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ARTICLE III.

THE HUMAN INTELLECT

BY REV. JOHN BASCOM, PROFESSOR IN WILLIAMS COLLEGE.

It is pleasant that an able work on a difficult theme should meet with an appreciative reception. This satisfaction is granted us in the cordial way in which the labors of Professor Porter have been recognized. The reviews seen by us have abounded with praise, and professed a sincere admiration for the success achieved. We trust that what we have to say will be regarded as no exception to this general feeling, though we shall devote most of our space to a criticism of some of the views presented in the work, which we honor for its clear, faithful, comprehensive thought. We choose this method as more called for, and more instructive, than one of laudation, however well deserved.

The first merit of the book is its practical, inductive form of inquiry. The analysis and deductive reasoning are constantly guided and corrected by the facts of mind sought by the author in consciousness, and further revealed by language and the actions of men. A second great merit is its comprehensive, historic method. The historic element is very important and very prominent. We see how opinion has swayed to the one side or to the other, and the relation of the view of the author to previous views. This is perhaps the most characteristic feature of the work. Not least among its excellences should be placed its thorough and hearty rejection of every form of materialism. These qualities, with the elaborate and independent discussion given to the subject in its many bearings, make it a very note-worthy book, attracting at once the attention of every one interested in metaphysics.

¹ The Human Intellect; with an Introduction upon Psychology and the Human Soul. By Prof. Noah Porter, D.D., of Yale College. 1 vol. 8vo. New York. 1869.

Over against these great excellences, we should put, as passing blemishes, an occasional prolixity of discussion ; as, for instance, a chapter of ten pages devoted to the question : Is the soul active in sense-perception ? or one of eighteen pages on the products of sense-perception. Yet even these are in keeping with the slow, thorough movement of the author. There are also occasional statements, the truth of which is by no means obvious. The following are examples. Having spoken of sensation and perception, he says : "Certain other mental states, far more numerous, are attended by no affections of the body whatever" (p. 25). I suppose the proof, if not absolute, is sufficient to establish a destruction of brain-tissue in connection with all thought. He affirms : "The brute is not self-conscious under the most favorable circumstances, nor can he become so as the result of any development whatever" (p. 102). The difficulty here seems to be, as the context serves to show, in the peculiar meaning attached to the word *self-conscious*. In no ordinary signification of the word is the assertion true, nor ought it to be true in any use of it. Perception and sensation as simple, single acts should not be regarded as different in kind, wherever they occur, whether in man or the brute ; and consciousness is their inseparable condition. Again he says (p. 292) : "It [the mind] cannot think of any object which the phantasy does not bring within its field of vision." This is true only of phenomenal, not of unphenomenal, being ; and to press the statement closely would be to exclude all intuitive ideas.

We prefer to pass all minor points of commendation and criticism, and employ our entire space on leading topics. The first of these is consciousness.

Our author lays it down in clear and explicit statement, that consciousness is a power of mind. This we regard as erroneous and very confusing. Consciousness is not a distinct act or power of mind, for two unmistakable reasons. If it were such an act, it would require a second act for its own apprehension ; or if not, if the first act of consciousness is directly, immediately known to the mind, as its own

act, so may every act of the mind be, whether it be one of perception, inference, or memory; and the alleged complementary act of consciousness is superfluous. Either the mind uniformly knows what it itself does and suffers, or it remains unexplained how it knows through another movement of its own, called an act of consciousness, itself open to the same difficulties which have attended on every previous effort. A second equally fatal objection is found in the fact, that no power or capacity of mind can retain its essential substance and character without the element or condition of consciousness. Knowledge, feeling, volition, all and equally disappear, except as consciousness is the stamina, the characteristic, of them. That, therefore, which is the substance of every power cannot be made a separate power, and any thing be left, out of which to construct the several faculties. Hamilton so far is wiser in making consciousness the generic sum of the intellectual powers. No one, however, can have read his Lectures carefully, with the attention directed to this point, without observing the confusion occasioned by the mixed and double meaning which he has attached to this word. The whole drift of use is such as to require consciousness to include in its meaning the knowledge which the mind has of its own states. To this Hamilton furtively adds the knowledge which the mind attains through each of its faculties, and then plays backward and forward between the broader and the more restricted signification, as if we could take the same appeal to consciousness in the one sense as in the other. Consciousness, as the mind's knowledge of the states immediately present to it, is never disputed by any one, indeed cannot be doubted; whereas the products of our several faculties are frequently distrusted by all of us. Hamilton at times recognizes this fact, but immediately forgets it, and takes a bold appeal to consciousness against his adversary, when the point in debate is one of analysis and reasoning.

It is of the last importance for clearness and steadiness of conception, that we confine the word to the momentary

knowledge which the mind has of its own states and acts; and that we see this knowledge to be incident to, a necessary feature of, every mental phenomenon, requiring no second faculty or activity for its explanation. Every act of mind, because it is an act of mind, is known to the mind whose it is; without this it would cease to be mental. Consciousness is the common characteristic, or condition, or field, or quality of certain phenomena, for this reason, and no other, called mental. The singleness of the state or act is not in the least degree lost by its being a conscious state or act. The doubleness is one of relation and not of being; and the notion that consciousness is a faculty has arisen largely from the awkwardness and deficiencies of language. We are compelled to say, I know that I know, I know that I feel, the mind knows its own states; and hence the obvious inference, this knowledge is the product of a faculty. Our author having recognized consciousness as a distinct power, begins immediately to fall into the confusion incident thereto, and to assign it an office broader than can with any fitness or clearness be covered by the word. Regard consciousness as the intuitive, regulative idea, the inseparable condition, of mental phenomena, and the danger is effectually avoided. Let us glance at the fortunes of our author in the handling of his new central faculty.

He first denies it to the brute; a thing impossible in its limited, appropriate signification. He confines it to the intellect, thus putting an intellectual act at the core and centre of every feeling and volition, and thus marring the distinction between the three forms of activity. He goes so far in one passage as to exclude from consciousness the exact thing to be designated by it. "By consciousness is understood the distinct apprehension of the psychical states, as the states of the individual *ego*, and not that fleeting knowledge of them which is essential to any intellectual activity" (p. 337). Pray what is that "fleeting knowledge," if not consciousness? and what need have we to designate "distinct apprehension," or consideration as consciousness, since

it is an activity of the thinking or judging faculty? Again he says (p. 63) of "physiological or psycho-physical operations which condition sense-perception," and which "may be entirely removed from consciousness," that "they are all properly psychical acts." That is, consciousness is not the sole condition of psychical or mental acts; that is, again, we are to look elsewhere, in the brain or body, for some of the phenomena of the soul. Let me say in fairness, that Professor Porter has avoided in his large work, with remarkable care and steadiness, any implications confounding mental and physical phenomena; but his idea of consciousness has admitted the above statement. It has also allowed him, in one instance at least, to argue deductively phenomena into consciousness, instead of holding patiently to the inductive inquiry: What is there? This, however, he does more rarely than most metaphysicians. The passage occurs in the explanation of a fact arising under the law of association: A is followed in the mind by F, and the question is presented: How has it come to appear without the intervening connections B, C, D, and E? Professor Porter infers from the fact that we can in some cases recall the intervening objects, that these "objects might have been, nay, that they actually were, present to the consciousness, though they seemed not to have been" (p. 289). It seems, then, that consciousness may in some instances be told what is present to it, and needs not always to be inquired of concerning its facts.

Another grave error into which Professor Porter is led by his view of consciousness as an act of mind, making its own states objects of contemplation, appears in his division of this power into two, the natural and the reflective consciousness. As we do make the phenomena of mind the objects of thought in reflection, this use of our powers inevitably allied itself to that faculty just recognized as consciousness. How, then, is it? In reflection, in philosophy, in an act of thought directed toward the facts of mind, is there no natural consciousness? or do we have thought and reflective consciousness and natural consciousness? or do we have thought and

reflective consciousness as one, and these revealed to the mind by natural consciousness? Here is an occasion for complete confusion. Let the reflective act, the act of judgment, not in the least altered by its object, be all; and be known to the mind inevitably as its own, in its very putting forth, and everything is plain; but the division disappears. Philosophical thought is not different from other thought in its condition, consciousness.

We must consider a further difficulty of this view in connection with perception, our second general point of criticism. Consciousness and perception are so blended in their treatment, as to make it necessary to consider them together. We first present the view of the author, as found compactly gathered up here and there. "The soul, in its single act, discerns two objects — its own condition and some material reality. One of these is subjective, and hence is called a *subject-object*; the other is objective, and is denominated an *object-object*" (p. 127). He affirms that the *non-ego*, directly perceived by the mind, is "the bodily organism itself, or rather that part of the sensorium which is excited to action" (p. 132)• "In original perception, *the object* directly apprehended is the sensorium as excited to some definite action" (p. 220). Let us now add to this view of perception and sensation the author's view of the action of consciousness in the same connection. "Every state or condition of the spirit is in its real nature, and must be actually known by the soul, to be complex, even in its extreme simplicity. The elements are, the identical *ego*, either agent or patient, according as the case may be; the object with respect to which it acts or suffers; and the present state or action in which it exists or acts. The soul, in consciousness, is directly cognizant of all these elements as entering into every one of its states" (p. 91). Emphasis is to be laid on the word *directly*, for Professor Porter would carefully exclude reflection or judgment as a means of reaching these first truths. This theory, essentially that of Hamilton, though more tenable in the part assigned to consciousness, has

the support of great names, and seems to us greatly to need them.

Let us look at it first in connection with consciousness. Consciousness as an activity of mind, makes the mind itself its direct object, and recognizes it intuitively. This is a result entirely distinct from that by which the act, in which the mind is at the moment engaged, is known to it. In addition to this necessary and incidental knowledge, which fittingly covers all that should be expressed by consciousness, the mind improves the opportunity to take a direct look at itself, and thus the *ego* sees the *ego*, and pronounces it to be no sham. For our part, we do not understand, why this pure intuitive act need wait as an occasion an act of perception, or any other act of mind. If the mind can intuitively see, know itself, it is not plain why it must abide opportunities, catch itself, as it were, in a sensation, and then gaze. How many activities of consciousness are there, according to this view, attendant on perception? Hardly less than three; one disclosing the perceptive act; a second intuitively beholding the *ego*; and a third revealing this intuitive, distinct act. Of what nature is this intuitive act of consciousness? We have two classes of intuitive faculties: those which disclose phenomenal being, as the senses, and what for convenience of expression merely is called an inner sense, consciousness; and the reason, yielding ideas, notions, not phenomenal being. To which of these classes does consciousness, in the action above assigned it, belong? Certainly not to the first, for the *ego*, as the *ego*, has no phenomenal being or form. But if we say, that it is an idea of the *ego* which is furnished us by consciousness, then we have confounded its office with that of the reason. What does this intuitive action yield? If phenomena, then these are not the *ego*; if an idea, then its office is that of the reason, and the reality of that idea of the *ego*, remains to be established. Put over against this view a simpler, plainer analysis: A perception becomes to the mind, under the notion of causation, an occasion of a judgment, declaring the existence or reality of the *ego* whose it is.

Carry this analysis to our own experience for decision. Is it not possible to discriminate a taste, merely as a taste, and, checking all tendency to reason or analyze or infer, to overlook the *ego* wholly? Let the mind begin to move in judgment or thought, and do we not then infer or conclude, to our own being as the seat of the sensation, though the judgment is made inconspicuous by its rapidity and ease? The knowledge of the *ego* is thus neither ideal nor phenomenal, but inferential, and, aside from consciousness, three powers of mind are involved; a perceptive activity as an occasion, a notion of cause or source as ground of an inference, and the inference or judgment itself. These flash before the mind, in the ease and rapidity of performance, as one act.

Let us now look at this view as regards a knowledge of the *non-ego*. There has been a strong effort among later metaphysicians, especially of the Scotch school, to establish the doctrine of a direct perception of the external world. This has been done in the interest of belief, of an establishment of the valid being of matter; and also because this view has been thought to express more directly the common convictions of men. For the first purpose, we have no occasion for this doctrine; nor yet for the second, if we rightly consider what the general opinion expresses. It is this, that we do know by means of the complex, unanalyzed act of perception, the external object. Direct and acquired perception, perception proper and the judgments locked up in it by experience, are not distinguished by the common mind, and therefore, it simply affirms that the undivided process, perception, yields an assurance of the existence of an external world. Indeed, if this sentiment is to be pushed further, as testimony to a direct, simple perception of a *non-ego*, that *non-ego* must be the outside object, not the sensorium, or any part of it. That it cannot be the external thing presented to the sense is sufficiently shown in our author's admirable chapter on acquired sense-perceptions. Why he should not have allowed the argument here initiated to sweep the whole ground is difficult to understand. This he does not, but

withdraws the *non-ego* from the external world into the sensorium itself, and there affirms it to be a direct object of perception. The first line of defense yielded, he retires on the second, even more untenable than the former. Who of learned or unlearned men thinks that he has a direct knowledge of "the trinal extension of the sensorium." Certainly this idea is the farthest possible from the common mind. Indeed, who of us with all our indirect, acquired knowledge would wish to be set to the task of defining the exact limits of the sensorium, that is, the portion of the nervous system which is directly and exclusively the seat of our several perceptions and sensations? Does the sensorium, for example, include, as regards sight, the retina of the eye? If it does, would Professor Porter venture to say, that we have in perception a direct apprehension of that retina, that the eye sees itself? Will he affirm that the nose smells itself, the tongue tastes itself? Or if these remote expansions of the nerves are not portions of the sensorium, what are its bounds, and what the proof that within those bounds the mind is directly cognizant of it? If it be strange that the mind should in consciousness see itself, it is not less strange that the perceptive organ should know itself. Indeed this seems so impossible a view, that we can hardly believe that Professor Porter quite intends it, and are ready to imagine that the mind in some way is thought to know, not in perception but aside from perception, the organ or organs used. But this, again, would involve new and impossible powers to be ascribed to consciousness.

Let the argument from acquired perceptions have its full, unrestrained force, and we shall ascribe our knowledge of the senses, their location and appertainings, and their connection with the brain, to experience; precisely as our author refers to it the position, form, valid being of objects in the external world. This further conclusion follows at once, if we come to a knowledge of our bodies from the outside, instead of from within; if they are made objects of the senses, and thus, through them, reported to the mind. If this is

not so, and we know directly the sensorium in its "trinal extension," the reproach brought against metaphysicians, that many of them "have never seen a brain," falls to the ground, since they should understand it much more perfectly than the physiologist, looking at it, as they are asserted to do, directly, from within, in active play as a sensitive organ.

Take the true doctrine, which Professor Porter does so much in enabling us to establish, that the sensation and perception are purely subjective, and, by the notion of causation and the many judgments of a protracted experience, are made the mediums and conditions of a complete knowledge of the external world, and our system becomes consistent and simple. Rid of many difficulties, it is burdened with none which does not equally rest on the half-way view above given. If the notion of causation and the judgments which it conditions are valid, then have we a correct and sufficient knowledge of material existence; and a like trust in our faculties is involved in direct perception. I may as well go to one faculty as to another for a conclusion; if I find it in any, its authority is the same. How matter and mind communicate, the one inducing a state or action in the other, is an unsolved difficulty, common to all alike.

The manifold and inextricable judgments involved in all our sensations and perceptions are well stated and illustrated in the chapter referred to, and we cannot pause to restate or to enlarge the proof. If a man can refer sensations to his hand when the arm has been removed; if he can look into a mirror and mistake all its objects for real existences; if he can project *muscae volitantes* into the space before him, and then strive to brush them away; if he can take the merest points of coloring matter on a smooth surface, and instantly create a landscape out of them, with many square miles of surface; if he can thus constantly expand the double, inverted, miniature representations of the retina, it is plain that the constructive judgment is the chief element in the actual products of perception, and that its inferences may as wisely

be searched for the existence of matter, as for its locality, form, and relations.

The next point we wish to consider is that of association of ideas. Here we gladly accord with the general drift of the work before us, and have only to criticise it as not quite complete in perfecting its own view. Professor Porter rejects the notion of cohesive thoughts, adhesive ideas, inseparable sentiments, and thus helps to sweep away those material images, and that unmeaning mechanism, with which the materialist displaces the powers of the mind, and interlocks its phenomena in a ceaseless, causal flow. This resolution of facts into an orderly continuity, into a necessary, inherent proclivity of movement called progress or evolution, to the oversight of the forces and purposes by which this is secured, is the common fallacy of materialism, and imparts much of their deceptive force to the First Principles of Herbert Spenser. As long as we allow the imagery of the material world, not merely to illustrate, but to express and expound, the facts of mind, we shall have in it a refuge of materialism. Feelings do not, by repetition, root into the mind, nor are thoughts attached one to another; we are to look elsewhere for the forces which maintain the laws of association. Professor Porter, though rejecting in the main the view now censured retains some traces of it in his own explanations. His italicised statement of the principle of association is this: "It is to be found in the comprehensive general fact or law, *that the mind tends to act again more readily in a manner or form which is similar to any in which it has acted before, in any defined exertion of its energy*" (p. 282). He proceeds later to say: "The law of association rests upon the same original principle which explains the law of habit, one object suggests another, because one mental state which is similar in part to another tends to be like it in every particular." Here again there is an introduction of tendencies, and the simple powers of the mind are not kept steadily in the foreground of the explanation. Habit is conditioned on physical relations, and has little power of illustration or exposition in this con-

nection. Habit, as in evil habits, is the result of permanent states of body occasioned by indulgence. Habit, as in the acquisition of skill, owes its influence to a certain automatic interaction of nerves and muscles, secured by repetition. Neither of these forms of habit cast light, we imagine, on the connections of associations. These we would refer to the powers of the mind, with the ultimate, additional fact that these powers increase or grow.

The laws of association are chiefly due to memory. These do not explain memory; memory, as a simple, primitive power, explains them. Memory is an orderly, rational faculty, integral with the mind, and conforming to the connections or relations which the reason assigns to all its activities. The notions of space and time and causation and resemblance are efficient in memory and imagination, because they are inwrought in all the faculties, making them to be the faculties of a rational mind, that is, one intuitively grasping these relations. What the mind has observed under these connections, the memory recalls under them; and events return as the mind first received them, the memory being the efficient force, while its orderly action is due to the rational element present in all that the intellect does. Time and space, cause and resemblance, owe their efficiency, not to any connection in things themselves, but to the use which the mind makes, and must, by its rational constitution, make, of these conditions of being. Another force, productive of the so-called laws of association, is the logical faculty. This necessarily marks out for itself lines of action, directs attention and effort into them, and thus impresses on the trains of thought an order or dependence. It cannot be otherwise if the mind pursues a purpose, than that it should sort objects, and unite activities, in reference to it. The desires, also, have the same power in determining the order of ideas. In idle revery the images come and go as these make way for them. Their general character is decided by the state of feeling, while their precise form is fixed by past experience and the resources of the fancy.

The laws of association, as they are often urged, are not merely sand-ropes, facts cunningly arranged; they are also fitted, and designed, to cover up and disguise the real efficient powers of the mind. This notion of them belongs fitly enough to a philosophy that is anxious to resolve all dependence into one of order, but should be sedulously shunned by those who hold to the independent power of the mind, and to the regulative force of its intuitive ideas.

Professor Porter divides the faculties into those of presentation, representation, thought, and intuition. The second of these is again divided into memory, phantasy, and imagination. As a verbal criticism, barely worth the making, we would express a doubt as to the fitness of speaking of the representative power, and subsequently dividing it into three powers. In a philosophical treatise, it would seem well to limit the word "power" to those single forms of activity, yielded in final analysis. We should also doubt the wisdom of a division which separates phantasy and imagination, and so closely unites memory and imagination. The first two seem to be the same power in different forms of activity. The imaging act itself is not altered in character by the fact that it now plays off its fancies at the beck of indolent desires, and anon, in the service of creative art, gives proportion and power to its presentations. The last two, on the other hand, should be regarded as wholly distinct. The imagination is indeed constantly at work under the guidance of the memory, but this does not identify the two activities. It is a simple, peculiar power, that by which we recognize the past in the present conceptions of the mind. This difference of the two powers shows itself clearly in the fact that each can act without the other. Imagination subserves the artist a purpose above and beyond recollection. Independent and original combinations are open to him; independent, save only in the symbols employed. Memory, on the contrary, recalls abstract ideas and words, often accompanied with no sensible imagery. One may repeat a list of prepositions, or a metaphysical discussion turning chiefly on general terms, and fasten the

thought with little or no movement of the imagination, we doubt, on the whole, whether Hamilton or Professor Porter has improved on the old division of memory and imagination. We must commend in passing the chapter on phantâsy, as one especially full and interesting.

We now pass to the third great division, that of thought; we shall here offer but few criticisms. The comprehensive, elaborate chapter on concepts is especially worthy of attention. The points of difference and doubt, which we wish concisely to present in this division, relate, first, to the definition of thought, its office; and, second, to the distinction between inductive and deductive reasoning. Our author's definition of thinking we give in his own words. It is found on the three hundred and seventy-fifth page: "To know by thinking, is to unite individual objects by means of generalization, classification, rational explanation, and orderly arrangement; thought-knowledge, is that knowledge which is gained by the formation and application of general conceptions."

We know not exactly what importance or significance Professor Porter attached to the words, "rational explanation"; but we judge from subsequent illustrations of the definition, that they play no prominent part, but are expounded by the words employed with them. This definition, then, seems to resolve the office of the understanding or "thought-process," into one of classification. This view is strenuously urged by Herbert Spenser, and receives, at least, too much aid from the above statement of functions. We believe the true and precise view of the understanding to be, that it unites in judgments the phenomenal matter of perception and consciousness, under the appropriate regulative ideas. Classification thus ceases to be the sole function of the judgment, and is only its very frequent service. When I say, the apple is, I do not classify the apple; but bring to a phenomenon the notion of existence, for its explanation or apprehension. When I say, the apple is a Baldwin, I classify it; but this act also is performed under the light of an intuitive idea — that of resemblance. Now if every product of thought thus

deals with two elements, derived from two distinct sources, two extremes of our nature, weaving them into one result, this fact would seem to constitute the true, inclusive statement of its function. The fact we believe to be, that every judgment pertains to phenomena, united or explained to the mind by regulative ideas, which define their conditions or relations. This becomes, therefore, a more philosophical and inclusive statement of thought-knowledge, than that it is the result of classification and its adjunct processes.

The second point calling for remark is the very vexed one of inductive and deductive reasoning. Professor Porter makes the two to rest, in final analyses, on one basis. In this we believe him to be mistaken. We gather from various quarters a few sentences which concisely express the author's view. Those who wish its complete exposition and defence, will find it in the work itself, spread through many pages. "The analysis already given of the deductive process has shown that it rests primarily upon the relation of reason to conclusion, which in its turn rests upon the relation of cause to effect" (p. 512). "When we say, *all magnets attract iron; this is a magnet; therefore it attracts iron*; the word "all" suggests or indicates that there is some reason founded on the nature or properties of the magnet, which forces us to believe that this particular magnet will do the same. The relation of *whole to a part* is stated as a fact, but the fact indicates *a reason*, and it is upon this last relation that the necessity and convincing force of the deduction always turns" (p. 449). Speaking of geometrical reasoning he says: "The nature of space, or of bodies existing in space, is the actual *reason* that the mind accepts the conclusion. The geometrical construction has a *quasi* causal efficiency, the effect or consequence of which cannot be set aside" (p. 453). "The purely *logical properties or relations* are as truly causes of the object known in the conclusion, as are *physical causes and mathematical relations*" (p. 464).

This view refers inductive and deductive reasoning alike for their final authority to one act or link of thought, that

of causation. We object to it, as confounding two distinct movements of thought, and giving an explanation applicable to but one of them. The inductive and deductive processes are radically different, and spring respectively from the forms of knowledge due to observation and intuition. The conclusions of induction are not absolute, are not demonstrative; those of deduction are, at least in their relation to their premises. These granted, and also the correctness of the form of statement, and the conclusion is inevitable. In the inductive argument, the same is not true. By as much as the conclusion transcends the premises, does it fall short of perfect certainty of demonstration. Much confusion on this subject has been occasioned by Hamilton. He denies that to be argument — at least, proof within the province of logic — which all look upon as such; and treats as argument much which is merely a formal statement of previous knowledge. His logic thus becomes a science of forms of expression, rather than of proof. If argument is the reaching of new conclusions, either positive or probable, from accepted premises, — and if we make our definition more narrow than this, we merely push aside for a moment that which our practical wants will soon compel us to restore to attention, — then much that is accepted in logic under the forms of the syllogism is not argument, and much that is often excluded is argument. Under this definition, arguments drop into two classes — those in which the conclusion is probable, and those in which it is demonstrative; or inductive and deductive reasoning.

Inductive reasoning pertains to things, facts, and proceeds on the ground of resemblance. From an agreement in certain particulars, we infer an agreement in some further particular which we have found uniformly associated therewith. This proof can never be demonstrative, as the observed qualities are not seen necessarily to involve the alleged quality; but only, in the light of experience, render its presence probable. The conviction which attends this form of proof may rightly be referred, in ultimate analysis, to the uniformity of causes,

or, more explicitly, to the division and establishment of causes incident to design. Groups, fixed associations of forces, indicate design, and this design recognized prepares the mind for its extension and application everywhere. Hence, a certain degree of likeness gives the mind strong presage and promise of likeness throughout. We expect the other characteristics of the lilies to be found associated with tripartate divisions, because this group of causal forces uniformly exhibit this tendency. We anticipate the attraction of iron by each new magnet, not because we see the magnetic force necessarily to involve this attraction; but because this result, in its persistency, seems to indicate some causal connection or dependence between this influence over iron and the power to assume a polar-direction.

In deduction, the conclusion proceeds necessarily from the premises; and these premises are either wholly ideal, or pertain to some distinctly conceived, separated, and clearly defined qualities, which are taken into consideration to the exclusion of all partially known and modifying qualities. Thus, in the proposition pertaining to the equivalence of squares in a right-angled triangle, the proof holds of an ideal triangle and construction, and each of its steps are axiomatic. The conclusion, though necessarily involved in the supposition, is not at once seen to be so contained, and when reached by the skilful arrangement of intervening steps, each self-evident, enlarges our knowledge. The demonstrative conclusions of mechanics accept certain laws, deal with definite, hypothetical forces, exclude conflicting agencies, and thus reach the certainty which the mind directly sees to be in them. I may affirm, all existence must be attended by phenomena of some sort which reveal or establish it: the only phenomena of mind are those which transpire in consciousness; the mind, then, in sleep must either pass out of being or remain consciously active. Here is a deductive line of proof, reaching, to some at least, an unexpected result; but one which cannot be escaped if the premises are conceded; nor yet one which the concession of the premises would at

once disclose, or impliedly, tacitly affirm. To say of these deductive arguments, that they are "*quasi causal*," is so to enlarge the meaning of the word "causal," as to make the explanation wholly verbal. The demonstrative argument is attended with an insight into relations which does not belong to induction, and turns on necessary, intuitive connections which are in no proper sense causal.

The difficulties which beset this subject will be greatly reduced, if we direct our attention solely to independent arguments, and set aside syllogisms which have the form, but not the fact of proof, which are mere statements of knowledge; or, if looked on as argumentative, must find the link of thought in some previous syllogism of a different character. Of both of these barren syllogisms we will give an illustration. Here is one, deductive in form, taken from Hamilton: "A horse is a quadruped; Bucephalus is a horse; therefore Bucephalus is a quadruped." If this is reasoning, the words, "Tabby is a cat," must be an incipient enthymeme; and, "My dog Bouncer," a stroke of ratiocination. Here is a second like luminous proof under Hamilton's so-called inductive form. Ox, horse, dog, etc., are animals; ox, horse, dog, etc., constitute the class quadruped; therefore quadruped is contained under animal. Of the second kind of syllogism mentioned, those deductive in form but referable, so far as they imply argument, to a previous inductive syllogism, the one pertaining to magnets, already given from Professor Porter, is an example. The whole work of argumentation is complete when the major premise is established, all magnets attract iron, and this premise rests on inductive reasoning. Into this form of proof Professor Porter resolves the deduction when he says, "The word 'all' suggests or indicates that there is some reason founded in the nature or properties of the magnet, which forces us to believe that this particular," that is, that every, "magnet will do the same." Certainly, and for that reason we accepted the inductive conclusion, All magnets attract iron. This established, the deductive syllogism sinks into a statement, a parcelling out,

of previous knowledge. Professor Porter's analysis is too restricted to meet the demonstrative power of true, deductive reasoning. This is due to the direct, intuitive action of the mind, and this action is possible, because the subject-matter of proof, and the connections of proof, are removed from actual, physical, causal dependences; dependences that are never perfectly or exhaustively penetrated by the eye of the mind.

It only remains for us to speak further of the last great division of the work, that of intuition. This is the portion of every work on mental philosophy which we seek for first, as defining its character, grasp, and value. It furnishes the key of systems, and still more their practical influence and tendencies. The merits and defects of the work of Professor Porter are here more marked than elsewhere. Few books contain so much that is just, or present it so well. The view is far more complete, consistent, and defensible than that of Hamilton. The chapter on the Infinite and the Absolute is one of great merit. Let us, however, in accordance with the general plan of our critique, pass lightly those parts which stand out boldly in their own merits, and discuss chiefly those points which seem to us to require more investigation. We beg the author's pardon for this colder, less appreciative method; yet we feel that he can well endure it; and the ends of knowledge are thus only to be reached.

We attach no great value to the author's division of the intuitions into the formal, the mathematical, and the real; not enough to deem it worth while. The formal are defined as "those which are necessarily involved in the act of knowledge, whatever be its object-matter." These are — if we mistake not the author, for he is not quite as firm and clear as usual in his presentation, leaving us sometimes in doubt whether he regards a given category as primary or secondary — being, relationship, diversity, identity. The mathematical categories "are those which grow out of the existence of space and time, and suppose these to be realities." These are space, time, and number, and the concepts subordinate

to these "The *real* are those which are ordinarily recognized as generic and fundamental to the so-called properties and qualities of existing things, both material and spiritual." These are causation and adaptation. This division does not seem to include the infinite, and gives no firm distinction between those ideas embraced in it. Space and time are as truly formal in many of their applications as they are mathematical, and in others as real as are the phenomena to which they pertain. Or why should being be regarded as formal and causation as real? Or identity less "generic and fundamental" than design?

But we wish to criticise the labor of our author, first, in the intuitions introduced, and, second, in those omitted. Those given as primary ideas seem to be, *being, relationship, diversity, identity, space, time, number, causation, design, the infinite or absolute*. We are in doubt whether Professor Porter means to subordinate number as a category to that of time, or to accept it as primary and independent. Evidently the last is the true ground, for the notion of time can exist without that of number, and number is no more necessary to it than to space, than to the application of other categories. Being, space, time, number, causation, we accept as primitive, intuitive ideas. Relationship, we believe, has no claim to this rank. It is a secondary, generalized notion rather. We cannot have the idea of space without including therein the idea of here and there, on this side and on that, centre and circumference. These all involve or express relation, and therefore *specific, definite* relations are included in the very expansion of the notion of space. Thus is it with time; the relation of succession is involved as a part of it, a peculiar form of it. So, too, in number, equality, greater and less, are relations indigenous in it. If, therefore, these specific relations must be known in knowing these ideas, we have no occasion for a primary category of relation, since this can be generalized from these special forms of relation already recognized.

Again, diversity and identity are but two phases of one

category, which may be expressed by the word "resemblance," or by the contrasted words "agreement" and "disagreement." We see the different colors, but we do not see them to differ. The act of comparison and judgment takes place under the idea of resemblance, and this is supplied by the intuitive power of the mind on conditions fitted to call it forth. This is a very important category, and the neglect of it has often given to materialists a very unfair advantage in the argument. They have been allowed to collate and compare phenomena, without being called upon to explain or justify the movement of mind by which they did it. Thus the empirical evolution of intuitive ideas has commenced with a tacit assumption of one of the most significant of them. Identity and personal identity are nothing more than perfect agreement, or one limit of the idea of resemblance. That which agrees with itself at different moments in substance and attributes is the same thing, comes under the secondary idea of identity; that which does not, gives application to the notion of diversity.

The regulative idea which is most unexpected and objectionable in the list of Professor Porter is that of design. The chapter on design, or final cause, does not reach the general level of the work. The position of the author is distinctly taken: "The point which we assert and defend is, that this relation is believed, *a priori*, to pervade all existence, and must be assumed as the ground of the scientific explanation of the facts and phenomena of the universe" (p. 594). The notion of design is plainly the fruit of our knowledge of what takes place in our own minds. There is not the least necessity of regarding it as an intuitive idea, since our consciousness of our purposes speedily supplies it. Indeed the word "design" is the designation of an act, as much so as the word "thought," and can not thus be a regulative idea. This knowledge gained within the mind, we at once use in explaining the external world, as we discover one after another of its orderly arrangements. That men do believe in the universality and necessity of design, as they do in

that of causation, is plainly not true, nor even approximately true. It is a struggle for most minds to accept the statement, that absolutely every thing and event has been distinctly contemplated and purposed in reference to an end.

None of the arguments presented by Professor Porter are satisfactory, and most of them do not even tend to establish the position assumed. They are such as these: "The relations under which this axiom requires that objects should be connected, is higher than that by which they are united under the category of efficient or blind causative force." "The principle has been of essential service in scientific discovery." "The entire superstructure of the inductive philosophy rests upon the principle in question." These and like observations are true enough; but are just as true if the conception of design is transferred from our own experience, as if we regard it as a primitive, independent notion. "That there is an intelligent and wise adaptation of powers and laws to rational ends" in the external world is a fact learned by experience, and then made the premises whence we infer the existence of God. From this conclusion we travel slowly to the further conviction, that everything comes under his plan or purpose.

The manner in which the author answers objections to his view, indicates the same unexpected missing of the exact criteria of a regulative idea. He seems to think that it may be admitted, that "there may be some portion of this universe which design does not control," and his intuitive notion not thereby be invalidated. An idea that in the presence of like phenomena is not necessary in every place, is not necessary in any, is not a regulative idea. He also strangely says, in answer to the objection, that a knowledge of the adaptation of means can be derived from our conscious activity, that this is also true of efficient cause. Not at all; quite the reverse. We are conscious of a volition, are aware of the action that follows it, but are not in the least cognizant of the causal connection between the two. This the mind supplies in explanation of the results. So ignorant are we

of the presence and efficiency of the causal force, that we often make a tentative effort to move a limb, in order to test the existence of sufficient power.

But the omissions of Professor Porter are more noteworthy than the ideas which he has included in his list of categories. We say nothing further of consciousness, but express our surprise that neither beauty nor right nor liberty were found worthy to stand in this high assemblage of primitive, intellectual nobility. Professor Porter has laid no foundation whatever, either for art or ethics, duty or power. Nothing can remain to him in morals, but some form of generalization, and, as the only plausible and inclusive one, some phase of utilitarianism. This in an intuitive philosophy is the grossest of defects. Nor can he, in our view, consistently with his philosophy, recognize the freedom of the will: since freedom is not, any more than causation, a phenomenal fact, laid open in consciousness; but is an idea furnished by the mind in exposition of its own action. It supplies the idea of liberty in solution of its own sense of responsibility, and the apparent possibility of each of the alternative lines of action. We know not how Professor Porter would handle these higher questions of our spiritual nature, but he has broken no ground for them in his mental science.

We think the work before us more marked for its comprehension, for its appreciative criticism, for its discrimination in gathering, using, shaping, and systematizing material, than for any new views furnished by it. It indicates great interest in the subject and mastery over it, and is therefore well fitted to arouse and guide thought. So able a work not only shows the presence of new power, but we may trust will develop it in others. The service to metaphysics of such a work is incalculable; and we hail it as the more auspicious, since, in labors like these, we are to find a chief corrective of that exclusively scientific, materialistic tendency so prevalent with us.