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ARTICLE I.—*The Church Review and Register for October 1855.* Art. VI. “Professor Hodge on the Permanency of the Apostolic Office.”

As even the more important periodical publications of one denomination circulate only to a limited extent within the bounds of other Churches, we may, without offence, state for the information of some of our readers, that the *Church Review* is an Episcopal Quarterly, published in New Haven, Connecticut. It is ably conducted, and seems to represent the high-church party in the Episcopal Church, as distinguished on the one hand from the Puseyites, and on the other from the Evangelicals.

In the last number of the *Review* there is an article on an Address delivered in May last before the Presbyterian Historical Society. The object of the article is to present an argument, from the pen of Bishop McIlvaine, in favour of the permanency of the apostolic office. This argument the Reviewer commends to our special notice. He pronounces it perfectly unanswerable; saying that a man might as well question one of the demonstrations in Euclid, as to contest either its pre-

absolute and immutable truth. It is the boast of M. Compte, that, on his theory, truth is not absolute but relative—just what observed uniformities of phenomena happen to make it, to each individual, a mere dress, varying with every change of circumstance, and grade of intelligence. How well this accords with the style of modern pantheists, to whom all opinions and religions are equally true, and who can accept as many creeds as are offered them, all understand, alas, too well. But by whomsoever held or taught, such opinions sap the foundations of all responsibility, religion and morality, and of all real earnestness in the investigation of truth. For how shall men seek that, in whose existence they have no faith?

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ART. IV.—*A System of Logic Ratiocinative and Inductive*: Being a connected view of the Principles of Evidence and the Methods of Scientific Investigation. By John Stuart Mill. Now York: Harper and Brothers. 1855.

ACCORDING to the intimation given in the article on the Positive Philosophy, we now invite the attention of our readers to an examination of Mill's Logic. This is no ordinary book. False or true, pernicious or salutary, for better or for worse, it is, like the great work of Compte, to which it is auxiliary, of an order of which no single generation produces more than one. Indeed, while a rapid succession of treatises, from different hands, on Logic as a whole, or on some of its controverted questions, has appeared, since the memorable work of Whately, which, by universal consent, has done more than all else to restore this branch to its proper place in education, the whole put together do not, in our opinion, contain as much clear, close, and deep thinking, as the work under consideration. The six hundred formidable octavo pages of fine, closely set type, which this edition contains, are guiltless of vapid generalities, barren repetition, verbose diffuseness, or, with reference to the objects the author had in view, waste matter of any sort.

Having thus shown that we are neither unable nor indis-

posed to do justice to the ability of the work, we hope it will appear that it is in no captious or narrow spirit that we find ourselves constrained to condemn some of its leading and characteristic doctrines. If these should be found to brand it with the stamp of Positivism, as we have before hinted, this is the fault not of us, but of the book itself. We find, however, that we are not alone, nor the first, in attributing this character to the book. This is freely done, as if it were a matter of course, by Christian apologists, who find themselves under the necessity of combatting its principles.\* While we rejoice in whatever truths the book contains, this pleasure is more than neutralized by the monstrous system of error into the support of which these truths are impressed.

There has indeed been great dispute as to the proper subject-matter of Logic. A large share of the controversies relative to the science, are traceable to a radical difference on this point. Dr. Watts's treatise, which has probably been studied more than any other in the English language, extends the compass of the science so far, as to make the object of it the "right use of Reason." It is quite clear that this opens a field broad enough to enable one, under the colour of a treatise on Logic, to advocate any opinion or theory he chooses, on any subject whatever. It was doubtless the amiable design of Watts in thus ampliating the sphere of the science, to obtain a license for stringing together, under the title of Logic, a collection of useful rules, whether pertaining strictly to it, or to mental and moral philosophy, or rhetoric, for the assistance of young persons in the culture of their minds. Nor is it to be denied, that some of the more celebrated treatises on Logic have given some countenance to this latitudinarian view, by appending to their unfoldings of it useful suggestions more properly belonging to the adjacent sciences. On the other hand, it is our conviction, that Whately is guilty of a reverse and radical error, when he teaches us that Logic is "entirely conversant about language." It is so wide of the truth, that he himself contradicts it in the first sentence of his book, where he says, "Logic may be considered as the science, and also the art of *Reasoning*." It can

\* See the Burnett Prize Essay, by Tulloch, pp. 278, et seq.

scarcely be doubted that, of these seeming contradictions, the latter is nearer the truth. Logic undoubtedly has a primary respect to the reasoning process and the laws thereof; but inasmuch as language is the vehicle of thought, and is the ordinary instrument of the mind in reasoning, it has a secondary and incidental respect to that also, as Hamilton has well observed. But under no stretch of meaning which the word has hitherto borne, had we a right to look for what amounts to an ingenious plea for the Positive Philosophy, under the title of Logic. But the Trojan horse is still serviceable and keeps up with the "most advanced thinkers." We would not complain of the relation of the title of the book to its subject-matter, were it not a type of the author's general manner of approaching subjects of infinite moment to us, and of undermining the first principles of a faith which is dearer to us than worlds. We are not insensible to the gravity of these implications, or the wrong of making them, without sufficient grounds. But we submit, whether they are unreasonable, when an author, in a treatise on Logic, in setting forth "the ground of induction," elaborately argues against the doctrine of efficient causation; of our possible knowledge of anything but phenomena in their relations of "similitude and succession;" against any intelligible property in matter except that it is the unknown antecedent of certain sensations in ourselves; against will as the cause of any, much more as the ultimate cause of all phenomena; when, more especially, he brings an encyclopediac review of the proper methods, and the present state of investigation in the sciences, to a climax, in an elaborate article on "Sociology," which closes with the following announcement, made for the first time in a long work, in the whole of which he had been cautiously laying the foundations for it.

"I cannot, however, omit to mention one important generalization which he (M. Compte) regards as the fundamental law of the progress of human knowledge. Speculation, he conceives to have, on every subject of human inquiry, three successive stages; in the first of which it tends to explain the phenomena by supernatural agencies; in the second, by metaphysical abstractions; and in the third, or final state, confines itself to ascertaining their laws of succession and

similitude. This generalization appears to me to have that high degree of scientific evidence, which is derived from the indications of history with the probabilities derived from the constitution of the human mind. Nor could it easily be conceived from the mere enunciation of such a proposition, what a flood of light it lets in upon the whole course of history; when its consequences are traced, by connecting with each of the three states of the intellect which it distinguishes, and with each successive modification of these states, the correlative condition of all other social phenomena." pp. 586, 587. When the drift and aim of a book is to prepare the mind for such a doctrine as this; to attract the student towards the great work of which it is the beginning, middle, and end; to train his modes of thinking so that he shall meet the bold and persistent avowal of this doctrine, without that instinctive recoil which to unsophisticated minds would be inevitable; is it quite fair to give him to understand that he is studying *Logic*, and nothing but what properly belongs to it, till the fell work has been accomplished? Had the title of the work been "*The Logic of the Positive Philosophy*," or "*A System of Logic, being an Introduction to the Study of Positive Philosophy, by M. Comte*," it would have been a true description of its real character and purpose.

And yet Mr. Mill, we conceive, has set forth the true province of *Logic* with uncommon precision and accuracy. He says, "Truths are known to us in two ways; some are known directly, and of themselves; some through the medium of other truths. The former are the subject of intuition, or consciousness; the latter, of inference. The truths known by intuition are the original premises from which all others are inferred. . . . The province of *Logic* must be restricted to that portion of our knowledge which consists of inferences from truths previously known, whether those antecedent data be general propositions, or particular observations and perceptions. *Logic* is not the science of belief, but the science of proof, or evidence. So far forth as belief professes to be founded upon proof, the office of *Logic* is to supply a test for ascertaining whether or not the belief is well-grounded. With the claims which any proposition has to belief on its own intrinsic evidence, that is,

without evidence, in the proper sense of the word, Logic has nothing to do." pp. 3—5.

The foregoing seems to us a true statement, in so far as it restricts the subject-matter of Logic to the process of inference; of deducing the unknown or the uncertain from truths previously known. It is clearly the science which develops the rules and methods for doing this in a sure and reliable manner, and it is nothing else. But, then, when it is said that intuitive truths are "without evidence in the proper sense," nothing can be more false. They have the highest of all evidence, even self-evidence. Besides, Mr. Mill justly makes them the "original premises" *i. e.* the evidence, of all deductive truths. But if they are not evidence of themselves, how can they be evidence of anything besides themselves? Such a theory gives us a chain without a staple. Although then, Mr. Mill assures us that Logic has nothing to do with intuitive truths, yet when he also tells us that "Logic is the science of the operations of the mind which are subservient to the estimation of evidence," (p. 7,) he opens what would be the widest door for inquiry into the validity of our belief in self-evident truths, if he had not, in the same paragraph closed it, by the false assertion that self-evidence is no evidence. But notwithstanding this; notwithstanding he so often relegates "any ulterior and minuter analysis to transcendental metaphysics; which in this, as in other parts of our mental nature, decides what are ultimate facts and what are resolvable into other facts; (p. 8.) notwithstanding his protestation, "that no one proposition laid down in this book has been adopted for the sake of establishing, or with any reference to its fitness for being employed in establishing, preconceived opinions in any department of knowledge or inquiry on which the speculative world is still undecided;" (p. 9.) it is yet undeniable, that some of his most toilsome chapters are occupied with proving that phenomena in their relations of similitude and succession are the *omne scibile*; that we can know nothing of matter but the sensations it produces in us; that there is no objective perception of it or its qualities; that we have no warrant for attributing to it either substance or qualities further than to regard it as the unknown cause of creative sensations in ourselves; that the doctrine of causality as

involving efficiency or anything else besides invariable antecedence, is baseless; that the doctrine of the existence of any necessary truths is a delusion; and much more of the like—to say nothing of the sciences of Ethology and Sociology which he introduces. The foregoing involve, directly and indirectly, most of the leading questions of mental philosophy and the higher metaphysics. The author's disposal of them clears away the great obstructions to Positivism. And when they all culminate in removing from "every subject of human knowledge," "supernatural agencies," "metaphysical abstractions," everything but their mere "relations of similitude and succession," we submit whether the end of the book does not give us more than we bargained for in the covenants at the beginning.

This book studiously avoids those unguarded extravagancies of M. Comte, which would have been fatal to its favourable introduction to the British mind. Thus, had he spoken with the same contempt of searching after causes of phenomena as M. Comte, he would have revolted his readers. He, however, subserves the end in view far better, by retaining the name and denying the thing. But let him speak for himself. He says: "It seems desirable to take notice of *an apparent, but not a real opposition* between the doctrines which I have laid down respecting causation, and those maintained in a work which I hold to be far the greatest yet produced on the Philosophy of the Sciences, M. Comte's *Cours de Philosophie Positive*. . . . I most fully agree with M. Comte that ultimate, or in the phraseology of the metaphysicians, efficient causes, which are conceived as not being phenomena, nor perceptible by the senses at all, are radically inaccessible to the human faculties; and that the constant relations of succession or of similarity which exist among phenomena themselves, (not forgetting, so far as any constancy can be traced, their relations of co-existence,) are the only subjects of rational investigation. When I speak of causation, I have nothing in view, other than those constant relations. Nor do I see what is gained by avoiding this particular word, when M. Comte is forced, like other people, to speak continually of the *properties* of things, of *agents* and their *action*, of *forces* and the like." pp. 209, 210.

This passage is a pregnant one, and proves several things within a very brief compass.

1. That, although retaining the word *cause*, he agrees entirely with Comte in rejecting the thing indicated by it, as it is generally understood and believed by men. He goes all lengths with his master in placing this beyond the reach of human knowledge or inquiry.

2. He explicitly rejects "efficient causes which are not conceived as phenomena, nor perceptible by the senses at all, as radically inaccessible to the human faculties." How could language more explicitly rule out the possibility of the knowledge of God as First Cause and Creator, of superhuman or even human spirits, "not perceptible by the senses?" What room does such a system leave for believing "that the worlds were made by the word of God, and the things which are seen are not made of things which do appear?"

3. It is impossible for these men, who reason away the intuitive convictions of the soul, to proceed far, without being forced to recognize them. They may abjure causality, or resolve it into mere antecedence; but they cannot write a dozen pages without recognizing "agents, action, forces," and the like, all which imply efficient causality. Men who deny all morality, will soon show that they have not utterly extinguished the self-evidencing light of conscience, when they suffer insult or injury from others.

Again, in place of the scorn which Comte expresses for Psychology, we find Mr. Mill vindicating it against his aspersions, and exposing the fallacy of confounding it with physiology or phrenology. He shows that the faculties and laws of the mind can be learned only from the inspection of consciousness, (which Comte utterly scouts as impossible,) and that such knowledge is a *sine quâ non* of ascertaining any supposed relation of these faculties to the cerebral or other corporeal organs. p. 531. We do not notice any other difference of opinion of any moment between these authors. And the essence of this, we take to be, that the one fancies that mental philosophy can, the other that it cannot, be turned to the account of Positivism.

Another feature of this treatise is, that instead of treating

the terminology and formulas of the school logicians with contempt, after the style of Compté, it scrupulously preserves and honours them, taking due care to surround them with discussions and explanations, which make them serviceable to the author's scheme. This method has the advantage not only of violating no prejudices, but of investing old formulas with a fresh and vivid import. And in all these ways, as well as by habitual caution and moderation, the author escapes the disadvantage which would arise from imitating the audacity of Compté, or appearing as the servile follower of his opinions. Yet we think we have shown already, that he adopts whatever is most vital, or rather deadly, in those opinions, and by these small and immaterial variations, contributes more effectually to promote them on British and American soil.

After the manner of the logicians, he begins with the consideration of language, as employed in the reasoning process, and pursues the subject at great length and with great ability. No portion of the work, if we except those relating to the methods and tests of valid inductions in physical science, are more satisfactory than those which relate purely to language. If we except the metaphysical and other passages bearing a special outlook towards his peculiar philosophy, (some of which we shall speedily notice,) his observations are profound and just, full of suggestive educating power. As an eminent example, we refer to his luminous chapter on connotative and non-connotative words. Notwithstanding its formidable length, we cannot refrain from quoting an extract in reference to preserving intact the formulæ which record the past beliefs of men, not only because we love to fortify severely contested principles of our own from so unexpected a source, but also because it is a pleasure to present to our readers a bright side of a book obnoxious, on other accounts, to the strongest reprobation. It is all the more unexpected and welcome, when, on another page (515,) we find the following answer to the question, "Why are we bound to keep a promise at all? No satisfactory ground can be assigned for the obligation, except the mischievous consequences of the absence of faith and mutual confidence to mankind. We are therefore brought around to the interests of society as the ultimate ground of the obliga-

tion of a promise." Here is sheer utilitarianism set up as the ground of moral obligation. There is then no intrinsic obligation to speak the truth and keep plighted faith. We apprehend, that if men ignore all ground of obligation but utility, they will think that utility to themselves creates a more stringent obligation than utility to others. Still, this theory offers the only possible basis of morals, left by a purely sensational and phenomenal philosophy, which rules out all intuitive, *a priori* truths and ideas, and therefore the idea of morality. But to our proposed extract, which is in pleasing contrast with this and much else in the book.

"Considering, then, that the human mind, in different generations, occupies itself with different things, and in one age is led by the circumstances which surround it to fix more of its attention upon one of the properties of a thing, in another age upon another; it is natural and inevitable that in every age a certain portion of our recorded and traditional knowledge, not being continually suggested by the pursuits and inquiries with which mankind are at that time engrossed, should fall asleep as it were, and fade from the memory. It would be utterly lost, if the propositions or formulas, the results of the previous experience, did not remain, and continue to be repeated and believed in, as forms of words it may be, but of words that once really conveyed, and are still supposed to convey, a meaning: which meaning, though suspended, may be historically traced, and when suggested, is recognized by minds of the necessary endowments as being still matter of fact, or truth. While the formulæ remain, the meaning may at any time revive; and as on the one hand the formulæ progressively lose the meaning they were intended to convey, so on the other, when this forgetfulness has reached its height and begun to produce consequences of obvious evil, minds arise which from the contemplation of the formulæ rediscover the whole truth, and announce it again to mankind, not as a discovery, but as the meaning of that which they have long been taught, and still profess to believe." . . .

"There is scarcely anything which can materially retard the arrival of this salutary reaction, except the shallow conceptions and incautious proceedings of mere logicians. It sometimes

happens that towards the close of the downward period, when the words have lost part of their significance and have not yet begun to recover it, persons arise whose leading and favourite idea is the importance of clear conceptions and precise thought, and the necessity, therefore, of definite language. These persons, in examining the old formulas, easily perceive that words are used in them without a meaning; and if they are not the sort of persons who are capable of rediscovering the lost signification, they naturally enough dismiss the formula, and define the name without any reference to it." . . .

"An example may make these remarks more intelligible. In all ages, except where moral speculation has been silenced by outward compulsion, or where the feelings which prompt to it have received full satisfaction from an established faith unhesitatingly acquiesced in, one of the subjects which have most occupied the minds of thinking men is the inquiry, What is virtue? or, What is a virtuous character? Among the different theories on the subject which have, at different times, grown up and obtained currency, every one of which reflected as in the clearest mirror the express image of the age which gave it birth, there was one, brought forth by the latter half of the eighteenth century, according to which virtue consisted in a correct calculation of our own personal interests, either in this world only, or also in the next. There probably had been no era in history, except the declining period of the Roman empire, in which this theory *could* have grown up and made many converts. It could only have originated in an age essentially unheroic. It was a condition of the existence of such a theory, that the only beneficial actions which people in general were much accustomed to see, or were therefore much accustomed to praise, should be such as were, or at least might without contradicting obvious facts be supposed to be, the result of the motive above characterized. Hence the words really connoted no more in common acceptation, than was set down in the definition: to which consequently no objection lay on the score of deviation from usage, if the usage of that age alone was to be considered.

"Suppose, now, that the partisans of this theory, had contrived to introduce (as, to do them justice, they showed them-

selves sufficiently inclined) a consistent and undeviating use of the term according to this definition. Suppose that they had succeeded in banishing the word *disinterestedness* from the language, in obtaining the disuse of all expressions, attaching odium to selfishness, or commendation to self-sacrifice, or which implied generosity or kindness to be anything but doing a benefit, in order to receive a greater advantage in return. Need we say, that this abrogation of the old formulas, for the sake of preserving clear ideas and consistency of thought, would have been an incalculable evil? while the very inconsistency incurred by the co-existence of the formulas with philosophical opinions, which virtually condemned them as absurdities, operated as a stimulus to the re-examination of the subject; and thus the very doctrines originating in the oblivion into which great moral truths had fallen, were rendered indirectly, but powerfully, instrumental to the revival of those truths.

“The doctrine, therefore, of the Coleridge school, that the language of any people among whom culture is of old date, is a sacred deposit, the property of all ages, and which no one age should consider itself empowered to alter, is far from being so devoid of important truth, as it appears to that class of logicians, who think more of having a clear, than of having a complete meaning; and who perceive that every age is adding to the truths which it had received from its predecessors, but fail to see that a counter-process of losing truths already possessed, is also constantly going on, and requiring the most sedulous attention to counteract it. Language is the depository of the accumulated body of experience to which all former ages have contributed their part, and which is the inheritance of all yet to come. We have no right to prevent ourselves from transmitting to posterity a larger portion of this inheritance than we may ourselves have profited by. We continually have cause to give up the opinions of our forefathers; but to tamper with their language, even to the extent of a word, is an operation of much greater responsibility, and implies as an indispensable requisite, an accurate acquaintance with the history of the particular word, and of the opinions which in different stages of its progress it served to express. To be qualified to define the name, we must know all that has ever been

known of the properties of the class of objects which are or originally were, denoted by it. For if we give it a meaning according to which any proposition will be false, which philosophers or mankind have ever held to be true, it is at least incumbent upon us, to be sure that we know all which those who believed the proposition understood by it." pp. 411—414.

But in portions of the preliminary exertions on language, the author labours out certain metaphysical and psychological principles, which must now receive attention.

Under the questions, What do names denote? what are namable things? what are substances and attributes? the author avails himself of the opportunity to throw out such views relative to Psychology, Metaphysics, and Ontology, as suit his purpose. The following is his enumeration and classification of all namable things:

"1st. Feelings or states of consciousness.

"2d. The minds which experience these feelings.

"3d. The bodies or external objects which excite certain of those feelings, together with the properties or powers whereby they excite them; these last being included rather in compliance with common opinion, and because their existence is taken for granted in the common language, from which I cannot prudently deviate, than because the recognition of such powers or properties as real existences appears to me warranted by sound philosophy.

"4th and last. The successions and coexistences, the likenesses or unlikenesses, between feelings or states of consciousness. Those relations when considered as subsisting between other things, exist in reality only between the states of consciousness which those things, if bodies, excite; if minds, either excite or experience. . . . These, or some of them, must compose the signification of all names." p. 52. "All we know of objects is the sensations which they give us, and the order of the occurrence of those sensations. . . . It may therefore be safely laid down as a truth, both obvious in itself, and admitted by all whom it is necessary at present, to take into consideration, that of the outward world, we know and can know absolutely nothing, except the sensations we experience from it. Those, however, who still look upon Ontology as a possible science . . . must not

expect to find their refutation here." pp. 40, 41. Conformably to all this he proceeds to define *body* as the "hidden external cause to which we refer our sensations," and to contend for "the essential *subjectivity* of our conceptions of the primary qualities of matter, as extension, solidity, &c., equally with those of colour, heat, and the remainder of what are called secondary qualities." p. 41. "We may say, then that every objective fact is grounded on a corresponding subjective one; and has no meaning to us, (apart from the subject fact which corresponds to it,) except as a name for the unknown and inscrutable process by which that subjective or inscrutable psychological fact is brought to pass." p. 52.

Upon all this we remark:

1. That there is an obvious purpose in this whole analysis of the modes and matter of our knowledge. That purpose is to reduce all that is knowable to phenomena under the relations, succession, or co-existence, likeness or unlikeness. Hence the persistent denial of any knowledge of the objective properties of matter. For this would be granting that we can know more than such relations. Hence the reduction of succession and similitude themselves to mere states of consciousness. For if we could assert these as existing objectively in aught else besides the mind, we could with the same propriety assert the existence of other properties of matter. The author's purpose then is palpable, all his protestations to the contrary notwithstanding.

2. We utterly deny that all we know of body is, that it is the hidden cause of sensations in ourselves. Such a definition contains simply the fallacy of putting a part for the whole. Like all other things, matter is known to us in some respects, but not in others. It is known by its qualities, some of which are more, some less, perfectly understood. It is an intuitive conviction of the mind, that these qualities belong to something which we call substance. Now that we know of this substrate *that* it is, while, at the same time, we do not know *how* or *what* it is, is readily conceded. Whatever objections Mr. Mill may raise against the recognition of the *existence* of a substance which is in its nature unknown, lies with full force against his doctrine of matter as the "unknown cause of our

sensations;" nay, on his philosophy, which ignores all knowledge of anything but phenomena, they bear with a greater, an absolutely annihilating force, against this assumption of an occult cause. On the other hand, on our scheme, this substrate, though not explicable in itself, is manifested both by the sensible and by the *a priori* qualities which are seen to belong to it objectively, which are more than mere subjective sensations having no correspondent reality in the object producing them. We are here brought to face the whole question of the primary and secondary qualities of matter, the relation of which to the very foundations of faith and of sceptical idealism, must be our justification for dwelling further on the subject. This distinction, though not first noted, was signalized by Locke, strenuously maintained by Reid and the most distinguished modern philosophers, British and Continental, and has been developed in a singularly clear, exhaustive, and conclusive manner by Sir William Hamilton.\*

Whence comes our notion or knowledge of matter, and in what does it consist? All knowledge implies a subject knowing, and an object known. The object so known, may be either the mind, the Ego knowing, *i. e.* it may know itself or some affection of itself, and thus become subject-object, or it may know something as separate and distinct from itself. On the possibility and reality of this latter knowledge, depends the possibility of escaping absolute Egoism, or Idealism, which simply resolves the universe into a mode of the thinking-self, or mind. If we are called on to show how the mind can know anything beyond its own acts and states, we are no more obliged to solve the problem, provided our consciousness testifies to such acts of intelligence, than to show how it can know itself or its own states. Each fact may be, and, to our present faculties, doubtless is, alike ultimate and irreducible to any simpler facts.

Now, in the exercise of the senses of sight and touch, especially the latter, there is not merely a subjective sensation, but a perception of a something that is seen to be not-self. As surely as there is a consciousness of the Ego perceiving, there is

\* Hamilton's Reid, Note D, p. 825.

a consciousness of the non-Ego perceived. Both are equally asserted in one indivisible act of consciousness, or of our intelligent faculty. Is this witness to be believed when it asserts the non-Ego? So all mankind, except a few philosophers and sceptics run mad, have believed. So we must believe, unless we make consciousness a false witness. And if it is false in affirming the non-Ego, why not in affirming the Ego? *Falsus in uno, falsus in omnibus*. And so we are given over to absolute scepticism.

Thus the mind comes to the knowledge of matter, as an objective reality existing in space. And as surely as it knows this, it knows matter, as having *in itself*, not in the mere sensations of the knower, extension, figure, hardness, divisibility, to say no more. By the senses, the mind perceives these qualities in all matter. Not only so: but no sooner does it cognize matter, as substance occupying space, than it knows *a priori*, that it *must* have extension, form, incompressibility, divisibility, etc. The existence of matter is indeed contingent on the will of the Creator. But being once given, these are its necessary attributes, whose non-existence the mind cannot conceive, whoever may undertake to explain them away. Being thus universal and necessary, they are justly styled primary qualities; known, perceived directly and objectively through the senses, and also discerned independently of all sensation and external perception, by the Reason.

There is another set of properties in matter such as odors, heat, &c., which differ from the foregoing in the following particulars. 1. They are contingent, not necessary. They belong to some bodies, but not to others. 2. They are known, not objectively in themselves, but only through the sensations they produce in us, and are named chiefly from those sensations. The sweetness of the rose, is only that occult quality in it which gives us the sensation of sweetness. 3. The co-existence of these qualities is not known directly, but by inference, from the sensations which their presence is found to produce. 4. Had we not the direct perception of matter in its primary and secondary qualities, as an objective reality, there would be no ground nor possibility of inferring that it possesses those which are the secondary qualities. 5. Mr. Mill's definition of matter

only holds good with respect to these its secondary qualities. By one audacious leap in definition, designating matter from its occasional and incidental, instead of its essential and universal properties, he has prepared the way for boundless confusion and scepticism in relation to the whole subject. Gathering now to a focus the distinctions between the primary and secondary qualities, we find that the one sort are necessary, the other contingent; the one universal, the other occasional; the one originally matters of intelligence, the other of feeling; the one objective, the other subjective in the mind's first relation to them; the one are objects of perception, the other simply causes of sensation; the one of immediate intuition and perception, the other of inference from our sensations.

Besides these, Hamilton has marked a third class, such as gravity, cohesion, repulsion, and inertia, which he denominates secundo-primary, because they partake partly of the primary and partly of the secondary characteristics—*e. g.* they are universal but not necessary, in part known by perception, and in part by sensation, etc. But upon these it is unnecessary for us now to dwell.

3. If the theory that our knowledge of matter consists wholly of sensations is groundless, no less so is the correlate theory that similitude and succession are exclusively between sensations. It is doubtless from within the mind, that the ideas of similitude, identity, succession, etc., arise. But the things of which they are true are as really objects without, as within us. Similarity is as much an objective reality between the water that flows in a stream to-day and that which flows to-morrow, as between any subjective sensations connected therewith.

4. What is sensation? According to Reid it is an act of the mind which "has no object beyond itself;" according to Hamilton a "mere apprehension of affection of the Ego." What is perception? It is an act of the mind which goes beyond itself to the cognition of an external object—not of an idea, image, sensation, or representation of an object, but of the object itself. It is therefore a higher energy of intelligence than mere sensation. Upon it, and upon a true view of the reality of the knowledge it gives, rests our whole security against infinite subjectivity, utter idealism. But Mr. Mill confounds the

two, or rather negates perception altogether, pp. 35, 36. This is in fact the abnegation of all knowledge of the external world. And, therefore,

5. We remark finally, that this attempt to lay the basis of Positive Materialism terminates in absolute Idealism. We in reality know nothing beyond our own sensations: "Every objective fact is grounded on a corresponding subjective one." To concede that phenomena themselves are known as objective realities, as anything more than modifications of the sentient self, would be conceding too much. If we concede this degree of knowledge, we must concede a great deal more, which would be fatal to this scheme. Therefore we know nothing but sensations or modifications of self. All that we recognize beside, is a "hidden external cause" of these sensations. But how know this? What can we know besides phenomena? Even this assumption is in denial of this whole philosophy. It is impossible to put the different parts of this scheme together without making an end of all knowledge of anything beyond ourselves. Its phenomena, of which it professes to give us knowledge so certain and positive, evaporate in sensations. For certain knowledge of phenomena, their very existence outside of ourselves is put in doubt. So the extremes of Idealism and Materialism meet.

We now turn to Mr. Mill's doctrine of causation. We have already seen that he makes cause mean mere uniformity of antecedence. Of efficient causes, since the causal efficiency is not a phenomenon, we can have no knowledge. Yet he tells us the principle, "that what happens once, will, under a sufficient degree of similarity of circumstances, happen again, and not only again, but always; this, I say, is an assumption involved in every case of induction." p. 184. Now, we ask, what warrant have we for such an assumption? Is not that something more than the knowledge of phenomena in their mere relations of similarity and succession? If the mind may lawfully superinduce this "assumption" upon observed phenomena, why may it not fully superinduce that of a *causal energy* producing these phenomena, and sure, in like circumstances, to produce them again? Is not this the actual and only legitimate form, which this assumption takes spontaneously among all men who have

not speculated away their innate convictions? What can be gained then, by substituting for this native causal judgment, the "assumption" of Mr. Mill? Plainly nothing, except that the very basis of the argument for "supernatural agents," and a Divine First Cause, is thus removed. Moreover, we deny that the causal judgment is restricted to the mere case of uniform antecedence and consequence. This exemplifies merely a single form of this judgment, viz. that like causes produce like effects. The causal judgment proper is, that every event *must* have a cause, a cause efficient for its production. The universal language and conduct of men proves this to be a native and universal judgment of the race. The futility of the notion that causality consists in mere uniformity of antecedence is made conspicuous by Mr. Mill himself, in his notable attempt to meet the great example of uniformity in the succession of day and night, adduced by Reid. He says, "We do not believe that night will be followed by day under any imaginable circumstances, but only that it will be so, *provided* the sun rises above the horizon. . . . Invariable sequence, therefore, is not synonymous with causation, unless the sequence, besides being invariable, is unconditional. There are sequences as uniform in past experience as any others whatever, which yet we do not regard as cases of causation, but as in some sort accidental. Such to a philosopher is that of day and night." p. 203. Clearing away these misty and evasive circumlocutions, can it be denied that the real reason why we judge the sun's radiance, and not night, to be the cause of day, is that the one is an illuminating agency, efficient to dispel darkness, while the other is not? Besides, Mr. Mill is obliged to concede that the mind recognizes something more in cause than mere invariable antecedence, viz. "unconditionalness." But this is virtually surrendering the whole. If it must discern some element in cause, besides mere observed uniformity of sequence, why not that which mankind have always intuitively believed it to be, *i. e.* efficiency?

We have before seen that M. Comte holds that the laws of phenomena are reducible to a few, but not to any one original law or force. Mr. Mill says, "There exists in nature a number of permanent causes, which have subsisted ever since the

human race has been in existence, and for an indefinite and probably enormous length of time previous. . . . But we can give, scientifically speaking, no account of the origin of the permanent causes themselves. . . . The co-existence, therefore, of primeval causes ranks, to us, among merely casual occurrences." pp. 206, 207. No such views could be entertained by any one who believes in One First Almighty cause of all things.

Of course, it is indispensable to this scheme to deny the existence of any necessary truths. To concede it, would be to concede the knowledge of non-phenomenal entities. As mathematics presents the most abundant, signal, and unquestioned examples of necessary truths, Mr. Mill tasks his ingenuity to remove this difficulty. He goes into a minute analysis of mathematical axioms, postulates, and definitions, to prove this science purely empirical and inductive. He therefore begins by pronouncing the character of necessity, and even of peculiar certainty, (with some reservation,) attributed to mathematical truths, "an illusion." "There exist no points without magnitude; no lines without breadth, nor perfectly straight. . . . A line as defined by geometers is wholly inconceivable. We can reason about a line as if it had no breadth; because we have a power which is the foundation of all the control we can exercise over our minds; the power when a perception is present to our senses, or a conception to our intellects, of *attending* to a part of that perception or conception, instead of the whole. But we cannot conceive a line without breadth; we can form no mental picture of such a line. . . . The peculiar accuracy, supposed to be characteristic of the first principles of geometry, thus appears to be fictitious." pp. 148, 149.

We cannot but admire the boldness of a thinker who thus ventures to contradict the whole educated world in regard to subjects, all the facts pertaining to which are equally and fully before every attentive mind. It remains to be seen whether it is the boldness of superior insight or of blind desperation. When Mr. Mill says we cannot conceive of a line without breadth, this is true of lines made of material particles, however dilute. For it results from the very nature of matter as extended. But

all such lines are mere symbolic imitations of the true geometric line, designed to assist the attention and memory in holding it before the mind, in some given situation. Mr. Mill's conception of a line is not that of extension in one direction, but in three; of volume, in short, circumscribed by lines and surfaces. But with marvellous inconsistency, he tells us we can reason about a breadthless line, though it be inconceivable. How? The mind can attend to a "part of its perception or conception instead of the whole." What is this *part*? An inconceivable nonentity. How then does the mind attend to and reason about it? This imposing onset upon the certainty and necessity of mathematical truth staggers and falls at the very first move. Mr. Mill himself is obliged to have recourse to what he calls "mental pictures" in defending his own theories. What is this but the admission that mathematics are based on ideas and principles that are super-sensuous, and originate in the mind itself?

Axioms, says Mr. Mill, "are experimental truths, generalizations from observation. The proposition, Two straight lines cannot enclose a space . . . is an induction from the evidence of our senses." p. 152. To the argument that we cannot bring before our senses the whole length to which two such lines may be drawn, he answers, that the mind can frame "diagrams" within itself, "imaginary lines," which, to whatever length it extends them in thought, it sees cannot enclose a space, and that we "do not believe this truth on the ground of the imaginary intuition simply, but because we know the imaginary lines exactly resemble real ones, and that we may conclude from them to real ones, with quite as much certainty as we could conclude from one real line to another." p. 155. But, we ask, how do we know all this, if we never have seen any two actual straight lines meeting and extended illimitably? Or even if we had seen them, how could we know not only that it is true of these, but *must* be true of all other pairs of straight lines meeting each other, drawn at whatever angle, and to whatever length? Is not this character of necessity, an *a priori* truth, self-evident from the very constitution of the mind, and not derived in any manner through the senses? To this Mr. Mill replies, that the advocates of necessary truths, mean by the attribute of necessity simply, that the "opposite is not only

false, but inconceivable." Here everything depends on the definition of "inconceivable." A thing may be inconceivable *simpliciter*, or *secundum quid*. I can *conceive* or form the mental conception of the absence of a person who is present. But I cannot *conceive it to be true*, that at the moment of his presence, he is at the same time and in the same sense, absent. Again, with regard to concrete and contingent facts, I may conceive them possible on one supposition and impossible on another; because one supposition brings them athwart some necessary truth, while another does not. And the various degrees of knowledge in different persons, therefore, may make *certain contingent things* conceivably true to some minds, and the reverse to others. Thus to one who, from insufficient information, is ignorant of the rotation of the earth, and believes that it stands still, it may be inconceivable that the sun is motionless. Still further, men are very apt to call or think inconceivable, the contrary of what they firmly believe. From this ambiguity of the word "inconceivable," Mr. Mill makes a plausible argument, by citing some striking instances of things once thought inconceivable, which later scientific discovery has proved both conceivable and true. pp. 157, 158. But what of all this? Because Newton could not conceive of a force in bodies acting beyond themselves, on account of some false antecedent theory, does that go to prove that there are no necessary truths, about which there is no contingency whatever, the reverse of which no sound mind can conceive to be true under any circumstances? Is it not a necessary truth, that a proposition and its contradictory can never both be true; that no two bodies can occupy the same space at the same time; that equals of the same are equal to each other; that two straight lines cannot enclose a space; that we cannot conceive of space as non-existent, and much more of the like?

We will only add on this topic, a few instances from this book, out of many, in which he inadvertently recognizes the existence of those necessary truths which he so strenuously impugns. He says, "we do not conclude that all triangles have the property (of being equal to two right angles,) because some have, *but from the ulterior demonstrative evidence* which was the ground of our conviction in the particular instances."

p. 176. "All things which possess extension, or in other words, which fill space, are subject to geometrical laws. Possessing extension, they possess figure, possessing figure, *they must possess some figure in particular, and have all the properties which geometry assigns to that figure.*" p. 194. "The mere contemplation of a straight line shows that it *cannot* enclose a space." p. 363.

As the author denies all axioms and first principles of reason on all subjects, of course, the normal type of all reasoning, in his view, is induction; *i. e.* reasoning from particular facts to other similar facts; or inferring the existence of general laws or uniformities from finding them in all, amounting to a sufficient number of observed parallel cases. Hence the syllogism which involves the inference of the less general from the more general, plays quite a secondary part in this treatise. He, however, does not utterly discard it, like some Positivists, who would fain regenerate Logic, by destroying it. He goes through with the development of the syllogism, reproducing the substance of what is found in Whately on the subject. But in treating of its function and value, he assigns it a secondary office. It is not with him a form of reasoning, or rather the form to which all reasoning may be reduced, and according to whose rules it may thus be tested; but it is chiefly a contrivance for trying the validity of the induction expressed in the major premise. It does not, as in the received theory of it, so much represent the process by which the mind deduces the unknown from the known; it is rather a mode of showing whether that process has already been done aright by induction—according to Mr. Mill, the only process by which it can be done. Thus, as we have seen, in his view, the axiom, things equal to the same thing are equal to each other, is an induction. Taking this for the major premise, and  $a$  and  $b$  each equal  $c$ , for the minor, the conclusion  $a = b$  serves, if true, to verify the major; if false, to overturn it. It is not a discovery from, but an interpretation and verification of; not a thing proved by, but one of the proofs of, the premises. Now that this is an incidental service sometimes rendered by the syllogism is certainly true. It is true that, if the conclusion has been legitimately derived from the premises,

in violation of no logical rule, then the falsity of that conclusion proves the falsity of one or both of the premises, and that we are to look there for the flaw in the argument. It is no less true that, if there have been a violation of any of the rules of the syllogism, it is unnecessary to look as far as the premises; for in this case, be they true or false, the conclusion does not flow from them. But then the fallacy of a false premise, like that of an irrelevant conclusion, is not, strictly speaking, logical; it has not occurred in the process of inferring the conclusion from the premises; but it is as the logicians justly say, a "non-logical or material fallacy." It lies either in the falsity of the premises evinced by the falsity of the conclusion; or in *ignoratio elenchi*, the irrelevance of the conclusion to the point the reasoner has undertaken to prove.

Mr. Mill, of course, repeats some of the staple objections to the syllogism, regarded as a means of eliciting truth by truly proving a conclusion from the premises, on the ground that the conclusion gives nothing not previously contained in the premises. This may impose on such as have never reflected that the whole science of Mathematics is but the logical unfolding of what was contained implicitly in a few self-evident axioms: that in the single precept of love to God and our neighbour, is contained implicitly all the law and the prophets; that men are constantly drawing false conclusions from true premises; that not a controversy occurs, in which one or the other of the controvertists does not perpetrate the fallacy of putting terms in the conclusion that are not in the premises, or of ambiguous or undistributed middle, or illicit process of the major and minor terms. It will be time enough to decry the logic which teaches how to reason accurately from generals to particulars, when we find that men are superior to all mistake in the process, or that they have no success in thus unfolding clearly and undeniably, what was before either unrecognized or disputed. One of the fundamental arguments of Mr. Mill's school may be stated thus:

Phenomena follow uniform laws of sequence;

Will acts capriciously and variably;

Therefore phenomena are not the product of will.

If we grant these premises, the conclusion does not follow. For

in the conclusion, will is distributed, *i. e.* taken for all wills in all their modes of action. In the premises it is undistributed *i. e.* taken only for some wills in some of their actings—a vice which logic technically styles *illicit process of the major*.

Moreover, even induction itself is essentially syllogistic. It has for its major premise, the intuitive conviction that like causes produce like effects in like circumstances: or, as we have seen, what Mr. Mill calls an “assumption” essentially equivalent. But call it assumption, or what we will, our inductions could never proceed a step beyond the mere phenomena we have inspected without this first principle. And the inference that the law extends at all beyond phenomena which we have witnessed, to other like phenomena, has not a whit higher certainty, than belongs to that first principle or “assumption.”

Of course, Mr. Mill puts his chief strength upon developing Logic of the inductive sciences, so far as his work treats primarily of logic. This part of the work is valuable, not only for the knowledge it gives of the state of the physical science, but especially for the conditions, requisites, and criteria of sound induction which it so fully and clearly lays down. But upon this we cannot dwell.

The author's treatment of Fallacies corresponds with his treatment of the science in chief. His animus is no nowhere more apparent. Amid many acute and valuable observations, among *a priori* fallacies he notes such as these: “That matter cannot think; that space or extension is infinite; that nothing can be made out of nothing, *ex nihilo nihil fit*.” p. 462. The bearing of this, and much more of the like, for which we have no space, is obvious.

Nor is it necessary to follow the author through his speculations on Ethology and Social Statics and Dynamics, in which, with far greater caution, and therefore greater plausibility than M. Comte, he finally adopts his main conclusion, and enunciates the atheistic dogma, for which he had been preparing the reader by his long and astute disquisitions. This dogma is, that “phenomena” are no more to be explained by “supernatural agencies.” This is enough. It is because the book is designed as a gymnastic to prepare the mind for such principles, while it has enough that is valuable to win for it high

consideration, that we have performed the unwelcome duty of signalizing its dangerous characteristics and tendencies. It is quite time for us to understand the great features of this new philosophy, and the agencies employed for its promotion. It is little else than the sensational scepticism of Hume arrayed in the plumage of modern science, and striving with bold assumption and desperate ingenuity to turn that science into a handmaid of irreligion and atheism.

This is none the less so, although he intimates in some places that our "knowledge may be conceived as coming to us from revelation;" or that Hume's argument against miracles is good only for him who did not before the alleged miracles "believe the existence of a being or beings with supernatural power; or who believed himself to have full proof that the character of the Being whom he recognized, is inconsistent with his having seen fit to interfere on the occasion in question." But observe, he never announces his own belief in such revelation; or in any superior Being with whose character it is consistent to give it. He speaks of such belief as possible. He never implies that it is reasonable. All this can be of little account, when weighed against the positive opinions and reasonings which we have quoted from the book.

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ART. V.—*Les Essais de Morale et autres ouvrages de Pierre Nicole. Paris.*

IF the "Provincial Letters" of Pascal be read and admired by us, as presenting a striking example of every kind of eloquence; as exposing the corrupt maxims of the Jesuits; as hastening their downfall and suppression, we should not forget one who contributed much to bring them into existence—Peter Nicole. He in some measure originated the work; occasionally selected the subjects, corrected the Letters from time to time, and did more than any other to bring them into public notice, and to circulate them among the people. He was one