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A table of contents for *Bibliotheca Sacra* can be found here:

https://biblicalstudies.org.uk/articles_bib-sacra_01.php

THE
BIBLIOTHECA SACRA.

ARTICLE I.

INTUITIVE IDEAS, AND THEIR RELATION TO
KNOWLEDGE.

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THERE has been a steady and increasing tendency in modern philosophy to recognize ideas in our mental furniture not arising from experience, but necessary to it. These, whether known as convictions of common sense, as regulative, or as intuitive ideas, must always play an exceedingly important part in mental and moral philosophy. Their acceptance or rejection at once defines the radical tendencies of any system of mental science, and enables us easily to predict its leading conclusions.

In the conflict which has attended their recognition and establishment little opportunity has been offered for the careful determination of these ideas, their number, their relation to each other, and their relation to science. It is to these points that we shall direct our efforts in this Article; and, as the task is both a difficult and a broad one, we shall be pardoned if we omit altogether, or pass hastily, much that might well be said; if we treat with little discussion or exposition those ideas more generally recognized as regulative; and do not repeat and apply to succeeding ideas proof of the same general character as that given

under preceding ones. We shall also be pardoned if our success in enumerating and defining these intuitions of the reason is but partial.

It would certainly be simpler to refer all our knowledge to experience and reflection than to assign a portion of it to the intuitive power of the reason. But this cannot be done, as there are ideas, and those everywhere present, which find no explanation in perception, nor in the judgments which spring therefrom; ideas which are presupposed by all experience, and without one or other of which no single assertion can be made; ideas which are necessarily present, and bear with them, therefore, a sense of necessity totally different from the contingent notions given by experience. For these three reasons we are forced to the recognition of a distinct intuitive faculty: first, because there are present to the mind certain ideas which are not perceptions nor the generalizations of reflection; second, these ideas are necessarily prior to experience, since no one of its judgments can exist without them; and third, they come to the mind with an impression of immediate and inherent necessity not found in its other convictions.

As first among these ideas, we shall mention that of existence. There is no judgment more naked, simple, and fundamental than this of existence. All later judgments proceed upon and contain it. That something is, either as an object of sensation or apprehension, either in permanence or in transition, is the incipient, the anticipatory idea, which brings all matter before the mind.

The first and the least object in any external or internal sense, in sensation or in consciousness, gives occasion for a judgment. Of any quality, as hardness, color, odor, we may say, It is. In this judgment we have two ideas, yet the mind has received but one through perception. It itself has supplied a second, and of the two framed a judgment. We have thus the first product of thought, a phenomenon included under its appropriate idea. Existence is a primary, simple, and inevitable notion, but by no means a

sensation. All sensations might be enjoyed or suffered without the mental exposition of any one of them in the assertion, *This quality is*. Herein the mind finds the external, the not-self; herein it finds itself, and goes on to accumulate all those phenomena which it is afterwards to investigate. It thus makes the fundamental proposition of all inquiry, *Something is*, and prepares the way for the later inquiries, *What is it?* and *How is it?* The notion of existence is as complete as it is instantaneous. We may inquire into the object of which the affirmation has been made, and enlarge our ideas concerning it, but in the end there is no more fulness to the idea of existence than when at the outset we said, *It is*.

A second notion by which the mind guides its inquiries concerning things now, by the idea of existence brought before it, is that of resemblance, — agreement and disagreement. This is applicable to all the properties, relations, and modes of being which belong to things, and rules the mind in marking every shade of agreement from perfect sameness to complete diversity. The idea of likeness or unlikeness is not gained by the comparison of two objects. The comparison only serves to show how far this idea is applicable, but would itself never have been instituted without the prior notion of resemblance, nor, if instituted, could have issued in a new idea alien to the mind's previous action. How is comparison to proceed which has not the idea of resemblance to guide it? What is comparison but the application of this idea? How is a process which has nowhere contained it suddenly to result in it? General notions are not thought out, for how is that thinking itself to advance which produces them? They are not seen or felt, for they are not sensible qualities. They are present as intuitive ideas to give form to the mind's first judgments on their appropriate subject-matter. The determination of the sameness or diversity of the phenomena before the mind is a first effort for their apprehension. They may be experienced without apprehension, but the instant this is

sought for the mind brings to the task this idea of resemblance; by it separates these objects of the senses and thoughts, throws them into classes, and makes them the sources of knowledge.

Under the idea of resemblance is included that of truth. Truth belongs to propositions, and to these alone. An affirmation which corresponds with facts is true. The mind judges the agreement of the idea contained in a proposition with its own idea of what exists either as thing or principle in the world, and, according to the harmony or want of harmony, regards the statement as true or false. Truth is thus an agreement of ideas; the one contained in language, the other in existence, and a true proposition is one in which this conformity of assertion with fact is found. Of the specific agreement, truth, the mind judges under its general notion, resemblance.

A third idea of the reason which comes as a law to perception and to the subject-matter of thought, so far as derived from perception, is space. Space is a notion restricted to material existence. Indeed, that it is force, perceptible force, occupying space, is an essential characteristic of matter as opposed to mind. Only through such a force does matter become cognizable, sensible. Localized in its first manifestation to the senses, it remains to all later perception occupying space; ceasing to do this, it ceases to exist. Existence and non-existence are for it but appearance and disappearance in the field of space. This idea, then, is regulative of perception, and of thought only as it is conditioned to perception. We need not dwell on this notion. It is among the most universally accepted of the intuitive ideas. Much has been affirmed of space, as its indivisibility, which is only true of it when combined with another intuitive idea, that of the infinite. Simple, indefinite space, as a notion, is prior and necessary to all definite knowledge of limited portions of it termed extension. Only with this guiding notion can the mind run before and direct its perceptions in their measurements, or understand those

results which presuppose this idea. The extended body is first comprehended by the notion of space, and then its dimensions are taken, as events are first conceived in time, and afterward their period and duration defined. An inch, a foot, a yard, presuppose more than an inch, a foot, a yard,— a space wherein they lie, and without which they cannot be present to the mind. We do not deny the perception of the inch,— the inch-long body,— but of the space beyond the inch, wherein it is held and whereby it is explained.

Fourth among the ideas which regulate apprehension, and intimately associated with that of space, is number. This involves two subsidiary ideas, unity and plurality. These are not distinct conceptions, but different phases of the same idea, number. The first form in which this presents itself is that of unity. The mind regards an object as one, and in that act not only reaches unity, but also sets it over against that plurality which it explains, and by which it is explained. • These two ideas, applied in the apprehension of objects, contain the full idea of number, and under this developed category of thought the mind proceeds in a large class of judgments.

The mind establishes its divisions on a great variety of principles, but whatever it has once separated in perception or in thought, thereby comes under the idea of number, let the character of the unit be what it will.

A fifth idea, inclusive of a new class of phenomena, is that of time. This is to successive what space is to co-existent phenomena; yet, more inclusive than the latter, it is equally applicable to the external and the internal. That which exists as matter establishes itself to the senses through space occupied; that which modifies its mode of existence explains itself to the mind through time occupied. Change marks a transfer in time, and is only possible in conception through the prior notion of time. Change presents itself through the succession of mental states. In the departure of any sensation or thought there is present the explanatory

idea of time ; a past moment bearing away the receding thought, a present moment bringing the new idea.

The same change which involves the notion of time also brings to light, in its explanation, the sixth regulative notion, that of cause. Change presents itself to the mind as the product or manifestation of a force. There is an inevitable reference of that which arises to some efficiency from which it has arisen. Change is the result, the proof of power, and power cannot spring from a void. The mind does not, cannot so conceive it ; but is ever seeking to explain it under the category of cause. The world is not comprehensible as a series of unconnected phenomena, with no other relation than that of succession. Such a supposition at once sweeps away a whole class of inevitable and pregnant judgments, and by so much destroys knowledge, invalidating the idea on which it proceeds.

It is involved in this notion of cause that the cause and effect are perfectly commensurate, each defining and measuring the other. Any unlikeness or disparity between them is apparent, not real, arising from our ignorance of the nature of one or both. Any inadequacy in the cause to secure the entire effect, in kind and degree, would leave the mind burdened with the same difficulty as that which compelled it in the first instance to assign to every effect a cause. It is not merely a cause, but an adequate cause, which the mind demands. Any, the least, balance in the effect beyond the cause is an absurdity. The determinate, fixed character of causes, both in the nature and amount of their action, is the essential idea for all reasoning in this department. Gradually to narrow down the causes of the most varied and manifold effects, as some development theories do, into a few simple, physical, or perchance vital, forces is in defiance of the very idea which enables us to reason at all concerning physical connections. It is not more absurd to deny a cause of given effects than to deny an adequate cause ; nor can any period of time serve to develop a germ beyond its first, its intrinsic force.

As efficiencies and effects, weighed each with each, are exact counterparts, and as the latter are frequently visible while the former are uniformly invisible, we estimate the force by its manifested results. As each effect is in turn a cause, it might seem that, if it were open to the senses in one relation, it would also be in the other. This is not so. A ball suffers a blow, and is thereby made the recipient of a force. Its subsequent motion reveals the extent and character of this force, but the power by which it can now become a cause, and impart a kindred movement, is no more open to observation than before. If a series of balls are in contact, they successively become mediums of force with no opportunity of judging that force till the last of the series manifests it in motion. The mind weighs the effect as the exact equivalent of the cause. This is the very substance of the idea, that which makes it regulative of judgments.

These six ideas — existence and resemblance, space and number, time and cause — rule matter; assigning form to all material judgments. We thus determine that a thing is what it is, where and when it is, and its relations to the objects about it, thus exhausting every internal and external predication concerning it. The ideas here coupled are intimately related. Existence finds its chief significance in its resemblances; space, in its numerical relations; time, in its sequences of cause and effect. The first two assign the definite fact and character of existence; the second couplet gives the most abstract and unconditioned relation of things; and the third furnishes the law of all movement, of all change.

It may be thought that we should add a seventh regulative idea, the common category of relation. We have not done so, because we regard it as a generalization, the abstract expression for various specific dependencies. Color is not a regulative idea, but a quality abstracted from any and all of its specific forms. Specific relations are involved in the idea of cause and effect, time, space, resemblance;

or rather, these all may serve to establish each its own connection between objects, and therefore the notion of relation may be generalized from them. If it be said that number and existence are also involved in the notions of cause, time, resemblance, and should therefore be treated as generalizations, not as regulative ideas, we answer: they are indeed present, but as antecedent, necessary ideas for the apprehension of the phenomena under consideration. We first apply the notion of existence as preparatory to that of resemblance; but we do not first observe a specific resemblance, and then generalize the notion of existence involved therein. Cause and effect, however, as a specific relation can be understood without any prior general idea of relation, as red can be seen without an antecedent notion of color. From specific connections we reach the general notion of relation which they have in common, but only with the complete idea of number can we comprehend its first application. Relation is ever covering very different connections; number, existence, are always identical ideas. They are as completely contained in each as in all of the phenomena to which they apply.

The intuitions of which mention has now been made are all applicable, though not exclusively, to things, to perception; but those of which it remains to speak are the formative ideas of thought alone.

The first condition of thought, of intellectual action, is consciousness. We cannot conceive thought or feeling in any of their forms without this regulative idea. Thought, of necessity, arises in consciousness, as much as things in space, or events in time. This consciousness is not itself an action, but that in which the mind apprehends all its action. Spiritual existence is separated from physical in the fact that consciousness is the regulative idea of the one, and space of the other. The difficulty that has always been met with in defining consciousness confirms this view. Consciousness is involved in the very nature of all thought, is that without which it cannot be. It is not a faculty, nor

the action of a faculty, but an antecedent idea which alone makes knowledge possible, or the fact of knowing comprehensible.

We know not that consciousness has ever been looked on as a regulative idea, and many may even consider its reference to these intuitive conditions of thought ridiculous. More consequences flow from it than we can here stop to point out, and more objections will arise to it than we shall pause to answer. We shall be satisfied for the present if we can give reasons sufficient to secure for this reference consideration. The mind cannot know without knowing, nor feel without feeling, which means that consciousness must accompany its acts. Now the very knowing is not consciousness, nor the very feeling consciousness, yet neither the knowing nor the feeling can exist without it. This is the condition of those without which they cannot be, yet it passes beyond them through successive acts of knowing and of feeling, standing in the same necessary relation to all, and unexhausted and unaffected by any.

Nothing can exist without some form of phenomena cognizable by some actual or supposable powers. Such existence would utterly lack proof, and be equivalent to non-existence. Matter establishes its existence by special phenomena. If it ceases to occasion phenomena of any character at any point whatever in space, it ceases to exist. Mind, on the other hand, proves its existence as mind by acts of mind; that is, acts appearing in consciousness. The rise, progress, and pause of intellectual action are wholly in this field. To occupy space with sensible properties is the proof and the very nature of material existence; to occupy consciousness with mental acts is as much the proof and nature of spiritual existence. The conscious life of the spirit is its life, its only life. If no phenomena appear in consciousness, there is no testified, spiritual existence; and a spiritual life which in no way manifests itself is as inconceivable as matter with no property whatsoever. If an unconscious, that is an untestified, spiritual existence is

possible, the beginning and end of spiritual life become chimeras, utterly incapable of determination by any set of cognitions, since the mind may remain unknown to itself, much more to others. Such a soul might pass an eternity in complete syncope. The question is not whether the spirit can lay aside this or that form of action, but whether it can lay aside all forms of action. Suppose this to be done, and the spirit yet to exist; that existence must have a form, — as there must be a method, a manner, to everything that is, — and consciousness having now disappeared, no form remains but that of sensible properties; yet this form excludes it from the spiritual and identifies it with the material. In short, the only manifestations of spirit are mental states; these therefore cannot be wholly excluded and their spiritual subject yet remain, though devoid of all attributes. This is to suppose existence itself an entity. Nor does it follow thence that the spirit is a mere series of conscious acts, any more than that the apple or marble is a simple series of sensible properties.

Consciousness, then, is the regulative idea of spiritual existence. It is the very nature of thought and feeling that they can only take place in the conscious life of a spirit that thinks, and therein knows what it thinks.

We of course distinguish in this discussion between that consciousness which at the instant attends all knowing and those acts of memory and attention by which we retain and consider the phenomena of mind.

The second intuition we mention in this second class is beauty. Beauty is not a sensation, an organic impression, nor yet the result of reasoning, but a simple, primary idea. It is not, like the notions of space, existence, called forth by the mere presence of an object, and affirmed as the very condition of that presence. It is only as certain relations of the object, interior or exterior, are apprehended, that the mind judges it beautiful. It is a quality, not of matter, but of the forms and relations of matter. An intellection — that is, an object interpreted by the intellect — must pre-

cede every intuition of beauty. Only as thought is contained in objects do they become beautiful, and only as this emotional thought is regarded by the beholder as an intellection are they pronounced beautiful. Beauty, then, is a regulative idea, not directly of things, but of them indirectly in the relations in which they stand — in the sentiments which they utter. The marks, the results, of emotional thinking appear in the structure of objects about us, and thence springs the category of beauty. This idea, therefore, may arise at different periods in different minds, according to the antecedent progress which prepares for and requires it.

So is it with the third intuition, right. Actions are not right to the senses. Only when apprehended in their relations and results by the intellect do they give occasion for this judgment.

This notion governs action; but it governs it by giving a law to thought. The mind finds an imperative within itself by which it is constrained to some actions and restrained from others. Plans, conceptions, as they arise within the thoughts, are judged, and before they issue in action have the approval or disapproval of the moral sense. The very notion of right involves that of obligation. There is in it no reference to a higher authority or ulterior reason. The duty it affirms it arms with full authority, and gives to disobedience a rebuke it cannot evade. This is the nature of the idea, otherwise it is not a primary idea, but referable to that ulterior notion from which it derives its power. To seek back of this idea for its authority is to destroy its integrity and simplicity. It thus ceases to be a regulative notion.

As much effort is still made to reject right as a primary idea, we dwell for a moment on the proof. Says a popular and widely-accepted writer on ethics: "Conscience is that function of the moral reason by which it affirms obligation to choose primarily the good, and secondarily the right, from its apprehended relation to that." The theory pro-

posed in the work from which this extract is taken is but another phase of that which makes happiness ultimate, since blessedness itself is but a peculiar variety of happiness,—is holy happiness. We are to seek holy happiness. Why this form of happiness more than any other? Because it is holy happiness. But what is it, peculiar to holy happiness, which makes it obligatory? What answer can be given but this: It arises from doing right. The obligatory character, then, of this form of happiness as contrasted with others is obtained from the right, and is a consequence of it. Hence blessedness, the alleged ultimate, no longer remains so, but gives place to the right, the real source of obligation.

Or, again, how can the right afford happiness, if not itself obligatory? If it defines no line of action there can be no approval, no satisfaction, in accepting it, since, according to the supposition, there is no duty to accept it. If there is no law, there is no obedience, no reward, no blessedness. The sense of right is not a taste or an appetite that can be fed on its object, and thus impart pleasure. Grant that a larger share of other independent enjoyments may be reached through obedience to the right; that fact merely does not impose obligation. If so, then the pursuit of happiness is of itself obligatory, and we stand on the oft-repeated doctrine that enjoyment alone is the ultimate motive of action. The right thus sinks into mere sagacity, and, as a distinctive idea, is lost in the explanation we have brought to it. The word "blessedness" does not aid the theory, since the instant it is sought hereon to rest a peculiar claim, the discarded idea of an ultimate right must reappear to support it.

Nor is there any opportunity to unite the idea of right and the pleasure springing therefrom, and make them the conjoint sources of authority. No conceptions are more readily distinguishable than right and its consequences, and if either is the source of obligation, it makes the supposition of a second imperative lodged in the other super-

fluous. If the consequences of the right act reflexively on it to impart obligation, that is sufficient; or if the right by its own nature imposes duty, this is equally sufficient. We may try to extract the obligation of right from the enjoyment it confers, or we may explain the enjoyment by the prior duty met; but we have no occasion for any union of the two methods. The only synthesis of the cart and the horse is to have the one before the other, whichever way we may insist on arranging them.

The fourth intuition by which our judgments are controlled is that of liberty. This combined with the notion of right gives rise to responsibility; or more accurately, freedom is the condition which, giving play to the right, suffers it to be obligatory. These two ideas, therefore, are regulative of the larger share of judgments which pertain to rational moral action, and give it its essential characteristics. There is no primary idea which demands more careful protection from false analysis and destructive explanation than this of liberty. The sequence of motives and volitions is somewhat allied to that of cause and effect, and the external world in its necessary connections has been a prolific source of analogies subversive of freedom. Indeed, the very language of controversy, tintured throughout by physical notions, has often begged the point at issue. Force, influence, connection, dependence, are all words explained by physical relations, and when applied to motives and volitions must be utterly severed from the ideas which gave rise to them; or, as already involving necessity, they compel us to reach it as the result of faithful analysis. If freedom is, it is perfectly unique, and so must the words be in their application which are to deal with it and unfold it. Standing alone amid necessary relations and fast-bound things, we cannot reason from these up to it, nor from it descend to them, otherwise than by departure and difference. It is our first question, Whether there is any such thing, any such notion, as liberty? and not, Whether there *can* be such a notion, explicable and comprehensible on

previous grounds? From the very nature of the idea, it refuses explanation, rejects comprehension under logical necessary formulae. To force these explanations upon it, is to pre-affirm that there is no such idea. For the naked fact of its existence we must take appeal to the universal language, judgments, and actions of men, even to those very philosophical discussions which have striven to destroy it. The obstinacy with which the notion of liberty returns again and again for consideration, after all destructive analysis, shows the original, native character of the idea.

A further intuition, qualifying the mind for apprehension, is that of the infinite. This is not to be confounded with the indefinite. Many things are to the mind indefinitely small, or indefinitely great, beyond its measurement; they do not thereby become infinite. The universe, in the number of its suns and satellites, may utterly elude the mind's grasp, and yet remain as strictly finite as if composed of a single system. Space, on the other hand, in which the universe is contained, from the nature of the idea, eludes, not merely actual measurement, but the very notion of bounds and limits. The indefinite arises from the embarrassed action of the mind, its inability to apply its numerical measurements, and bring its processes to a precise conclusion. The mind soon begins to waver in its conception as the variety and number of the objects presented increase, and, though seemingly borne a long way on by numbers, it is yet reminded how indefinite is the idea back of these abstract symbols. When at length these fail it, confused by unmeasured magnitude, there is left the impression of an object indefinable in its greatness. There is nothing to preclude its division or multiplication; but, in either case, it is equally beyond the mind's grasp.

This confusion of the mind's action occurs in the handling of indefinitely small as of indefinitely large objects. There is no assignable limit to subdivision. A point without breadth can impart no breadth by its multiplication; but a point of any conceivable breadth may be subdivided, as the

mind knows no limit to this process any more than to the reverse one of multiplication. Thus by the indefinite application of these two processes, to which all material existence is subject, there arise, above and below, evanishing points, beyond which the mind can no longer distinctly manage its own action, or handle the subject-matter. These points of vague apprehension, attended as they are with the conviction that the same steps by which we reach them should bear us further, arise as the unavoidable limits of restricted mental vision. The sight of the eye cannot start from the centre of its own retina, nor yet pass the misty horizon. Only intermediate spaces are traversed by it. Even so low a sense as that of smell handles matter, so to speak, in a more subtile form than can the mind. Instruments reach an estimate so nice as to elude the conception and make the senses waver. That we cannot reach the atom which God actually takes in making a universe, arises merely from feebleness of perception.

The infinite, on the other hand, is a wholly separate idea, set over against the finite, whether definite or indefinite, measured or unmeasured, and is reached at once, aside from all aggregation. The infinite is incapable of increase or diminution, equally beyond division or duplication. Space cannot be bisected. Extend the dividing plane as you will, it must lie wholly within space. It is without a periphery, without a centre, without relation of parts. Absolutely homogeneous and unlimited, it cannot be made the object of any discriminating, separating assertion. We can subtract nothing from it, as this process would suppose it capable of diminution, and open to a remainder. Remaining void of things, it is a void to thought. All our affirmations must pertain to centres or to limits established within it by creation or by thought. The notion of the infinite often first arises in connection with space; here is one of its earlier applications. The consideration of the universe forces the conception on the mind; but it may spring up at any moment in connection with most finite objects.

The instant the mind seeks a judgment, an explanation under this category, the appropriate regulative idea is present.

The notion of the infinite also accompanies that of time. Time forever anticipates the event, anticipates the thought. Push backward or forward, as we will, we approach no barrier. The idea, indeed, here receives a new modification. It is reached in regression and progression alone, for these are the only directions in which time, from its very nature, suffers the application. Time is sometimes said to be bisected by each moment, divided into two parts, each infinite. This use of the term is not correct. The infinite involves the removal of bounds not in one direction, but in all directions in which the subject under consideration is capable of receiving them. Time future and time past are not infinite. Each starts from a bound, and though it runs to no farther goal, it yields but one of the needed constituents of the strictly infinite.

Infinite power includes every degree and variety of power, not that all measurable degrees and varieties exhaust the infinite, but that all lie within it. Many things are not subjects of power. Whether infinite or finite, it has no relation to them. A test irrelevant to the idea is involved in the demand that infinite power shall modify either the axioms of mathematics or morals. These arise under independent ideas, which condition all the manifestations of power, themselves unconditioned.

The idea of the infinite as applied to power includes that of the absolute. Infinite power is unrestricted power. Power in the material world is restricted in two directions, by that on which it acts, by that from which it is received. It is single in kind, finite in degree, and affected by the reaction of that which suffers it. Infinite power, on the other hand, remains unexhausted, unmodified by any form of action, and is conditioned to no particular effect. It is absolved from all dependence, and equally from all reaction. Infinite power comes forth from nothing earlier or fuller

than itself; gives rise to nothing which can displace or diminish itself. It is the compass of all things; allows nothing behind, before, aside from itself in any way to modify its action. The infinite, thus receiving no action, and suffering no reaction, is the absolute.

A cause and a first cause are notions quite distinct. The one cannot be reached through the other. The second overlooks the essential idea of the first. A cause is also an effect implying the existence of a prior cause. It is a link in a chain, and that an endless chain, till some other notion intervenes to sever and terminate it. A cause is of necessity finite as it follows a prior cause, and gives way to a subsequent effect. A first cause, on the other hand, must be infinite. If finite, it is dependent, and no first cause. If it is a first cause, it is independent, absolute, infinite. A first cause is an unfortunate expression. On neither side is there any analogy between it and a cause. It is no more conditioned to a consequent than to an antecedent. It is wholly a distinct idea involved in that of the infinite. Forgetfulness of this often leads to a fallacious statement of the *a posteriori* argument for the existence of God. A totally unwarranted leap is made from a cause to a first cause. The one idea is made to displace the other without marking the fact or rendering a reason for it.

The notion of the infinite arises later than our other intuitive ideas, and finds its occasion in the efforts of the mind to comprehend the phenomena about it. No longer content with the details of explanation, it proposes to itself the problem of the origin and relation of all things, and therein transcends the finite, and rests in the infinite. The mind may travel a weary way through satellites, suns, and systems, but at length it transcends all, encloses all in the blank stretches of unlimited space. Thus with the forces and causes of the world, it brings them forth from, and returns them to, the infinite force of God. So, and so only, can the mind of man comprehend the universe, and rest at the goal of thought. The idea of an Infinite One is as

necessary for the comprehension of the finite workmanship about us, as is the idea of a cause for the explanation of a given effect. The mind's action is the same in kind, and equally just in transcending the finite and contained, in search of the Infinite and Uncontained, as in pressing back of each event in pursuit of a cause. The two processes are distinct, though analogous, and each valid by its own intrinsic necessity.

The infinite, from its very nature exclusive of those judgments formed under minor regulative ideas, admits but qualified, positive assertion, and is chiefly treated through negative judgments. Does it follow thence that the very idea itself is negative? and that, however constrained the mind may be to accept the notion, the whole conception is to it, not merely an inadequate, but a delusive symbol?

If the notion be simply negative, then, as a distinct intuition, it falls away and becomes merely a blank, set in thought over against the real, the finite — the empty margin wherewith we limit the page of knowledge. The idea of non-existence is the complement of the idea of existence. Neither is intelligible without the other; each is the bound of the other, and both, as implicitly contained each of each, are but counter statements under one notion.

Do the finite and the infinite stand in this relation? Is the one idea by immediate implication already in the other? Contradictories, though they may explain, do not necessarily contain each other. The notion of black is not given in that of white; nor of sour in that of sweet; nor of discord in that of harmony; nor of foul in that of fragrant.

The affirmative or negative forms of propositions do not affect the elements of which they are composed — the matter, the concepts of the thought remain the same; the predicate and subject remain identical in their constituents, the connection between them only being reversed. Every affirmative judgment implies the possibility of a corresponding negative one, at least, so far as the forms of thought are concerned. No more or different ideas are requisite

for a negative statement than for the correlative affirmative one. There is no new notion, but merely a new connection in a negative word or copulative.

Not thus is it with opposite or contradictory ideas. These are each positive and distinct, though the supplements of each other. The same sense prepares us for the perception of discord as of harmony; yet it might stop short with either of them, and the other remain a distinct sensation to be experienced when the one has been given. Thus is it with the contradictory ideas of vice and virtue. The same intuition renders them both, and one quickly follows the other, but is not its mere negation. An act that is not vicious is not therefore virtuous; nor an act that wants virtue of necessity vicious. Because two ideas exclude each other in express contradiction, it does not follow that one is the mere absence of the other.

Negative prefixes often express much more than simple denial. In the word "non-existence" we have a purely negative concept. By its application the thought is vacated; the notion of existence previously attached to some object is removed. This is all that a strictly negative judgment can do. It puts nothing in the place of the cancelled conception, and leaves the mind occupied only with a naked denial. Many negative concepts do much more than this. The words "unholy," "unmerciful," "impure," convey positive notions, though under a negative expression.

Nor is this less true when the affirmative and negative expressions divide between them all objects to which they apply. Material and immaterial are words of this kind; they are equivalent to material and spiritual. The word immateriality, as much implies the presence of spirituality, as the absence of corporeity. So also is it, in the reverse form, with the word "inanimate." It is not, therefore, to be concluded from the negative form of a word that the concept it covers is not positive.

These remarks are applicable to the words "finite" and "infinite," terms expressive of distinct contradictory ideas.

A denial of all finite forms of existence, serves merely to sweep these away, and puts nothing in their place. No new idea is in this way reached; we have simply set over against existence, non-existence; a negation of precisely the same breadth as the previous existence.

If we take the term "finite" as already established in the mind, it may be said that this involves the infinite. Equally does the infinite include the finite. In the genesis of ideas, there is nothing in the nature of the case which makes either of these ideas the necessary antecedent of the other. As correlatives, they lie co-ordinate in the mind,—they indifferently give rise the one to the other. Right and wrong, father and son, cause and effect, are examples of correlative yet distinct ideas. Either conception expressed in these couplets being present, the occasion and limitation of its fellow are also present. We know a thing as finite because we are capable of the idea of the infinite, as we entertain the notion of effect through our idea of cause. Finite things may be apprehended without recognizing them as finite, and to do this implies a mind therein open to the supplementary notion of the infinite.

The infinite is not so much opposed to any one finite thing as to the sum of all finite things—the finite, and this finite the mind has never by observation or exhaustive conception taken in. It has reached it, as it has reached the infinite, at a leap. Some things definite, many more indefinite, and the whole indefinitely large, is all that experience can give. But this indefiniteness in which the labor of observation is lost, swallowed up, is not to be confounded with the infinite, but is only the unmeasured element contained in the finite, the field of experience. The finite and infinite, as true correlative ideas, exist in the mind as notions contradictory, but equally positive and real, reached by an immediate, an intuitive power. We might as well derive the notion of wrong from an observation of facts, and make the right its negation, as to abstract finiteness from finite things, and make the infinite its denial. In each

case the two correlative ideas stand forth together in the same light.

The ground now passed over is this: Simple negation merely removes the notion present; negative concepts are frequently affirmative in matter; contradictory and correlative ideas are more than the negation one of the other, each is equally positive, and neither is independent; the finite and the infinite are correlatives each involving the other, and neither reached by observation; the definite and the indefinite alone are the products of experience; the finite and the infinite are the results of intuition.

That the infinite is a positive, though inexplicable notion, is also shown in the very manner in which we deny of it exposition. The finite and the not-finite do not simply mean the finite and vacuity, nonentity, but the finite and the only remaining form of existence, the infinite. If the infinite, the not-finite, were mere vacuity, the idea would be just as plain and explicable as that of the existing finite. A negative predication would as fully compass the one thought as a positive the other. Non-existence is surely as intelligible as existence, nothing as comprehensible as something, and if the idea of the infinite were allied to these, all difficulties would disappear. When, however, we deny all finite relations of the infinite, we do it, not as compassing the idea by these negatives, but as excluding that which is impertinent and contradictory; the notion itself is still left unsearched out. If, however, we have no idea of the infinite, how can this be? How can we deny anything of it? Our denials are not those of non-existence. They must, therefore, be those of non-agreement; but these can not be made without some notion of that to which they appertain. In disclaiming an attribute or concomitant we imply some knowledge of that to which it is affirmed to be irrelevant. If, then, the infinite is a mystery, it is therein more than a negation, and if a positive idea, we can deny nothing of it without some intuition of its nature.

Nor should this relation of our intuitions to our other

forms of knowledge any longer perplex us, since it again and again recurs, and we successively establish these notions by denying of them the explanations so assiduously forced upon them.

It is not true that no affirmative statements can be made of the infinite. It is nearer the truth that no other idea will receive and respond to so much investigation; suffer without exhaustion so much explanation. No judgment can, indeed, stretch entirely across the infinite, or perfectly expound it, in any direction whatsoever; but this does not prevent the notion becoming fuller, ampler, more profound, every day, as our knowledge expands within it.

If the mind were really unable to know of the infinite, to form in this direction positive and instructive, though restricted ideas, it would be in vain that the fulness of infinite attributes, that God, should be revealed either in work or word. Revelation would be completely and hopelessly impossible, since neither the whole nor any part of that whole could be given. It serves no purpose to urge that all representations of God are admittedly anthropomorphic. On this supposition of the unintelligibility of the infinite, they are not only insufficient and partial in form, they are false in essence: they convey no truth, and open up no path of light. They are not great truths partially stated, but notions whose confusion alone disguises to man's weak eye their falseness.

Equally invalid is the position of those who urge that our symbols of the infinite are all illusory, and yet that we are compelled ever to shift, to correct, enlarge, and deepen them. Whence this compulsion? We cannot discover the fallacy or partiality of a notion, back of which there is no fact or knowledge whatever. It matters not what may be the poetic idea of a fawn or of a griffin. There is no reason why it should be changed, since it is a fictitious, arbitrary idea, and therefore suffers no modification by any investigation or progress of thought. If man's idea of the infinite — substituting for the abstract quality its great embodiment

—casts off successively this and that statement as too partial, in this there is revealed a guiding knowledge under which the process goes on. Fancies, aside from all principle, suffer no such growth, much less compel it.

Why is any symbol of the absolute deemed false? why are successive conceptions exploded with much subtilty of reasoning, if after all there is no positive notion of the absolute? Such a fact would render this criticism not merely invalid, but absurd. We cannot expose a given idea of the infinite as invalid, and at the same time say that we have no idea of the infinite, any more than we can affirm in the same breath this is not a just notion of a griffin; there is no notion of a griffin. The destructive, not less than the creative, movement involves the validity of the idea.

Nor do we escape by making the infinite the object of faith simply. There is no province of faith removed in its objects wholly beyond apprehension. This in some measure must precede belief. Our intuitions must furnish faith an object, otherwise it finds nothing on which to lean. Faith is, indeed, broader than explanation, since all objects of intuition do not admit of logical development; yet it is not, therefore, broader than apprehension, than proof, than that for whose existence and character we have the legitimate and established testimony of our faculties. Faith does not blindly dredge for its objects at invisible depths, able with irrational instinct to anticipate the mind, and dispense with its light. If the infinite is lost to the reason, it is lost to faith also. We can have no revelation, either natural or supernatural, since we have now no power to receive it, and not being intellectually received it cannot be religiously rested on. We cannot believe on Him of whom we have not heard.

Revelation presupposes the possibility of at least a modified presentation and apprehension of God and his attributes. Without this it is a nullity as much to the heart of man as to his intellect. It deludes with unsubstantial types and visionary symbols. Revelation and nature alike antic-

ipate and prepare the way for an inquiry into the infinite, and therefore presuppose it to be valid. This search must, indeed, be subject to the limitation of all reasoning. The logical expansion of one element must not be suffered to overpass the bounds of another. The regulative idea under which the inquiry proceeds must remain entire, sheltered from a ruthless and blind logic, ever struggling to transcend its own conditions.

It may be said, if it is granted that there can be no revelation without a valid idea of the infinite, we do not by this necessity show the idea to be possible. Is there not, however, proof of the presence of the idea in the fact that, when men have, as they imagine, logically banished it, they seek instantly to restore it. Chase the notion as often and as far as you will, it instantly returns, and the discussion reopens to-morrow with all the zest of to-day. Herein is seen the necessary and universal character of the idea, that seven times confuted, it is unconfuted still. So was it with right and liberty. The pertinacity of ideas which criticism presupposes, and destroys only to restore, shows that they have the criteria of rational intuitions, and stand attested in the rank of essential truths. It is the gleam we have caught of their real nature which gives them this power.

The criticism which annuls the idea of the infinite, overlooks its very nature,—that it cannot be expounded within relations, as those of space or time, beyond and above which it was in the beginning placed. The notion of the absolute cannot afterward be embarrassed by the dependencies of cause and effect, since confessedly it is beyond these. Our philosophy, no less than our religion, has accepted the fact, that there is no likeness of God in the heaven above, or the earth beneath, or the waters under the earth. Let it not, therefore, forget this concession, and struggle to unfold a truly transcendent idea under the necessary and limited relations imposed by the ideas of time, space, cause, or finite things.

But it is said, admittedly, then you cannot conceive the

Infinite, cannot know Him. We cannot conceive Him, we can know Him. The two words carefully employed are not co-extensive. The one implies explanation, construction; the other may mean simple apprehension, naked intuition. This direct knowing, independent of all exposition is the knowledge claimed of the Infinite. It is no refutation to affirm that He is not known logically in relations and resemblances, for this is not asserted. The denial must go further, and show that we have no inexplicable, intuitive ideas, or, at least, that this is not one of them. The word "force" brings a notion to the mind which it is impossible to conceive, to imagine, and, in this limited sense, to know. To deny in all such cases knowledge, any valid knowing, throws us at once back on a new philosophy, and sets aside the highest faculty in our triple intellectual constitution.

Cut off from a conception of God, are we cut off from an increasing knowledge of God? We answer, No. We may expand and multiply the attributes bound up in the Infinite, while at the same time we remove the restrictions, the dependences, the finite forms of each of them. Investigation thus enlarges without destroying our idea. While the infinite rejects the finite, brought forward as a measure, it contains it as a fact. Infinite space not only lies about, but stretches through, the universe, and in the magnitude of thought grows with our knowledge of the latter. Infinite power is inclusive of all forms and degrees of finite power, as infinite goodness contains in its full span all human virtue. While a part does not contain the whole, nor a limited section express the curve, they each labor on, under and toward the complete idea, and are only occasions of error when we expound the whole by them. The infinite is the inexhaustible field of thought, the ultimate comprehending idea, itself incapable of comprehension. On this condition alone does it perform its office, that we know of it as certainly as we know it not,—that we know all as within it, nothing as measuring it.

That the reason gives us positive yet inexplicable ideas

may also be urged from the difficulties which spring from every other statement. If we claim that all knowledge is subject to the laws of logical comprehension, that there is nothing in consciousness which is not there to be apprehended, through distinction, relation, succession, there remains to us but one of two alternatives. We may strive to think of the infinite as subject to these conditions, and thereby cancel the notion; or we may deny that the infinite is a subject of knowledge, and thus reach the same result.

Having done this, we shall endeavor in vain to regain our ground through faith. Nothing must remain nothing, for the one set of faculties as much as for the other; or we must impart to feeling the power of perceiving, and thus open up a new intellectual department. Says an eminent author, struggling with these difficulties: "The contradiction which is utterly inexplicable on the ground that the infinite is a positive object of human thought, is at once accounted for when it is regarded as the mere negation of thought." Again: "The infinite from a human point of view is merely a name for the absence of those conditions under which thought is possible." Yet, before the lecture in which these passages are contained is completed, he is constrained to affirm: "It is our duty to believe that God is infinite." Can this be our duty, if the only idea we attach to the word "infinite" is negative, absence, nothingness? Philosophy has suffered much embarrassment from supposed axioms too quickly taken. We cannot grant the postulate, that all apprehension is logical in its form. The word "omnipresence" is not a blank, a mere idle counter, though in striving to expound the idea, we find it an enigma, fruitful of contradictions.

The perplexities which skirt the margin of thought, hemming it in with impassable shore-lines, have been supposed to arise from the subjective laws of mind, from forms of thinking more limited than the objective matter of thought. The mind is thus regarded as trammled by its own inherent limitations, as reaching outlooks over ground not

its own, through its straitened forms of comprehension. This insolubility seems rather to arise from the nature of things. So far as explanation is applicable, it may, and does, slowly proceed. There is no barrier cutting off comprehensible matter from logical solution. So far as we know at all, we know truly. Our faculties render things as they are, logical or extra-logical, conceivable or apprehensible, and there is a distinction in faculties because there is a prior distinction in the matter furnished to their action.

The idea of the infinite, then, though positive and inclusive, does not admit of that complete and comprehensive statement which constitutes science. We cannot find out the Almighty to perfection. The formula for our best assertion here is: This and something more. He who at last eliminates the unknown element from the equation, fails in the very fulness of his labor, banishes the idea whose measure he has striven to take, and becomes the victim of his too bold and eager thought.

The idea conditional of mental existence is consciousness; those ideas conditional of mental action are beauty, right, and liberty; while the notion inclusive of all things, bringing its explanation to all, is that of the infinite.

We here close the list of regulative ideas. We have discussed them with large and unwilling omissions, and consequently with a fulness at single points that may seem disproportionate. It remains to point out their relation to knowledge.

Some of the intuitions themselves suffer such expansion, can by definitions and axioms be so deductively unfolded, as to be the sources of sciences strictly demonstrative. Geometry and logic afford the best illustrations. These sciences arise under the notions of space and agreement respectively, and independently of experience furnish a series of conclusions involved in the very nature of the premises. Here are found our most complete and peculiar forms of knowledge, giving most exclusive and unrestricted

play to our logical faculties, and least of all casting light on the methods of inquiry in other departments.

The presence and action of thought in matter alone renders it the subject of thought, apprehensible by mind, inviting and rewarding study. Mere physical existence under certain phenomena may furnish material for sensation, while the notions of existence, space, and consciousness are requisite to transform this sensation into a rational perception. Something is somewhere perceived; each distinct part of the sentence arises under a new regulative idea. But simple, single perception is a mere starting-point, and gives no movement to mind. This is reached only through a perception of diverse and changing things, involving the two new ideas of number and time. But mere change is as meaningless as mere existence, exhibits no action of thought, and furnishes no subject of apprehension. Something more is necessary to arrest thought. This must be furnished by arrangement,—the introduction of some principle of order among the phenomena, either as observed in space or in time. It may be that of resemblance, or of cause and effect. Without the first of these there is no work of mind in matter; no power in mind to apprehend the unordered properties and relations of matter, brought into the harmony of no plan.

Definite arrangements in space or in time are recognizable results of thought, and afford a basis for inquiry, either backward for the cause, or forward for the object or end. A distinct result implies a distinct force; that which is orderless may be referred to accident, but that which begins to show an idea demands a determinate law in the forces at work. The mind, therefore, is at once arrested by order, because of the inference involved in it of defining force. This is equally true whether the product be a sphere, a crystal, a plant, or an animal. There is in each of these the indication of a distinct specific cause, and this clue of thought the mind can take up.

But a limited order may be the result of accidental con-

ditions. A stream may, in the eddy of a jetting point, pierce its bed of limestone with a cylinder, and wear into spheres the included pebbles. This action the mind discerns, yet finds it removed but one step from the list of fortuities, because of the fortuitous character of the cause. A world full of such half-accidental, half-causal products, like the grotesque results of crowding, heaving ice, or drifting snows, might yield a transient interest, but could afford little food for thought, since its conditions are lost almost as soon as found. There is no permanence of causation, no series, no connection of forces. Such events are thrums cut from the weaver's pattern; the inch-long yarns may be plucked one by one, but they lead to nothing.

The order, then, through which the world in all its parts becomes the subject of apprehension, is that instituted in the line of definite, enduring forces. Without such forces there can be, I will not say no order, but no complete returning order; no results repeating themselves in a coherent plan. The very idea of accident implies the existence of order. If all things are fortuitous, the word "fortuity" has no application, since the idea of design to which we oppose it has nothing anywhere answering to it. If there is no light, there can be no state known as darkness. An accidental event is not one without a cause, but one not designed through its cause. Permanent causes must be before we can have accidents; that is, an undesigned result of their action. So, too, the one notion implies the presence of the other in the mind.

But the permanent forces securing order—an order which can only show itself in those resemblances of things and agreements of action by which we understand the world—must include design. Otherwise, our notion of cause and effect is not met. The cause must be commensurate with the effect, or it is no adequate, that is, no cause. Now, the effect includes permanent, recognizable order, design; hence the force through which it is reached must contain the same element, design. Thought is the exclusive

phenomenon of mind, and to make matter contain it without the ministration of mind is to reject the very rudiments of knowledge — the distinction of one thing from others by its diverse powers.

Thought understands only what thought has done. If there is no work of thought in the world, there is no thought to be evolved from it, nothing to be understood in it. It can at best be only a chance field of striking and grotesque disorder, seeming occasionally to mimic a work it never reaches. To eliminate plan, order, from the cause, and yet to seek it in the results, is contradictory to a necessary idea.

If, then, the mind begins to understand the world only through order; if it can proceed only through extended and permanent order, shown in the agreement, concurrence and dependence of phenomena; if these connections are those of thought, it is evident that the world is fully apprehended only through the idea of causes — causes working toward an end, and therefore rationally. Resemblances are the steps through which the mind discerns the presence of a self-consistent force, the progress of matter toward order. In themselves they are of secondary importance, except as they interpret this ultimate plan — reveal the existence and nature of causes, and the lines of action in which they lie.

It is not an irrational, but a rational cause whose action provides the conditions of science. The fall of a tree, as it crushes its way through its fellows, produces a variety of effects, but no order, no science, while the action of the vital force in its trunk did both. But if reason is wrought into, belongs to, all the forces which give science, then science involves the same inquiries which reason makes. For what end? and, By what means? In these two directions of first and final causes investigation must proceed, and at these two ultimately transcend the physical world.

The steps through which the mind, with slow and regular

approaches, reaches and pushes to a complete answer these two inquiries, the ends for which and the means by which all order is secured, are many and laborious, affording numerous solutions of intermediate problems, and rewarding inquiry with a constant increase of power. Progress toward a full and ultimate answer to these questions which are ever drawing, ever impelling the mind onward, is effected through a careful study of resemblances, the establishment of agreements in properties and forces, by which their nature and dependence are defined. These pursuits, aside from their relation to further knowledge, give scope to the reasoning faculties, disclosing that rational element which makes the world first a subject of thought, and afterward an object of influence. Yet, let it be remembered, none of these minor efforts of knowledge, by which facts are discovered and classified, would be entered on, were it not that, from beginning to end, there is implied, in each new resemblance brought to light, each fact of order disclosed, the presence of a harmonizing, and, as harmony is the result of thought, thoughtful power, the nature and extent of whose action the mind takes pleasure in tracing. Mind inquires into the action of mind, into orderly forces, and into these alone, and agreement which is accidental and transient soon ceases to give pleasure. Though the inquiries latent in the mind in the outset are often those answered last, they are constantly present to lend satisfaction to each step, and impel to the next. The mind does not rest on simple resemblances; it wishes to know their causal ground, and it is only because this inquiry is suggested by them, that it takes any more scientific pleasure in agreements than disagreements, in a defined effect than in a fortuitous circumstance. All that opens up a deeper connection, that bears the mind a step further back, is pleasurable. Here the eager eye directs itself.

The facts of the world being scientifically, that is, fully and accurately known, we have therein reached and defined those causes which realize this order. Order is

sought into only as a product containing thought — containing causes to be revealed by it.

But the mind, unable to rest in a mere series of causal connections — a manifold and multiplied effect; an ever increasing premise; a growing argument not yet discharged in a conclusion — seeks under the new notion of the infinite, the absolute, to issue all, and start all, in an intuition of the reason. This is a valid beginning; for the mind must begin, if it begins at all, in its own intuitions, its own axioms. Physical inquiry, having united all phenomena in the laws of a universe, is impelled by the same impulse which has pushed it thus far, to reach, under a new regulative idea, that absolute whose action it has thus far traced. So fully do the natural sciences rest on connections rationally apprehended, that, pausing in the one direction with the absolute, they push on in the opposite direction with the inquiry: Why this concurrence; toward what ulterior end is mind herein working? In answering this question, we transcend the physical and pass into the moral, and agents which were seen to issue from a rational source are seen to return and issue in it. Thus on either side, above and below, events spring from mind for mind; they go forth of purpose to a purpose, and man rests in this their double reference.

A universe spans the chasm between first and final causes, stretching from abutment to abutment, and feeling, through every connection backward and forward, the support of each. The word of God returns to him, but not void.

The regulative ideas previously given are eleven: six of these are involved in the apprehension of physical phenomena; four in mental phenomena, while one, the infinite, is necessary for the ultimate explanation and reference of both. The ideas of existence, number, space, and time are conditional to physical phenomena, with or without order, chaotic or cast into a universe. No external confusion, if in any measure apprehensible, can dispense with these ideas.

Resemblance and cause are the two ideas under which disorder passes into order. Here all the scientific connections of the physical world express themselves. The mind may, indeed, prior to all inquiry into facts, analyze its own ideas, may unfold from the intuition of space the minor intuitions of geometry. This, however, is only to increase the volume and solvent power of the original idea; to bring forth the mind's instrumental furniture wherewith it starts in the estimation and measurement of facts. This work still remains, and is only complete when we understand the agreement of phenomena through the forces at work.

We wish now to mark more fully the progress and completion of scientific thought in the physical world, that we may see the order and limit of knowledge, and the faculties disciplined. The observation of resemblances, and the fixing of these in common nouns, is a first step of thought, and of language, its inseparable instrument. Language, the condition and medium of the mind's action, fails from the outset to be scientific, because of the accidental nature of many of the resemblances which it marks, and because these have no accurate and uniform relation to each other. Its first distinctions originate in immediate convenience, not in the demands of thought. The resemblances which best meet the purposes of science are those which are most broad and permanent. Except as we find differences and agreements, radical and lasting, there is no opportunity for classification; for these when defined in reference to each other are its basis. Those differences are most important which are most deeply and intimately connected with the nature of the object. Color, even when unchanging, is felt to be of little importance, because so slightly indicative of controlling forces. The mind seeks after the more enduring resemblances, as these indicate the distinct, abiding nature of the causes at work. Those resemblances which measure and define force are chiefly desired. The forms of flowers, as nearer the vital force, advance us much beyond their

color. We neglect the last and pursue the first on account of their deeper connection with causes. To complete our work, however, we must know all points of permanent agreement, since these jointly define the common force which occasions them.

It is not the mere resemblance, but resemblance springing from similarity of forces, that the mind accepts as a step in the progress of thought. The pebble, the child's ball, and the rain-drops are round, but the fact affords no interest to the mind, since the form in each case is due to a distinct, disconnected cause. The rain-drop and the earth are spherical, and we note the fact with profit as indicating identity of action in the cohesive power. We establish an agreement between plants through the spiral arrangement of the leaves, but not between the cochlea of the ear and the shell on the ground of similar convolutions; nor between the coil of smoke and that of the vine.

Resemblances, then, are of scientific importance in proportion as they involve the agreement or identity of forces; those which do not imply this are rejected; those which do are sought out; and thought passes from the resemblances of things, of effects, to the nature and agreement of causes. By the word "agreement" we mark the harmony of forces, as opposed to the resemblance of things.

Each inorganic thing may be regarded as a storehouse of permanent forces or properties. We inquire into things for the practical reason that we may know what can be done with them—what forces, mechanical or chemical, are at our disposal; for the scientific reason that we may know what is done by them, how they act as the recipients or the sources of force in the order about us, and how this order has come down to them, and is to be transmitted through them.

We often look upon a finished work, a completed thing, as the quiescence, the repose, of force. We ought rather to regard it as the balance of active forces, a balance constantly liable to disturbance, and hence to new phenomena.

The inorganic world is the storehouse of the more stationary powers — is relatively in stable equilibrium. We come, therefore, to oppose things to forces, as if the first were wholly inert, the second alone active. It is evident, however, that we are only interested in things on account of the peculiar nature of the forces of which they are either the source or the medium. Science wishes to know the smallest number of elements into which the physical world can be resolved; that is, things which possess underived, original properties or powers. Therein are the materials of creation. It is evident that the inquiry into things is not a blind satisfaction of knowing, no matter what is known. If this were the case, the mind would take pleasure in the delineation of each pebble on the beach, each leaf in the forest, each cloud in the heavens. Individual differences have little interest for the mind, and specific agreements occupy it, because the last define the force productive of a common result, while the first only yield the traces of transient causes. Classification, then, throughout the inorganic world, inquires into the nature of things, into those properties which mark the permanent forces lodged in them, enabling them to contribute to the order of the world.

This is yet more manifest in organic, in living products. Here is present a force whose very existence can often be maintained only by exertion. Equilibrium may be found in the germ, but this broken, the forces of life press on through an orbit of growth, or, failing of this, perish. While, therefore, there are moments of rest, that is, of balanced action, organic products retain their character chiefly through the exertion of a power that impels them through a series of changes, perfect suspension being, as in mechanics, the loss of force.

The resemblances, then, by which organic products are classified must extend to a series of phenomena, since thus only can the power at work be defined. The identity of living forces is sought, and all that reveals this is of value.

We are not dealing with resemblances for their own sakes, but for the agreement of forces which they indicate. The fronds of frost on a window-pane and ferns in a forest afford a resemblance, but one of no moment so long as we discover no identity of forces. Species afford the radical division of organic products, because they rest on an identity of vital force, an inherent difference.

When we pass from things to the laws which arise from their mutual dependence — which are the result of their several properties acting with and upon each other, we plainly deal only with forces. Attraction, under its two forms of gravitation and cohesion — the condition of all mechanical force, — arises from no resemblance between things, but itself constitutes the fundamental agreement in all ponderable matter; that is, all matter. Substances agree in exerting this force, and so interlock themselves in the symmetry of a universe. This agreement furnishes through weight a steady unit, and reduces to the mathematical accuracy of its own action all exertion of strength. So, also, it defines the proportions under which chemical elements unite in compounds. Here investigation pertains to a force identical in all its relations, and thus able to introduce order into mechanical and chemical phenomena. So is it in all physical inquiry seeking into the laws of dependence; these arise amid the diversity of things, through the steady harmony of the forces exerted, and this harmony discovered in its extent and manner is science. Whether mechanical, chemical, or vital phenomena are under consideration, all changes are sought into, as impressed on them through some form of force, producing a change of place or of nature, or of both, in satisfaction of a definite end. We overlook all things in our investigations which are not the agents of definite forces which they serve to reveal. The world is understood, but it can only be understood through permanent forces. There can be no law of change even, without identity in the properties of things through which it is wrought. Permanent things indicate

permanent forces, and permanent forces alone can give rise to law. All that is fixed in the effect is fixed in the cause; and if there is fluctuation in the forces at work there must be confusion in the result. The permanent laws of the inorganic world are the results of equally permanent properties; nor can a kindred distinctness and stability in the organic world rest on any other basis. If forces are here in a continual flux, nothing but disorder can arise from them.

All physical science, then, issues in cause and effect. A classification of effects is a classification of causes, and this measurement of causes expounds the order of phenomena. The mind is satisfied, as it is able to unite the present to its past causes and future effects, and see the relation by which it is interlocked in the chain of events. Geology may push this inquiry indefinitely backward, but it rests everywhere on the same relation of causes, unfolds everywhere causal dependence — the only dependence of things.

No cause, as a cause merely, is apprehensible. Explanation consists in referring it to a further cause; that is, in resolving it into an effect. Effects are the visible manifestations of causes, and these last are intelligible only as they pass into intelligent effects. The mind cannot reach or measure them prior to all results. Such an act of measurement, if possible, would only be an estimate of the latent effects yet hidden in them. We test the power of muscle only when it pulls on the spring, or of steam as it presses the piston-head. In acts like these, causes first become sensible — subjects of experience. Force is phenomenal, and therefore an object of perception, not of intuition. It comes under the idea of cause, but is not itself given or defined by that idea. To suppose that actual force is intuitively reached would imply that the subject-matter of an idea is given in the idea, and would dispense with the necessity of experience. Even an ideal force can be reached only through certain ideal effects, which it is supposed to be able to accomplish.

Since we conceive and measure causes through effects alone, the more simple and apprehensible these are, the more obvious seems the cause. Thus accurately measuring the result of mechanical power, we seem perfectly and intuitively to comprehend it; we seem to anticipate that two forces when combined should reach the same result that would be secured by their separate action. This clearness, however, arises from the simple, definite character of the effects; measuring causes by effects, we transfer the apprehensible nature of the one to the other. If, on impact, the body receiving the blow uniformly moved at right angles to the line of action in the body bestowing it, this fact would give a nature to force, and, adjusting the idea to the results, we should be conscious of no absurdity.

The facility with which we understand mechanical action may be the source of mischief when we pass to more complex problems. Chemical effects are so diverse from mechanical ones that we cannot at once attribute them to simple force, productive of change in place. Yet we are tempted to regard such an explanation as the only complete one. The mind accepts with reluctance the notion of a new force as indicated by new phenomena, and struggles to explain them under the old idea. The same tendency recurs in passing to organic products. We strive to force on the phenomena, novel in their forms, the explanations derived from mechanical or from chemical power. We are slow to receive a new cause as revealed in new results. This desire for simplicity, while it is in part a just scientific tendency, arises also in part from ignorance, from the feeling that what is known must be the measure and type of that remains to be known—from the superior conviction all that attaches to mere familiarity. Thus the mind with difficulty unites to the word "force" any other than its primary, mechanical idea, and would fain explain fragrance in the rose, sweetness in the orange, thought in the brain, under the analogy of the power that drives a ball from point to point.

As, however, we never understand causes, it would seem that we should separate and define them solely through their effects, and as long as these remain irresolvable into each other, the same diversity should be attributed to the forces from which they arise. Many errors must spring from an effort to press the new under the old. It is the temptation, not only of indolence, but of that deductive power which shows its ingenuity in reaching the broadest conclusions from the most limited premises. If every new thing were diverse, then no explanation would be possible, nor is it any more called for if each new thing is identical in its forces with the old, and there is nothing diverse. For the most limited explanation, we must have diversity of application in the same force; for fuller combination and comprehension, diversity of forces. Complexity cannot arise from absolute simplicity.

Having no intuitive knowledge of causes, we can wisely define them only through an inquiry into effects. Any conjectural treatment, except as tested by these, is altogether unsafe. The first faculties called into play by science are those of observation, seeking a complete classification of things and events, and interpreting through them causes and causal connections. Induction precedes deduction. A hasty and sweeping deduction is attractive, but exceedingly insecure. The precise character of the phenomena and their extent being settled, we have the existence and the nature of the cause. Deduction may now trace the results of an established force through the field of its action, and thus realize the advance which was virtually made in the previous steps. Nothing but observation itself can lay down the laws of safe induction, and in each case tell us when we have so far analyzed results and reached agreeing phenomena as to be able to refer them to one force.

The powers which science first disciplines are those of observation, by which we seek permanent agreements, and define intrinsic character and qualities. Coincidentally and

later it trains those reasoning powers by which we expand our laws and harvest our conclusions. Minds of great logical power, and the consequent aptitude of expansion, delight in the deductive process, and prematurely enter upon it. This tendency may also be increased by the safe and rapid conclusions of pure mathematics. The mind, unfolding from a few axioms and definitions the wealth of geometric problems, and finding its progress safe and prosperous, wishes to move with the same royal stride through the physical sciences. Such labor results in vortices, pre-established harmonies, antagonistic forces, and the magnificent machinery of a creation strictly subjective.

Observation, on the other hand, is well-nigh impotent without the anticipatory theory, the guiding idea, the completing deduction. Observation and reflection are only fruitful as wedded. Like negative and positive poles, they must create and maintain each other; either will be dissipated as the other is lost. We observe resemblances, we reflect upon, or to, causes. The circle of mental action is complete when we have passed from agreements to causes — woven the material furnished by observation into a complete and firm fabric under the swift shuttle of thought.

There is evidently no pause in the pursuit of forces, however far we may trace them through their successive manifestations. The last source of power which we thus reach is itself phenomenal, looking back to a further explanation, and incomprehensible the moment we cease to regard it as not less an effect than a cause. Here, then, the mind must transcend the phenomenal by its own power, by the reserved idea of the absolute, and upon this thought of its own furnishing rest its labor — the otherwise unending chain of its sequences. What we understand, is nature everywhere linked in causal dependence; what under the intuitive faculties of the mind we comprehend, is a universe resting in the hand of its Maker.

When we pass from physical to intellectual phenomena,

there is present in their very apprehension a new idea, that of consciousness. What space is to physical phenomena, is consciousness to those of mind, the field in which they occur. But this is not the only idea superseded. Cause and effect, the link of physical connections, is replaced by choice. A mechanical force secures its effect directly, without intervention; a desire secures gratification through the medium of the will. A motive tends to a given course of action, but that tendency waits on the will for confirmation, or to be set aside. From this source comes the efficiency which makes effectual the impulse. In involuntary actions a direct causal connection is established; but in voluntary actions the will is a source of power, itself constrained by no power, and hence these facts come under a new idea, that of freedom.

Liberty is said to be proved by consciousness. We are conscious of being free. So also we refer our knowledge of all mental states to consciousness, and say that we are conscious of this thought or that feeling; yet we have regarded consciousness simply as a regulative idea. Nothing more can be contained in this language, then, that all thought, from its very nature, is known to the person whose it is; only thus it becomes thought. The expression, the testimony of consciousness, would, if strictly insisted on, convey the idea of a faculty bearing witness to certain facts of experience. Yet such a notion is plainly not to be entertained, and the words referred to are to be regarded merely as a convenient expression. When we say that men are conscious of choosing, we mean that the act of choice, like the other acts of mind, is known to the mind, and known for what it is, an act of choice. The idea under which this act arises and is explained is that of liberty.

Choice differs from cause and effect, not only in the very nature of the connection, but in the fact that the one moves toward the power, the other from it; the one is attracted, the other repelled; the one is conditioned on the future,

the other on the past. When we inquire into the phenomena of mind we seek the objects of desire, of pursuit, as in those of matter we search for the efficient force. We here inevitably institute a search for final causes, and as legitimately as for first causes in the field of physics. The world is understood in its double relation backward and forward only through them both. In a choice between the two questions, mind is more interested in the end proposed than in the means by which it is pursued. Both inquiries, however, are necessary; and every want of the intellect is satisfied by the final reference of each effect forward to the choice, and backward to the efficiency of the only creative power, mind. All human work is adequately explained in the two questions: What purpose does it accomplish? and How does it accomplish it? And the same queries alike meet the wants of mind as it surveys the broader works of God.

We are bound down to the investigation of simple, physical connections only by that positive philosophy which would keep out of view the personal element which pervades all the order of the world, and lifts it into the solution of a rational product.

The Absolute must be the Alpha and Omega of exhaustive science. We find no pause in the pursuit of causes till we pause in Him; no end or motive to the thoughtful movement of a universe till we reach it in Him.

By discovering creation to be orderly we discover it to be rational; by discovering it to be rational we make necessary the inquiry: For what end? and here the circle of thought returns to God and the end he proposes.

Starting with liberty as the regulative idea of spiritual action, we find in the choice between motives occasion for prudence, wisdom, right. Without liberty, none of these can be. If there is but one necessary way there is no opportunity for wisdom or for right action, since these involve comparison, choice, and nothing is open to discussion or selection.

We hear much of the nature of things, as if certain un-derived properties belonged to them, giving rise of necessity to a measure of order. The notion is not merely atheistic, it is destructive of the great distinction between the rational and irrational. If nature is only seemingly the product of thought, if order is in any measure an interior necessity, and not wholly brought into it by the reason of God, it is evident that the distinction between mind and matter is so far obliterated, and that the latter is capable of establishing, nay, does of itself establish, certain leading lines of order. We are thus compelled to decide again, whether mind alone is the source of thought, and matter its mere recipient. But this being conceded, we may not afterward forget the fact, and refer essential points of order to the nature of things, as if in ultimate analysis we reached things, and not reason, as the source of fixed principles.

Nature is the recipient, not the source of order, and is only rational in its action as reason has wrought in it.

The boundaries of choice are those of wisdom, and no way or method is wise which has not, at some time in some intellect, had an alternative. But the moment we have choice we must have principles for its guidance, and these are furnished by the diversity of means and ends. Wisdom is a correct choice of ends, prudence, of means; while right is an intuition of that which is rational in action. Conscience is the voice of reason enforcing its own authority — the half instinctive grasp of the soul after its own good. That which affords pleasure we may or may not do; that which has in it the highest reason, the right, we must do, or sin against reason. The imperative of right is the effort of reason for self-preservation. Right in the outset, direct, instinctive in its judgments, more and more discloses its rational element, and becomes the law of life by which man is united to the Absolute Reason, by which the soul discovers and assumes its proper life. Wisdom concurs with the right as embracing it. Wisdom takes the wider survey. Right is the self-asserted authority of reason in its conflict

with passion and appetite. Wisdom tests and harmonizes all claims in view of ultimate results; brings the reason that is in the right clearly out, and thus enforces its more practical and dogmatic claim. Right is a guide just at hand, wisdom often comes later with her approval.

It has been a favorite result of logic to subject the will to motives, and to construct the law of liberty under the analogy of that of cause and effect. We would rather regard the notion of liberty as fundamental, and make necessity arise from the fact that the will has already passed on the phenomena concerned; that these, thereby removed from the region of choice, are henceforth subject only to executive force. The root of necessity lies in the will, which, having chosen, impels, compels results by an efficiency to which there is no longer an alternative; counter-methods having each and all been rejected. Necessity does not explain liberty. Liberty gives to events that impulse of volition which makes them necessary. He commanded and it stood fast. Nothing is so eternally sure as righteous volition.

The genesis of force can only be referred to that which is personal, spiritual. That which is physical is already conditioned, already a measured power, and can not transcend itself. It has come under the law of causation, which admits no genesis of forces, but only the expansion and expending of those already realized. The real generation of power, its ultimate reference to choice, can only take place in persons. Only thus will the mind cease its pursuit of successive causes by the resolution of an effect into a choice, and the solution of this under the notion of liberty.

It is the supernatural, then, that gives rise to the natural; the personal and free that defines and settles the impersonal and necessary, and there can be no more fundamental perversion of thought than that of subjecting spirit, reason, to the laws and forces of which it itself has been the source.

The two ideas of liberty and law complement and define each other. In a mind dwelling on liberty alone, the idea

may become that of fortuity, chance, lawlessness, an independence of reasons and motives. The moment, however, we look at the results of choice we find them to be fixed laws. Liberty has brought forth necessity. What in realization has now become cause and effect, as conception was already connected in rational relations. The coherence of reasons — of reason — arises from the very root of order in the mind itself. Choice does not act on chaotic material and impart order, but on motives, plans — the proffers of reason, spread out in coherent ideas. The organizing work of thought goes before liberty without coercing it.

The absolute will comes at once under the guidance of the absolute reason, and the interior harmony of complete attributes never suffers it to depart therefrom. The finite will finds the motives, the open ways of action, given to it in its own constitution, and the circumstances which surround it; and in this restricted field only limited results are placed at its disposal. The liberty which remains to it in these choices is as far removed from chance as necessity. Necessity denies the balance of motives — the possibility of any other than the resulting choice. Chance denies the power of motives, — that these affect the result; liberty recognizes all the motives as motives, and is, for that reason, governed by none of them.

A wayward, irrational choice does, indeed, tend to anarchy, but does not arise from it. The will is conditioned to those motives which appear in the orbit of the rational and physical nature which encircles it, and, therefore, can admit no confusion not contemplated as possible in assigning it its endowments and conditions. The will suffers constraint without coercion through motives. The waywardness of liberty is lost when we contemplate the connection of choice with motives, and the dependence of these on physical causes.

Starting, on the other hand, with force, we shall sink into the fatalism of necessary connections, till we learn to break the chain, throwing in, ever and anon, the links of voluntary action.

In the conflict between the two regulative ideas, respectively, of matter and mind, causation and liberty, the former has more frequently overpowered the latter, and carried the mind into fatalism, than been overpowered by it and left the mind exposed to the fortuities of chance. Fortune and fate are ideas which bear witness to the alternate victory of these, opposite and complementary ideas, law and liberty. Both recognized and rightly limited, there is room for matter and mind, for nature and God; either lost, but one hemisphere remains to the light. Liberty, personality, the condition of rational activity and the source of necessity itself, is, in the conflict of philosophy, the sun that rules the day; while physical law, with its fixed and ever returning limitations, is the moon, that, with a little reflected light, governs the night — the horizon of mist and darkness pressing close upon the mind.

In this complementary relation of law and liberty is seen, in part, the relation the sciences bear to each other in the discipline of mind. The physical, empirical sciences, through resemblance reaching causation, are the fulness, the complete satisfaction of this ruling idea of the physical world. Sciences of classification, passing into those which treat of the complex facts of the world in their productive forces, have developed the unchanging character of law, till this idea, to the exclusion of mysterious, supernatural, and fortuitous causes, has taken possession of the physical phenomena of the world. Here the movement must pause or imperil all.

Science again starts under the same method of observation and induction from a new point, that of mind. Here it establishes liberty, the power of originating movement. It then proceeds to trace the inter-dependence of these distinct classes of phenomena under their respective ideas. Historical and social events and states come under its explanation, and it marks the influence of the physical under the government of a power which transcends it. There is neither complete implicit causation, nor yet absolute arbi-

trary liberty. Permanent forces are at work under the modifications of choice, and thus, on both sides, the full resources of the mind are called out. Having traced separately, matter under its law of force, and mind under its law of liberty, we mark the concurrent action of material and spiritual agents, of necessary and free forces, suffering neither to disguise or overpower the other, and therein possess the amazingly complex fact of human life. Two forms of knowledge equally valid, two fields of inquiry equally necessary and secure, complement and complete each other, hushing the conflict of extreme claims on either side.

But all this, as limited, finite, dependent, we refer to an Infinite Spirit, the source of power, and thus apprehend God without comprehending him. Unable independently to investigate this immeasurable fulness, this Infinite, which the mind through the very necessity of thought has cut free from all formulæ of logic, we turn to comprehend, by the compass of its relations, the finite before us. From the will of God it sprang; by the will of God it remains; to the will of God it bends its way. There is no comprehension of what is bound backward to a thoughtful source, forward to a thoughtful end, aside from the mind of God. Herein, also, there is not a passage through, not a compass round, but an adequate approach to the nature of God, where the affections and thoughts alike must rest.

In all this we reach no "universal, unchangeable, eternal law." This would be the absorption of mind in matter, the loss of freedom in force. We reach rather a free spirit, ruling all things under its own reason. Mind thus triumphs over matter, finds itself the image of God, and the key of the world.

By the demonstrative sciences, the logical, instrumental powers of the understanding are strengthened. By the physical sciences is secured that accuracy of observation by which through substantial, permanent resemblances, we reach, define, and discriminate causes whose action gives laws, and thus knowledge, power. In the study of philos-

ophy we discipline those intuitive faculties by which we rise in the last stages of explanation to liberty, and to that Infinite Personal Power by which we overshadow and enfold the universe. In the balance of these, we find safety, and in the excess of any, the anarchy and overthrow of thought.

While law, the idea of cause, towers in the one realm, and gathers into itself all explanation, liberty rises into no less prominence and authority in the other, the spiritual region, and from thence lets fall its mandates on the subject-world of matter, creating that law which so fills the fancy of one-eyed science.

ARTICLE II.

CONVERSION — ITS NATURE.¹

BY REV. AUSTIN PHELPS, PROFESSOR AT ANDOVER.

It was an exaggeration, yet one which contained more of truth than of hyperbole, in which a late writer affirmed that the most characteristic thing this world has to show to other worlds is a scaffold on the morning of an execution. It is true that to a holy mind the distinctive idea in the condition of this world is that of *guilt*. It is not dignity; it is not beauty; it is not wisdom; it is not power: it is *guilt*. It is not weakness; it is not misfortune; it is not suffering; it is not death: it is *guilt*.

Any thoughtful observer, therefore, must believe that this world needs to be changed, in order to become the dwelling-place of God. No historian, with any just conception of man, as he has been and is, on the theatre of nations, doubts this. No philosopher with any knowledge of God, as he is, doubts this. No man, with any honest insight into

¹ A Discourse preached in the Chapel of Andover Theological Seminary.