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ARTICLE I.

RELATIONS OF SCIENCE TO THE BIBLE.

1. *Modern Scepticism: a Course of Lectures Delivered at the Request of the Christian Evidence Society. With an Explanatory Paper*, by the Right Rev. C. J. ELLICOTT, D. D., Lord Bishop of Gloucester and Bristol. 1 vol., pp. 526. London: Hodder & Stoughton, 27 Paternoster Row. 1872.
2. *Modern Materialism: Some of its Phases and Elements*. By GEORGE B. CHEEVER, D. D. Published in Nos. I. to XI., in the *New York Observer*, March, April, May, and June, 1873.

Our remarks in this article will be confined to the single question, What are the relations of modern physical science to the Bible—to the volume which claims to be a very gradual revelation of spiritual truth, by a personal God, for his own glory, in the redemption of fallen man, created in the image of his Creator? We intend to discuss neither the evolution hypothesis and other forms of modern scepticism, nor the influence of physical science on modern morality, civilisation, and Christianity, as affected by arts, manufactures, and commerce. Has any truth of science been shown to conflict with any plain declaration of revealed truth? Can science discredit revelation? Is true science responsible for the use of physical hypotheses by sceptical scientists? Can theologians who are ignorant of science, reply wisely to speculations that grow out of scientific discoveries? Does the Bible denounce physical science, as it does divination,

ings of eternal protection, pardon, and peace, depended alone upon their acceptance?

Is God's Spirit now striving with any unconverted readers, convincing of sin, its inevitable doom, pointing to a Saviour, their only Saviour, dying for them? Do they need the assurance of his willingness to receive them? They had it in all the fulness of divine love, in last Sabbath's benedictions. They will have it next Sabbath: "The Lord bless thee, and keep thee; The Lord make his face shine upon thee, and be gracious unto thee; The Lord lift up his countenance upon thee, and give thee peace." Also whensoever and wheresoever a burdened soul hears the benediction—"The grace of our Lord Jesus Christ, and the love of God, and the communion of the Holy Ghost, be with you all," let him remember that thus to him "the Spirit and the Bride say, Come."

ARTICLE V.

CAUSE—FIRST AND FINAL.

Christianity and Positivism: A Series of Lectures to the Times, on Natural Theology and Apologetics. Delivered in New York, January 16 to March 20, 1871, on the "Ely Foundation" of the Union (N. Y.) Theological Seminary. By JAMES MCCOSH, D.D., LL.D., President of the College of New Jersey, Princeton. New York: Robert Carter and Brothers, 530 Broadway. 1871.

The Theistic controversy is an ancient one. The historical age of philosophy may be said to have begun with Plato. He informs us that, prior to Democritus, in the Ionic School, there were those who denied an extra-mundane, spiritual Creator. On the other hand, there were deep thinkers, such as Socrates and his illustrious pupil, who were not satisfied with material causes, with ascribing all things to chance, to nature, and to art.

Prof. Tayler Lewis, in a recent article in the *Princeton Review*, and, perhaps still more fully, in his scholarly and enchanting notes on *Plato against the Atheists*, has certainly shown it to

be a plausible belief that these Athenian sages were believers in one personal Deity, that their θεοί is to be reckoned the same plural as the אלהים of the Hebrews.

The parties to this fundamental controversy are Theists on the one side, and Atheists, Polytheists, Pantheists, and Deists, on the other. Theism, as against Atheism proper, asserts simply the existence of a being, superior to matter and human mind, and the cause of both. As against Polytheism, it contends that this superior nature is a single, individual being. As opposed to Pantheism, it affirms that this one superior being, the infinite creator, is an intelligent person, distinct from the created universe of matter and mind. As opposed to Deism, it believes that this intelligent, spiritual, infinite creator, has not only revealed himself in nature and providence, but also authentically in the written revelation of the Hebrew and Christian Scriptures.

It is believed that these generic terms will properly embrace all possible shades of belief as to the Deity. All men are Atheists, or Polytheists, or Pantheists, or Deists, or Theists. It will be observed that we use Theism as the scientific designation of the Christian conception of God. We use it as distinct from Deism, as well as from the other shades of error.

What is the point at issue? We answer readily, the existence of God. Yes, but the Polytheist, the Pantheist, and the Deist all reply that they believe in the existence of God. It would seem, then, that we have no adversary but the Atheist. When, however, we question the Polytheist, the Pantheist, and the Deist, we find that the God of their belief is to us no God at all. So that we are compelled at the opening to define, as far as it can be done, the principal term of the question, that we may know exactly where we stand.

The God of the Theist is the *cause* of all things, the *efficient* cause of all things, the *first* efficient cause of all things, depravity alone excepted; the Eternal, Omnipotent, Wise, and Good. The God of the Theist is *one* infinite Essence.

The eternal, all-powerful, all-wise, all-good, individual Creator is a *person*, distinct from all created mind and matter.

This individual, personal, perfect Creator, is the universal *Law*-

giver and providential ruler, the *Saviour* of men, and the final *Judge*.

Such are the theses with reference to God, which Theism undertakes to defend. If the true God be such a being, then all falling short of such a conception of him, are really without God—Atheists, as Dr. Buchanan very properly calls them. The Atheist proper, the Polytheist, the Pantheist, and a portion of the Deists, all discard such a Deity. The Theists and a section of the Deists alone maintain his existence.

Another interesting preliminary question concerns the origin of this conception of God. Some have said that it was innate. Since the days of Locke, this philosophic figment has been cast to the moles and to the bats. Some, again, have attributed it to the human reason, in its noetic and dianoetic exercises. If by this it is meant to assert that the mind of man is capable of an *independent* origination of the true idea of God, then we must demur, and call for proof that it has ever done so in one single instance. The most that can be said even of the “divine Plato,” is that he was manifestly *feeling after* the true God. If, however, it is intended to affirm that, having already received the idea, the mind can construct a satisfactory proof of an answering reality, then we give our adhesion to the statement. This cannot be said properly to be an origination of the idea.

The third opinion is, that the knowledge which man has of his Maker, is due to the revelation which he made of himself to the fathers of the race, and especially upon the pages of inspiration. This knowledge has been partially perpetuated by tradition amongst those tribes which are destitute of the written Word. Our judgment adopts this last view.

There are four arguments of a positive character, which Theists have been accustomed to present as the basis of their belief.

I. The argument from *common consent*. This may be stated syllogistically thus: Whatever is universally believed, must be true. The existence of God is universally believed. Therefore, the existence of God is true. The major premiss is regarded as a first truth. Cicero says, in his *Tusc. Quest.*, i. 30: “*Omni autem in re consensio omnium gentium lex naturae putanda est.*” It

is perhaps better known as expressed by the famous dictum of Vincent: "*Quod semper, quod ubique, quod ab omnibus.*" It is a serious thing to assert axiomatic authority for any opinion. It should be accepted as a valid claim only where it is indisputably true. Is it so with this generally admitted statement? We feel quite confident that it is neither a first truth, nor a truth of any kind. In the first place, what is its exact meaning? Is "*universally*" to be taken absolutely or comparatively? If comparatively, does it mean the majority of men, the masses of ignorance and thoughtlessness being allowed equal suffrage? Or does it refer to the *elite* alone? We affirm that it is not true either in its restricted or in its widest meaning. One example will suffice to show this. There was a time when it was universally believed that the earth was the stationary centre of our system of planets. This was an absolutely universal belief. Was it true? Other examples could be given. The minor premiss of this syllogism involves also a material fallacy. It is not now true, and has not been since the days of Babel, that the existence of God is universally believed. To our mind, it is entirely out of the question to attempt to prove this statement, by referring to the sorcerers, witches, medicine-men, and evil spirits of the degraded and superstitious heathen. How would the natural theologian, using such facts, relish being identified in court as an animal having long ears and a peculiar braying voice? Of course, this is ridiculous; but none the more so than the endeavor to identify Jehovah with the evil spirits of the Hottentot.

This minor premiss is hardly true, even as Plato makes Clinias express it, in his 10th Book of the Laws: "*Καὶ ὅτι πάντες Ἕλληνές τε καὶ βάρβαροι νομίζουσιν εἶναι θεούς.*" Though it should be admitted that all men believe in some kind of a god, it is certainly not true that all men believe in the Theist's God.

This first argument we reject, therefore, as worthless.

II. The *ontological* argument, which Reid incorrectly attributes to the invention of Descartes, (though it was probably original with him also,) is first found in the Proslogium of St. Anselm, the Archbishop of Canterbury, though by birth a Piedmontese.

It has been presented and urged, with some variety in form, by Leibnitz, Cudworth, More, Clarke, Butler, and others.

As given by Anselm, it is: "All men have the idea of God, even those who deny it; for they cannot deny that of which they have no idea. The idea of God is the idea of a being absolutely perfect, one whom we cannot imagine to have a superior. Now, the idea of such a being necessarily implies *existence*; otherwise, we might imagine another being, who, by the superaddition of *existence* to the perfection of the first, would thereby excel him; that is to say, excel one who, by supposition, is absolutely perfect. Consequently, we cannot conceive the idea of God, without being constrained to believe that he exists."

This argument of Anselm is presented syllogistically by Leibnitz: "A being from whose essence we can conclude existence exists in fact, if it is possible. Now God is such a being that we can infer from his essence his existence. Therefore, if God is possible, God exists." As urged by Descartes, it has three forms: 1. That which is founded upon the idea of *perfection*. "As soon as I perceive myself, an imperfect being, to exist, I have the idea of a perfect being, and am under the necessity of admitting that this idea has been imparted to me by a being who is actually perfect, who really possesses all the perfections of which I have some idea—that is to say, who is God." 2. He combines perfection with the principle of *causality*: "I do not exist by myself; for if I were the cause of my own existence, I should have given myself all the perfections of which I have an idea. I exist, then, by another; and this being by whom I exist is all perfect; otherwise I should be able to apply to him the same reasoning which I have just applied to myself." 3. In its last form it is based upon the idea of the *infinite*. "At the same time that I perceive myself as a finite being, I have the idea of an infinite being. This idea, from which I cannot withdraw myself, and which is derived from no other idea, comes to me neither from myself, nor from any other finite being; for how could the finite produce the idea of the infinite? Therefore, it has been imparted to me by a being really infinite."

These arguments seem to show that the reformer of modern

philosophy considered the idea of God as one of our original, *a priori*, necessary convictions. They give color to the interpretation placed upon him by his illustrious disciple, Fénelon, that vividness and distinctness were meant by him as the criteria of first truths, intuitive beliefs, corresponding to Hamilton's incomprehensibility, simplicity, etc.

The ontological argument, if its validity were unquestioned, its too abstract for popular use. It must, however, be interesting to all philosophical minds, especially as presented by Descartes.

III. The *cosmological* argument. Whatever begins to exist, must have a cause *ab extra*. The cosmos began to exist; therefore the cosmos had a cause *ab extra*.

The principle of this argument, enunciated in its first premiss, is that of causality. This is a universally admitted principle, though its basis is one of the disputed points of metaphysics. Whichever of the eight possible or actual theories, as unfolded by Sir William Hamilton, we may choose to adopt; whether we consider it empirical or *a priori*, objective or subjective, original or derivative, necessary or contingent, as evolved from the law of contradiction or the law of the conditioned, we all believe that no effect can exist without an adequate cause. The mass of sound thinkers have regarded it as an *a priori*, original, necessary truth. So we regard it; but for our argument, the low views of Locke, Brown, or John Stuart Mill, would perhaps suffice. There is no question, then, as to the major premiss.

The minor premiss is the bridge of Lodi. Is the cosmos an effect? Did it *begin* to exist? Let us lay down a few postulates. That something now exists, necessitates that something must have always existed. This will be admitted by all. Sir William Hamilton makes it the foundation of our belief in causality. Again, mental existence is superior to material. This will be accepted even by the materialist. Again, the creator is superior to the created. With these as our guides, let us enter the labyrinth. There must have been an eternal existence. This eternal existence must have been matter or mind. It could not have been matter, for that would make matter the creator of mind, and superior to it. If, then, the original, eternal existence must have

been mind, this mind must have been finite or infinite. It could not have been finite, for two reasons. No finite mind could create. Moreover, geology teaches us that finite mind is one of the latest beings to appear upon the earth. If the eternal original was neither matter nor finite mind, then it must have been an infinite mind from whom matter and finite mind have proceeded. But it may be asserted, as it has been, that finite mind and finite matter are both eternal, and therefore uncreated. To this supposition, several insuperable objections immediately appear. As to mind, there is the clearest evidence, admitted alike by sceptic and theist, that the existence of finite mind upon the earth is of comparatively recent date. It therefore could not have been eternal. It must have sprung from matter, or it must have been created. As to matter, the proof is not, perhaps, so clear, and yet it is satisfactory. If we mistake not, this is the strategic point of the conflict. Is matter eternal? The ancient Atheists found work for only three forces in the universe. The first of these was *τύχη*, Chance. Having traced things back as far as they could go, they asserted that their original condition was due to *τύχη*. *φύσις*, Nature, then took them up, and developed them according to her laws of natural necessity. Finally, *τέχνη*, Art, receiving them at the hands of *φύσις*, gave them their final form, through human ministry. Does this differ from modern scepticism, as reviewed by Dr. McCosh? With them, evolution, development by natural selection, are but other names for *φύσις*. Development begins with *nebulae*, star-dust. Star-dust came, they know not how, they care not how. It is unphilosophical to inquire. If many of them would express their real thoughts, perhaps they too would say, from *τύχη*. Others would say, *star-dust is the eternal*.

Is it? That is *the* question. No, for several sufficient reasons. In the first place, the very existence of star-dust is problematic, though we admit probable. Its existence has not yet been proven. Secondly, if admitted, it is no fountain from which such a stream as this universe, or the cosmos, could have come. It is matter. As such, it could never have originated mind, as the higher cannot be created by the lower. There can be nothing in an effect which was not primarily and potentially in its cause. Thirdly,

geology gives us an authentic history of the material cosmos. It tells us that it is now in the most highly developed condition that it has ever known. It traces it back, step by step, until it shows us the world as a spheroid, whose corrugated surface is bare of all organism, whose depths reveal no stratifications, whose very substance seems but a cooled mass of lifeless mineral. So far geology leads us. Submitting ourselves now to the guidance of the development philosophy, we are led still further back to a period when our world was simply an extended mass of heated vapor. Now development makes one thing of these facts. We propose to suggest another. As far as science leads, the material creation is rapidly running up to its pyramidal point. Development says that the tapering process is carried on beyond where science throws her friendly light. Shall we not, then, conclude from these undisputed facts, that matter does finally reach its *initial point*? As far as we can see, the lines are oblique and converging. Who, then, is justified in asserting that they change their uniform direction, and, amid the mists of eternity, become forever parallel? Development is certainly a two-edged sword.

Fourthly. There is an ontological objection to the eternity of matter. Infinite and finite qualities cannot inhere in the same substance. A finite substance cannot possess infinite attributes. Matter is confessedly a finite substance. Eternity is confessedly an infinite quality. Matter, therefore, as finite, cannot be eternal.

Such is our solution of this gravest, perhaps, of all questions. The *onus probandi* belongs to the Theist. Matter now exists; he must therefore give satisfactory proof that it began to exist. Demonstrative evidence is neither necessary nor possible. The human mind is so constituted, that it determines the most serious matters by the superior weight of comparative probabilities. We accordingly ask ourselves, in view of all the facts apparent, shall we believe that matter is eternal? Or, that there was a period when it began to exist? We affirm, with candor and confidence, our belief that the evidence is decidedly in favor of its having had a beginning.

Our syllogism is complete. Its two premises are true. The major is an *a priori* truth. The minor we have shown to be true.

Every effect must have an efficient cause out of itself. The cosmos is an effect. Therefore, the cosmos must have had an efficient extraneous cause. There is a First Cause, adequate to the production of this universe, who did actually produce it.

We prefer the argument in this shape to its ancient form, as presented by Plato from the existence of motion. It seems more difficult to show the absolute beginning of motion; and, if this were proven, there is matter yet beyond it whose origin must be shown.

There are a few special objections to this argument which demand a brief notice:

1. The effect, the cosmos, is finite; therefore we have no right to infer aught but a finite cause for its production. This difficulty, simple as it may seem, we have never seen successfully met in any printed work. Dr. McCosh does not meet it. There is an answer, to our mind perfectly satisfactory, given to us while a college student, by Rev. S. S. Laws, LL.D., formerly President of Westminster College, Mo., a man of the highest order of metaphysical ability, to whom we are indebted for the syllabus of this Theistic argument. His answer is simply this: The chasm between existence and absolute non-existence is infinite, requiring omnipotence to span it. The creation of a single atom, therefore, is an infinite effect, to whose production an infinite power is necessary.

2. Again, it is objected that we have proven naught but the existence of a causal power. This is true, but power is an attribute which must belong to some Omnipotent Causal Being.

3. Hume urges that as we have never seen a cosmos created, we know nothing about the matter. This objection an empirical dogmatism could never meet. Let it be once granted, as Locke asserted, that our knowledge is purely experimental in its origin, and Hume's scepticism is the logical result. To meet it, it is only necessary to add intuition to the original sources of knowledge. This gives the idea of causality a primary, fundamental authority.

4. It is urged that we have shown the necessity of naught beyond a blind mechanical agency. This omnipotent Cause

may have been material. To this it is sufficient to say that the effect is partly spiritual, and that consequently the Cause must have been a spiritual being.

This argument we regard the bulwark of Theism, so far as the Deity is considered simply in the light of the First Cause of the universe. What are its exact, necessary results? A First Cause, Eternal, Omnipotent, Spiritual, Infinite, One. These points are all, doubtless, sufficiently apparent, except possibly the last. It may not be at once seen how this argument proves the unity of the Deity. This is involved in his infinitude, which itself results from his being an eternal, omnipotent Spirit. There cannot possibly be more than one such Being.

These truths are an effectual offset to both Atheism and Polytheism. There is One God.

This argument, founded upon causality, we have already presented with some fulness; and yet it has two important corollaries which demand special consideration. They are commonly presented as independent arguments, but manifestly have their appropriate place as subordinates to this, being particular applications of the principle here involved.

1. The *Teleological* argument. According to the Aristotelian organon, it reads thus: Whatever effect shows design, reveals intelligence in its cause. The universe is full of design. Therefore, the universe had an intelligent Cause.

According to Xenophon, this was the simple way in which Socrates met the Atheism of his day. It is quite in character that the practical soldier should have preserved this relic of his teacher, while his fellow-pupil, Plato, should have retained from the same source the metaphysical reasoning, to which we have already alluded.

Cicero employs the same defence of Deism in his writings upon the subject. Paley has seized the same truth, and, with an unsurpassed profusion of simple and striking illustration, has made a very effectual use of it. This is also the great argument of Dr. McCosh, whose principle he has ably defended against its present opponents.

The minor premiss is here the point of interest. Does the

universe show marks of design? Here we are met by two classes of objectors, both of whom are effectually answered in the Ely Lectures by Dr. McCosh. The first, among whom was Descartes, are those who say that it is irreverent in us to pry into the purposes of the Creator. These do not require notice in this connection, because the objection, as thus presented, acknowledges the existence of the Creator.

The other objection is a metaphysical one, asserting that there is in nature no such thing as Final Cause. Hegel says, "That which is called Final Cause is simply the inward nature of the thing." To this we reply, that a belief in design is intuitive. We have no doubt that Hegel himself believed it, though he fancied otherwise. There are several objections urged by this class of philosophers against design in creation, all of which are successfully met by Dr. McCosh. The most important are these: There are some things in nature whose purpose we cannot discover; there are other things which are disagreeable; there are still others which seem manifestly designed for evil ends. The last of these is the favorite, as it is the strongest objection, of the sceptical. In reply, we say: 1. We do not deny that the principle of design applies to this class of facts. The teeth, claws, bones, stomach, viscera—the whole anatomy of the lion designates him as truly a beast of prey as the eye of that same animal was manifestly intended for vision. The painful destruction of life is clearly one of the purposes of nature. 2. Are pain and death necessarily evil? Does not pain accomplish some of the most valuable ends in the discipline of life? Is it not the needful medicine of the soul? Is not death even, taking the universe of life in the aggregate, rather a blessing than an evil? Do not successive generations enjoy more of happiness and accomplish more than a single, perpetuated generation would? 3. The earth is manifestly a sinful world. May not the evils found therein be a necessary and just evidence of the Creator's displeasure at this sin? 4. Can our sceptical opponents explain the existence of these evils, apart from the moral providence of God?

With reference to these evidences of design in the universe, they are so numerous and so palpable that no man, without a

theory, can avoid seeing them and being impressed by them. We cannot open our eyes and fail to see them. In earth, air, sea, sky, in our own bodies, in animals, in vegetables, in minerals even, they are everywhere apparent. Microscope, telescope, spectroscope, all reveal them. When we examine our teeth, tongue, salivary glands, throat, stomach, intestines, pancreas, liver, and gall, no man can convince us that this complicated and nicely adjusted system of organs was not *intended* for the mastication and digestion of food. So of a million other things. The universe is certainly full of design.

This corollary to our main argument proves the intelligence and wisdom, and, as resulting from these, the *Personality* of the Creator. An intelligent spirit must be a person.

Just here we must venture a criticism upon Dr. McCosh. The Pantheist objects to the personality of God on the ground that personality implies limitation. Dr. McCosh replies, as is usually done, by denying that limitation is necessarily involved in personality. Is he or the Pantheist right? Does personality necessarily involve definition? We believe that it does. What is included in the idea of our own personality? Is there not wrapped up in it, as essential to it, the fact that we are separate beings, distinct from all others? Is not our personality the very hedge and limit of our individuality? If our personality does not limit us and separate us from all others, then we are not only prepared to accept the impersonal, universal, human reason of Aristotle and Cousin, but also the breadth of Pantheism itself. It is doubtless asked, Does God's personality limit him? Is he not the infinite, the unlimited? We assert that God's personality does limit him, and that yet, paradoxical as it may seem, he is the Infinite. Unless we are Pantheists, we must believe that God is a Person, separate and distinct from all his created universe; that his personality is the boundary between him and his creation. He is thus limited. Moreover he has other necessary limits. He cannot lie. His moral nature is a limit to him. He has all the boundaries of absolute perfection. Personality is an element of perfection; therefore he has its necessary limitations. *He is the Infinite within*

the limits of perfection. There is a marked difference between limitation and imperfection.

This argument, showing the wisdom and consequent personality of the Deity, is the bulwark of Theism against Pantheism. The infinite, spiritual First Cause is an intelligent Person.

2. The second corollary, or special application of the main argument founded upon the principle of causality, is technically known as the *Eudaimonological* argument. As a syllogism, it is: Whatever effect shows the adaptation of means to the production of happiness reveals benevolence in its cause. The universe shows such adaptation. Therefore, the universe is the product of a benevolent Mind.

No candid person will deny that benevolent adaptations everywhere abound in the universe. This would seem sufficient for our purpose; as these evidences of beneficent design furnish our minor premiss as given above. Here, however, we are met by the difficulty already partially discussed, growing out of those natural contrivances, which seem clearly designed to produce suffering. The existence of such we freely admit. In addition to what we have before said as an answer to this objection, we would suggest the following reflections: The existence of mingled good and evil in the world shows either, 1. That the Creator is a being in whose character good and evil alike are found; or, 2. That there are two eternal principles, the one good, producing the good; the other evil, producing the evil; or, 3. That there is no design in either case, the good and the evil just happening to be; or, 4. That there is one infinitely benevolent Creator, who has filled his universe with the evidences of his love, but who has, for wise reasons, of a judicial or disciplinary character, introduced evil as a chastisement and punishment. Let us see which of these views is the most rational.

The first, so far as we know, has no historical representative. It is presented only as a possible alternative. It is not morally possible for the infinitely Perfect to possess such opposite traits of character. All of his attributes must be in perfect harmony with each other.

The second is the old Gnostic doctrine. It has, however, long

since been discarded, because it manifestly involves an ontological contradiction. The coexistence of two infinite, eternal antagonists is a metaphysical impossibility.

The third is the published creed of the scepticism of the present day. Such we understand to be the position of Herbert Spencer and all his school. To it we oppose the common sense of the intelligent world. When we find that all the necessary functions of the sentient animal organism yield pleasure in their discharge, none of us can be convinced that this was not designed. On the contrary, when we, carelessly or intentionally, put a hand into the fire, no man can persuade us that the consequent suffering is merely accidental or casual. The pleasure and the pain alike we believe to be the result of an intelligently framed law.

The fourth alternative alone is left. It is that which has commended itself as true to the most thoughtful minds of every intelligent age. It is a view of this, confessedly the most difficult of all problems, to which no *special* rational objection can be urged. If it does not fully meet the question, (and we do not think that it does,) may we not wisely conclude that the *residuum* of difficulty is due to the finiteness of our understanding and to the depravity of our hearts, which prevent in us a competent and impartial judgment?

IV. These reflections very properly introduce the fourth or *Ethical* argument, with which they have a close connection.

This argument is based, (as all true arguments must be, either immediately or mediately,) in the intuitions of the mind. 1. We have, on the observance of any positive moral act in ourselves or others, the idea that it is either right, on the one hand, or wrong, on the other. Thus we obtain the primitive beliefs of the *right* and *wrong*, as moral opposites. 2. Along with these ideas come the corresponding judgments of approbation and disapprobation, with the conviction that we ought to do the right and shun the wrong. This is the principle of *obligation*. 3. Obligation necessarily implies *authority* to whom it is due. In this case, it is an authority who discriminates between the right and the wrong, and who indicates his hatred of the one and his approval of the other.

This argument is the fitting cap-stone to the pyramid which we have endeavored to build. Resting upon the others, it lifts the mind to the sublimest thoughts of the Deity, presenting him to us as the *Moral Governor* and *Final Judge* of his intelligent and responsible universe. In proportion to our own moral elevation, will be the impression which it will make upon us. There are few, if any, minds upon whom its influence will not be perceptibly felt.

As we have traversed the field of our argument, let us see what flowers we have been able to gather. We have found THE FIRST CAUSE, ETERNAL, OMNIPOTENT, INFINITE, SPIRITUAL, SINGLE, WISE, PERSONAL, GOOD, THE PERFECT LAWGIVER AND JUDGE. These truths are inconsistent with Atheism, Polytheism, and Pantheism.

Let us not deceive ourselves, however. There is an element in the Theistic conception of the Deity, which has not been presented, much less proven. It is that aspect of the Divine Nature which presents him to us as the *providential* Governor of the universe, considered more especially in its material conditions. It is this feature of the subject which comes prominently before us in the first series of the Lectures which we now take up for special consideration.

These Lectures were delivered before the Union Theological Seminary of New York upon the Ely foundation. On the title page, we are told that they are "Lectures to the Times on Natural Theology and Apologetics." They are polemic in their character, and are designed to be a defence of Christianity against the assaults of its present adversaries. These opponents have entrenched themselves in three separate positions, from which they have opened their batteries upon the Theistic citadel. These are Physics, Metaphysics, and Criticism. The ten Lectures are accordingly divided into three series, the first three being devoted to the relations of Christianity to Physics; the next four being occupied with its relations to Metaphysics; and the last three being concerned with its relations to the Criticism of Historical Investigation. There is an appendix containing three articles: the first on the Gaps in the Theory of Development, the second

on Darwin's *Descent of Man*, and the last on the *Principles of Herbert Spencer's Philosophy*.

In the present paper we propose to limit ourselves to the first two series, which are connected by a common relation to Natural Theology. The peculiarities of Christianity, as distinguished from Deism, do not appear until we enter upon the third series, where the Christian Revelation is defended from the assaults of Renan, and a positive argument in its favor is presented.

A few general remarks: 1. The paper is good, the letter-press is fair, but the binding, like that of nearly all American books, is quite poor. Our copy seems ready to come to pieces.

2. We learn, from private sources, that the Lectures were attended during their delivery by large audiences, hundreds besides the students being present. This reminds one of Cousin's famous Psychological Lectures, which were listened to with delight by popular multitudes in Paris. In the present case, we are told that the speaker added nothing to their interest by any of the charms of oratory. In style, however, they may be considered models of popular philosophical eloquence. It is clear, smooth, rich.

3. Quite a marked feature in the character of the lecturer is the spirit of candor shown. He never takes an unmanly advantage of an opponent. He never fails to give his antagonist all that is due to him. He never conceals the weak points of his own position. He is frank in acknowledging his own comparative inferiority as a physicist.

4. Another notable fact in our author's method of warfare, is his habit of using one of his adversaries to confute another. He quotes Huxley against Bastian; Mill and Tyndall against Huxley; Wallace against Darwin; Huxley against Comte, and so on.

5. He has correctly apprehended and stated the relations between theologians and science, between philosophers and Christianity. Theologians, as such, have nothing to do with science. Philosophers, as such, have nothing to do with Christianity. It is a sad truth that some Christians think they show the strength of their faith by an abuse of science and scientific men. Every

intelligent, candid mind sees that this is the exhibition either of ignorant fanaticism or of timid unbelief.

THE RELATION OF CHRISTIANITY TO THE PHYSICAL SCIENCES.

The discussion of these occupies the first three lectures, and two articles in the Appendix.

Dr. McCosh tells us that his argument for the Divine existence is drawn from the evidences of design in nature. This argument is made up of the principle of causality, admitted by all, and of a body of facts, manifest in the physical universe. The principle he now assumes, and remits its discussion to his second series of lectures.

He finds two ultimate existences in the physical world, 1. Matter; 2. Force. Is this an assertion of the substantial existence of Force? Hume was a sceptical *Nihilist*. Berkeley was a *unitarian* Idealist. Reid was a natural *Dualist*, and so are most philosophers. Is Dr. McCosh a *trinitarian* philosopher? Does he hold to a threefold classification of substance, Mind, Matter, Force? He tells us what a *substance* is, p. 114. Its three essential qualities are being, potency, and permanence. Force has all of these. It must, therefore, be a substance. If a substance, does it belong to the category of mind? There is nothing in the lectures to lead us to believe this. It belongs to the physical universe, he says. Is it a species of matter? We suppose not, for it is here specially distinguished from it. It is an ultimate existence, distinct from matter.

We have another trouble about Dr. McCosh's doctrine of Force. Here, p. 12, he tells us that it is an ultimate existence, as it were, coördinate with matter. On p. 15, he says that the profoundest minds "regard Force as the very power of God acting in all action." This was the teaching of Algazel, the famous Mahometan philosopher of the twelfth century, as it was of Malebranche, the distinguished Cartesian friar. This is the author's second statement. In the first article of the Appendix, he uses the ordinary language of philosophy, speaking of the Forces as "properties of matter." Can Force be an ultimate physical

existence, the very power of God, and a simple property of matter, all?

Matter comes up for special examination. What was its original condition? The evolutionists say that it was Star-dust, or Fire-mist. Here he comes into direct contact with the theory, which he manifestly regards as the stronghold of infidelity, so far as physical science is concerned. This theory, first suggested by the elder Herschel, then presented by La Place as an hypothesis, has been taken up by the opponents of Christianity, and applied not only to astral cosmogony, but also to the garnishing of the earth with organic life, to the progress of civilisation among men, and even to the growth of Christianity itself.

Dr. McCosh discusses it as it is used to account for those existences upon the earth which show organisation, and thus seem to evince design in their construction. The evolutionists begin with star-dust, or fire-mist, and from it, by a process of development, evolve all that has since existed, or that now appears within the observation of man. All this is done, according to the infidel portion of them, not only without any coöperating efficiency from any extraneous power, but even without any intelligent supervision by a superintending mind. It is matter in the mill of Law, whose machinery is run by blind Force. Every form of beauty, usefulness, and sublimity, is thus created.

The special advocates of this general hypothesis whom the lecturer undertakes to refute, are Prof. Huxley and Mr. Darwin. Prof. Huxley is distinguished in this connection by his relations to *Protoplasm*, the physical basis of all life. This is his starting-point, living protein. In this we have matter and force: force residing in and operating upon the molecules of matter. By this process, the protophyton is first formed, then acrogenous, endogenous, exogenous, agamous, cryptogamous, phænogamous, in their regular ascending series. By a still further exertion of this same developing force, the highest vegetable germ is raised to a protozoon, or to a zoophyte. Or, it may be that the original spring of life, as it exists in the protoplasm, sends forth its living stream in another direction, and produces an infusorial animal. This developes into a radiate, the radiate into a mollusk, the mol-

lusk into an articulate, the articulate into the lowest vertebrate, and so on up to man. Here, for the present, the process has reached its goal.

Prof. Huxley is also distinguished by his extreme views upon the family of forces. In this one household, he not only domesticates the mechanical, electric, chemical, and vital branches, but the intellectual and moral as well. Our opinions and our virtues are the results of molecular changes in the brain.

Mr. Darwin individualises himself amongst the evolutionists by his discovery, illustration, and maintenance of the law of natural selection, and by his special application of it, to account for the origin of man. The law of natural selection is simply this, that in the struggle of life going on in the vegetable and animal kingdoms, those who have inherited the best constitutions from their parents, and who are surrounded by circumstances best adapted to their nature, will survive and produce offspring, while the less fortunate in these respects are doomed to perish. It is thus that the stronger, better elements are perpetuated, while the weaker are eliminated, resulting in a progressive development in all the realms of organic life.

Huxley begins with protoplasm. Darwin does not go back quite so far, but commences with a few forms into which the Creator originally breathed life. He traces the human genealogy back to the lowest order of Agassiz' acephalous class of mollusks. Adam and Eve, according to him, were "united in the same individual," constituting "an animal more like the larvæ of our existing marine ascidians than any other form known;" we suppose resembling the embryo of the *Amaroncium proliferum*, described by his not very special friend, the eminent French philosopher, Milne Edwards. We observe that Mr. Darwin felicitates himself upon having traced his ancestry back to a shell-fish with a tail like a tadpole, but *without a head*.

In the first article of the Appendix, Dr. McCosh gives eleven difficulties in the way of the general doctrine of development. "1. Chemical action cannot be produced by mechanical power. 2. Life, even in its lowest forms, cannot be produced from unorganised matter. 3. Protoplasm can be produced only by living

matter. 4. Organised matter is made up of cells, and can be produced only by cells. Whence the first cell? 5. A living being can be produced only from a seed or germ. Whence the first seed? 6. An animal cannot be produced from a plant. Whence the first animal? 7. Sensation cannot be produced in insentient matter. 8. The genesis of a new species has never come under the cognizance of man, either in pre-human or post-human ages. Darwin acknowledges this. 9. Consciousness cannot be produced out of mere matter or sensation. 10. We have no knowledge of man being generated out of the lower animals. 11. All human beings are capable of forming certain high ideas, such as those of God and duty. The brute creatures cannot be made to entertain these."

These positions, well substantiated, present not only formidable but fatal objections to the hypothesis of development.

In the second article of the Appendix, the special objections to Darwin's hypothesis of the Descent of Man are given. 1. Man instinctively shrinks from such an origin. 2. Natural selection, confessedly, cannot account for life.—The same Being who produced life, produced the rational soul of man. 3. There are wide gaps unfilled between the lowest races of men and the highest brutes. Take the skull. The lowest human average is 77 cubic inches; while the highest average in any species of brutes is 30 cubic inches. Darwin acknowledges that he cannot account for the origin of mental phenomena. The gap between man and the highest known animal cannot be bridged, except by supposing an undiscovered link. For this, he falls back upon the general principle of evolution. 4. The testimony of the Holy Scriptures. As the Bible has anticipated geology, and, in addition, is supported by a perfectly satisfactory body of evidence, why may we not admit its testimony as to the origin of man? May we not ask, however, does the Bible definitely decide this point? When it asserts that God made the body of man from the dust, does it say, positively, whether this was done mediately or immediately? Is there not possibly room there for divine development from dust? Dr. McC. thinks that there is. 5. There is no decisive fact to support the hypothesis. The nearest approach to this is

the fact contained in the "generalisation of Von Baer, that the growth of the animal in the womb corresponds very much to the progress of the animal races in the geological ages." This is quite an interesting point. As thus presented, the fact observed by Von Baer seems favorable to Darwin.

Development is made plausible by a double fact. 1. That geology reveals to us, as chronologically true, that the various orders, genera, and species of organic life, as a general fact, manifest themselves upon the earth in a somewhat regularly ascending scale. This gives coloring to the hypothesis that the subsequent and higher were evolved, by progressive influences, from the antecedent and lower. 2. The less significant fact, or aspect of the same fact, that the present existences within human observation, constitute a symmetrical pyramid, from its base in simple elementary matter, up to man, the wonderful apex of the whole. This double fact can be readily explained, however, without resorting to the development hypothesis. There is in creation a development, but it is *in thought*, in plan, in design. An illustration will convey the idea. We enter a factory of wind musical instruments. We first see the unmanufactured material; then the simple whistle; then the fife; then the flute; then the trombone; then the melodeon; and finally, the grand organ. Here is development, not of one, materially and organically, out of the other, but the thought of the whistle suggests the higher thought of the fife, the fife suggests the flute, and so on up to the organ.

With regard to this theory of development, as it bears upon the teachings of Theism, the following considerations should be borne in mind:

1. It is, at best, in the present stage of scientific investigation, but a plausible hypothesis. It may, in time, be proven to be a true theory. So far, the evidence is against it.

2. Before development can be accepted as true, its two fundamental doctrines must be proven. The first of these is spontaneous generation, and the other the transmutation of species. Both are essential to the doctrine as held by Huxley, who begins with protoplasm. Much more are they necessary in the extreme form given by the manifestly crazy Swiss philosopher, Oken. Darwin

may dispense with spontaneous generation, as he allows a few created living forms as the starting point for development. It is manifest that the evidence up to this time is decidedly adverse to both of these tenets.

3. There is a form in which the theory is held, which is, *a priori*, untrue. When it is asserted that, beginning with star-dust, possessed of only the ordinary properties of matter, mechanical and chemical, there have been developed from it, without the coöperation of any extraneous efficiency, all the organised and spiritual substances now upon the earth, a palpable impossibility is uttered. This is a violation of the axiom, that there can be nothing evolved which was not involved, that there can be nothing in an effect which did not exist in the cause. If it is declared that the original fire-mist contained in itself all mechanical, chemical, vital, intellectual, and moral forces, then the impossibility is relieved, and there is gratuitously substituted for it an unwarranted declaration, which, in the very nature of the case, can be neither proven nor denied. To most men, such a statement bears absurdity upon its face, as it did to Prof. Tyndall, who declares that "the mere statement of such a notion is more than a refutation."

4. Dr. Oken speaks approvingly of the metaphysical absurdity of a "development from nothing;" though he elsewhere seems to admit that possibly "infusorial points" were created as the germs of development. With this exception, so far as we know, the theory is always presented in a shape which is consistent with the theistic conception of the *Creator*. Star-dust or fire-mist must have had a cause. Protoplasm is confessedly not an original. Darwin expressly speaks of creative agency preparing the way for development. "The Vestiges" write reverently of the "Creative Intelligence" and the "Great Author" of the worlds.

5. The theory impinges upon the theistic doctrine of *Providence*. But it is not necessarily incompatible even with this. It may have been God's providential plan, as Darwin teaches, to create a few primordial germs, and from these, *by his own developing efficiency*, to evolve the present advanced inhabitants of the earth. This is surely not impossible, nor in any way derogatory

to his providential dignity. Here, again, "The Vestiges" utter sound doctrine: "When we speak of natural law, we only speak of the mode in which the Divine power is exercised; it is but another phrase for the action of the ever-present and sustaining God."

When, however, the developing force is represented as inherent in matter and self-efficient, then there is at least a setting aside of God's providential control of his own creation. It is a lamentable, but, we believe, well ascertained fact, that the theory is so held by a majority of its advocates. Its genesis in many minds, we fear, is in that "tormenting theophobia," of which Tayler Lewis speaks, which prompts them to deny God's providence, though they do not absolutely dispute his existence.

We should not forget that development is a doctrine consistent with true Theism, and to be judged, like all other hypotheses, upon its own evidence. The nice and varied adaptations, necessary in so complicated a process as development must be, furnish, as Dr. McCosh well insists, so many proofs of an Intelligent Mind presiding over it.

There are five points in which the lecturer gathers up the results of his discussion of the relations of Christianity to the physical sciences: 1. We find everywhere traces of Final cause. 2. There is the appearance, ever and anon, of new agencies. 3. There is proof of plan in the organic unity and growth of the world. 4. We see higher and higher products appear and reveal the higher divine perfections. 5. We behold glimpses of the future history of our world. Dr. McCosh is an enthusiastic optimist. The conclusion of his second lecture is a fine specimen of eloquence. There he takes the law of natural selection and applies it to human history, in which we find, first, the age of physical giants; then the golden age of intellect; and finally the dawning of the period predicted in prophecy, and presaged by Plato, when "the good shall be the uppermost, and the evil the undermost, forevermore."

THE RELATIONS OF CHRISTIANITY TO MENTAL SCIENCE.

Our author devotes four Lectures and one article in the Ap-

pendix to the discussion of these relations. In the first lecture, he considers the proofs of the existence of mind, and the reality of its knowledge, and attacks the doctrines of nescience and relativity. In the second, he gives his positive argument, from a metaphysical standpoint, for the existence and nature of the Deity, and criticises Mr. Herbert Spencer. In the third, he reviews the progress of free thought in America, and gives a special discussion of Positivism. In the fourth, he devotes himself to Materialism in its various aspects. The article in the Appendix is a more special critique upon Herbert Spencer.

Proofs of the existence of mind. 1. "Man has the means of knowing the existence of mind as *immediate* as the means of knowing the existence of matter." 2. "We have a *positive* though limited knowledge of mind, even as we have a positive though limited knowledge of body." "We know more of mind than we know of matter." 3. "As matter cannot be resolved into mind on the one hand, so mind cannot be resolved into matter on the other." (1.) "The two are made known to us by different organs: the one by the senses, the other by self-consciousness." (2.) "We know them as possessed of essentially different properties." Descartes said truly, that they possess no two qualities in common. Of course he meant to except bare existence, which brings them together into the *summum genus*, being.

What does the mind reveal to us? It reveals to us things, realities. By it we not only know the qualities of matter, but matter itself, as thus qualified. By it we know not only the various energies of mind, but mind itself, as thus energised or endowed. So far, clear and good. Our lecturer next makes a criticism upon a phrase, (which is somewhat common in psychological literature,) which, with deference, we would say has surprised us, as coming from so astute a metaphysician. It is the phrase, "*thing in itself*." He affects to be ignorant of the meaning of the expression, originating, as he says, in the German of Kant. He asks, "Does it mean that, besides the thing we know, there is something else—a thing *plus itself*?" If this be not its meaning, he supposes that it signifies the thing *within* the thing! Now, does Dr. McCosh seriously assert that either of

these is its meaning, as used by the most eminent metaphysicians who write the German or English language? Is he serious, when he says, "What is meant by the *thing in itself* I do not know, and think it proper not to affect to know?" Or is his design simply to throw ridicule upon the expression? It may be confessed that the phrase is not idiomatic English; that it is possibly pleonastic. The preposition, *in*, may be superfluous. But that is an obscure or unintelligible expression, as used by the most accurate English psychologists, is surely not true. It was employed by the most learned and profound metaphysician of this century, whose scholarship was perhaps not inferior to that of Scaliger or Milton, and whose exact use of his native tongue is not surpassed by any writer with whom we are acquainted. It was used by him as a technical, philosophical phrase, in two distinct controversies. 1. In the dispute of centuries, as to the immediate object of sense-perception. Do we perceive the external object *in* and through a *tertium quid*? Or, *in* an ideal, mental modification? Or, *in itself*? Reid, Hamilton, all common-sense natural realists, say that we perceive the external object *in itself*; *i. e.*, manifestly, we perceive *the very thing*, and not a representative image. 2. It is used in an entirely different sense by the same eminent philosopher and others. He says: "In so far as mind denotes that substance in which the phenomena of knowing, willing, etc., inhere—something behind or under these phenomena—it expresses what, *in itself*, or *in its absolute existence*—*i. e.*, considered apart from its phenomena—is to us unknown." Is this language unintelligible? Is it not a simple assertion of the doctrine that our knowledge is phenomenal, relative; that we know not the absolute; that the substance, apart from its phenomena, in itself, is unknown? It is known in its phenomena, but not in itself, its absolute, separate subsistence.

The lecturer is mistaken in his statement that the phrase is German, originating with Kant. It is an old scholastic expression, used in the second sense above alluded to. *Substantia* is defined as "*Res per se subsistens*," "*Ens per se subsistens*." Melancthon, as quoted by Hamilton's editor, says: "In philosophia, generaliter nomine Essentiæ utimur pro re *per sese* con-

siderata." Indeed, we may trace it and the enshrined doctrine back to the first, in eminence, of all human philosophers, the Stagirite. He writes: "Ἡ ὕλη ἀγνωστος καθ' αὐτήν."

We do not recover from the surprise created by the criticism upon "in itself,"* before we are again startled by the lecturer's views with regard to *substance*. In our limited reading they are novel and peculiar. He rejects the idea (so far as we know, universally received,) of substance as the basis or *substratum* of phenomena, whether mental or material, and gives an analytic definition of it, as that which possesses or involves, 1. Being; 2. Potency; and 3. Permanency.† As being is the *summum genus* of human knowledge, substance is that species of being whose *differentia* is potency and permanency; in other words, substance is a permanent power. We have already seen that this definition makes force a substance. It applies equally well to the qualities of matter or the energies of mind. They have being, power, and permanency. It is also applicable to relations themselves.

A definition is designed to be a boundary, to distinguish the thing defined from its closely related terms especially. Is that true of this one? Substance, quality, relation, are three well known metaphysical categories, mutually exclusive of each other. Has Dr. McCosh the right to confound them? If he rejects the common idea of substance as a delusion, is he justified in transferring the name to a far more extensive conception? Is the ordinary doctrine of substance, as contradistinguished from phenomenal quality, a "counterfeit," a "ghost," as affirmed by the lecturer? As this is an alleged primary, necessary conviction of

*Indeed, so recognised a place has this phrase in the standard literature of philosophy, that Dr. McCosh himself has not failed to use it: *e. g.*, in the *Intuitions of the Mind Inductively Investigated*, p. 169, we read, "No doubt a substance is a thing known *in itself*."

†In an article in the January number, 1873, of the *Princeton Review* upon Berkeley's Philosophy, Dr. McCosh substitutes the more notative phrase, "Independence of our perceptions" for permanency. In the same place, he says that "substance, as thus understood, has no need of a *substratum*." We are not aware of any philosopher who thinks that it needs aught but the Divine support. It is itself the *substratum*, or support, of material qualities and mental energies.

our mental nature, there can be nothing done beyond the mere statement of the question. By sense-perception, we become acquainted directly with the qualities of matter, *e. g.*, the paper before us. We perceive that it has a certain color, shape, thickness, smoothness, etc. Is the color the paper? Is the shape, the thickness, or the smoothness? Are they all, taken together, the paper? Are we not compelled, by the necessities of our thought, to regard them as *radii* from a common centre of being, as qualities inhering in and showing forth to us a common nucleus which we call the paper, or the substance of the paper? That there is a substance, as a *substratum* for qualities, is the catholic doctrine of philosophy, and the teaching, as it seems to us, of common sense.

We are next treated to a brief discussion of Nescience, which is identified with the scepticism of Hume. Upon this we have only to remark that we do not apprehend the distinction made between Nescience and Nihilism. We read, "It is called Nescience, in so far as it holds that man knows nothing, and can know nothing, of the nature of things; and Nihilism, inasmuch as it is averred that there can be nothing known." As one of the young men sought to be instructed by Dr. McCosh, we frankly confess that our obtuseness does not allow us to see the distinction, as thus given. We venture to ask, if the former term does not properly refer to the subjective aspects of knowledge, while the latter more appropriately regards the objective? Is this Dr. McCosh's meaning?

He next notices one of the most interesting questions in the metaphysics of the present age, the Relativity of human knowledge. He believes that man's knowledge is relative in three senses: 1. He can know only so far as he has a capacity of knowing. 2. He has the capacity of discovering relations. 3. His knowledge is finite. He rejects the doctrine: 1. That we know relations and not things. 2. That the mind creates the relations. His objections are: 1. That this doctrine must issue logically in Nescience. 2. It is inconsistent with consciousness. 3. It is inconceivable that we should know relations between things unknown. In the next lecture, in a criticism of Herbert Spencer, he applies

these principles to our knowledge of God. Spencer says that appearance without reality is unthinkable, so that beyond the apparent, the phenomenal, there must be an absolute reality. But with reference to the Infinite Absolute, he says "that the power which the universe manifests to us is *utterly inscrutable*." In reply, the lecturer says: 1. That Spencer, on his principles, is not entitled to assume that, beyond what appears, there is a something which is a reality. 2. That he, the lecturer, believes in a real something, beyond what falls under the senses. 3. That we know that reality beyond the apparent. 4. That we are not directly conscious of God. 5. That we know God from his works. 6. That God is the best known of all our objects of cognition. 7. That our knowledge of God is partial, from two causes: (1.) Mainly, from our limited capacity. He is infinite, and, moreover, possesses perfections differing in kind from anything possessed by man. (2.) Partly, because of our pollution. Thus he is "the Being of whom we know the most," "and yet he is the Being of whom we know the least."

Upon this portion of the discussion we would venture a few remarks:

1. When Dr. McCosh says that man can know only so far as he has the capacity of knowing, and that his knowledge is finite, he stands upon common ground with the believer in Relativity. These statements, however, are not expressive of the peculiarities of Relativity.

2. His use of the very indefinite and extensive word "thing," is such as to make a categorical denial of what are meant to be the peculiarities of his position impossible. He says that "man is so constituted that he can know things." Who doubts this, as thus stated? Thing is as extensive a term as being. It may mean substance, quality, or relations, or all of them. Of course man knows things; but what is meant by things? Substances? relations? qualities? or, all three? He says, "We know things appearing." Will any Relativist deny this? That is precisely their doctrine. Of the extensive *genus* things, man knows that species which is apparent, the phenomenal. Still again, "We argue that these things appearing, being real, imply other things

also real, though not appearing to the senses." Spencer would certainly assent to this. Just such a sentence we might expect to find in Sir William Hamilton on Relativity. "Things appearing, being real," *i. e.*, qualities appearing, "imply other things also real," *i. e.*, substances, "though not appearing to the senses." The same ambiguity puts his opponents at a disadvantage. He says that the doctrine of Relativity, "means that we know relations and not things." Relativity, in the hands of Sir William Hamilton, could hardly teach this, for such a statement is contradictory of itself. Relations are things, so that if we know them, we must know things. This usage of Dr. McCosh seems to have arisen from his antipathy to the philosophical term "substance," and its equivalent, "*thing in itself*."

3. The real issue between Dr. McCosh and the Relativists is as to our knowledge of substance. Let us see this doctrine as presented by its ablest and most perspicuous advocate. The whole doctrine is contained in two statements: (1.) "All human knowledge is only of the relative or phenomenal. I shall illustrate this by its application. What do we know of matter? Matter is to us the name either of something known or of something unknown. In so far as matter is a name for some *thing known*, it means *that which appears to us* under the forms of extension, solidity, divisibility, figure, motion, roughness, smoothness, etc.; in short, it is a common name for a certain series, or aggregate, or complement, of appearances, or phenomena manifested in coexistence. But as the phenomena appear only in conjunction, we are compelled by the constitution of our nature to think them conjoined in and by something; and as they are phenomena, we cannot think them the phenomena of nothing, but must regard them as the properties or qualities of something that is extended, solid, figured, etc. But this something, absolutely and in itself—*i. e.*, *considered apart from its phenomena*—is to us as 'zero,' or 'unknown.'" (2.) "We must more precisely limit our sphere of knowledge, by adding, that all we know is known under the special condition of our faculties." "This principle divides itself into two branches. In the first place, it would be unphilosophical to conclude that the properties of existence

necessarily are, in number, only as the number of our faculties of apprehending them; or, in the second, that the properties known, are known in their native purity, and without addition or modification from our organs of sense, or our capacities of intelligence." The latter of these is the more important. So we will give Hamilton's illustration of it. "For example: I see a book—I see that book through an external medium—and I see it through my organ of sight, the eye. Now, as the full object presented to the mind, (observe that I say the mind,) in perception, is an object compounded of the external object emitting or reflecting light, *i. e.*, modifying the external medium—of this external medium—and of the living organ of sense, in their mutual relation—let us suppose, in the example I have taken, that the full or adequate object perceived is equal to twelve, and that this amount is made up of three several parts—of four, contributed by the book—of four, contributed by all that intervenes between the book and the organ—and of four, contributed by the living organ itself. I use this illustration to show, that the phenomenon of the external object is not presented immediately to the mind, but is known by it only as modified through certain intermediate agencies."

These are the tenets of Relativity. We must say that they are not, to our mind, incredible. We are further struck with the facts that Dr. McCosh's expressions of the opposing doctrine form a part of this. Hamilton says that matter and mind are to us the names of "things known;" they are *things which appear to us* under certain forms. Hamilton teaches that, beyond the things known, there are other things unknown, but necessarily inferred and believed. McCosh, in correspondence, teaches that there is a something *beyond what falls under the senses*, inferred, under the principle of causation, from the things appearing. Where do they separate? Here, Hamilton says that this something beyond the sensible, apart from the phenomenal, is necessarily believed to exist, but is unknown. McCosh affirms that we know this reality, beyond what falls under the senses. We inquiringly ask, How do we know it? By what faculty? Not by

the sense-perception, for it is "beyond our sensible experience," as he says. Not by consciousness, or internal perception, for that recognises the present states of the mind alone. Not by intuition, for he expressly disclaims this position of Morell and others. Does he say that we know it, as appearing, "so far know it"? Hamilton says the same. It is a matter of belief, not of knowledge.

4. Must the doctrine of Relativity issue logically in Nescience, as the lecturer affirms? Every doctrine which invalidates the true foundation of knowledge, or which presents a false foundation, must issue logically in a Nihilism, more or less complete in proportion to its fundamental error. Is Relativity chargeable with either of these? Its alleged error is in not presenting a sufficiently broad foundation. Let us see. The three primary, originating faculties of the mind, are the intuitional reason, the consciousness, and the sense-perception. All the other cognitive powers are either elaborative or conservative of what is furnished by these. Does Relativity deny consciousness or the sense-perception? Does it improperly limit their capacity? No, it admits implicitly all knowledge furnished by either. The energies of mind and the qualities of matter are the facts to which they testify. Both of these classes of cognitions are freely admitted as original and immediate by Relativity. Does it deny or unduly limit the noetic faculty? It does not; for it expressly admits the compelling force of its testimony, demanding our belief in that, to which sense-perception and self-consciousness are unable to lead us.

Relativity, however, it is alleged, teaches that substance is unknown. This is Nescience so far. If substance is unknown, there is but a step to the denial of its qualities, manifested as phenomena. But what are the teachings of Relativity upon this point? 1. That matter and mind are both known phenomenally to exist. 2. That their absolute existence, though not known, must be believed, for three satisfactory reasons: (1) Its denial "belies the veracity of our primary beliefs; (2) it leaves unsatisfied the strongest necessities of our intellectual nature; (3) it

admits as a fact that the phenomena (of their associated qualities) are connected, but allows no cause explanatory of the fact of their connection."

Is the parallax of the moon and planets invalidated, because we are not able to find a base large enough for that of the north star? Is our knowledge of phenomena jeopardized by our inability, from want of natural endowment, to know substance? We know that the north star has parallax, though it is by us inappreciable. We know that there is substance, though our Creator has not fitted us to look directly upon it.

What was it that led to the idealism of Berkeley, and the Nihilism of Hume and Fichte? Was it not the philosophy of Locke, itself based on the errors of centuries? What was it in Locke's teaching that generated these systems of partial and almost complete Nihilism? It was manifestly his error as to the origin of knowledge, making it all ultimate in sensation, denying both consciousness and intuition (especially the latter) as sources of primary truth. Hume's scepticism was the logical result of the denial of intuitive truth. It was this, along with the Cartesian doctrine of ideas, founded upon the impossibility of mind recognising its unlike, which undoubtedly produced the partial theories of modern philosophy; whether idealistic, materialistic, or nihilistic in their character. It seems to us that Hamilton's position is not liable to so serious a charge as having Nescience for its legitimate offspring. It lays, apparently to our mind, a broad and secure foundation for real knowledge, and for all the knowledge of which our Creator, in this stage of our being, has made us capable. Because there are some things which we do not know, as there are certainly many such things, we should not thence conclude that we know nothing.

5. Dr. McCosh says that it is inconceivable that we should know relations between things themselves unknown. (1.) Is this inconceivable? Are we compelled to know both terms of a proposition, before we can know any thing of their relations? We mean, of course, outside of the known relations. In other words, must we know all about both terms before we can compare them and observe their relations? We cross a stream in

the middle of its course. That stream we know is a relation, connecting a fountain and an outlet. Of these two we know nothing, except that they must exist. Does this ignorance prevent a full knowledge of that to which they are both related? One not a chemist knows nothing of oxygen and hydrogen beyond their bare existence. Does this prevent a clear, practical knowledge of their related compound, water? Is it said, that he must know them so far as their relations to water are concerned? This is true, and is just that measure and kind of knowledge admitted by Relativity.

(2.) What is really meant when it is asserted that our knowledge is relative? We have already seen from the extracts quoted above. There is meant, in the first place, that our knowledge is of the phenomenal, as contradistinguished from the absolute, of qualities as discriminated from substance. We see nothing here of relations between things themselves unknown. On the contrary, it is expressly asserted that the things are known, so far as their phenomena, apprehensible by us, manifest them. But, in the second place, Relativity teaches that in every act of sense-perception, the object perceived is a complex one; made up of several elements. The external object, the intermediate medium, and the organ of sense all contribute to it. To express it perhaps more accurately, the real object perceived or known, is the quality of the external object, its color for example, as modified by the transmitting medium and the physical organ of vision. Is there any statement here of a knowledge of relations between things themselves unknown? If it be said, Yes; the object of knowledge here is neither the quality of matter absolutely, nor either of its modifications, but the former, unknown in itself, as related to the other two, unknown in themselves; then we must ask ourselves, Is it not the truth, nevertheless? Do we not really perceive the qualities of matter, subject to these modifying influences? Hamilton says, that it is one of the highest problems of philosophy to analyse this object into its elements, and to determine the exact degree of each.

6. Of finite substance, taken absolutely, according to the power of cognition given to us by our Maker, we know nothing. Of

the qualities of finite substance, however, we are relatively cognisant. Of the divine essence or substance, considered absolutely, by a parity of reasoning, we are equally ignorant. We know not the absolute, either creature or Creator. But the attributes of the divine essence, are they cognizable by us, as the qualities of created essence are? The Relativists say not. We *know* neither the essence nor the attributes of the Deity. The ground upon which they deny to man a knowledge of the divine characteristics is that they are *infinite*. The infinite is, by the human intellect, inconceivable. Here comes in Hamilton's pet Law of the Conditioned, as he calls it: "All that is conceivable in thought, lies between two extremes, which, as contradictory of each other, cannot both be true; but of which, as mutual contradictories, one must." To apply to the case before us, the attributes of God are either finite or infinite. They cannot be conceived as finite, for finite qualities of infinite being are inconceivable. They cannot be conceived as infinite, because, as Pascal says, "the infinite is infinitely incomprehensible." Therefore, the attributes of God, as well as his essence, are to man unknowable, in the sense of incomprehensible. We may observe here, parenthetically, what is not stated by Hamilton, that the inconceivability of these two contradictories rests on very different grounds. In the former instance, it is inconceivable, because it is false and absurd; in the latter, because, though true, it is beyond the limit of finite human capacity. Both are inconceivable; but one is credible, while the other is not.

To bring Hamilton's position fairly before us, we must make another quotation from him: "We must believe in the infinity of God; but the infinite God cannot by us, in the present limitation of our faculties, be comprehended or conceived. A Deity understood would be no Deity at all; and it is blasphemy to say that God is only as we are able to think him to be. We *know* God according to the finitude of our faculties; but we *believe* much that we are incompetent properly to know. Faith—belief—is the organ by which we apprehend what is beyond our knowledge. In this all divines and philosophers, worthy of the name, are bound to coincide."

Let us now compare McCosh and Hamilton as to the doctrine of the Deity. They agree: 1. That there is a God. 2. That he is an infinite Person. 3. That he can be known, in the sense of apprehension. 4. That he cannot be known in the sense of comprehension. Here McCosh must be quoted: "I must ever hold that we can come to know God; still, he is, to a great extent, unknown. 'Canst thou, by searching, find out God? Canst thou find out the Almighty to perfection? It is high as heaven; what canst thou do? Deeper than hell; what canst thou know?' We can so far apprehend him; but, to use an old distinction, we cannot comprehend him." 5. That God's incomprehensibility by man is due to the limitation of the human faculties.

Wherein, then, do they differ? As we understand them, simply in this: that the dead giant taught that a partial finite knowledge of the infinite is "a contradiction *in adjecto*;" that our apprehension of the Deity is a belief, not a knowledge. The living giant, on the other hand, teaches that our apprehension of God, though finite and partial, is knowledge, so far as it goes.

7. As to Spencer's doctrine of the Deity, that his very existence is problematical, and, if existent, that he is not apprehended by man, of course it is to us irrational in the extreme; but we do not see how such teachings could flow from Hamilton's doctrine of Relativity.

Just here it may be appropriate to give the following lines, translated by Sir Jno. Bowring, from the Russian poem of Gabriel Romanovitch Derzhavin:

O thou Eternal One! whose presence bright
 All space doth occupy—all motion guide;
 Unchanged through time's all-devastating flight,
 Thou only God! there is no God beside,
 Being above all beings, mighty one!
 Whom none can comprehend and none explore!
 Who fill'st existence with thyself alone,
 Embracing all, supporting, ruling o'er!
 Being whom we call God, and know no more!

In its sublime research, philosophy
 May measure out the ocean deep—may count
 The sands, or the sun's rays—but God! for thee
 There is no weight nor measure. None can mount

Up to thy mysteries. Reason's brightest spark,
Though kindled by thy light, in vain would try
To trace thy counsels, infinite and dark ;
And thought is lost, ere thought can soar so high,
Even like past moments in eternity.

Thou from primeval nothingness didst call
First chaos, then existence. Lord, on thee
Eternity had its foundation ; all
Sprung from thee—of light, joy, harmony,
Sole origin—all life, all beauty there ;
Thy word created all and doth create ;
Thy splendor fills all space with day divine ;
Thou art, and wast, and shalt be glorious, great,
Life-giving, life-sustaining Potentate.

Thy chains the unmeasured universe surround,
Upheld by thee, by thee inspired with breath ;
Thou the beginning with the end, wast bound,
And beautifully mingled life and death !
As sparks mount upward from the fiery blaze,
So suns are born, and worlds spring forth from thee ;
And as the spangles in the sunny rays
Shine around the silvery snow, the pageantry
Of heaven's bright army glitters in thy praise.

A million torches lighted by thy hand,
Wander unwearied through the blue abyss ;
They own thy power, accomplish thy command.
All gay with life, all eloquent with bliss,
What shall we call them ? Piles of crystal light ?
A glorious company of golden streams ?
Lamps of celestial ether burning bright ?
Suns lighting systems with their joyous beams ?
But thou to them art as the moon to night.

Yes, as the drops of water in the sea,
All this magnificence in thee is lost ;
What are ten thousand worlds compared with thee !
And what am I, then ? Heaven's unnumbered host,
Though multiplied by myriads, and array'd
In all the glory of sublimest thought,
Is but an atom in the balance weighed
Against thy greatness—is a cipher brought
Against infinity. What am I ? Naught.

Nothing!—but th' effluence of thy light divine,
 Pervading worlds, hath reached my bosom, too.
 Yes; in my spirit doth thy spirit shine,
 As shines the sunbeam in a drop of dew,
 Naught! but I live, and on hope's pinions fly,
 Eager toward thy presence! for in thee
 I live, and breathe, and dwell, aspiring high,
 E'en to the throne of thy divinity.
 I am, O God, and surely thou must be!

Thou art! directing, guiding all, thou art!
 Direct my understanding, then, to thee;
 Control my spirit, guide my wandering heart.
 Though but an atom amidst immensity,
 Still I am something, fashioned by thy hand!
 I hold a middle rank, 'twixt heaven and earth,
 On the last verge of mortal being stand,
 Close to the realms where angels have their birth,
 Just off the boundaries of the spirit land.

In the next lecture, we have the positive argument for the existence of the Deity. There is, 1. The intuition of *power* given us in every act of sense-perception, (for we know objects without us only as they exert power upon us,) and in every personal act of our own. A power is a cause producing an effect. The adaptations perceived in the universe show that it is an effect. For this effect there must be an adequate cause. This is the cosmological argument. From final cause we have First Cause.

2. The *spirituality* of the Deity is inferred from the consciousness of our own spirituality.

3. So in the intuitive conviction of our own personality, there is given to us our belief in the personality of God. We have already noticed Dr. McCosh's answer to the objection that personality implies limitation. This he denies; we think, improperly. God's personality does limit him to the sphere of perfection. It is the boundary between him and the finite and the depraved.

4. The ethical argument. First, the perception of *good* and *evil* in the voluntary acts of intelligent beings. Secondly, in the perception of these, *obligation* is implied. Thirdly, obligation

points to a *Power*, to whom we are accountable. Fourthly, this Power is the *Moral Governor* and Judge.

In connection with this, he meets Mill's theory, that our moral ideas are the product of association, by the triumphant criticism that the power of association is one of the comparative and not one of the originating faculties of the mind.

5. The *infinity* of God, Dr. McCosh says, cannot be proven from his physical works. In this, we feel assured that he is mistaken. We have already given our reason, and here simply repeat, that the creation of a single atom *ex nihilo* is an infinite effect, requiring omnipotence to produce it.

The idea of the infinite, according to the distinguished lecturer, is due to a necessary law of the mind, by which it not only cannot set limits to existence, but is constrained to believe that there are no limits. Furthermore, we are obliged to believe that infinite objects are incapable of increase or diminution. These ideas transferred to the Deity bring him before us as the PERFECT. This, moreover, is a necessary, intuitive perception.

The conviction of God's existence is spontaneous in all minds; though it may be and often is not only repressed but perverted. Upon this we would venture to say that it is to us quite doubtful whether a belief in God is either spontaneous or universal. Perhaps we misapprehend the meaning of spontaneity as thus applied. If it means no more than that the mind is fitted to apprehend and receive the idea of God, when it may be communicated or suggested, then we believe that the idea is spontaneous. If it means that the mind, already possessed of the idea, can construct an argument to show it rational, then again we believe it. We cannot, however, think that Dr. McCosh meant either of these. If he means that the belief in God is native to the mind, one of its intuitive convictions, spontaneously suggested, then we are compelled to dissent. We can hardly believe that the existence of God is a self-evident, simple truth. So far from this being so, we doubt whether the idea has ever occurred independently to any human mind. We have already given our views as to the universality of the belief.

In the two remaining lectures, there is given a historical and

critical survey of the various forms of sceptical or infidel belief, as they have been developed in this country.

BOSTON THEOLOGY, as represented by Dr. Channing, is first presented. As a philosophy, it was rationalistic; as a theology, it was Socinian. By a rationalistic interpretation of the Bible, he sought to find Unitarianism there.

Rationalism, however, was too cold, and so gave way to *intuitionism*, under the leadership of Theodore Parker and Ralph Waldo Emerson, inspired by Carlyle and Coleridge, Cousin and Goethe. The Bible was now cast aside, and the new creed based itself on the intuitions of the mind: 1. That there is a God. 2. Of the just and right, of an independent moral law. 3. Of immortality. [These are all truths; but only the second is an intuition.]

To intuitionism, the fundamental reply is in the question, what is the final arbiter? Not the reasoning faculty, for this is specially discarded by its advocates. Not physical science, for religious truth does not belong to its domain. Is it to moral intuition? Then why such divergence of belief as to these fundamental feelings and articles of faith?

As a consequence, these free-thinkers are in a state of unrest, without doctrine, without an organisation, without prayer, without piety, without God. Some are recoiling and coming back to the old Puritan faith. Some are still clinging to their position. The mass are moving on to

POSITIVISM, the Awful Nothing of which Diodorus, the Slow, wrote, and then died in despair.

I. Its chief representatives are Comte, Mill, and Spencer, upheld by Grote, Lewes, Buckle, Bain, and Huxley.

II. The chiefs agree, 1. That man knows nothing of the nature of things. 2. That he knows phenomena merely, or the relations of things unknown. 3. That all he can do is to generalise these into laws. 4. That a knowledge of first or final causes is impossible.

III. They differ, 1. As to the origin of knowledge; Comte deriving it from the brain; Mill, from sensation and feeling; Spencer, by development from the brutes. 2. As to the true,

the beautiful, and good. Comte pays little attention to them; Mill refers them to association; Spencer obtains them from development. 3. As to the Deity. Comte is an avowed Atheist; Mill makes no profession of his faith; Spencer allows that there may be a God in the regions of the unknown.

IV. Comte's religion. No God but collective humanity. Nine sacraments, with a priesthood and public honors. Instead of a Sabbath, two hours daily are to be spent in religious service. Collective humanity is rather too abstract a deity, so we may worship the worthiest individual representatives, Carlyle's heroes. No, they must be women; mother, wife, daughter, representing the past, present, and future, and calling forth our veneration, attachment, and kindness. This and Mormonism are the two new religions of this century. Comte's English followers are ashamed of his religion; and he in turn has denounced them for their want of religion.

V. Comte's direct influence is small; his indirect, through others, great. There is a reaction against him. Sir John Herschel has impeached his mathematics; Mill, his sociology; Spencer, his famous generalisation of the progress of knowledge, as, first, theological; secondly, metaphysical; and thirdly, positive; and Huxley, his physics. It is another case of Actæon and his hounds.

VI. Fundamental objections to Positivism: 1. It is founded upon Nescience. Mill denies all absolute truth, and says there may be worlds where two and two make five. If that is so, then we will admit that we have no proof of God's existence. But the universal human consciousness is against such a position. 2. It is fatalistic. According to Mill, all things come by mere association, with no rational connection, and so are either fortuitous or absolutely fatalistic. According to Spencer, we have an absolutely fatalistic development; forces segregating, equilibrating, and dissolving, according to four fundamental laws: 1. Persistence of force. 2. Least resistance. 3. Instability of the homogeneous; and, 4. Rhythm of motion. Who would leave the fire for such an iceberg as this?

Positivism is not the last in this series of development. There

is a lower and more repulsive form than even it presents. Its negative barrenness is making it yield to

MATERIALISM, for which the age is ripe, and to which several influences tend. In this country, there are two chief causes which are operating to produce this effect. The first is the immense undeveloped material wealth of the land. This is taxing our energies of body and mind to the very utmost. For it we are making requisitions upon the money and muscle of the old world. This great cause is conducing to the second, noticed by Dr. McCosh, that many of our colleges and schools are paying almost exclusive attention to the cultivation of the physical sciences. Large endowments are now given to those chairs, while the study of mind is, to a lamentable degree, overlooked.

Dr. McCosh reviews the several forms of materialism, beginning with the grossest.

I. The representative of this is the German, Büchner, who lectured last winter in this country, and whose work, "Force and Matter," has been translated into our language. Its principles are simple and unmistakable. "The soul is the product of a peculiar combination of matter." "As there is no bile without liver, so there is no thought without brain." Thought has not even the permanence of the other secretions.

This gross form of materialism, we have reason to know, is, or has been recently, taught in some of our medical schools. We have met with it in gentlemen of this profession, who have assured us that they received it from the public instructions of their professors. Within a few years past, in a conversation with an intelligent physician, at that time a professor in a medical college in St. Louis, he told the writer that such was his own belief, and that such were the teachings of his institution. Strange as it may seem, the gentleman had occupied himself so exclusively with physics, that it had absolutely never occurred to him that such a position was utterly inconsistent with the immortality of the soul!

This is one of Dr. McCosh's objections to it. He has another. Bile proceeds from the liver. Its elements we can find in the liver producing it. It is not so, however, with thought and the

brain. There is that in thought, the effect, which we do not find in brain, the alleged cause of the effect. This cannot be, for a cause cannot produce an effect "altogether unlike itself." To this the Materialist would reply, with an *ad hominem* argument, "Does not a spiritual God, according to your belief, as a cause, produce material effects, 'altogether unlike himself?'" We do not see how Dr. McCosh could answer this. The principle does not seem to be true, as thus stated. Its correct form is, there can be nothing in an effect which did not exist, actually or *potentially*, in the cause. In still another shape, it is true that no cause can produce an effect higher than itself. In either form, the principle is hostile to the production of thought by the brain; the effect is manifestly superior to the supposed cause.

II. Dr. Maudsley, physician of the Manchester Royal Lunatic Hospital, is the exponent of the next higher phase of Materialism. 1. He asserts that mental insanity arises from bodily causes. Let this be admitted, and it does not militate, necessarily, against the separate existence of the immaterial spirit. The brain is the home and organ of the soul. Thalberg sits down to give us his rendering of "Home, Sweet Home." The instrument is sadly out of tune. He may touch the keys with perfect accuracy, but no harmony is produced. There issues nothing but discord. Does this prove that he and the instrument are one? That he has no separate life, no independent skill? Is not the discord as sure to be in this case as in an automatic instrument, like the music box?

2. He believes that psychology is possible only through physiology. It has not yet constructed its psychology, but it has overthrown all the old systems, by showing the fallaciousness of consciousness. This is surely subverting the foundation of a spiritual philosophy. How is it done? The lunatic fancies himself a king. Here consciousness testifies to a falsehood! Well may Dr. McCosh say that such a mistake is puerile. Consciousness does not witness to objective conditions, but only to subjective states. The lunatic's consciousness testifies that he thinks himself a king, not that he really is a king.

3. He denies the unity of the soul, except as a material organism is a unit. In this he is opposing an intuitive conviction.

4. He identifies the brain cells, and the forces operating in them, with mental operations. Impressions on the body go through the nerves, and somehow produce thought. They do not exhaust themselves in this primary operation, but leave *residua*, which constitute what is permanent in mind. In plain English, rays of light from Washington's tomb become remembrancers of him, admiration of his character, resolution to imitate him! *Credat Judæus Apella!* Tyndall says that molecular grouping and motion explain nothing of mental phenomena.

III. There is a third, the highest, class of Materialists. These deny that they are such; but assert that matter has high qualities, not only mechanical and chemical, but vital, and, some say, intellectual and moral. There are three distinguished representatives of this system reviewed by the lecturer.

1. Prof. Huxley, who makes vital action, thought, feeling, will, but the result or action of molecular change. To this Dr. McCosh says that the subject of these operations knows them to be different.

Prof. Huxley denies that he is a Materialist, because he believes neither in matter nor in mind, *as substances*. He is, as he says, a Humist. He uses, however, a materialistic terminology, and falls back upon a "physical basis" of life. This produces a practical impression, which will lead to gross materialism among the vulgar. He is, in Sir William Hamilton's classification, a Nihilist.

2. Prof. Bain. Like all the rest of this class, he admits that there is such a thing as mind, whose properties are different from those of ordinary matter. In one way or another, however, they all identify them. Prof. B. says that there is but one substance, with two sides, physical and mental. In Hamilton's table, his is the theory of absolute identity, leading to Pantheism. He introduces anatomical terms into his psychology.

He divides the mental faculties into: 1. The senses. 2. The intellect. 3. The emotions. 4. The will. This classification the lecturer criticises. 1. He assigns no separate place to the

moral faculty. Is there a separate moral faculty? If so, is it gnostic or orectic, cognitive or appetent? Does it belong to the understanding or the will? In Kant's and Hamilton's division, is it a faculty of the understanding, a capacity of feeling, or a power of conation? In our study of psychology, the mind seems to have a moral phase, if we may use the expression, rather than a moral faculty. We mean that several, if not all of its faculties, have moral functions. Notably it has moral intuitions, moral judgments, moral emotions, and moral purposes. Is there a separate faculty for each or all of these? By the law of parcimony, we think not.

Dr. McCosh thinks that the sensations of pleasure and pain should not be classed with the mental emotions, under the common head, feeling. In this he agrees with Kant and Hamilton. Bain, however, has in this simply followed the current classifications of philosophers from Aristotle down. In criticising a Materialist, this may be regarded as an error (if an error at all) of quite inferior moment. The lecturer well says that Prof. B.'s division of the mental powers is from a study of mental phenomena, and not from an anatomy of the brain. No study of the brain will enable us to map out the mental faculties.

3. As the last and most honorable of the list, there is presented Prof. Tyndall, who has lately attained such notoriety through the proposed prayer-test, who has been lecturing with so much *éclat* on physics in this country, during the winter, and who gave seventeen hundred dollars to the Young Men's Christian Association of Washington. He asserts that the growth of the body is mechanical, and that the various thoughts, emotions, and volitions have their correlatives in the physics of the brain. He contends, however, for the existence of the mind. There is no proof that a man's mental condition can be determined by an inspection of his brain.

All attempts to localize the various faculties in different parts of the brain have been unsuccessful. If it should ever be done, it would only prove that the mind uses one part of its instrument for one purpose, and another part for another. Dr. Maudsley confesses that we have no certain knowledge of the functions of

the various cerebral convolutions; that it is not agreed that man has any definite system of convolutions; that we only know that they are more complex and less symmetrical than those of the monkey.

A general criticism of Materialism:

1. We have an intuitive consciousness of the personality and unity of the mind.

2. The mind follows laws of its own, which are not laws of matter. The laws of matter are attraction, definite combination, assimilation, absorption, etc. The laws of mind are cognition, perception, consciousness, memory, imagination, association, judgment, emotion, free-will, obligation, etc.

3. Mind cannot be shown to be one of the correlated physical forces. We cannot weigh thought, nor measure affection. Spencer asserts that all mental phenomena are the result of some physical force. This is not correct. Many affections and thoughts are produced solely by internal contemplation; penitence in reviewing our past conduct, for example.

Dr. Barker, of Yale College, argues, from the motion of the needle consequent on brain action, that thought is the result of electric or magnetic force. The fact is true, but the interpretation is not. The mental action excites the brain, and the brain excitement produces the magnetic phenomena. The excitement of the emotions produces more heat than the action of the intellect does. This shows simply that the emotions agitate the brain more and cause it to expend more physical force. So recitation to one's self produces more heat than does oral recitation. This is due to the force, in the latter case, being expended on articulation. When physical force disappears in one form, it is found in another. Is this true of mental force? What becomes of it at death?

4. The following is Dr. McCosh's hypothesis of the relations of mind to matter: Mind is intimately associated with matter; not, however, with the molecules of matter, but with the correlated forces. These must exist in the brain and concur with the mind in producing mental action. Force comes from the sun to vegetables and animals. These being digested by man, the forces

in them are carried by the blood to the brain, and there deposited in the gray cortical layers. These forces partly form the brain. The mind uses them as the instrument of its action, just as a mill uses the water-power to make its machinery effective. These forces, however, are not the mind, as the water-power is not the mill. In this life, the mind cannot act without these brain forces. This, however, may not be the case in another state. The mill may run by steam. So to the mind another class of forces may be supplied. The mind, like matter and force, can never perish.

There are few questions more interesting to the thoughtful than the relations of mind, matter, and force. Those relations are not yet fully and definitely ascertained. We have had occasion to observe that Dr. McCosh is not entirely clear as to the connections of the last two. Force is undoubtedly intimately associated with both of the others. All of the manifestations of mind are in the form of energies. Its faculties are generalised as powers.

As to matter, in all of its observed forms, it is not only capable of being moved, but is also constantly in motion. In unorganised matter, there is a force producing atomic motion. Beyond this, it exerts an attractive and repulsive influence (the *ἐρως* and *ἐπις* of the ancients) over separate masses of inorganic matter. In the vegetable world, this force produces atomic, attractive, and repulsive motion, and, in addition, the motion of growth from a fixed point, that of germination. In the animal kingdom, it produces all of these, with the additional motion of change of place in absolute space.

Let us examine consciousness as to the relations of these. What is its testimony as to our perception of matter? The primary idea of matter comes from our apprehension of its extension. How does extension manifest itself to us? As far as we perceive it by touch, it is as resisting us in three directions perpendicular to each other. Plainly we know it as a force in contact with our tactual sense. So it is with all those qualities of matter, which, as essential to extension, are called primary. Several of these, as given by Hamilton, are purely negative; as divisibility. In such cases, the mind perceives an absence of force simply.

Hamilton enumerates, as secundo-primary qualities, gravity, cohesion, inertia, and repulsion. It is now generally settled that inertia is not a quality of matter at all. If it be, then it shows itself as a power resisting a moving force, on the one hand, or an impeding force, on the other. Gravity is simply a power attracting separate masses of matter. Cohesion is a similar power uniting particles of the same mass. Repulsion appears as a separating influence.

The secondary qualities even more clearly show the same thing. What do we know of colors, sounds, tastes, or odors, except as powers in matter producing certain peculiar sensations in us?

With regard to the phenomena of mind, as stated above, the truth is so well recognised that we call all of its manifestations, operations or acts of its several powers or energies. Thus it is also with our knowledge of God. We know him as a Power, and all his attributes as particular exhibitions of his essential energy.

So it is true that we know nothing but power. All existence, material and spiritual, finite and infinite, manifests itself to us as such. In view of these facts, is it a foolish conjecture that possibly all finite substances, material and spiritual, find their unity in the higher sphere of force? The *summum genus* of finite, created being, then, would be force; its two proximate, subaltern *genera*, mind-force and matter-force. Over all, as issuing from him, dependent on him, is the infinite, spiritual, perfect Force; the First Cause, from whom proceed and to whom point all secondary and final causes.