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YET ANOTHER CRITICISM OF THE THEORY OF EVOLUTION

Such criticisms are called for and are even demanded by the general and the lively interest in the subject. The questions as to the truth and as to the significance of evolution are no longer merely academic ones. Persons of all classes and in almost all places are thinking and even talking of it. They ought, therefore, to receive the guidance which they need and want. To give it, consequently, is the duty of all capable teachers, whether scientific or philosophical or theological. Sincere inquiry must be aided along all possible lines. Specially is this so when the matter of interest is bound to exert a mighty practical influence, and particularly if it create an atmosphere which affects even those not conscious of breathing it. Now it is thus with the "theory of evolution." Its world-view, because of its monism, is both at first so attractive and afterwards so compelling that, if yielded to, it must at last revolutionize civilization. The most serious aspect of all this is that the influence of evolution, whether for good or for ill, is strongest in the most important of all spheres, that of religion. It is bound to determine our conception of God and of man and of duty and of sin and of destiny. There are many who say that its establishment as fact means the collapse of Christianity and even of religion in general. There are others who declare that such establishment, while destructive of Christianity, will redound to the perfection of true religion. Under these conditions no honest criticism of the theory of evolution can be superfluous. The deepening interest in it, the practical significance of it, its influence on religion, and above all on Christianity, confirm this judgment.

I. What, then, do we mean by Evolution? As used in this paper and as generally understood, Evolution is that hypothesis of the universe which stands in contrast with the idea of special acts of creation, immediate interpositions of supernatural power. It teaches that the world has been gradually unfolded through immeasurable past time by natural causes alone. Its logical conclusion and its actual claim is that all that exists, organic as well as inorganic, animate as well as inanimate, spiritual as well as physical, is to be explained simply as the natural and so necessary development of an original germ. All this applies to man. Adam was not created by God "in his image and after his likeness." He was developed naturally, many would say, accidentally, from some lower species of animal as that from one lower yet. This is what is meant by "the descent of man," a phrase that evolutionists are fond of using. "The fundamental postulate," then, "of this theory, as it respects man, is the unbroken continuity of life from its first appearance on the earth; and, therefore, the present arrangement of living things must be the outcome of an unimaginably long series of past changes, not only of those produced by the evolutionary process, but also the countless changes of climate and geography which have continually altered the possibility of migration in this or that direction."[1] Thus the characteristic contention of the evolutionist is both that the universe is "a continuous development," and that it is "a continuous development" *only*. Logically the hypothesis is a godless one; it enthrones evolution in the room of God, a natural process in place of the Supernatural Being. All this calls for a further question: What is meant by speaking of evolution as a "theory" rather than as an hypothesis? This: it expresses the evolutionist's judgment of his hypothesis. It signifies that in the view of the evolutionist this is not a mere hypothesis, ingenious and promising, it may be, but wholly unproved. On the contrary, he regards it as a

[1] William Berryman Scott, *The Theory of Evolution*, p. 122.

theory, i.e., a highly probable hypothesis, as one which, though not yet shown to be a fact, looks as though it were about to be so proved, as one "in favor of which is the whole trend of scientific opinion'"[2] "Whatever," says Professor Scott, an evolutionist who rivals Darwin himself in caution, in accuracy, in candor,—"whatever may be the private opinion of a greater or less number of naturalists on the question of evolution, almost the only zoologist of recognized standing who has taken a pronounced and positive position against the theory is Professor Fleischmann of Erlangen.[3] It is, then, a view no less confidently and honorably held than this that we are called on to examine and, it may be, to dispute.

II. In spite of this so general and so intelligent acceptance, "the theory of evolution" lacks the simplicity and the consistency that usually characterize truth. This is evident at a glance as regards simplicity. There are almost as many modifications of "the theory of evolution" as there are expounders of it. Thus, while Darwin begins with life, Haëckel would evolve it; while not a few would derive mind from matter, others, as Romanes, hold to two parallel streams of development, the one physical, the other mental; while Spencer insists on the transmission from parent to child of acquired characteristics, Weismann and most of the Neo-Darwinians restrict evolution to what is essential to the species; while many, as Darwin, believe the use to which organs are put to be the result of accidental variations in their structure, others, as Lamarck and Cope, teach that the structure of organs is determined by their use; while some, as Darwin, magnify sexual selections, others, as Wallace, minimize it; while most hold to a uniform process of development, not a few, as Professor Hugo de Vries, are taking the position that evolution is by widely separated jumps, which are so sudden and so definite as to seem to imply special creation; while probably a majority still em-

[2] *Ibid.* p. 1.
[3] *Ibid.* p. 1.

phasize natural selection as the method of evolution, many are repudiating it,[4] and there has lately been substituted for it by Bergson what he calls "creative evolution," what the Darwinian would describe as evolution without anything to evolve, what the theologian might speak of as creation without a Creator. While these and other modifications do not, it is true, change the general bearing of the so-called theory, they do keep it from being more than an hypothesis; and it is well, at the outset, to observe that, even as an hypothesis, it is exceedingly indeterminate. It lacks the simplicity that is the earmark of truth.

Nor is it otherwise as regards consistency. This is indispensable, if a theory or even an hypothesis is to lay claim to truth. Yet the positions which the evolutionists take in order to validate the general theory are conspicuously inconsistent. It is necessary only to recite a few of them for this to appear. Thus the Neo-Lamarckians depend for evolution on environmental factors, while the Ultra-Darwinians maintain the sufficiency of "natural selection." The former insist on the inheritance of acquired characteristics, while the latter as resolutely deny it. Hence, as Dr. Herbert remarks,[5] "The difficulties of either of these extreme schools are very great indeed when taken singly, each side being able to make out an exceedingly strong case against the other"; and yet, as should be added, they are mutually exclusive and so cannot be combined.

Again, take the auxiliary hypotheses that have been devised in aid of natural selection and the Darwinians, such as "panmixia," "germinal selection," "coincident selection," and "isolation." These hypotheses may not be exclusive of each other, speaking strictly; but are they not admitted to rest on only a small basis of fact? Are they not but so many guesses? Do they not, by their number, as well as by their futility, emphasize at least their purely con-

[4] William Berryman Scott, *The Theory of Evolution*, p. 25.
[5] *First Principles of Evolution*, p. 173.

jectural character; and is not mere conjecture, at any rate, almost as foreign to truth as is contradiction?

Once more, take the two modern schools of Heterogenesis and of Orthogenesis. The former "look upon discontinuous variation as the material of organic evolution," while the latter assume "a determinate progressive movement in the organic world as an intrinsic part of its organization." Neither of these theories, however, can be regarded as supplementing the two older ones. Heterogenesis emphasizes the discontinuity of variations, whereas the point of the older theories is that they emphasize the continuity of variations; and "orthogenesis insists on "a determinate progressive movement in the organic world as an intrinsic part of its organization," whereas the older theories resort to accidental variations in the organism or in the environment. Heterogenesis lays stress on single variations or "sports": orthogenesis, on the contrary, falls back on an "inherent growth of the organism." The method of the one could not be more opposed than it is to that of the other.

Nor is the case different when we compare the two schools that hold to orthogenesis. These are as exclusive in their fundamental principles as Mechanism and Vitalism. And the same is strikingly true of the vitalists themselves. They divide into two camps, one holding to purpose, the other, as Bergson, denying it. But why go further? Even at the outset of our inquiry a mere glance reveals the theory of evolution as at least embarrassed by complexity and inconsistency.

III. More careful examination discloses the fact that what has been the most influential school of Evolution, that is, Darwinism, is "in collapse." The distinction here implied is important. All Darwinians are evolutionists, but not all evolutionists are Darwinians. The two terms are not synonymous, though often used as if they were. Evolution, as has been pointed out, is that theory of the universe which would account for it as an uninterrupted

development and that only, whereas Darwinism is the Darwinian explanation of this development by "natural selection" or "the survival of the fittest," meaning by the fittest the best adapted to environment. Now this school of evolutionists is "in collapse," and this position is justified on the following grounds:

1. The unsatisfactory nature of the evidence for Darwinism and, indeed, for evolution in general. This evidence is asserted or admitted to be mainly subjective. Thus Professor Fleischmann of Erlangen writes:[6] "The more deeply I pursued the alleged evidence of it [the theory] and sought to gain, through special investigation, some essential proof of the genetic relationships of animals, the more clearly I recognized that the theory is a seductive romance, which deceptively pretends to give results and explanations rather than a doctrine based upon positive foundations." Moreover, this judgment is not only that of an admitted and committed opponent of the theory of Evolution or Descent in general as well as of its Darwinian explanation; but also and most significantly it is the estimate of one who, though a sharp critic of Darwinism, is one of the ablest American expounders and upholders of the theory of Evolution or of Descent. The reference is to Professor Vernon L. Kellogg[7] and his position is the following: "What may for the moment detain us is the curiously nearly completely subjective character of the evidence for both the theory of descent and that of natural selection. Biology has been until now a science of observation; it is beginning to be one of observation plus experiment. The evidence for its principal theories might be expected to be thoroughly objective in character, to be of the nature of positively observed and, perhaps experimentally proved fact. How is it actually? Speaking by and large, we only tell the general truth when we declare that no indubitable cases of species-forming or transforming, that is, of descent, have been

[6] Albert Fleischmann, *Die Descendenztheorie,* p. 111.

[7] *Darwinism To-Day,* p. 18.

observed; and that no recognized case of natural selection really selecting has been observed. I hasten to repeat the names of the Ancon sheep, the Paraguay cattle, the Porto Santo rabbit, the Artemias of Schmankewitch, and the de Vriesian evening primroses to show that I know my list of classic possible exceptions to this denial of observed species-forming; and to refer to Weldon's broad-and-narrow-fronted crabs as a case of what may be an observation of selection at work. But such a list, even if it could be extended to a score, or to a hundred, of cases, is ludicrous as objective proof of that descent and selection under whose domination the formation of millions of species is supposed to have occurred." In a word, for both the general "Theory of Evolution" and the Darwinian form of it the evidence offered is largely subjective. It may rest on but it does not consist in facts verified by observation and experiment. As Professor William Berryman Scott says,[8] such "complete and indubitable proof" as that would be is "in the very nature of the case unattainable." What creature of a day, as we are, could observe what happened millions of years ago and was millions of years in the happening? But this being so, must it not be admitted that the certainty which is the result of indubitable proof is unattainable with respect to the theory under consideration? Logical and in so far forth satisfactory as far as it goes, and the only purely naturalistic view of the world that is so, it is still but a more or less probable hypothesis. It has not been, and it cannot be, verified by facts, and that in the nature of the case this could not be only makes the fact that it cannot be itself more significant. It would seem to warrant the conclusion that Evolution in general and Darwinism in particular could never be a theory, but must always remain only a more or less probable hypothesis.

2. The metaphysical foundation of Darwinism is another and a fatal objection to it. It is impossible as a foundation.

[8] *The Theory of Evolution*, p. 2.

It is that design can result from accident. In common with the evolution theory in general; i.e., the theory of descent, Darwin's doctrine is that "a primordial germ with no inherent intelligence, develops, under purely natural influences, into all the infinite variety of vegetable and animal organisms with all their complicated relations to each other and to the world around them,"[9] and thus realizes the plan evident in nature and always assumed and sometimes named by Darwin himself. Nor is this all. This same primordial germ develops at last into man and into everything that is in man or proceeds from him. The distinctively Darwinian element in this theory of descent appears when we inquire as to the cause and process of the development. It goes on absolutely without the intervention of mind anywhere; and it finds its explanation in what is called Natural Selection or the Survival of the Fittest. This un-intelligent selection it is which, as the result of the interaction of the general laws of heredity and of variation, and of struggle for existence determines necessarily all things. That must survive and develop which is best fitted for its environment. This is Darwinism in a nutshell. Let us try to get it clearly before us. It is not that God has by his almighty power and his infinite wisdom himself developed all things, however dissimilar, out of one primordial germ. It might be urged that that was unlikely: it could not be said that it was irrational; there would be in God an adequate cause. Nor is the theory that God created an intelligent germ, and then left the intelligence in it to develop his plan for it. It might be affirmed that that was a difficult theory: it could not be maintained that it was an impossible one; God could have endowed the original germ with intelligence equal to what was to be evolved. The characteristic of the theory, however, at least in its unmodified form, is the denial of the one condition indispensable to its being reasonable. The intelligence that it presupposes, unless results are to be conceived without causes

[9] *The Descent of Man*, II, p. 396.

and accidental variations are to be regarded as carrying out manifest purpose,—this necessarily presupposed intelligence it explicitly sets aside. The variations on which it depends, by means of which, as has been shown, it works, are assumed to be *accidental.* But this at once makes the theory impossible. Results cannot be conceived without causes, accident cannot be regarded as exhibiting purpose. If we think at all, we must think that every effect has a cause and that purpose invariably and inevitably implies design. These are different forms of self-evident, necessary, universal truth. The only reason why many Darwinians are able to seem to ignore it is that they overlook it. They do not deny it; if they did, they could not think: they dodge it; and so, though they come out in error, they still do think. They are so eager to trace physical resemblances between man and the lower animals that they fail to observe, or rather to appreciate, man's mental and moral uniqueness and especially what these must imply as to their production. Did not their habit of mind and of investigation keep them from being held down to this, they could scarcely help feeling the impossibility of their theory.

Indeed, from the first this has often been felt, and sometimes from quite another than the spiritualistic standpoint. We have a proof of this in an article by Mr. Herbert Spencer in the *Contemporary Review* on "The Inadequacy of Natural Selection." He says, for example, after commenting on the differences in the sense of touch in different parts of the body and inquiring how these differences arise: "Must we not infer that there has been produced in the minds of naturalists the tacit assumption that natural selection can do what artificial selection does—can pick out and select any small advantageous trait; while it can, in fact, pick out no trait, but can only favor the development of traits which, in marked ways, increase the general fitness for the conditions of existence?" What is this but the very criticism which we have been passing? Mr. Spencer's objections to the doctrine of

natural selection are that it assumes, that matter does the work of mind; that it picks out as mind picks out; and thus that its metaphysical background is impossible. Doubtless, he would not consent to this interpretation and use of his question, but this is what it amounts to.

Moreover, if the doctrine of natural selection were not thus impossible as regards its metaphysical background, it would still be inadequate. It itself would yet demand explanation. Grant that development could all be accounted for on the ground of the survival of the fittest, there would still have to be considered the distinct and more difficult question as to "the arrival of the fittest." Whence and how are the differences which constitute the occasion and the reason for selection and survival? Even though natural selection were itself sufficient, it presupposes these variations, if it is to operate; it cannot explain them.

Beyond this and deeper than this is the question as to the arrival of the conditions of the survival of the fittest. As another has well said,[10] "We do not get rid of all evidence of design by showing that animals and man have merely grown to fit the atmosphere in which they found themselves. The question still remains why there happens to be the particular kind of atmosphere, which is the only one out of thousands of equally probable ones that would sustain and develop a high form of life. It is here that we find it difficult to believe that there has been no intelligent mind purposely arranging things in the universe so as to secure a desirable result." Thus the Darwinian hypothesis of natural selection does not solve at all the problem of the development of the universe or of man; it only puts its solution a step further back. Though it proved that all things could be accounted for as the results of natural selection, it would still leave as mysterious as ever the origin of the variations and conditions which both make possible and determine natural selection. The situation would be as in the case of the earth and

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[10] *Christian Faith and the New Psychology*, p. 107.

Atlas in the fable. It would not help us to be able to say that the former rested on the shoulders of the latter. What we need most of all to know and what least of all we can tell is, on what does Atlas himself rest. Hence, it is only what was to be expected that our ablest as well as most pronounced evolutionists should write as follows, in the words of Professor William Berryman Scott,[11] "While naturalists are all but unanimous in accepting the theory of evolution as an established truth, there is every possible divergence in their views as to the causes of development and diversification. . . . Personally, I have never been satisfied that Darwin's explanation is the rightful one; to one who approaches the problem from the study of fossils, the doctrine of natural selection does not appear to offer an adequate explanation of the observed facts. The doctrine in its application to concrete cases is vague, elastic, unconvincing and seems to leave the whole process to chance." For these and other reasons the hypothesis of natural selection is being widely abandoned, and that, too, by those who hold most tenaciously to the general theory of evolution. It is felt to be better to leave it unexplained than to have recourse to an explanation so impossible and inadequate as natural selection is being admitted to be. Indeed, there has been made, as it were, the official announcement of the collapse of the distinctly Darwinian doctrine of natural selection. We read it in the address of Professor William Bateson as President of The British Association for the Advancement of Science. His words are, "We go to Darwin for his incomparable collection of facts. We would fain emulate his scholarship, his width, and his power of exposition, but to us he speaks no more with philosophic authority."

IV. May it not be, however, that the "theory of evolution" will gain rather than lose by the collapse of Darwinism?

1. It certainly will in so far as it is thus delivered from

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[11] *The Theory of Evolution*, p. 25.

an hypothesis so inadequate and even so impossible as Darwinism is coming to be regarded. An explanation which does not explain and which cannot explain cannot be thrown overboard too quickly. On the other hand, while it is true, as Professor Scott says,[12] that "it is one thing to accept a fact as substantially proved and quite another thing to devise a satisfactory explanation of the fact"; it is also true that the practical worth of a fact depends in large measure on our understanding of it. We may be sure of the fact of electricity and we may even be able to use it in many and wonderful ways; but who will maintain that it would not mean much more to us and would not be much more useful to us, if we knew the what and the why and the how with respect to it? Precisely so, the theory of evolution will strengthen through the repudiation of Darwinism; but even if we accept "continuous development," and, indeed, in proportion as we accept it, as the ultimate fact and factor of the universe, will it, just because it is so ambitious, call for an explanation in the place of Darwinism. Nor will all this be affected by the fact that *in mysterium exeunt omnia.* It is only by the diligent, the unwearying, search for causes and reasons that mystery can be even pushed back ever further and further.

2. Such an explanation we have, if we take the Supernaturalistic one; and Darwinism being set aside, there is no other of general acceptance.

a. The Supernaturalistic hypothesis meets the necessities of the case. That is, it really accounts for what has to be explained. This is the numerous and striking resemblances between creatures and between things and between creatures and things. These resemblances are so numerous and so striking as at least to suggest the conclusion that they have all been developed, the higher out of the lower. Such is the explanation of the naturalist. He begins with an unintelligent and unexplained process of development, and by

[12] *The Theory of Evolution*, p. 2.

means of the same process he explains all things. He must do so, he holds; for all are so nearly alike.

Now this problem—the supernaturalistic hypothesis, the hypothesis of origination by the fiat of an omniscient and omnipotent, i. e., the Supernatural Being or God—this problem this hypothesis faces squarely. Without perversion or evasion, it, too, undertakes to explain the marvelous unity of the world; and it finds it, not in any mere process, but in an omniscient and omnipotent Being. Thus it accounts for the universe's unity of construction by the unity of God's conception.

But what hypothesis could be more reasonable than this? The products of a man, no matter how many or how varied, usually reflect the individuality of the man. What, then, could be more likely than that one plan should run through and control nature? In proportion as it is regarded as the creation of the one God "in whose image and after whose likeness we have been made," will this seem reasonable, and an externally, because divinely brought about, conformity to type will be taken as accounting for resemblances between organs and between animals, which resemblances would otherwise be inexplicable. To one who admits the activity of the Supernatural such an explanation as that just given would be only what was to be expected. It would be precisely what the facts demanded. Could it have higher commendation?

b. The Supernaturalistic explanation of the pertinent facts of geology and palaeontology not only accepts these as facts; but, so far as it can do this consistently with its supernaturalism, admits the conclusions from these facts. That is, it asserts and maintains "evolution with limits" or "within the type." It holds, for example, that while God created the different species, he formed and perfected the different varieties within these species by providential development, and it allows that many so-called species are but varieties and so have been developed. Hence, while it

affirms that neither by sexual selection, nor by the struggle for existence, nor by adaptation, can a development of morphologically higher species, genera or classes from lower ones be explained; the perfection of particular organs, many physiological changes, the development of new varieties within species,—all these it asserts, are due to a universal process of evolution originated, sustained, and controlled by God, who is immanent in it as well as transcendent above it, and who ordinarily worketh all things through it "according to the counsel of his own will."

Now what again could be more reasonable than such procedure? Facts admit of no denial. They are determined by the wish and will of God. To deny them is to deny him. The facts on which "the Theory of Evolution" are based are among the most surely ascertained of physical facts. "Classification," "domestication," "comparative anatomy," "embryology and blood tests," "geographical distribution," and "experiment,"—these present a body of pertinent and evidential facts which all but fools must take seriously. And the conclusions from these facts may not be lightly disputed. Grant that they are sometimes too sweeping and that they are occasionally far-fetched, it is still difficult to see how they can be set aside and the validity of inductive science not be imperiled. Must it not be, then, to the credit of the supernaturalistic hypothesis that it accepts these facts and is ready fairly to criticize these conclusions? "Continuity of development is too evidently a fact for it, or for the inferences from it, to be ignored.

c. The supernaturalistic hypothesis explains *all* the facts related to it. This the evolutionists often overlook. They fail to see that if continuous development is a fact, it is not the only fact to be considered. There has been continuous development from the beginning. So far the evolutionist is right. There has not been continuous development *only*. This is the great, the fatal, error of the evolutionist. Whether we regard his theory in reference to man alone

or as a theory of origins in general, it thus breaks down just when it should be strongest. It repudiates metaphysics. It appeals solely to objective facts. These, it says, must decide everything; and, lo! the only facts that could *decide* anything are wanting. Its claim is that there has been one continuous development, and this only, from the primordial germ to the most intellectual and most spiritually minded of men, and it would ground this claim on facts and on facts alone. Yet what are the facts?

Those to which they can appeal do, as we have seen, prove a process of development. They prove that many supposed species are not such, but merely varieties that have been developed and that can be further developed. They do more. They are at least consistent with a process of continuous development. The organic world presupposes the inorganic. The animal kingdom presupposes the vegetable kingdom. The human race presupposes the animal kingdom. History presupposes man. In the nature of the facts there is no reason why the higher of these should not have been developed out of the lower; for the higher takes up all in the lower.

This, however, is as far as the facts can carry one. As we have observed, if they prove continuous development, they do not prove that there has been only continuous development. There is more in vital organisms than in inorganic substance. There is more in the animal kingdom than in the vegetable. There is more in man than in animals. There is more in history than in man. The higher is not simply the unfolding of the lower. It is all that and *more*. The question is, whence and what this *more?*

Evolution says, It is the result of development *alone*. Though there is more in life than in mere matter, life is simply a product of matter. Though there is more in the animal than in the vegetable, the animal has come wholly from the vegetable. Though there is more in man than in the animal, man has come wholly from the animal. Though

there is more in history than in man, history is wholly the product of human factors. It can be objected to this, that it denies the metaphysical principle that you can get out of a thing only what is in it, and that every effect demands an adequate cause. We now raise an objection which should be fatal in the estimation of the evolutionists themselves. If their boast is that they appeal only to facts, what can they do when, as in this case, there are not the facts for them to appeal to. If the facts prove that continuous development has done all, then there must be facts showing all stages of development. We must see the atom passing over into force. We must see lifeless matter becoming living matter. We must see vegetables becoming animals. We must see animals becoming men. In a word, we must have the *links* between the different kingdoms. These are the crucial facts.

These, however, are the facts that are wanting. What we do find is, a gap between atoms and primordial forces, and no fact to bridge it; a gap between life and mechanical forces and no fact to bridge it; a gap between the soul of the animal and the unconscious life of the vegetable, and no fact to bridge it; a gap between the rational spirit of man and the irrational soul of the animal, and no fact to bridge it; a gap between the finite spirit of man unless the angels be taken account of, and the Infinite of whom he is conscious, and no fact to bridge it.

Nor is this simply our perversion of the situation. When pressed, evolutionists often admit these gaps. For example, Lange has somewhere said: "How the external nerve movement gives rise to the internal contents of sense is wholly inexplicable." "How unity of physical image is gained out of the variety of elements is also inexplicable." Even Mr. Darwin acknowledges[13] that he cannot trace the mental faculties from the lower animals to those which exist in men, though he believes, of course, that with ade-

[13] *The Descent of Man*, I, p. 160.

quate knowledge they could be so traced. Mr. Alfred Russell Wallace recognizes three stages in the development of the organic world when some new cause or power must necessarily have come into action; viz; at the introduction of life, at the introduction of sensation or consciousness, and at the introduction of man. Nor do present-day students overlook the significance of these gaps. They admit them. They try to explain them away. They do this by endeavoring to show that, in view of the situation and from the nature of the case, the facts to bridge these gaps might be expected to be wanting.[14] Now this, of course, may not be put down to the discredit of the theory in question. When evidence is impossible the lack of it is not prejudicial. On the other hand, a theory that is without evidence at its critical point cannot rank with one which accounts for all the facts with which it is related. Nor is this all. What can be more absurd than to deny, as many evolutionists do, metaphysical principles in favor of facts only to adopt as a theory of the universe and of man an hypothesis which, though it had all the other facts on its side, would not have those which were indispensable to it? Is not this like requiring us to believe a man because he has every element of character except veracity? It would seem, then, that there could be no room for hesitation as to choice between the two theories. The Supernaturalistic one, as we have seen, meets the necessities of the case by solving the problem presented by the amazing unity of the world; in explaining this, it gives due weight to the facts and conclusions of "the theory of evolution"; finally, it accounts for all the facts in the case by bridging over the gaps in the stream of development. It holds that at each of these God has intervened personally and directly, putting into the stream of development, to be developed in it and with it, what could not have appeared in it but for this intervention. Such

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[14] *Vide* Professor W. B. Scott: *The Theory of Evolution,* p. 82; also Darwin's *The Origin of Species,* p. 247.

a theory, it would seem, would not call for further argument. Its sufficiency is its vindication.

3. This is brought out more clearly when we consider, in comparison with it, the weakness of "the theory of evolution." Among many elements of weakness we may notice but three. Yet they are fatal:

a. The development of the moral sense. This is supposed to be derived from the experience of utility. What one finds to be useful is what ought to be done, and what ought to be done ought to be done because it is useful. That is, the useful and the obligatory are the same. But are they? A lie is often useful—is it, therefore, right? Kindness, at least in spirit, is always a duty—is it, therefore, invariably useful? Nor is the point evaded when it is urged that in the long run "honesty is the best policy" and that at last, in every case, kindness works out so as to be helpful to him that cherishes it and shows it when that can be consistently with justice. What is significant is that we appreciate the duty of honesty and of kindness long before and independently of any discernment of the advantages of either. We are sure that we ought not to lie precisely when, I might almost say because, it appears that it would be most helpful to lie. That is, the experience of utility may be the occasion; it cannot be the root of the moral sense. It may explain why it is that the moral sense appears when it does; it cannot explain why it is what it is. It may explain why this rather than that has come to be regarded as moral; it cannot explain the genesis and development of oughtness itself. The difference between it and oughtness, the moral sense, is not one of degree; it is one of kind: and unless all distinctions of thought are to be done away and thus, thought itself to be made impossible, such distinctions cannot be developed the one from the other. If they seem to have been so developed, it can be only because what was to have been developed has been presupposed.

Nor is the case different, if, for the good of the in-

dividual, that of the greatest number, or of society, be substituted. No more in this view than in the other can obligation be identified with utility. Were a baby to come down with some very contagious disease, undoubtedly the best thing for society would be to kill and bury him immediately and thus nip the pestilence in the bud. Few are they, however, who would not condemn and oppose such a course on the part of the authorities. But why? To answer this question, you must have a law superior to expediency and independent of it, a law, consequently, which cannot be explained as developed out of expediency, but which itself ultimately determines it.

The absurdity of this genesis of conscience from experience of utility, and of the latter from mere animal instinct, appears when we consider what it involves. "There must have been," as Dr. Dabney well says, "first in some earlier generation of men, a 'protoplastic' reason, conscience, free agency, and responsibility, which were still three-quarters or half animal instinct, and the rest mental. But every man who ever scanned his own acts of soul knows that in all their stages, and in all their degrees of weakness and strength, they are entirely above and different from animal acts." They are not only better developed; they are of another sort. A feeble or even a perverted, conscience is no more like appetite in its intrinsic quality than is the conscience of a Washington or a Gladstone. To develop any kind of a conscience, therefore, from any kind of an appetite or instinct would be like getting out of a thing what never was in it, which is absurd.

Now the significance of all this appears in the fact that the moral sense or conscience is man's crowning distinction. Darwin himself says:[15] "I fully subscribe to the judgment of those writers who maintain that of all the differences between man and the lower animals the moral sense or conscience is by far the most important. This sense, as Mackintosh remarks, 'has a rightful supremacy over every other

[15] *The Descent of Man*, I, p. 70.

principle of human action'; it is summed up in that short but imperious word *ought,* so full of high significance. It is the most noble of all the attributes of man." What, then, shall we say of "the Theory of Evolution" in this relation? If it breaks down at the development of the moral sense, why try to vindicate it in other respects? To account for the moral sense by development alone, this must be its supreme aim and claim.

b. The evolution of variations. Let us hear the evolutionist's own account of it:[16] "It is often said that evolution from the amoeba to man involves the addition of many new inheritance factors. This is probably true, but the addition of new factors does not mean their creation. New heredity factors are to be thought as we think of new chemical compounds which are formed of new combinations of the same old elements; or as we think of new elements such as helium and radium emanation, which are formed by dissociation of radium. As compared with chemical elements, the factors of heredity are probably very complex things and the new factors which appear in the course of evolution probably arise as new combinations of factors or of parts of factors previously present. In short, as modern science regards all types of organisms as having evolved by the transformation of previously existing organisms, so it must regard all types of hereditary factors as having existed from the beginning or as having evolved by transformations of preëxisting factors; as it regards all types of chemical compounds as having arisen by various combinations of chemical elements, so it must regard all 'new' elements as having existed from the beginning or as having evolved by the association or dissociation of still smaller particles, the negative and positive electrons. Nowhere in the entire process is there any evidence that factors or elements or electrons are created *de novo.* The whole process is one of evolution, that is, of new combinations of existing units, having new qualities

[16] *Vide* Prof. Edwin Grant Conklin's *Heredity and Environment in the Development of Man,* p. 394.

which are the result of these new combinations." This description is so clear as to expose at once its inadequacy. This appears in the following, among other respects:

α. Creation *de novo* or *ex nihilo* is utterly and explicitly rejected. Yet if this be done, there is but one alternative. Factors or elements or electrons, i.e., the world, are themselves eternal and supernatural. These, indeed, are our gods or our God. This is what the "theory of evolution" comes down to. This is what "our Father which is in heaven" amounts to. Who can understand this and be satisfied with the exchange?

β. The analogy by which new combinations are explained is often not a true one. For example, Mr. Mill does not, as is claimed, help matters when he represents the association of ideas as "a process of a similar kind to chemical operation."[17] The comparison is not justified by the facts. See what is implied in the production of a new body by chemical composition. There is one element, oxygen, for example, with its properties, and another element, hydrogen, with its properties, a mutual action in which there is potential energy expended, and a new product with its properties; and it is this mutual action, which we name chemical affinity and whose laws we try to determine, that causes the new element. In the association of ideas, however, it is quite different. We have two ideas, the idea, we will say, of honesty, and the idea of prosperity; and because these two ideas are found to follow one another we are told that there results the third and the dissimilar idea of the obligation to honesty. But this is a non sequitur. Ideas are not elements with properties. Above all, the mutual action of the combined elements, involving the operation of electricity, or of some one of the correlated forces of the universe, is not observable in the case of the association of ideas. That is, what makes the new product when chemical elements are properly combined appears to be absent even

[17] *Logic,* B. VI, c. 4, 83.

when ideas are rightly associated. At the very point that is essential, therefore, the comparison breaks down. It follows, consequently, that the instrument of the theory is not what it is affirmed to be. Indeed it is quite ineffective. It can explain how it is that ideas arise together in thought; but it cannot give the new idea which it must originate, if the theory is to hold. It can tell us why it is easy and natural for us to think of certain things as obligatory, but it cannot tell us how the idea of oughtness came to be in our minds. It is an entirely new idea. It comes to us out of a clear sky. It is a creation in the sense of a revelation of and from and by God Himself.

γ. What starts and determines combination? There are four possible answers. It may all depend on chance. This supposition has only to be considered to be felt to be inconceivable. What, on the doctrine of probability, are the odds that "such a world as we actually experience" should have been brought about in this way? Venn[18] says: "All the paper which the world has hitherto produced would be used up before we got far on in writing them down." Again, all is the result of law. Law, however, means only the observed sequence of given phenomena. It sets forth how things are; it has nothing to say as to why they are. In a word, law without intelligence and force behind it, and. indeed, ultimately, without God behind it, explains nothing. Once more, the persistence of force is appealed to. But neither can it help. Carried to its logical conclusion, the persistence of force reduces the universe to matter and motion. Who, however, can seriously consider himself and still think that the world comes down to this? In short, if we would think things through, we are driven to a fourth and last position; viz., the supernaturalistic one. Universal and unceasing combination brings us finally to a Supernatural Combiner. Evolution cannot be the ultimate and exclusive factor in the universe. The combination on which

[18] *Logic of Chance*, p. 3.

it depends and by means of which it operates itself presupposes at the beginning, and afterward, a Supernatural Combiner. Indeed, if evolution is to be, as we grant that it is, a factor and a constant and very important one, in the development of the universe, it cannot be, as it claims, the only factor. Creation must begin and must continue the scheme of things, and even evolution itself. This is implied in science in the term "*creative* synthesis." It appears in philosophy in Bergson's doctrine of "*creative* evolution." It is fully and accurately presented in theology in the dogma of "*creatio* mediata" or "secunda." Thus it is that the combination by which evolution would eliminate the Supernatural only makes him the more necessary.

c. The universality of individuality. This is the final and the most serious obstacle that "the theory of evolution" has to surmount; and though it could overcome all the others, this one would prove fatal. By individuality we mean[19] "that every living thing appears on careful examination to be the first and last of its identical kind. This is one of the most remarkable peculiarities of living things. . . . The individuals of biology are apparently never twice the same. . . . Every living being appears to be unique." Many other scientists would extend even such strict individuality to all things. Thus the distinguished botanist Professor York, once remarked in substance to the writer: "Not only is it true that no two leaves are alike; it is also true that no two atoms, no two electrons, are alike. Each one has an origin of its own, a character of its own, a history of its own, a destiny of its own." Indeed, the universality of individuality, as it is one of the surest, so it is probably the most tremendous of all the facts of existence. To account for anything, it demands a supernatural and, therefore, infinite being; for only such a being can create out of nothing, and individuality implies such special creation.[20] Indeed it is

[19] *Vide* Conklin: *Heredity and Environment,* p. 213.

[20] *Vide* Orr, *God's Image in Man,* p. 232 and Martensen, *Dogmatics,* pp. 141, 142.

impossible without it. A few words should make this clear. An individual cannot be simply derived from or developed out of what was or is. If it were, it would partake of the quality of that from which it was derived or developed, and this would describe it. In so far, however, as we see that it does this and is this we feel that we have not touched its individuality. We discern the latter only when we discern what we see to be underived and undeveloped. In a word, real individuality and special creation stand or fall together. Where the former is the latter must have been; and, therefore, as everything is an individual, there is a true sense in which everything, however much a development, is also a creation. In a word, everything i.e. every individuality in the stream of evolution has, in the last analysis, been injected into it; and, consequently, while evolution is a factor in the universe, and a very important one, it cannot be, as it claims, the only one. By itself it cannot explain the universality of individuality. Only the living and creating God can effect and in so far forth explain it.

VI. Two objections are sure to be brought against the argument of this paper.

1. It presupposes God throughout. On this ground the scientist will turn his back on it. He may neither deny nor ignore the Supernatural, but he insists on restricting himself to the natural. In this, however, is he truly scientific? Is not the real distinction between science and philosophy, not that the former treats of facts as to the natural and the latter of those as to the Supernatural; but that science confines itself to facts whether natural or supernatural, whereas philosophy discusses the many questions which emerge in their explanation?

Nor may it be further objected that for purposes of study the natural may properly be set aside from the Supernatural just as one science may be set aside from the others. This might be, were it not that the facts of nature are so vitally related to the Supernatural that they cannot be fairly

considered out of relation to Him any more than one science can be presented in absolute isolation from the other sciences. Facts cannot be studied justly in independence of the great fact which both constitutes and supports them. Now that fact is God.

2. The argument rests ultimately on metaphysics. This is true. But can it be avoided? Someone has well said: "Do away with metaphysics and you do away with God." The "first and fundamental truths" which we call metaphysics are the laws of His being as well as of His world. Set them aside, therefore, or even decline to recognize them, and you deny him. Moreover, if we could cut loose from metaphysics, would there be any advantage in doing so? The great questions at issue are ultimately metaphysical ones. The validity of teleology, the reality of individuality, we at once recognize these as determining inquiries in "the theory of evolution"; and do they not bring us immediately to the heart of metaphysics? Nor is this merely our judgment. One of the strongest books from the standpoint of advanced evolution of the last ten years is "The First Principles of Evolution" by S. Herbert, M.D. (Vienna, M.R.-C.S. (Engl.) L.R.C.P. (Lond.), author of the "First Principles of Heredity." The closing words of his long and elaborate discussion are: "It is in the field of metaphysics rather than that of biology that the riddle of evolution will have to find its final solution."[21]

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[21] *The First Principles of Evolution*, p. 318.