particularly definite and unmistakable function and expression, wherein our individual significance as moral beings is in no wise absorbed or annulled, although our unity with God is here of the most inseparable sort.

Now the whole of the foregoing argument was carefully kept free from [5] any presupposition or theories as to what is usually called Nature, or the physical world. We mentioned natural science, but only to make use, not of its inductions, but of those deepest considerations as to the meaning of the term Reality upon which every scientific effort, whatever its outcome, is founded. At the last time we sketched briefly a psychological theory of the growth of our individual self-consciousness, but only to show that no such theory could render doubtful the significance of our moral personality. We stand committed, thus far, then, to a philosophical Idealism so far as regards our interpretation of the universe in its wholeness; but we are not committed, as yet, to any interpret-[6]tation of the special facts and laws of nature, and we have not yet been in the least dependent upon such an interpretation.

And so now, thus committed, and thus free to find our way, we come tonight to the point where we ask, What is Nature, and what relation has Nature to God. Does nature manifest to us God's thoughts or plans? Or does nature stand between us and God, as it were like a veil?

The word Nature may be provisionally defined as usually denoting a certain realm of finite facts, or, as they are technically called, phenomena, occupying, for us, a kind of intermediate position, viz. this side of the Absolute Truth, but beyond our own inner personal lives. That is, the facts of nature are such as appear to us human beings, and such as have these two characteristics, viz. (1) that we do not regard [7] them, by themselves, as ultimate facts, but go beyond them when we want to conceive of absolute truth; and (2) that no one of us at first easily regards himself, in his moral personality, as a mere part of nature. Nature, once more, means thus primarily the finite world beyond this individual self, but this side of God.

This, I say, seems to me a way of provisionally defining the usual denotation of the word Nature. I admit that this denotation is not free from vagueness. But, as a fact, the very conception of nature is an unstable one; and every effort to deal seriously with nature reveals this instability. I choose to begin with what I take to be the best definition of the primary [8] meaning of the word, just because I intend this meaning to lead us erelong beyond itself. But a few examples will serve to justify the assertion that this denotation fairly represents the usual one.

Science, we often say, studies nature. But, on the other hand, science, as usually pursued, does not undertake to inquire into the ultimate essence of things. This two assertions are perfectly consistent. Taken together they imply a usage according to which the word nature does not denote the ultimate essence of things. Often people have occasion, again, to distinguish between the conception of God, and that of nature. Where, as by some, the two conceptions are deliberately identified, the nature that is identified with God is not nature [9] in its primary meaning, but a transformed conception of nature, wherein one explicitly passes to the ultimate. Nature, again, is commonly used as a collective name for all the phenomena of the external world. But the phenomena are a show, a seeming, not the ultimate truth. On the other hand, by

the word nature, one usually means the external as distinguished from the inner world. If, by the psychologist, our inner life also is viewed as a collection of natural processes, that way of studying the inner life is always proposed not as the primary way, but as a special and derived fashion of regarding humanity, viz., as a way of looking at the inner life in a quasi-external and impersonal fashion, for scientific [10] purposes. When a man looks at himself as if he were an external process,—a live creature in the outer world,—then he may study his own psychology. And such a study, like other scientific work, is of vast practical importance. When one studies psychology one ought to do so in a purely scientific spirit, and independently of one's philosophical views. But primarily, and in the end, as I think, philosophically also, man appears to himself not as an object of impersonal psychological scrutiny, but as the subject to whom nature, or the external world, the world of science, may be opposed as object. And therefore a man does not primarily think of himself as a part of nature. And when he does so, as in the study of psychology, his own definition of himself changes by virtue of this very fact. To regard myself as a nature-process is to lose sight of some of the aspects of my personality which naturally most interest me, and which philosophy in the end must again take into account.

These examples may serve to justify our provisional definition of nature as the [11] world that appears to us mortals as this side of the Absolute, but beyond the range of our private selves, in so far as we take the merely common sense view of ourselves. The question now is as to what this nature-world really is and means. In approaching that question we stand of course perfectly free to alter, upon a closer inspection, our provisional definition. Perhaps, as has just been indicated, it will be seen that in order to believe in the existence of nature at all, we indeed, as psychologists, have to change our first notion so far as to say that, from the point of view of natural science we too, despite appearances, have to be treated as ourselves parts of nature.

Perhaps, on the other hand, when we pass from the scientific to the philosophical point of view, we shall learn that somehow or other that which is beneath nature [12] must really be a mere fragment of the life of God. But without prejudging such matters, we use our provisional definition of nature merely to point out the region where our present problem lies.

II

Leaving the definition, we pass to the question: What is the best known and most universal character of the whole region called nature? And here the answer is nowadays familiar. Nature, as we mortals have to view it, is a realm where law reigns. The vast conquests of modern industrial art and the popularly fascinating discoveries which so frequently reward [13] the students of science, have nowadays made this character of nature so generally known that there is no need to illustrate at length a principle which every scientific textbook enforces upon its readers' minds. In nature nothing happens, so we feel nowadays generally assured.—nothing happens except what conforms to law. The movements of the planets, the vibrations of the ether, the occurrence of chemical reactions, the processes that go on in living tissue,—all these illustrate, with varying degrees of precision, but with marvelous detail, the presence of law. To be sure there are still vast regions of the natural world where the presence of definite [14] laws is so far very imperfectly made out. And there are certainly an indefinite number of types of natural law which have not yet come within the range of our observation. But none the less do we feel assured that nature, as far as it can appear within the range of human experience, is everywhere an embodiment of law, and that where we thus far see only confusion, that confusion is due to our ignorance, and forms no part of nature. Such is the result of centuries of experience with nature.

But now let us ask, just what is meant by the word Law, as applied to nature? And in what sense do we find nature subject to law?

[15] The answer is, for the first, that by a law of nature we mean a precise description of some process that repeatedly occurs in nature. Thus the law according to which bodies fall in the neighborhood of the earth's surface is a mathematically exact account which is very nearly true of what happens whenever a heavy body falls under the mentioned conditions. The resistance of the air hinders this law from being a perfectly complete account of what ordinarily occurs. It is again a law of nature, although a comparatively special law, that the earth goes around the sun in 365 days, and a certain number of added hours, minutes, and seconds. Here one has an exact account of one aspect of a process that repeatedly occurs in [16] nature. It is found, moreover, that such processes as the fall of a body near the earth's surface, and the movement of the earth around the sun, can, upon examination, be described in still more general terms, which quantitatively define what happens in any and all such cases. This very general account or description is the Law of Gravitation. And the attainment of such power to describe in general terms a recurrent process or type of processes is what constitutes the discovery of every natural law, precisely in so far as it is at once an exact, and a true, law. A law then is a definite description of certain processes in nature. In order to be a general law, the description must apply to many different events, to processes that are frequently repeated, or widely exemplified, or both. [17] In so far as you know a law of nature, you can, as everybody is aware, conditionally predict what is going to happen in the future. That is, you can say that if such and such a process, whose law is known, occurs in the future, then the known description of this process will apply to every detail of the events that will occur during the process. Every such prediction is of course hypothetical. If nothing new occurs to disturb the movement of the earth around the sun, then the

future course of the earth is predictable, in terms of the law of gravitation, and the known constitution of the solar system. But every scientific prediction depends upon [18] an *if*. What we actually know of nature's laws, we get by describing processes that actually occur at the time when they get described. We can predict the future, only in so far as the processes in nature are supposed to continue as they were. In what sense such continuance is to be regarded as necessary, I shall point out.

If this be the definition of the term: Law of Nature, we need find nothing very mysterious about the assertion that nature is a realm of law, or is a subject to law. The assertion means only that, as we have reason to believe, every natural process is an exactly describable process—a process of which a definite and precise account either now can be given, or else could be given if we knew nature better. This, I say, is in sum all that is meant by asserting that nature is subject to law. But, to be sure, this statement that everything [19] which happens in nature is describable still needs a little elucidation. We can elucidate such a statement best by contrast.

Inside your personal life and mine a great deal constantly happens of which we can give no exact account whatever. The principle that all processes have a describable character, and could be made the objects of exact accounts, holds true then of outer nature, but it certainly does not hold true of much of your own inner life as that life appears to you yourself. The inner life appears to be, in considerable measure, indescribable. And it is indescribable especially with reference to whatever belongs to the unity, the connectedness, the great wholes, the total impressions, of your inner experience. Take for instance your emotions. In moments of excitement you may rapidly pass from joy to grief, from sorrow to anger, from loneliness to love. Now in such cases you get a series of vast total impressions in the inner life. But can you, or could any conceivable ob-[20]server of you, precisely describe, in any such exact terms, as are

elsewhere used by natural science, the whole process, the total impression, the changing whole of conscious life, that at such time takes place in your mind? I should answer, no. Not even an ideally skillful psychologist, if he were permitted to read your mind, could give any general description of some of the most important aspects of your inner experience,—and that merely because some aspects of your inner experience are, I take it, essentially indescribable. The ideal psychologist at his best, would be an analyst of your mental life, and a describer of its physical conditions. Precisely the wholeness of your mental life, the synthesis of its elements, he could not describe. He might be able to tell you that when you weep or when you love such and such sensations, derived from eyes, skin, viscera, enter into and color your emotion. And what the psychologist might tell you would be perfectly [21] true as a descriptive analysis of the contents of consciousness. Only the whole emotion into which these sensations fuse,—your unique experience in its inner unity and immediacy for you,—this I think would remain, for even the ideal psychologist, something that as fact and as process would be alike indescribable. Only you could experience what this wholeness is, and you could not tell how it came to pass.

At all events, as things now are, there can be no doubt that mental life is full, very frequently, and for us all, of the indescribable, of the inexpressible, of that which I myself am fond of calling the merely Appreciable, because it has to be felt, or, in general, to be presented, in order to be appreciated, while nobody but the possessor of the experience, himself, can get, through any external description, at [22] the essence of the process concerned. The beauty of a work of art, the precise odor of a given flower, the feeling of that particular kind of headache, the experience which almost any given diseased condition (say, the grip) means to you, and, above all, just what it is to be you, yourself, rather than anybody else,—well, such facts, I take it, and

such processes, are intensely appreciable, to yourself when they are present to you, but they are not describable. And here is a fixed limit to all possible psychological knowledge.

Now by contrast with such inner processes, which have their appreciable and indescribable aspect, the processes of nature are said to be describable. [23] And this means that it is of the essence of natural processes, as such, to be proper to objects for exact, general, and communicable statements, which anybody can verify who comes in contact with the facts, but which also anybody can understand whose intelligence is trained to the task, even apart from his personal verification of the description. In nature, the processes are such that an exact analysis of them makes possible an exact reconstruction.

To say then that there is law in nature is to say that in nature no process occurs which resembles in essential indescribability the world of your own inner life, but that the processes of nature are all describable in the way of which the definable movement of planets, and of falling bodies generally, are examples. [24] Processes are describable in so far as they involve objects that can be counted quantities that can be measured, successive positions of moving bodies that can be defined in geometrical terms, and similarly definable elements. Analyze these elements, and you can define the whole physical process which they go to make up. The inner life of your mind contains numerous masses of experience that can only be directly appreciated: for instance, estimates of worth, loves and hates, longings and triumphs, that cannot be altogether communicated, and processes such as your own individual consciousness, whose analyzable laws an ideal psychology could indeed in part define, while no psychology could conceivably describe or communicate the whole secret of what it is to be you, yourself, just because, as we pointed out in the last lecture, your personality has something essentially unique about it. And herein lies the

great contrast [25] between your mind and what you call outer nature. Both you are said to know, but the inner life, in its wholeness, you appreciate, while nature you describe.

III

But we do not wish to dwell at present any longer upon the merely general aspects of nature. Our problem is, in what sense does nature, as the world of the describable, manifest God to us?

In the past history of opinion upon this subject there have long existed two different tendencies regarding the significance of this realm of law called nature. The one tendency has declared that nature manifests, by virtue of its very wealth and rigidity of law, the divine wisdom and omnipresence. The other tendency has pointed out that the perfect wisdom of God has to be conceived as involving perfect attainment and goodness, and as concerned with the fulfillment of some ideal, some (to us) far-off divine event toward which the whole creation moves—an event that, for God's eternal insight, is accomplished while for our temporal view it has still to be attained. Now, so it has been maintained, nature's laws, just because they are mere descriptions of what happens, have only an accidental relation to any discoverably ideal goal. Hence, it is surely nature that manifests to us the divine purpose.

As you know, I myself maintain the latter of these two views. My own thesis as to the theory of nature is derived from the famous doctrine of Kant, and maintains that the rigidity of nature's laws, as known to us, *is* a very imperfect manifestation of God, just because the universe of natural laws is, in a great measure, an illusion, a necessary and universally human illusion,—but none the less it is an illusion of what I should call the perspective of human experience. As in the field of your vision far off objects are small and near objects are large, and the apparent [27] sizes of things are subject to rigid mathematical laws that have no basis in the otherwise known

natures of the physical objects, but that are due solely to the conditions of geometrical perspective, and to the position that you the observer chance to occupy, so it is, as I myself believe, with the general rigidity of nature's laws in their wholeness, when conceived in relation to ultimate truth. A being with other than a human constitution, would interpret nature's laws, or rather the truth that lies beneath them, in some very different way from the way necessary to our human science. It is moral truth, not natural law, that, as revealed in the world of human experience, has a demonstrably universal meaning. A man who knows his duty is nearer, in his knowledge, to God's ultimate truth than is a man who has all natural knowledge, but who lacks charity. And now, I shall try to indicate to you, briefly, why I view nature in this way.

[28] To this end I shall first try to analyze the basis of our knowledge of nature. In this connection I shall show you that while what we call the physical or the material world, is no doubt the hint of a live reality beyond us—a reality that from some higher point of view may be, in fact must be perfectly consistent with the unity and ideal perfection of God's world, still the most noteworthy appearance about what we call nature, viz. the appearance of rigid physical law, is due to an essentially human point of view, and is no revelation of the truth as it is for God apart from man. It is therefore indeed scientifically inevitable, it is, from man's point of view justified, to say that there is a nature realm, independent of you individual will, caprice, or inner life, and of mine too, a realm to which your physical life and mine belong and are subject, and that this nature realm as viewed by us mortals, may appear, yes must appear as a realm of law. This I say, is, humanly speaking, true. Nature is independent of you and of me as individuals. The [29] realm of law exists for all men. But now, as I shall affirm, all this is true not from any absolute point of view, but solely from a human point of view. Nature has to appear to you and to me as a realm of law, o law to which even our own organisms are subject, so that we too as

corporeal beings, have to appear to ourselves as products of natural processes, as subject to law, as mere nature-phenomena. And the nature that thus appears is as a fact independent of any man's private ideas and caprices. Only, I shall insist, the nature that thus appears is a product of an universally human, but only of a human point of view. Leave out man's view of the universe, and there is *then* no sense in talking about the realm of natural law. This I shall briefly try to show. Then I shall point out that apart from this mere human point of view, the presence of nature furnishes to us a vast, but relatively fragmentary and chaotic collection of hints of some world of finite life beyond us. In conclusion I shall show that thus one can explain why nature, which often hints so much, reveals to us after all so little that is definite as to our relation to God.

IV

[29a] Next, as to the sort of knowledge that we have of nature: It is unquestionable for any enlightened student of the theory of knowledge, that, when we talk of nature we are referring, first of all, to a collection of actual or of possible experience that we may have. We considered this matter in a general way earlier when we were discussing the general nature of reality. The reality that we attribute to phenomenal nature apart from any ultimate interpretation of what lies beneath these phenomena, is a reality for which we name our primary warrant only in so far as we appeal to human experience, actual or possible. It is, as a result of human experience, a certain system [30] of ideas, of expectations, of conceptions concerning possible experience, which we men have to use as the guide of our conduct. This system of experiences, and of ideas determined by experience cannot be changed by our individual wishes. We therefore rightly regard it as independent of our private selves. And we ordinarily call it the world of material processes. Now by matter any one of us means, so far as we speak only from our own private and personal point of view, a collection of conditionally inevitable experiences of touch,

sight, pressure, which we find borne in upon us as we live in the world. John Stuart Mill very well called phenomenal matter a mass of “permanent possibilities of experience” for each of us. You personally know matter as something [31] that either now gives you this idea or experience, or that would give you some other idea or experience under other circumstances. A fire, while it burns, is for you a permanent possibility of either getting the experience of an agreeable warmth, or getting the experience of a bad burn, and you treat it accordingly. A precipice among mountains is a permanent possibility of your experiencing a fall, or of your getting a feeling of the exciting or of the sublime in mountain scenery. You have just now no experience of the tropics or of the poles, but both tropical and polar climates exist in your word as permanent possibilities [32] of experience. When you call the sun 92,000,000 miles away, you mean that between your present experience and the possible experience of the sun’s surface there would inevitably lie the actually inaccessible, but still numerically conceivable series of experiences of distance expressed by the number in question. In short, your whole individual attitude towards the natural world may be summed up by saying: “I have experiences now which I seem bound to have, experiences of color, sound, and all the rest of my present nature-experience; and I am also bound to believe that in case I did certain things (for instance, touched the wall, travelled to the [33] tropics, visited Europe, studied physics) I then should get, in a determinate order, dependent wholly upon what I had done, certain other experiences (for instance, experiences of the wall’s solidity, or of a tropical climate, or of the scenes of an European tour, or of the facts of physics).

So much for your relatively private and personal relations with nature. Now, however, it is indeed true that there is a great deal of your private and personal experience which you do not regard as indicating accurately any physical facts. Your pains and your emotions are experiences that, despite their vividness, and, under given conditions, [34] their inevitableness as possible

experiences, you still do not view as representing physical realities. Now what is the further difference between those permanent possibilities of experience which you regard as positively revealing facts of phenomenal nature, and those inner experiences which although they recur under given conditions, with fair uniformity, you still regard as just personal in their significance?

I reply that while, for you personally, physical nature is always represented by what you regard as experiences that are permanently possible for you, you do still apply another criterion before you regard your experiences [35] as standing for outer nature. This criterion is what I may call the social criterion; and it is of enormous importance for our whole view of nature. Physical reality is a permanent possibility of experience not for myself only, but for other men as well. And when I say that the moon is physically real, I mean that I can become socially convinced, in various ways, that you are able, under given conditions, to get an experience which in all essentials resembles my own when I observe the moon. In this way, as I have said, we get the notion of phenomenal nature as a system of experiences possible not only for this man, but for all men. And thus it is that nature gets that public, perma-[36]nent and definite character which we referred to when we called the natural world the world of description.

As a fact, by a phenomenally real object in nature we mean something that can become verifiably known to any or to all men. Our verification of this common knowledge is always a social one. I touch the seen complex of color-experiences which I call my physical object. I also see your organism touch the same visible object when I hand it over to you. I look at my object. I also see you looking at it. I point t my object. I see you pointing at it. I imitate my object by a picture or by a diagram, and I see you do the same. Our intentions agree. In consequence I feel sure that you and I are having experiences which have some [37] sort of common reference, or of

reference to the same truth. Now when I find in my experience certain permanent possibilities of sensation, and when you find in your experience precisely similar possibilities of sensation under parallel conditions, and when we can repeatedly verify this fact by all sorts of social communications, and when, finally, we can continually observe one another's organisms moving about in constant relations to seemingly identical phenomena, grasping the same apparent objects, pointing at the same apparent objects, looking at or imitating the same apparent objects,—then we draw the conclusion that beyond us all there must [38] be some common possibilities of experience, and these we are accustomed to call the real nature things themselves, the bases of this community of our social experience.

On the other hand, in case we for a while seem to have certain common experiences, and then, upon analysis, find reason to suppose that our experiences really are *not* common, then we abandon the notion that we are dealing with the same phenomenal nature objects. Our criterion of the community of our experience is again a social criterion. If I am dealing with my neighbor, and he says that he has experiences which stand for outer truth, and which are not merely [39] his private feelings, my first disposition is to demand that he shall put me in his own place, i.e. in the place where I see his body standing, in order that I may test whether I can get these experience too. Or again, I demand that he shall point out, or imitate, or otherwise define his object, to see if I can verify his account by reproducing his conditions. If these tests fail to reveal community of experience, the inference is that at least one of us is dealing with private and personal experiences, and not with experience of natural fact.

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Here read from Ext. W.E. Soc. Concs. In *Philosoph. Rev.* Sept? 94, p. 519. [Royce, "The External World and the Social Consciousness." *Philosophical Review*, vol. 3 1894, 513-545]

[40] Now, as I affirm, the foregoing criterion of what is to be regarded as physically real, namely the criterion of describability, gives us a sufficient account of the true origin for us men of that characteristic feature of nature upon which I laid so much stress earlier in this lecture. Nature, we say, is a Realm of Law. Why? I reply, because we mortals only regard facts as physical real, in the phenomenal world, in case we believe that they would bear the social test of describability and of consequent verifiability by many people. (Read here Sp. Of Mod. Philos., pp. 398, 99 to 400 end of 1st par. Then read p. 404 entire [Royce. *The Spirit of Modern Philosophy*. Boston: Houghton Mifflin, 1892])

V

[41] Here then is a mere sketch of my theory of the reason why nature appears to us as a realm of law, and ought so to appear to us. The theory implies that, apart from man's point of view, this realm of physical law has no necessary meaning at all.

But if you at this stage ask me whether nature is real at all, apart from man,—i.e. whether those facts of human experience which we thus find apparently subject to law are, apart from this their phenomenal presence for us, real hints of any wholly extra human reality, such as God knows while man does not know it,—then I at once answer: yes. Apart from all this phenomenal appearance of the realm of law, there are undoubtedly [42] real facts, known to God, whose presence is hinted to us by the stars and by the earth, by living nature and by dead nature. I shall have more to say of these facts at the next time. Beyond phenomenal nature, there is unquestionably a real basis for our human experiences of natural fact. That real basis is itself a part of God's life, just as we are a part of God's life. It belongs to God's plan just as we do. It is linked to us by ties of which we know as yet very little; but I doubt not that these are truly

spiritual ties. And next time I shall suggest more of our possible relation to that finite portion of the divine life whereof, as I take it, our nature phenomena are hints.

But at present I say no more of the life of nature in so far [43] as it exists beyond phenomena, and apart from man. I turn back to the phenomenal nature, and I ask whether, in view of this illusory character of the universally human, but still only human appearance of the realm of physical law, we can expect that nature, as it appears to us men, should directly indicate the divine wisdom.

The reply seems evident. So far as nature hints of a real part of the divine life beyond us, remote from us, extra-human in its meaning, the hints are but fragmentary, their interpretation is very doubtful, their value is determined wholly by our otherwise retained philosophical and [spiritual? Word unreadable here] view of God's nature. But so far as we look at nature as human science has to view it, we see law indeed, but nothing essentially [44] ideal or divine. We see in the orderliness and exactness of phenomenal nature the triumph of our human ingenuity in inventing devices for describing facts. Auguste Comte well said that, scientifically viewed, the heavens declare the glory of Newton and of Kepler. Wundt has equally well said: Der naturforscher is der gesetzgeber der natur gesetze. This I hold is strictly true. Science does not invent her facts; but she reveals her endless but human ingenuity in discovering exactly describable aspects of facts. The facts, apart from their description, hint indeed that beyond us mortals there are endless riches of life: wisdom possessed by the divine order. But what science does not show is the answer to the question: What relation has all this wisdom, this other life of God, to us mortals, and to our ideals?

[45] Hence it is that if you want to know God's mind you must look within, not without. Nature reveals your limitations, the mystery of your finitude, the relative isolation of your place

in God's world. That isolation means of course for you as you are, much that is painful, disappointing, evil. Now nature as we mortals see it does not solve, but only impresses upon you the evils of your finitude. You must expect that result. You must expect nature to seem evil. The only absolute justification of all these evils of your finitude lies in the fact that since you are a function in and of God's life, it is God himself who suffers in you, and whose eternal triumph may be won through your loyalty, your patience, your courage, your willingness to suffer for and in him, as he here sorrows with all the pangs of this human Gethsemane wherein we mortals dwell. Regard yourself truly, in your moral relations with a God who is as personal as you are, who is immediately present in your [46] finitude, whose peace is won through the triumph over finite loneliness, sorrow, isolation, struggle, temptation, blindness, and then indeed, in the moral world, you know God. But seek him not in what we men call nature. Know once for all that you can expect in nature only hints of God, and illustrations of the limitations of human experience, a region where the very law that is present makes evil as it were, more [abstract? word unreadable here]. On the other hand, however, just this view of nature I find very reassuring when we are obliged to face, as we all are obliged to face, the endless evils of the natural order. Let me in closing illustrate just this value of remembering the phenomenal character of finite nature, as we mortals have to view it.

VI

Believing as we mortals do in phenomenal nature, implies be-[47]lieving that man, in so far as he too is a phenomenal being, a creature whose organism is an object of possible scientific experience, that man is, I say, in himself a part of nature. Now in one aspect that is true. Human physical science has to view man as a part of nature and as nothing more. And that is why

psychology, as you may be aware, can take, as a natural science, no account of man's absolute relations to God, or of the real meaning of man's moral personality.

Well, we have a right to view man,—the phenomenal man, namely,—the man whom his fellows see and meet in daily life,—we have a right to view him as a part of phenomenal nature. That is a strictly scientific and human point of view. Now so viewing man we in modern times have come very rightly to call him a product of evolution. There was once, we say, a world of material facts, i.e. of conceived [48] possibilities of experience, such as science believes in. There was once such a world; and man was not yet in it. In process of time man evolved; i.e., as a physical presence, as a psychologically definable mass of mental experiences, man came into existence. And his coming into existence was a result of natural laws, of a rigid and definable sort.

Now when we say all this, is it true? I answer it is true, in precisely the sense in which it is true that the real earth goes round the real sun. That is, all this is an expression of the universe of phenomenal fact, or of the possibilities of human experience, when defined in accordance with the principles of science. The law of evolution is just as true as any other scientific law. All such truth is phenomenal. It hints at deeper truth, as [49] we shall see better at the next time; but science contains this truth only as it is necessarily interpreted by men in terms of their own possible experience. "Had we been observing the phenomenal process of the origin of man, we should have found it take place in accordance with natural law." That is what the law of evolution says. And human science can say nothing else. Nowadays, science knows a good deal about the particular processes of this evolution, interpreted as we have to view them. And now the familiar question arises, does this process of evolution, taken wholly as a physical process, throw any direct light on the problem of our human relation to the divine plan?

[50] Well, as you know from the foregoing, I should hold that, even if you granted the laws of nature to be expressions of an extra-human and ultimate truth about the universe, these laws still manifest very little of the divine wisdom to us, just because God, as the Absolute, must realize ideals in and through his world, while nature, as known to us, stands in the most insignificant and accidental relations to every conceivable and worthy ideal goal. And I deliberately repeat this assertion in the presence of the physical facts of the process of man's evolution.

In this age of the doctrine of evolution,—a doctrine that, as an expression of natural, i.e. of phenomenal fact, I hold to be, in its own realm, as true as any humanly possible physical theory [51] can be—in this age of the doctrine of evolution, I say, such an expression about evolution as I have just deliberately used, are [is], I know, comparatively unpopular,—that is, unpopular in certain circles. But the age of the doctrine of evolution happens to be also, in a very instructive way, the age of pessimism. Many believers in all that science has revealed as to evolution are, in their philosophy, deliberate pessimists. It is as easy, today, to interpret our fragmentary knowledge of nature in a gloomy as in an optimistic sense. Von Hartmann is the natural contemporary of Herbert Spence. Some sort of physical evolution is, for both of these thinkers, a phenomenal fact. But while for Spencer evolution means on the whole the certainty of the final attainment of the general good of our race, physical evolution, for [52] Von Hartmann, means a fatal and universal increase of conscious misery. Which one of the two thinkers is right? For my part, I defy anybody who is not a slave to prejudice, to face the natural facts as we know them and to decide, from them alone, (apart from a deeper assurance concerning God), which one of these two tendencies can be scientifically proved to be the predominant tendency in our human world. As a fact, phenomenal nature herself, that realm of law, is, so far as our experience

can show, throughout all her wonderful evolutionary processes, quite indifferent to the general increase or to the general decrease of our conscious misery. Her winds blow hot and cold. To cite a single but very characteristic instance, natural law is as well exemplified by the phenomena of the disease called general paralysis, as by the phenomena [53] of the normal human brain. And, as many of you know, the disease called general paralysis appears to be both a product of evolution, and a disease that increases with a rather alarming rapidity as the conditions of civilized life grow more complex. It is, apparently, as a prevalent affliction, a disease of the present century,—a sort of recent hint to us of what our human process of evolution may be implying. For these two processes, human evolution and this disease, as it chanced, became pretty well known to science at about the same time.

Nor is the indifference of phenomenal nature to ideals confined in the least to such numerous scattered instances. The general course of evolution exemplifies, in so far as it is known, [54] to us through natural science, this to us unintelligible capriciousness, blindness, unideal insignificance of the very processes that have brought us ourselves into existence. What we nowadays know, as a matter of science, is that natural processes appear to have led, through a continuous series of changes, from the world where, physically speaking, there were no living beings, to the present state of the world, wherein man lives and struggles for the idea. And, as I insist, I myself fully accept the scientific truth of the doctrine of natural evolution as a fact of the phenomenal world. Viewing this process from the inorganic world to man in its wholeness, many have now optimistically said, Here at last is unmistakable evidence that an universal law of progress prevails, that ideals are realizing themselves in and through nature's laws, that God is present to our eyes, not in miracles, but in nature's steady [55] and unvaryingly rigid processes.

Many others who chance to prefer the word Nature to the word God, have still rejoiced to find in these facts of evolution the proof that the realm of law is also the realm of the ideals.

Now I beg you to set in contrast to this rather hasty optimism the truth about natural evolution so far as we can now make it out with respect to the phenomenal world. Evolution, so far as we now know, is a process involving, even if it is not mainly dependent upon, an enormous overwealth of organic life, whose relatively chance variations get weeded out until an extremely small proportion of the life that comes into existence has any direct share in what is hastily called the progress [56] of the whole. As this wastefulness of organic nature is the best known feature of the life-process, we need not pause to illustrate it further. It is not an ideal aspect of that process. Ideals are not rationally to be realized by wasteful overwealth and chance selection. In the course of the process, however, many higher types of life get produced; but when they appear they do not on the whole tend to displace the lower types. The most prevalent forms of life on the planet today are, it appears, amongst the lowest types; witness the bacteria. Now these low forms of life often help, but they also very often hinder and war against the higher forms. The relation of lower and higher, if judged by ideal standards, is here, so far as we can judge from our own experience, an [57] absolutely capricious relation, capable of no humanly verifiable and ideal interpretation. Viewed as a product of a rigidly necessary, but quite blind nature-process, such capriciousness is comprehensible enough. For, in a measure, it is indeed a describable process. But it is vain to talk of the obvious realizing of ideal goals in our relations to the bacteria, many of whom are absolutely necessary to our life, while others, equally the products of evolution with ourselves, are our deadly and persistent foes, the producers of endless anguish and also of manifold moral disasters, the blind foes of every ideal that we cherish.

As a mere incident, physically speaking, of such a vast process, man has been evolved. He is, still in this same physical aspect of his being, in but a very small [58] degree an ideal type. Numerous rudimentary structures appear in his organism as traces of his past, and some of these hinder or even decidedly endanger his physical welfare. He is noteworthy too for what he has lost, in structure and in function, as well as for what he has gained. In the essentially awkward process of adapting his skeleton and his internal organs generally to an erect stature for which evolution had not otherwise sufficiently well prepared him, he has suffered, so the authorities tell us, pretty severely. A long train of disorders and diseases are said to be due, more or less indirectly to this change of habit, which has worried the flesh as certainly as it has profited the spirit. It is said that hardly one of us reaches forty years without suffering severely for our erect stature. When compared with the series of related types to which man belongs, [59] man furthermore, in the phrase of an eminent naturalist amongst my friends, appears as a “phylogerontic” type, i.e. a type of an aged rather than of an youthful organic structure,—a type belongs as it were to the physical old age of its series of types. Man, in aged fashion has lost his general hairy covering; and his head is even now growing bald. His teeth are gradually growing fewer, and failing in quality. His eyesight is certainly not improving. He is a constant prey to a vast horde of diseases, whose number is probably still on the increase. Moreover, natural selection, the cruel but efficient factor that in the past has often preserved types from the loss of such advantages as they have [60] once come to possess, has now failed man in this time of his need. Nowadays, by virtue of his very civilization, he preserves, nourishes, fosters, the physically degenerate members of his stock, ensures on the whole, as far as possible, their continuance and their propagation from generation to generation, and so constantly increases the burden that his physically aged type has to bear. To be sure, by virtue of civilized care, he now

lives far longer than he used to live, but meanwhile he does this by dint of an elaborate nursing of his frailties and in spite of his increasingly numerous diseases. Care preserves him; but for that very reason, if one may play but a trifle upon the word, care is his most constant companion. [61] Meanwhile there is indeed one priceless physical possession which man can well boast. That is the one organ which, amidst all his physical misadventures, has made him what he loves to call himself,—the crown of creation. That organ is his brain. About him his brain alone is, although, to be sure, only a few races of men really and primarily, progressive, if not in the structural, then certainly in the functional sense. Upon this organ in the natural order, man's civilization depends. This determines his countless devices for thwarting his enemies, and surviving his disasters. This it is about man which is not only old but also still irrepressibly youthful,—not on the whole, in normal, civilized man,—undegenerating, but plastic—an endless source of novel functions and of world-compelling skill. To be sure, I insist, this is not true of man in general, but only of a few of the civilized races. But, the ordinary optimist is content with small favors. This one nature has granted.

Yes, but if man's brain is his best, it is also his most impressible and endangered organ. The strain of civilization today, wars, incessantly and increasingly, with its health. Its functional plasticity means [62] also functional instability. Countless, even for our present medical and psychological analysis, are the special forms of mental defect, degeneracy, and disorder, constitutional and acquired, acute and chronic, to which the brain of man, when it varies from the normal, is subject. In view of the recent history of insanity, it is a bold evolutionist who can undertake to predict whether, in the end, this man's mightiest and still, despite its vast evolutionary age, man's functionally most youthful organ, is destined to outlive the fearful physical dangers of its present civilized youth. The experiment as to whether man's brain can in

the long run endure the civilized environment which the brain itself has created, is still on trial, and will be for a very [63] long period. The physical outcome, for any sober judgment, ought to be regarded as at present absolutely doubtful. The risks and the powers of the human brain are growing together. The race between those two rivals in the civilized nations of the earth, is today a very hot one. Nobody can tell which rival will win. The whole matter is one not for cheery optimism and pious faith in evolution, but for serious consideration, and for the practical guidance, of the young, and of their guardians, of the weak, and of those who deal with them, of the social order, and of those who today love to tamper with its safeguards.

But if the future of man thus depends, physically speaking, upon the still utterly uncertain outcome of one of the bitterest of [64] nature's struggles, the present status of the race, regarded merely from the physical point of view, gives small evidence of any essential friendship between nature and the ideal. Thus far civilization has hovered two great dangers. Adversity, individual, social, national, has involved one set of those dangers, in so far as adversity has meant the pressure of natural need upon the demands of the spirit, the absorption of men's minds in the petty struggle with want, the displacement of insight of thought, and of aspiration, by pain, the encouragement of the military form of society, with its attendant burden of arbitrary government, of intolerance, of oppression, [65] and of what tends, in the end, towards anarchy. On the other hand, prosperity and peace, in so far as by happy physical accidents they have been forced upon men, have involved another set of dangers, equally well known, but more subtle. Not only the special evils of luxury and of the degeneracy of the life of pleasure have been here involved; but something deeper still has been revealed—namely the general need that man as a moral being has for a sense that the world before him is a serious world, where not individual freedom, but loyalty and obligation are his due. The prosperous are in danger of losing both heroism and

loyalty. As things now stand, it does indeed often seem easy to lay stress on one set only of these dangers and to say that the economic and industrial problems of [66] society are the deepest of man's physical problems; so that the great natural source of evil, of crime, of mental and moral degradation, is the burden of adversity that enslaves a great mass of men in even our most prosperous social orders. Yet whoever knows man's heart a little more closely feels disposed, on the contrary, to say that were the economic and industrial problems ever solved, were the burden of want ever removed from the mass of men, were general economic prosperity for meanwhile, by lucky physical accidents ensured, then indeed Satan would be for the first time fairly let loose upon earth. For then man would have [67] the leisure to define his rebellious desires, to scheme out means to gratify his individual passions, and to misuse the freedom that nature had given him. At all events, it is sure that you cannot trust man with natural resources, unless you first teach him the meaning of personal loyalty to absolute ideals. For such loyalty only can control from within the boundless caprices of his chaotic physical nature. Unless he has such loyalty, it is safer after all to let the chains of physical want bind him, much as they seem to degrade his higher nature.

Such then is a mere fragment of the chapter of blind moral accidents which, so far as our limited human [68] experience can guide us, contains the record of man's evolutionary relations with what we call nature. Now lay aside for the moment, all mere faith in God, and in his wisdom as the basis for this entire process, seen, and unseen. Lay aside, too, for the time, our idealistic philosophy, which, by a reasoning wholly independent of the special data of science, assures us of the unity, the rationality, the ideal perfection of God's eternal plan not as our eyes can see it, but as it is for him, in its absolute wholeness. Lay thus both faith and metaphysical insight aside, and then survey this merely natural process so far as it appears to our eyes. Look in

this visible, in this describable world, and look there alone, for evidence that nature aims at the realization of the ideal. I affirm that what you see, in the world of evolution, appears indeed as a physically orderly and necessary process, [69] but as a moral chaos. Not but that there are very numerous good aspects in the evolutionary process. What I mean is simply that these good aspects have no sort of orderly relations to the evil aspects. Chauncey Wright made the well known comparison, which Professor James has recently repeated, between natural processes generally, and the weather. Evolution has often been called, in Chauncey Wright's sense, a sort of cosmic weather. Now the weather has its manifold ideal aspects; witness the beauty of a June morning. But if all weather, foul and fair, is subject to rigid natural law, it would be absurd to say that there is, in [70] nature, any physical tendency towards the production of fine weather as such. Now all that we call evolution is subject to rigid natural law. But, on the other hand, the natural process called evolution is, so far as we can get at it, as much a moral chaos as the natural process called the weather is an aesthetic chaos; and there is no more a scientifically verifiable tendency in nature to the production of the phenomenally good than there is a physically verifiable tendency in nature to the production of the beauty of June mornings as such.

VII

But why, you may ask, why do I here dwell so tediously on these [71] evil aspects of things, when my business in these lectures is with the manifestation of God? I will reply that I dwell upon these negative aspects just because I perceive that a great deal of harm is done by the fact that people stubbornly look in the wrong place for the manifestation of God to human eyes. To say that our moral chaos is certainly a fragment of God's order is one thing. To say that by studying the phenomenally determinate order, as it were, the rigid laws of mathematical perspective which prevail in this moral chaos, we mortals can ourselves get to know God's mind,

is another, and a very dangerous thing. It is as dangerous to your whole moral being to take [only? Word is illegible here] [72] nature, in a philosophical and religious sense, too seriously, as it is dangerous to your human concerns not to study nature at all. Natural Science is sovereign in the world of man's external experience; but man's external experience is precisely man's point of view, and not God's. As to the danger of taking nature too seriously, I say that this danger exists whenever men make their faith in God depend upon the interpretation of this or of that natural happening, however extended its range. Those still numerous good people who take the weather to be as such, the direct manifestation of God's will to man, endanger their piety, in this climate, quite unnecessarily, and at best have to speak with bated breath whenever the [73] rain falls on [glare? Illegible here] ice. It would really be wiser and safer, as I have heard a philosophical friend of mine assert, if such people regarded the weather, for the most part, as the work of Satan. Aesthetically and morally viewed, nature presents to us endless comedies of error, and caprices of fortune, as well as tragedies of untold horror; and we risk our whole assurance of the divine when we look amidst these paradoxes for the direct manifestation of the divine goodness. That the phenomenal existence of such an apparent moral chaos is indeed quite reconcilable with our general theory of God, I shall try to show you in our final lecture. But reconciliation of opposing aspects is one thing. Their positive cooperation, within the range of our experience, is quite another. And the grave danger of which I speak lies in the disposition to look in the natural order for [74] what shall principally assist our faith in God. The moral being ought to look upon nature, in Fichte's phrase, rather as the 'material of duty, than as the positive embodiment of moral tendencies.' Nature is for him sometimes the indifferent means that he proposes to mould for his purpose, sometimes the monster that he intends to outwit, sometimes the persistent enemy that in God's service he is minded to overcome. He will try to know nature,

as thoroughly as a man of his calling can know it. But he knows in order to control, not in order to worship. Nature-worship in all forms is idolatrous. And calling nature a direct manifestation of God is just such idolatry.—“Good-by proud world [75] I’m going home” must everywhere be the motto of those who seek admittance into the realm of the Spirit.

That the danger of which I speak is a real one, a little observation of men will convince you. Many a man believes in God’s goodness as Satan declared that Job believed therein, namely because he sees natural processes just now conducing to his own welfare. Lower and higher goods may alike be in question. Our health is the condition of much of our moral work; and we may be believing in God because, as we say, God’s natural laws are manifest in the health that gives us the chance to work. But what then if illness comes? Illness is precisely as natural a process as health. Our children thrive; and God’s goodness is thereby manifest. But who has not known the mother whose faith in God’s [76] goodness was profoundly shaken, perhaps shattered, by the occurrence amongst her own children of one of the most universal, necessary, and morally capricious of nature’s events,—death. Now if any natural process is of itself a manifestation of God, death ought to be; for it is an universal accompaniment of life. But as a fact death has no discoverably constant or tolerable relation to any known ideal end. It is, ethically viewed, the very type of the chaotic. If it in any sense accompanied or manifested the fulfillment of any definable portion of life’s tasks, one could comprehend it. But death, when it comes, merely illustrates at best [77] some discoverable physical process,—say the life-history of the bacteria, or the instability of our nervous tissues; and strikes into our visible moral world in an absolutely planless way,—as a demon, or as Caliban’s Setebos might strike, not in the least as a moral ruler would or could directly manifest himself. Death, as a human experience, is the very climax of God’s concealment from us in the natural order.

Well, I say, since such caprices of fortune are sure to best us all, sooner or later, I hold it dangerous to make an arbitrary and comfortable selection from nature's facts, and then to say, in an optimistic way: Behold why I am sure of God, or of nature's goodness, or of the ethical aspect of the evolutionary process. [78] Such faith is founded on the sand. You see it fail whenever the believer, in his own person, is hard enough hit. For then, so to speak, he sees the demon of chance unmasked, and hears nature's confused voices lying together in their ancient phenomenal way. There is the thunder, the fire, the wind, the earthquake; and God is in none of it all. Elijah on Horeb did not witness the process of evolution; but the deeper meaning of his vision would have been the same if he had. God would still have been in the still small voice.

What you need is an insight that is not dependent upon this or that caprice of fortune, or induction of natural science—an insight that stands ready to discount endless reverses of destiny, [79] endless concealments of the divine presence, endless accidents of the moral chaos of nature. So long, said Fichte, as you fell, in your true moral personality, subject to any fortune whatever,—and were it death (*und wäres auch der Tod*), you have not faced the truth. And in this investigation it has been our effort to do what we can to find our way direct from the chaos of phenomena, to the eternal home of the Spirit.