

- ART. VI.—1. *Modern Atheism, under its forms of Pantheism, Materialism, Secularism, Development, and Natural Laws.* By James Buchanan, D. D., LL. D., Divinity Professor in 'the New College, Edinburg.' Boston: Gould & Lincoln. 1857.
2. *First Principles*; in two parts: I. The Unknowable. II. The Knowable and its Laws. By Herbert Spencer. New York: D. Appleton & Co. 1870.
3. *On the Origin of Species, by Means of Natural Selection; or, the Preservation of Favored Races in the Struggle of Nature.* By Charles Darwin, M. A., F. R. S. Fifth edition, with additions and corrections. New York: D. Appleton & Co. 1871.
4. *The Descent of Man and Selection in Relation to Man.* By Charles Darwin, M. A., F. R. S. 2 vols. 1871.
5. *On the Genesis of Species.* By St. George Mivart, F. R. S. New York: D. Appleton & Co. 1871.
6. *On the Origin of Species; or, the Causes of the Phenomena of Organic Nature.* A course of six lectures to working men. By Thomas H. Huxley, F. R. S., F. L. S., Professor of Natural History in the Gernym Street School of Mines. New York: D. Appleton & Co. 1870.
7. *Lay Sermons, Addresses, and Reviews.* By Thomas H. Huxley, F. R. S., F. L. S., etc. New York: D. Appleton & Co. 1871.
8. *Heat Considered as a Mode of Motion.* By John Tyndall, F. R. S., etc., Professor of Natural Philosophy in the Royal Institution, and in the Royal School of Mines. New York: D. Appleton & Co. 1869.
9. *Fragments of Science for Unscientific People.* A series of detached Essays, Lectures, and Reviews. By John Tyndall, LL. D., F. R. S., etc. New York: D. Appleton & Co. 1871.
10. *Vestiges of the Natural History of Creation.* By ——. New York: Wiley & Putnam. 1845.
11. *Cours de Philosophie Positive.* By M. Auguste Comte. 6 vols. Paris. 1842–3.

12. *A System of Logic, Rationative and Inductive; being a connected view of the Principles of Evidence and Methods of Scientific Investigation.* By John Stuart Mill. New York: Harper & Brothers. 1846.
13. *Elements of Physio-Philosophy.* By Lorenz Oken. Reprinted under the auspices of the Ray Society, London. 1847.
14. *The Biographical History of Philosophy, from its Origin in Greece down to the Present Day.* By George Henry Lewes. New York: D. Appleton & Co. 1857.

Those who have read most extensively, and reflected most profoundly, on the tendencies of the age, are sensible of the fact that a great conflict, that a gigantic struggle, has already begun between the powers of light and the powers of darkness. The parties are as old as the hills; the issues only are a little changed. The friends of Christianity on the one hand, and those of Atheism on the other, are the parties to this conflict.

In his able, learned, and interesting work, Dr. Buchanan says: 'Opinions are afloat in society, and even avowed by men of high philosophical repute, which formally exclude Theology from the domain of human thought, and represent it as utterly inaccessible to the human faculties. They amount to a denial, not merely of its truth, but of its very possibility. They place it among the dreams of the past — with the fables of the Genii, or the follies of Alchemy, or the phantoms of Astrology. They intimate, in no ambiguous terms, not only that Catholicism is effete, and Christianity itself dead or dying, but that Theology of every kind, even the simplest and purest form of Theism, must speedily vanish from the earth. Admitting that the religious element was necessarily developed in the infancy of the species, and that its influence was alike inevitable and salutary during the world's minority, when it was placed, provisionally, "under tutors and governors," they proclaim that mankind have outgrown the vestments which suited them in earlier times, and that now they must "put away childish things." That such sentiments have been publicly avowed, that they have been proclaimed as the scientific results

of speculative thought, and that they have been widely circulated in the vehicles both of philosophic discussion and of popular literature, will be proved by evidence, equally sad and conclusive, in the succeeding chapters. In the meantime we refer to them merely for the purpose of showing that, in so far as their influence prevails, they must necessarily tend, unless they be counteracted by some effective antidote, to generate such a prejudice against the whole scheme of Theology, whether Natural or Revealed, as may be expected, especially in the case of young, inexperienced, and ardent minds, to prevent them from entertaining the subject at all, or examining, with serious and candid interest, any kind or amount of evidence that might be adduced in regard to it. For this reason we propose to review the various Theories or Systems which may be said to embody and exhibit these prevailing tendencies, to meet our opponents on their own chosen ground, and to subject their favorite speculations to a rigorous and sifting scrutiny; and this, not for the purpose of proving our fundamental position, for that must rest on its proper and independent evidence, but simply with the view of neutralizing the adverse presumptions which prevent many from considering its claims, and proving that it is a subject that demands and deserves their serious and sustained attention.

‘Taking a comprehensive view of European Science and Literature during the last half century, we may discern the great currents, or chief tendencies, of speculative thought, in so far as it bears on the evidences and doctrines of Religion, in several distinct but closely related systems of opinion, which, whether considered severally or collectively, must exert, in proportion to their prevalence, a powerful influence on the side of Atheism. These systems may be divided generally into *two* great classes, according as they relate to the *substance* or to the *evidence* of Theism, to the truths which it involves, or the proofs to which it appeals. The interval between the first and second French Revolutions may be regarded as the season during which the theories to which we refer were progressively developed, and ultimately consolidated in their existing forms. The germ of each of them may have existed before, and traces

of them may be detected in the literature of the ancient world, and even in the writings of mediæval times; nay, it might not be too much to affirm that in the systems of Oriental Superstition, and in the Schools of Grecian Skepticism, several of them were more fully taught in early times than they have yet been in Modern Europe, and that the recent attempts to reconstruct and reproduce them in a shape adapted to the present stage of civilization have been poor and meagre in comparison with those more ancient efforts of unenlightened reason. What modern system of Skepticism can rival that of Sextus Empiricus? What code of Pantheism, French or German, can be said to equal the mystic dreams of the Vedanta School? What godless theory of Natural Law can compete with the Epicurean Philosophy, as illustrated in the poetry of Lucretius? The errors of these ancient systems have been revived even amidst the light of the nineteenth century, and prevail to an extent that may seem to justify the apprehension, frequently expressed on the Continent of late years, of the restoration of a sort of Semi-Paganism in Modern Europe; and it is still necessary, therefore, for the defense of a pure Theism, to reëxamine those ancient forms of error which have reappeared on the scene after it might have been supposed that they had vanished forever. For the very tenacity with which they cleave to the human mind, and their perpetual recurrence at intervals along the whole course of the world's history, show that there must be something in the wants, or at least in the weaknesses, of our nature which induces men to tolerate, and even to embrace them. But the chief danger, as we conceive, lies in those new, or at least newly organized, theories that have only recently received their full development in the Inductive and Scientific pursuits which constitute the peculiar glory of modern times; and which, commencing with the era of Bacon and Descartes, and gradually matured by Newton, Leibnitz, and their successors, have at length issued in the construction of a solid fabric of Science. To Theism there is no danger in Science, in so far as it is true, for all truth is self-consistent and harmonious; but there may be much danger in the use that is made of it, or in the spirit in which it is applied. In the

hands of Bacon, and Newton, and Boyle, the doctrine of Natural Laws was treated as an ally, not as an antagonist, to Theology; in the hands of Comte it becomes a plea for Atheism; and even in the hands of Combe an argument against a special Providence and the efficacy of prayer. Here the danger is the greater just by reason of the acknowledged truth and practical value of the Inductive Philosophy; for its certainty is so well ascertained, and its manifold uses so generally appreciated, that if it shall come to be regarded as incompatible with the recognition of God and Religion, Society will soon find itself on the verge of universal Atheism. And this is the fearful issue to which the more recent schools of speculation are manifestly tending. The first French Revolution was brought about by the labors of men who fought against Christianity, at least ostensibly, under the banner of Deism, or Natural Religion; the second Revolution was consummated under the auspices, not of a Deistic, but of an Atheistic, philosophy. The school of Voltaire and Rousseau has given place to the school of Comte and Leroux. The difference between the two indicates a rapid and alarming advance. It may not be apparent at first sight, or on a superficial survey; but it will become evident to any one who compares the two French Encyclopædias, which may be regarded as the exponents of the reigning philosophy of the two great revolutionary eras. The first, the *Encyclopedie* of D'Alembert, Voltaire, and Diderot, sought to malign and extirpate Christianity, while it did frequent homage to Natural Theology; the second, the *Nouvelle Encyclopedie* of Pierre Leroux and his coadjutors, proclaims the deification of Humanity, and the dethronement of God!

Dr. Buchanan's analysis and classification of the different species or forms of Atheism is sufficient for the design of his work. If not absolutely exhaustive, it is at least learned, able, comprehensive, and accurate as far as it goes. It is impossible, within the limits of an article, to follow him in his analysis and refutation of the various schemes of Atheism. He has shown, clearly and conclusively shown, that each and every scheme of Atheism is based on baseless assumptions

only, and is, therefore, unworthy of the great scientific names by whom they are espoused and advocated.

Since his work appeared, however, a vast extension has been given to the literature of Modern Atheism by such writers as Herbert Spencer, Darwin, Huxley, Tyndall, and others. What shall we say of such men? The word of God declares, that 'the fool hath said in his heart, there is no God.' What shall we say, then, of such men as Hobbes, Hume, Comte, Spencer, Darwin, Tyndall, John Stuart Mill, Huxley, and the whole tribe of atheists? All these men have said in their hearts, 'there is no God.' Shall we, then, pronounce them all fools? The world has been filled with the renown of their names. Can it be possible, then, that, after all, they are fools? The divine word declares, that the fool, and the fool alone, hath said in his heart, 'there is no God.' This does not mean, however, that such men are fools in all things, but only that they are fools in the denial of a God; or, in other words, that they are fools in the opinion, the sentiment, the belief, that there is no God.

This may seem to be a harsh sentence. The word of God, it must be confessed, is sometimes very plain, where most men are very polite, especially in this very polite age. We have heard so much of late, and that, too, from the pens and tongues of Christian men, about the modesty, the candor, and the science of such men as Darwin, and Spencer, and Huxley, and others of the same school, that we are almost afraid to pronounce them fools in anything, lest we should be supposed to lack the modesty and the science, the candor and the learning, of which they have set so beautiful an example. But still we are constrained to say, in the language of Holy Writ, 'Let God be true, though every man a liar.' These atheists are all fools. In spite of all their apparent modesty, and candor, and vast stores of science, they are all fools. That is to say, they are fools, not in regard to all things, but in regard to the most important, vital, and fundamental of all questions. In regard to the being and attributes of God they do, indeed, play the fool 'with a conceit of knowledge without the reality,' which absolutely beggars the resources of ordinary minds.

This is the thesis which we hope to make good, in spite of all the learning, and science, and ability, now arrayed against the cause of God.

'No God.' How does the atheist know? Has he made his bed in hell and found that 'there is no God' there? Has he ascended into heaven, and there made the discovery, that 'there is no God'? Has he taken the wings of the morning, and dwelt in the uttermost parts of the sea, and there *seen* that 'there is no God'? Has he, in one word, with the eye of omniscience, looked through all things, or, having searched them to the bottom, made the amazing discovery, that 'there is no God'? Has he swept the bounds of infinite space, and the boundless shores of eternity, and come back with the wonderful discovery, that 'there is no God'? If so, is it not evident that he has himself become a god, in the very act of declaring that 'there is no God'? Is it not evident that the man who has attained to the wonderful knowledge, that 'there is no God,' must either be a god himself, or else a fool 'in the conceit of such knowledge'?¹

This language is applicable, of course, only to the *dogmatizing* atheists, who, like M. Auguste Comte, positively deny the being of a God, and not to the *skeptical* atheist, who, like David Hume, merely doubts his existence. Dr. Buchanan does not discuss the skeptical atheism of Hume. This celebrated metaphysical philosopher, though an avowed skeptic, is pleased to apply ridicule to the doctrine of those who cherish a fixed belief in the being and attributes of God. 'If a spider,' said he, 'could reason, it would no doubt conclude that the universe was built by an infinite spider like itself.' Such is the fine ridicule which Mr. Hume casts on the idea entertained by such spider-like pigmies as Plato, and Leibnitz, and Locke, and Bacon, and Newton, as well as by the whole Christian world. But if he be not mistaken, then the spider, being rational, would conclude that the universe, with all its order, and harmony, and beauty, was the work of a rational Cause; and

¹ In this passage, as the well-informed reader will perceive, we have reproduced from memory, and in our own words, one of the remarkable reflections of John Foster.

that is more than can be said of Mr. Hume. If, however, the spider were a rational being, it would depend, it seems to us, on what kind of *heart* it had, whether it would conclude, with the theist, that the universe was built by an infinite, rational Mind, or, with the atheist, that it built itself. For, if the spider were so disposed, we do not see why it could not weave the cobwebs of a skeptical philosophy, like a Hume, to catch poor, wandering flies, instead of reasoning like a Socrates, a Plato, a Kepler, a Bacon, a Newton, or any other man with a great, generous, and glowing disposition. We are strongly inclined to believe, indeed, that if a spider were only endowed with a rational nature, without losing any of its original instincts, it would spin as fine theories of the world as a Darwin, or a Huxley, or a Tyndall, or a Spencer, and cause it to glitter, too, as gloriously as any of them, with the diamond dust of science. But, after all, it would dazzle the imagination only, and captivate the reason of none, except the poor, weak fools who are already disposed to say, 'in their hearts, that there is no God.' If, then, the spider were rational, it might make a respectable skeptic; but, unless its whole nature were changed, it would not make as good a theist as Mr. Hume is pleased to imagine. It might make a good disciple of a Darwin, or a Huxley, but not of a Bacon, or a Newton.

Mr. Hume was not, in the ordinary sense of the term, a *corrupt man*. He had not, so far as we know, done any of the 'abominable works' which, according to the Psalmist, inspire fools to say 'in their hearts, there is no God.' In his writings, it is true, he justifies the practice of adultery; and it would not be uncharitable, perhaps, to believe that he was accustomed to enjoy, in secret, the very *innocent pleasures* which he so openly vindicates in his works. But we do not know, as a matter of fact, that he led the sort of life which, according to St. Paul, as well as the Psalmist, is the secret source of the profane wish in question. Be this as it may, it is certain that there are vices of the mind as well as of the body. Vanity has produced as many heresies in religion as has any vice of the body. In regard to the atheism of Hume, Sir James Mackintosh has said: 'To those who are strangers to the seductions of para-

dox, to the intoxication of fame, and to the bewitchment of prohibited opinions, it must be unaccountable that he who revered benevolence should, without apparent regret, cease to see it on the Throne of the Universe. It is a matter of wonder that his habitual esteem for every fragment and shadow of moral excellence should not lead him to envy those who contemplated its perfection in that living and paternal character which gives it a power over the human heart.'¹

Such is the judgment which, in her calmest and mildest mood, philosophy herself pronounces on the atheistical philosophy of David Hume. The intoxication of fame! the delirium of vanity! How low, how mean, how despicable such motives, for preferring the exaltation of self in the eyes of men to the infinite majesty of truth and the glory of God! Or, in other words, for seeking to oust the Father of Mercies from the Throne of the Universe! That a creature, that a poor, blind worm of the dust, should thus, from sheer selfish vanity, erect itself against the supreme dominion of all that is true, and good, and beautiful, is surely a degree of infatuation and madness which human language was not invented to express. The fool hath said, not in the calm decision of his mind, but in the mean vanity of his heart, 'there is no God.'

The Marquis de Laplace, too, was an atheist. If we seek the origin of this belief, we shall find that, in his case also, it arose from 'the intoxication of fame,' the sweet 'bewitchment of prohibited opinions,' the fumes of a selfish vanity. Laplace was, indeed, not more remarkable for the magnificence of his mind than for the meanness of his moral nature. He was, professedly at least, among the most ardent and enthusiastic admirers and friends of Napoleon Bonaparte, as long as that great captain occupied the zenith of power and glory. The great mathematician dedicated his sublime work—the *Mécanique Céleste*—to the great general; and the great general wrote sublime compliments to the great mathematician. We see them, in the day of their power and prosperity, billing and cooing as lovingly as any two tender turtle doves. But no sooner had the great Napoleon fallen than the enthusiastic

¹ Progress of Ethical Philosophy, p. 188.

friendship of Laplace vanished, and the grandiloquent dedication disappeared from the *Mécanique Céleste*. In that dedication Laplace had said, that 'of all the truths contained' in his immortal work, there was not one which was more precious to him than his enthusiastic devotion to the great Napoleon. This may have been very true; for the man who could prove so false to his friend, as well as to his God, cannot be supposed to be much attached to any thing, either in heaven or on earth, except by the ties of his own selfish vanity, or his love of fame.

M. Arago, who wrote a *Biography of Laplace*, tells us that when he first saw him he was overwhelmed with veneration and awe to think that he was standing in the presence of the author of the *Mécanique Céleste*. The world-wide renown of the illustrious author oppressed his imagination and embarrassed his utterance. But, in the midst of the interview, Madame Laplace entered the room and begged the loan of 'the key to the sugar chest.' The mighty spell was broken; the illusion vanished. M. Arago saw, to his great surprise, that while the intellect of Laplace was in the heavens, his soul was in 'the sugar chest.' Is it any disparagement, then, to the glory of God, that in the tabernacle of such a soul there was no place for his divine and adorable majesty?

In the *Biographie Universelle* we are told that, while in the Polytechnic School, Laplace 'felt the mathematical fibre vibrate.' If, on any occasion, he ever felt the moral or the religious fibre vibrate, the fact has been most carefully concealed from the world. This fibre seems, indeed, to have been so very feeble in his nature, that it either had no vibrations at all, or else they were never heard amid the sweet and incessant music made by his mathematical fibre. This, which belongs to the pure intellect alone, responded to the glorious mechanism of the material universe; but his moral fibre, if he had one, gave forth no glad response to the glory of the moral universe. Here all was silent; and here, in the emptiness of his heart, he said—'no God.' One fibre may make a great mathematician; it takes several fibres to make a man. The mathematician, with his one fibre, may be an atheist; the man, bearing in his soul the image of God, is a theist.

Laplace was a great reasoning machine; but, morally considered, he was a very small man. Like a man with the rickets, his head was preternaturally enlarged, while his breast was all shrunken away. 'All great thoughts,' says Vauvenargues, 'come from the heart.' Especially and emphatically is this true of all great thoughts respecting the glory of God and the divine beauty of his works. Hence, on this grand theme, the low, mean, grovelling notions of the Marquis de Laplace. Young, in his meditations on man, exclaims: 'A god, a worm.' Laplace was both; a god in the magnificence of his mind, a worm in the measure of his soul. 'Half dust, half deity,' exclaims Byron. Laplace, in the grandeur of his intellectual powers, was deity; but this was obscured and eclipsed by the dirt and dust of his moral nature. 'The undevout astronomer is mad.' When Laplace undertook to show, as he did, 'How the world might be made without the hypothesis of a God,' he only showed how a system of the world might be constructed without the hypothesis of good sense or sound reason. This, we are aware, is not to deal, as reverently as usual, with the sublime authority of the great Marquis de Laplace; but it is no half-formed, weak, or wavering opinion. Hence we shall proceed to make it good.

We have good reason to believe, indeed, that the Marquis had, after all, no very clear or fixed opinion respecting the existence of a God. His mind was too great and too clear to be caught and entangled in the pitiful sophistries by which a Comte, the author of *The Vestiges of Creation*, or a Darwin, has been captivated and carried away. His utterance, however explicit, that 'there is no God,' is no proof that this conviction, or opinion, was really cherished by him. His want of candor and sincerity are too well known to allow us to infer his real opinions from his language. In the *Autobiography of Francis Arago*, the celebrated writer says: 'In a case of this nature (*i. e.*, in the election of a perpetual secretary of the Academy of Sciences), each man carefully conceals his vote, in order not to run the risk of future disagreement with him who may be invested with the authority which the Academy gives to the perpetual secretary. I do not know whether I

shall be pardoned if I recount an incident which amused the Academy at the time. M. de Laplace, at the moment of voting, took two plain pieces of paper; his neighbor was guilty of the indiscretion of looking, and saw distinctly that the illustrious geometer wrote the name of Fourier on both of them. After quietly folding them up, M. de Laplace put the papers into his hat, and said to this same curious neighbor: "You see, I have written two papers. I am going to tear up one, I shall put the other into the urn; I shall thus be myself ignorant for which of the two candidates I have voted." All went on as the celebrated academician had said; only that every one knew with certainty that his vote had been for Fourier; and that "the calculus of probabilities" was in no way necessary for arriving at this result.'

Now, the man who, from the cowardly fear of the rival candidate, M. Biot, could resort to so pitiful a trick to conceal his preference, should not expect any one to rely on his expressions as the infallible index to his opinions. For all we know, indeed, his avowed atheism resulted, not from the force of the evidence in view of his mind, but from the cowardly fear of the brilliant circles in which he 'lived, and moved, and had his being.' If, in those circles, atheism had not been the reigning fashion, then, it seems probable to us, that Laplace would have been a disciple of Newton in his theism, as well as in his mathematics and astronomy. But, however this may have been, we think it may be shown, by an examination of his positions and his arguments, that his atheistical views must have had an exceedingly feeble hold on his great mind.

The 'Nebular Cosmogony,' as it is called, was first suggested by Sir William Herschel. In those cloud-like appearances, which he beheld in various parts of the heavens, Sir William *fancied* that he saw suns and solar systems in the process of formation, according to the hypothesis which has since been called 'the theory of development.' This theory assumed a more definite form in the hands of Laplace. But even as advocated, or rather advanced, by him, it is not a discovery of science, but merely an explanation of the way in which solar systems *might* possibly be formed by the opera-

tion of natural laws, 'without the hypothesis of a God.' In other words, he undertook to show, not how the world *was* made, but only how it *might* have been made. In 'natural philosophy,' as Sir Isaac Newton has said, 'there is no end of fancying'; and if men are so pleased, they may indulge in a thousand fancies respecting the way in which worlds and systems *might* be made, only it should never be forgotten that our *fancies*, however grand, or plausible, or sublime, are not necessarily *facts*. Hence, however captivating to the imagination, we must still hold them in abeyance until they are established on a solid scientific basis. Until then we must say to them, one and all, in the stern language of Newton, '*hypotheses non fingo*.' 'Prove all things, and hold fast that which is good,' is our motto in science as well as in religion. Let us, then, in the spirit of this motto, proceed to try the 'Nebular Hypothesis' of Laplace.

The universe was made, according to this hypothesis—or *might* have been made—not by a God or presiding Mind, but by the law of gravity. It postulates, as its starting point, a universally diffused nebulous matter, from which the sun and stars, the planets and satellites, are all evolved, or gradually developed, by the operation of the law of gravity, without the supposition of a creating God. Now, what is this wonder-working law of gravity? Is it an *intelligent* being or agent? No. Is it a *living* thing? No. Can it plan or design anything? No. What is it, then? It is, in fact, a blind cause merely, with no ideal scheme, or plan, according to which it works. In itself it is nothing at all, and can do nothing; it is—its advocates themselves being the judges—merely the mode according to which some *unknown* agent acts. How do we know, then, but that this unknown agent is God?

According to the hypothesis in question, matter is eternal. It is uncreated, self-existent, and eternal. Whence, then, the blind law by which, from blind particles of matter, the order, the harmony, the magnificence, and the beauty of the Cosmos is developed? Was it self-imposed? or does its existence imply a lawgiver? If, according to the hypothesis in question, it works blindly and necessarily, when does its operation begin?

Did it begin to work in time, or has it worked from all eternity? If it began to work in time, who or what first set it in motion? And if it has worked from all eternity, why did its effects or works no sooner make their appearance?

How will the atheist answer these questions, and a hundred more which might easily be put to him? He is accustomed to ask, as every one knows, 'If the world were made by a Deity, why was it not made by him sooner? or, since it was so long unmade, why was it made at all? "*Cur mundi œdificator repente extiterit innumerabilia ante sæcula domierit.*" How came this builder and architect of the world to start up on a sudden, after he had slept for infinite ages, and bethink himself of making a world.'¹ Now, we fearlessly ask, do not these questions, which the atheist opposes to the existence of the intelligent God of the theist, recoil, with tenfold force, against the newly invented god or creator, which he is pleased to set up under the name of gravity? Do they not show that, in flying from the *mysteries* which surround the throne of the living God, he plunges into an abyss of *absurdities* that inevitably enshroud his dead idol?

But how does this dead idol work? How does it mould the nebulous matter into the awful beauty of the Cosmos? We can easily see how, if gravity alone acted, all the particles of matter would move, in right lines, toward their common centre of gravity. But this would produce, not a world or solar system, but only one vast conglomeration of matter. In order to give rise to anything like a world, or solar system, there must be a *movement of rotation* in the nebulous masses, as well as a movement *in right lines*, toward the common centre of gravity. Now, how, we ask, is this movement of rotation produced by the action of gravity? This is *the question* which pertains to the Nebular Cosmogony; and it is a question, too, which has never been satisfactorily answered by Laplace or by any of his followers.

'We have just found,' says M. Arago, 'conformably to the principles of mechanics, the forces with which the particles of the nebula were originally endowed, in the movements of rota-

1 Cudworth's Intellectual System of the Universe. Chap. II, Sec. xix.

tion and revolution of compact and distinct masses which these particles have brought into existence by their condensation. But we have thereby achieved only a single step. *The primitive movement of rotation of the nebula is not connected with the simple attraction of the particles. This movement seems to imply the action of a primordial impulsive force.*¹ How, then, does Laplace surmount this stupendous difficulty? How does he deduce, in other words, from the simple attraction of the particles, not only their motions in right lines to a centre, but also their rotation around that centre?

‘Laplace,’ says M. Arago, ‘is far from adopting, in this respect, *the almost universal opinion of philosophers and mathematicians.* He does not suppose (as all other ‘philosophers and mathematicians’ do) *that the mutual attractions of originally immovable bodies must ultimately reduce all the bodies to a state of rest around their common centre of gravity.* He maintains, on the contrary, that three bodies, in a state of rest, two of which have a much greater mass than the third, would concentrate into a single one only in certain exceptional cases. In general, the two most considerable bodies would unite together, while the third would revolve around their common centre of gravity. *Attraction would thus become the cause of a sort of movement which would seem to be explicable solely by an impulsive force.*’

Now, this supposed effect of the mutual attraction of particles — this movement of rotation around their common centre of gravity — was wholly unknown to Sir Isaac Newton. He was, on the contrary, compelled to adopt the idea of an ‘original impulsive force,’ in order to account for ‘this movement of rotation’ around a centre. This ‘movement of rotation’ around a centre, as resulting from the mutual attraction of particles, or of bodies, is, if we may believe M. Arago, one of the grand discoveries of M. de Laplace. But, surely, no one can expect us to accept this grand discovery on his bare assertion, or *ipse dixit*. If it be true, it might have been easily demonstrated. If it be true, that ‘the two most considerable bodies would unite together, while the third would revolve around

1 Biography of Laplace.

their common centre of gravity,' no one could have demonstrated this truth more easily than Laplace himself. Why, then, did he not demonstrate it? Why did he not supply this 'second step,' which was so indispensable to the coherency of his system? Why did he leave it, on the contrary, to rest on his bare assertion. Can a great discoverer expect to upset the 'universal opinion of philosophers and mathematicians' by his mere *ipse dixit*, and introduce novel ideas of his own as 'The Mathematical Principles of Natural Philosophy?' Did Newton thus rear the sublime fabric of his *Principia* on his mere word?

M. Arago, in deploring the huge chasm which Laplace left in his Nebular Cosmogony, says: 'It is, perhaps, *especially to be regretted that Laplace should have only briefly alluded to what he considered the obvious possibility of movements of revolution having their origin in the action of simple attractive forces, and to other questions of a similar nature.*' It is, indeed, to be regretted that he left this huge chasm between fact and theory, without even an attempt to bridge it over, if he expected his hypothesis to be embraced by thinking men. It is also to be regretted, that neither M. Arago nor any other mathematician has attempted to bridge over this fatal chasm. Until this be, not only attempted, but actually done, we must be permitted to adhere to the 'universal opinion of philosophers and mathematicians,' instead of leaping this unbridged chasm of an atheistical cosmogony. M. Auguste Comte, and the author of *The Vestiges of Creation*, have leaped this chasm; but, while we admire their agility, we cannot commend the atheistic habit of jumping to such momentous conclusions.

In our humble opinion, M. de Laplace did try his mathematics on the problem of his 'three bodies;' and although he discovered that the third *might* revolve around the common centre of gravity of the other two, yet it must pass so near that centre, and move in an orbit so very elliptical, as to promise any thing rather than a habitable solar system. Hence, instead of bringing the sorry thing to light, and offering it up as a willing sacrifice on the altar of truth, he throws the veil of obscurity over the features of its weakness and deformity, and leaves the

atheistical world, in the blindness of their faith, to admire it as a fair image or model of the world.

In the words of Newton, ‘This most beautiful system of the sun, planets, and comets, could only proceed from the counsel and dominion of an intelligent and powerful Being.’¹ Thus, the great discoverer of the universal law of gravity did not mistake his discovery — the most sublime ever made — for the God by whom it was ordained. On the contrary, he found it necessary to combine with this law an original impulsive or projectile force, in order to account for and explain, nay, to *demonstrate*, ‘this most beautiful system of the sun, planets, and comets.’ Nor can we see why Laplace should have denied the existence of such a force, unless it was because it points so directly to God, the Unmoved Mover of the heavens and the earth, as its cause.

‘The primary planets,’ says Newton, ‘are revolved about the sun in circles concentric with the sun, *and with motions directed toward the same parts, and almost in the same plane.* Ten moons are revolved about the Earth, Jupiter, and Saturn, in circles concentric with them, with the same direction of motions, and nearly in the same plane of the orbits of those planets; *but it is not to be conceived that mere mechanical causes could give birth to so many regular motions, since the comets range over all parts of the heavens in very eccentric orbits.*’² How admirable this arrangement! For ‘by their kind of motion,’ the comets ‘pass easily through the orbs of the planets, and with great rapidity; and in their aphelions, where they move the slowest, and are detained longest, they recede to the greatest distances from each other, and hence suffer least disturbance from their mutual attractions.’³ Now, who will tell us why the motions of the planets, both primary and secondary, are so different from those of the comets, if all were determined by one and the same blind, mechanical, and necessary law? Yet the motions of the planets, so different from those of the comets, are even more essential than these last to the perfection of the system. All the facts above specified by

1 Principia, Book III. General Scholium, p. 504.

2 Ibid.

3 Ibid.

Newton, in regard to the positions and motions of the planets, are, as M. Laplace himself has demonstrated in the *Mécanique Céleste*, indispensable to the order and stability of the solar system. If any of those conditions, apparently so arbitrary, or independent of all known mechanical laws, were only modified into a slight conformity with the motions of the comets, the whole system would run down, and end in chaos, instead of rolling on, as it now does, and will, in everchanging but eternal beauty. The hand that made them 'is divine.'

Gravity did not produce all this order and harmony, all this stability and beauty. It did not determine the distance of the planets, nor their motions in the same direction, nor in nearly the same plane, nor in orbits nearly circular. In the language of a great mathematician and thinker, 'Whatever we may say of this power, it could not possibly have produced, at the beginning, the regular situation of the orbs and the present disposition of things. Gravity could not have determined the planets to move from west to east in orbits nearly circular, almost in the same plane; nor could this power have projected the comets with all variety of directions. If we suppose the matter of the system to be accumulated in the centre by its gravity (as all "philosophers and mathematicians" suppose it would be), no mechanical principle, with the assistance of this power of gravity, could separate the vast mass into such parts as the sun and planets, and, after carrying them into their different distances, project them in their several directions, preserving still the equality of action and reaction, or the state of the centre of gravity of the system. Such an exquisite structure of things could only arise from the contrivance and powerful influences of an intelligent, free, and most potent Agent. The same powers, therefore, which at present govern the material universe, and conduct its various motions, are very different from those which were necessary to have produced it from nothing, or to have disposed it in the admirable form in which it now proceeds.'¹

¹ Maclaurin's Account of Sir Isaac Newton's Philosophical Discoveries, Book IV., Chap. IX., p. 407.

This is, indeed, the weak point, the missing link, in all the theories of development, whether cosmical or physiological. If Herbert Spencer, for example, could only show how an egg was made without the hypothesis of a bird, or a bird without the hypothesis of an egg, then he could easily show how the whole race or species of such birds and eggs was made without the hypothesis of a God. But, unfortunately, there is no beginning without a beginner, and no motion without a mover. Hence, the very first step in all such theories is either passed over in silence, or else openly and unblushingly taken for granted, in defiance of the known laws of nature. Our modern atheistical physiologists usually take this first step silently and surreptitiously, leaving it to the imagination of their devoted disciples to supply the missing link in their logic. Even Lucretius, in his *De Rerum Natura*, after he had got possession of his eggs, found no difficulty in accounting for the existence of birds by the operation of natural laws. But when, or how, did he get his infinite variety of eggs? Were they produced by the fortuitous concourse of blind atoms? or were they only laid, and then hatched, by the heated imagination of the poet? This first step, it must be confessed, is the most dark and difficult, if not the most absurd, part of the great poet's atheistical genesis of species. But it is not one whit more so, it seems to us, than the corresponding part of Laplace's *Nebular Cosmogony*, or his account of the origin of the centrifugal force or motion of the heavenly bodies.

Two great cosmical forces — the *centripetal* and the *centrifugal* — are recognized, as facts, both by Newton and Laplace. They are the two constituent elements or factors of the *Principia* and the *Mécanique Céleste*; and serve to explain, in a manner perfectly luminous and satisfactory, all the complicated phenomena and subordinate laws of the material universe. But the attempt to deduce the one of these forces or factors from the other — the *centrifugal* force or motion from the *centripetal* — is peculiar to Laplace. Nothing, it seems to us, but the blunders of atheism could have driven him to deduce the one of these forces from the other, or to explain the motion *from* a centre by means of the motion *to* the same centre.

We do not wonder, however, that he should have so carefully concealed this explanation from the eyes of the scientific world. If he had exposed it to their inspection, it would, perhaps, have appeared less like a great scientific discovery than a monstrous excrescence on the body of the most beautiful of all the sciences. The author of *The Vestiges of Creation* calls the *Nebular Cosmogony* 'his romance of nature.' He is mistaken; he flatters himself; it is Laplace's romance of nature.

Laplace, as we have already said, endeavored to show, not how the solar system *was* made, but only how it *might* have been made, without the hypothesis of a God. This is, then, only one hypothesis among many. He did not even pretend to deny that Newton had shown how the system *might* have been made *with* the hypothesis of a God. Here, then, are two hypotheses—that of Newton and that of Laplace. Let us try them, and 'hold fast that which is good.'

According to Newton's view, two forces concur in the production of all the celestial motions—the force of gravity, and an impulsive or projectile force. The first, or the force of gravity, is a constantly acting force, which, accordingly, produces a constantly accelerated motion. The other, or the projectile force, was exerted once for all, and hence, if it alone acted, would have produced a uniform motion in the same right line forever. By the combination of these two forces 'the movement of rotation' is produced, as well as all the other phenomena of the celestial mechanics. This theory explains everything. It is from the joint operation of these two coördinate forces, or factors, that the whole order, harmony, and beauty of the material Cosmos proceeds, as necessary corollaries or mathematical deductions. The demonstration of this sublime view, or theory, is precisely that which constitutes the glory of the *Principia*, and also of the *Mécanique Céleste*. Laplace, after having followed in the footsteps of Newton, proceeded beyond him, and deduced other consequences from his two forces, or factors, all of which were verified by the actual phenomena of nature. A more sublime theory was never conceived by the human mind, nor one more fully or more universally verified by facts. The only cir-

cumstance connected with this theory which seems to have proved offensive to the intellect, or rather to the heart, of the Marquis de Laplace, is this — that, although it explains all the phenomena of the heavens, and unveils the glory of the Cosmos, *it also reveals the glory of God*. But, in our humble opinion, the scientific value and beauty of the theory, which are admitted to be absolutely perfect, are not diminished, because, at the same time, it possesses so great a moral and religious value. The Cosmos is not, in our eyes at least, the less severely grand, or beautiful, or sublime, in its scientific features, because it is all over radiant with the glories of the Divine Being.

But the Marquis de Laplace, it seems, did not like to see the glory of God reflected in the mirror of his works. Hence his attempt to explain away the projectile force, which he had, however, used in the construction of his *Mécanique Céleste*, or his effort to deduce it from the force of gravity. Hence his strange attempt to show that the uniform motion in a right line, everywhere assumed in his immortal work, is merely an offshoot from the constantly accelerated motion produced by gravity! Those who do not desire to ‘retain the knowledge of God in their minds,’ may, if they choose, hide from his presence in this dark place which Laplace has created for that purpose. But, for ourselves, we infinitely prefer to stand in the open light of the universe, and, exulting in the gladness and the glory of its beams, say with Sir Isaac Newton: ‘This most beautiful system of suns, planets, and comets could only proceed from the counsel and dominion of an intelligent and powerful Being.’¹

1 We have, in the preceding strictures, discussed the views of Laplace as we find them stated in the Biography of M. Arago. Whether M. Arago derived his knowledge of these views from some paper unknown to us, or from his conversations with Laplace, we do not know; they are certainly not to be found in his collected works. In his own exposition of the Nebular Hypothesis, he begins with assuming the nebular condition of the matter of the sun, and its rotation around a centre, and nowhere attempts to deduce this movement of rotation from the force of gravity. M. Arago had, no doubt, some good reason for attributing such opinions, or expressions, to Laplace; and hence we have discussed them as we find them set forth in his Biography. This was necessary, because the Nebular Hypothesis is

Laplace, the disciple of Newton in science, looked up to him as the great discoverer, and very justly pronounced him 'the greatest genius whom the world has ever seen.' Yet, when he considered his religious character, he *seemed* to look down upon him with an eye of pity, and mourn over the melancholy fact, that he had not, as a religionist, risen above 'the prejudices of infancy.' Is, then, the belief in a God one of 'the prejudices of infancy,' or is it a rational opinion? Let us try, in the first place, this fundamental position of the two conflicting hypotheses before us.

Is the belief in a God one of 'the prejudices of infancy'? Our apology for the examination of this question is to be found in the fact, that so many of the writers of the present day—such as Comte, John Stuart Mill, Lewes, Darwin, Herbert Spencer, Huxley, Tyndall, and others—have cast off the belief in a living, intelligent, and personal God, as one of 'the prejudices of infancy,' or one of the weak dreams of old women. Surely, in the presence of such authors (whose pernicious writings are everywhere in the hands of the rising generation), it cannot be deemed an idle thing, or a work of supererogation, to reassert the being of a God, and flash into the eyes of these birds of the night 'the bright and shining light of eternal truth.' Such an undertaking is, it seems to us, the best possible preparation for a detailed examination of their manifold sophistries and gross violations of the Inductive Philosophy, of which these very men fancy and boast themselves to be the most enthusiastic admirers and followers.

Is the belief in a God, then, one of 'the prejudices of infancy'? If so, it must be conceded, that it is the prejudice of such infants as Socrates, and Plato, and Aristotle, and Copernicus, and Kepler, and Galileo, and Bacon, and Newton, and Locke,

radically defective, unless it can account for the 'movement of rotation,' and because some of the followers of Laplace, and especially the author of *The Vestiges of Creation*, have attempted to explain that movement in the way Laplace is said to have done by his biographer and personal acquaintance. It was, moreover, the more necessary, because the views of Laplace will be generally derived from the popular account of them in the fascinating pages of M. Arago, rather than from the *Système du Monde*.

and Boyle, and Butler; in one word, of all the wisest and most considerable men in all ages and nations.

On this point we shall allow one to speak whose great Platonic mind was as remarkable for the microscopic power of its discrimination as for the sublime telescopic sweep of its vision. 'For the existence of God,' says 'the wonderful Howe,'¹ 'we need not labor much to show how constantly and generally it hath been acknowledged through the whole world; it being so difficult to produce an uncontroverted instance of any that ever denied it in more ancient times. For as for them whose names have been infamous among men heretofore on that account, there hath been that said, that at least wants not probability for the clearing of them of so foul an imputation. That is, that they were maliciously represented as having denied the existence of a Deity, because they impugned and derided the vulgar conceits and poetical fictions of those days, concerning the multitude and the ridiculous attributes of their imaginary deities.'

Howe then quotes Cicero, Maximus Tyrius, Plutarch, Plotinus, and Herbert, 'a noble person of our own,' respecting the contemptible insignificance of Atheism and the Atheists. Cicero 'mentions one,' says he, 'as doubting whether there were any gods or no;' but adds, that 'his book (for containing that doubt) was publicly burnt at Athens, and himself banished his country.' He also mentions 'two others as expressly denying them;' yet one of these, as Howe states in a note, was at first 'surnamed *αθεος*, afterward *θεος*,' as a theist who had been unjustly calumniated as an atheist. The historical opinion of Cicero himself he gives in these words: 'That there is no nation so barbarous, no one of all men so savage, as that some apprehension of the gods hath not tinctured his mind; that many do, indeed, think corruptly of them, which is the effect of vicious custom; but all do believe there is a divine power and nature. Nor hath men's talking and agreeing together effected this. It is not an opinion settled in men's minds by public constitutions and sanctions; *but in every matter the consent of all nations is to be reckoned a law of nature.*'²

1 The Living Temple, Part I. Chapter II.

2 Cicero, De Natura Deorum.

He next quotes Maximus Tyrius, himself a great orator and eloquent writer as well as Cicero,¹ as follows: 'In so great a contention and variety of opinions, (that is, concerning what God is,) herein, you shall find the law and reason of every country to be harmonious and one; that there is one God, the King and Father of all; that the many are but the servants and *co-rulers* unto God; that herein the Greek and the barbarian say the same thing, the islander and the inhabitant of the continent, the wise and the foolish: go to the utmost bounds of the ocean and you find God there. But if (says he), in all times, there have been two or three, an atheistical, vile, senseless sort of persons, whose own eyes and ears deceive them, and *who are maimed in their very soul, an irrational and sterile sort, as monstrous creatures as a lion without courage, an ox without horns, or a bird without wings; yet, out of those, you shall understand somewhat of God; for they know and confess him, whether they will or no.*'

Similar to this language of an old pagan is the eloquent testimony of Plutarch, who says, 'that if one travel the world, it is possible to find cities without walls, without letters, without kings, without wealth, without coin, without schools and theatres; but a city without a temple, or that useth no worship, prayers, etc., no one ever saw.' And he believes a city may more easily be built (*εδαφους χαιρες*) without a foundation, or ground to set it on, than any community of men may have or keep a consistency without religion.'

Nor will any one, perhaps, ever see such a city, until such illuminati as Spencer, Darwin, Huxley, Tyndall, and so forth, shall separate themselves from the rest of mankind and found one to their taste and liking. Then, if there be any worship at all, it will be that of Mr. Spencer's unknown and 'unknowable God;' which, as we are told by Professor Huxley, 'is of the silent sort'—'silent not only as to the spoken word, but silent as to the mental conception also.'² And if there be any Bible in such a city, it will be Mr. Tyndall's tractate against the possibility of miracles, and the efficacy of prayer. It is to be hoped, however, that there will never be in such city any

¹ Lempriere's Class. Dic.

² Mivart, p. 303.

Christian Advocate, as there seems to be in New York, to disturb the quiet and profound silence of the worshippers, by commendations of Mr. Spencer's 'treatment of theological opinions.'¹

But, to conclude our extract from 'the wonderful Howe,' he says: 'It is no mean argument for the commonness of religion, that there have been some in the world, and those no idiots neither, that have accounted it the most constituent thing in human nature. So that Platonic Jew (Philo) judgeth invocation "of God, with hope toward him, to be, if we will speak the truth, the only genuine property of man, and saith that *only he who is acted by such a hope is a man, and he that is destitute of this hope is no man*;"² preferring this account to the common definition (which he says is only of the concrete man), that he is a reasonable, and mortal, living creature. And yet he extends not reason further, that is, to the inferior creatures; for he had expressly said above, "that they who have no hope toward God have no part or share in the rational nature." And a noble person³ of our own says, "That upon accurate search, religion and faith appear the only ultimate differences of man; whereof neither *divine perfection* is capable, nor *brutal imperfection*;" reason, in his account, descending low among the inferior creatures. But *these* [religion and faith] agreeing more particularly to man, and so universally, that he affirms, "There is no man well and entirely in his wits, that doth not worship some deity." Who, therefore, accountest it a less absurdity to admit such a thing as a rational beast, than an irreligious man. Now, if these have taken notice of any instances that seemed to claim exemption from this notion of man, they have rather thought fit to let them pass as a sort of anomalous sort of creatures, reducible to no certain rank or order in the creation, than that they should be admitted into the account, or be acknowledged of the society of men, that were found destitute of an inclination to worship the common Author of our beings. And, according to this opinion, by

> 1 'His treatment of theological opinions is *reverent and respectful*.'—*Christian Advocate*. Oh, that it were only silent!

2 Philo. libr. de eo quod deterius potiori insid.

3 Herbert de Verit.

whatsoever steps any should advance in the denial of a Deity, they should proceed, by the same, to the abandoning their own humanity; and by saying there is *no God*, should proclaim themselves *no men*.'

That is to say, emancipated from 'the prejudices of infancy,' by ceasing to be men — emancipated from 'the prejudices of infancy,' not by rising higher and higher toward the *divine perfection*, but by descending lower and lower toward the *brutal imperfection*. Is not this, after all, the true interpretation of Darwin's account of 'The Descent of Man'? Is it not a descent down to, rather than an ascent up from, the lower species of the animal creation? Is man, in other words, merely a monkey, minus the tail; or is he, in his most amorphous, monstrous condition, merely a man, minus religion and faith — minus all that is greatest and most God-like in human nature? 'There is nothing great on earth but man; there is nothing great in man but mind;' and, as one has well added to this sublime sentence, 'there is nothing great in mind but God and religion.' Take them away, and then, as for ourselves at least, it is all one whether we are Darwinians or monkeys. In either case our hope toward God is gone, and nothing awaits us beyond the grave. Let us, then, if we must choose, no longer live the life of man amid the boundless glories of the universe, only to regard them as a mockery of the profoundest and sublimest aspirations of our souls. For if in this life only we have hope, then are we of all men, aye, and of all animals, the most miserable. Tell us not, then, O ye mighty prophets of science! that the soul itself is merely a 'mode of motion,' a bubble blown upon the bosom of a shoreless eternity, only to dream of an immortality of life, and then pass away, to make room for other bubbles. We infinitely prefer, to this grand discovery and prediction of science, *the faith of infancy*; the faith, namely, that God, having formed man of the dust of the ground, 'breathed into his nostrils the breath of life, and he became a living soul.' He became, not a dying, but a *living*, soul — stamped with the attribute of immortality. This was the faith of our infancy; and this, after all that science has said about the 'genesis of species,' or 'the descent of man,' is

still the faith of our old age. With all due respect to the genius and science of Mr. Tyndall, we still believe the soul is, not a 'mode of motion,' but an incorporeal substance, 'made in the image of God.' His opinions, that 'motion is God,' and that the soul is 'a mode of motion,' will, when the light of truth shall be made to shine through them, appear as unsubstantial as 'the shadow of a dream.' Let us proceed, then, to examine this part of his philosophy.

Matter is everywhere in motion. This motion is, at all times and in all places, regulated or governed according to the *law* of gravity. But the *law* of motion is one thing, and the *cause* of motion is another. Now, as Laplace, in the Introduction to his *Mécanique Céleste*, truly says, 'the *cause* of motion is force.' What, then, is force? It is, says Laplace, wholly 'unknown.' It is, says he, not only now, but always will be, 'unknown.' Truly it is, and will forever remain, wholly unknown to the mere mathematician. He finds it nowhere, and he can find it nowhere, amid his abstractions; and to seek it there, is to seek the living among the dead. Hence it was unknown to Laplace.

In like manner, *force* is unknown to science. The votary of science, *as such*, knows nothing, absolutely nothing, of force. He deals with motion, and with motion only. Occupied exclusively with matter and motion, he never rises to the contemplation of causes, or the Force by which motion is produced. Hence, when he presumes to pronounce on questions foreign to his province, he merely fumbles blindly in his philosophy, and plunges into atheism. Thus Mr. Tyndall, whose philosophy is as blind as his science is brilliant, declares that 'motion is the cause of motion.' What shall we say, then? Was motion the cause of the first motion? or is motion eternal? Is motion the uncaused, self-existent, eternal cause of all things? Science is here struck dumb. As it is ignorant of causes, so it should remain silent, or else it must babble out the nonsense of Atheism. Is it not better to agree with Laplace, that the cause of motion, that force, is wholly unknown, than to plunge headlong, and blindly, into the suicidal nonsense of Tyndall, that 'motion is the cause of motion'? or, in

other words, that it is the cause of itself? Is it not better to erect an 'altar to the unknown God,' than to worship a golden calf, or set up motion as the great cause and creator of all things?

Many of the admiring disciples of Mr. Tyndall will, no doubt, be greatly shocked to hear him called an atheist. But the thing is advisedly done, and the word is deliberately chosen. His science has never opened his eyes to the real cause of motion, and has, consequently, never enabled him to reach, even in thought or contemplation, the universal 'Mover of the heavens and the earth.' His science has never pierced beyond the realm of matter and motion, and hence he cannot look 'through nature up to nature's God.' It is an opaque medium to his mind. According to Helvetius, himself an atheist, Mr. Tyndall is free from the odious charge of atheism. Thus, says he: 'There is no man of understanding who does not acknowledge *an active power in nature; there is, therefore, no atheist.* He is not an atheist who says that *motion is God*; because, in fact, motion is incomprehensible, as we have no clear idea of it, since it does not manifest itself but by its effects, and *because by it all things in the universe are performed.*' But, if the Almighty Creator is to be ousted from the Throne of the Universe, is it not all one, whether we put matter or motion in his place. If we dethrone him, is it not all one, whether we deify a golden calf, or 'modes of motion' merely? We do, indeed, in our very hearts, render all due honor to the brilliant scientist who has so beautifully unfolded and illustrated the nature of heat and of sound as 'modes of motion'; but when, dazzled into blindness by the light of his own little world or province, he wanders into regions of which he is profoundly ignorant, and there proceeds to pronounce on the great questions of philosophy or religion which he has never studied, we cannot but be reminded of the inspired declaration of the Psalmist as to what 'the fool hath said in his heart.'

But however ignorant science or its votaries may be of the cause of motion, philosophy has at least one word to say on the subject. It is this: All power, the fountain of all force,

resides in mind, and in mind alone. 'Locke, it is well known, supposed that we might derive the idea of causation by reflecting on the changes, or motions, which take place in the external world. The fallacy of this supposition has been fully shown by Hume, and Brown, and Cousin. In the refutation of Locke's notion, these celebrated philosophers were undoubtedly right; but the first two were wrong in the conclusion, that we have no idea of power at all. Because the ideas of power and *causation* are not suggested by the changes or motions of the material world, it does not follow that we have no such ideas in reality; that "the only notion we have of causation is that of invariable antecedence."

'The only way in which the mind ever comes to be furnished with the ideas of cause and effect at all is this: we are conscious that we will a certain motion in the body, and we discover that the motion follows the volition. It is this act of mind, this exertion of will, that gives us the idea of a cause; and the change, or motion, which it produces in the body is that from which we derive the idea of an effect. If we had never experienced a volition, or act of the will, we should never have formed the idea of causation. The idea of positive efficiency, or active power, would never have entered into our minds.'

'The two terms of the sequence, with which we are thus furnished by an actual experience, is an act of the mind, or a volition, on the one hand, which we call an *efficient cause*; and a modification or change in inert, passive matter, on the other, which we call an effect. . . . Hence, when we see either term of the above sequence (as the motion of body), we are necessarily compelled, by a *fundamental law of belief*, to infer the existence of the other' (as an efficient exertion of spirit or will-force).

Now, it is by ignoring, or evading (through the darkness that is in us), this fundamental law of belief, which ascribes 'like effects to like causes,' that we can refuse to see in every instance of the motion of the body the effect of some active spirit or will-force. Deny this fundamental law of belief, and all knowledge is shaken to its foundations, and a flood of uni-

versal skepticism, dark as night, is let in on the human mind. Deny this fundamental law of belief—nay, this fundamental law of knowledge—and then, it is true, we cannot prove the existence of a God; but it is equally true, that we can prove nothing by reasoning from effect to cause, not even the existence of other minds beside our own. For, as is evident, we know that other minds exists, not by seeing, or feeling, or handling them, but only by inferring their existence from the effects they produce in the body.

‘There have been in all ages,’ says Cudworth, ‘such as have disbelieved the existence of anything but what is sensible, whom Plato¹ describes after this manner: *οἱ διατείνοντι δὲ πᾶν δὲ μὴ δυνατοὶ ταῖς χερσὶ συμπίεζεν εἶσιν ὡς ἄρα νοῦτο οὐδὲν τὸ παράπαν ἐστί.* That would contend, that whatsoever they could not feel or grasp with their hands was altogether nothing; yet this opinion was professedly opposed by the best of the ancient philosophers, and condemned for a piece of sottishness and stupidity.’² Nor is this all; for, in this sottishness and stupidity of theirs, they forget that they cannot ‘feel or grasp with their hands’ the spirit of a man any more than they can the Spirit of God. Hence, but for such gross, and glaring, and stupid inconsistency, they would deny, not only the existence of God, but also the existence of all other living agents in the world. We can neither see, nor feel, nor handle, any man’s spirit; and hence, if they were only consistent, they would deny the existence of all spirits except their own. But, in spite of the sublimity of their reason and logic, they still cling to ‘the prejudice of infancy’ respecting the existence of other men, or minds. They deny the being of a God; and yet, but for the gross darkness that is in them, they everywhere see precisely the same kind of evidence for the existence of God as that which compels them to believe in the existence of other minds beside their own; and they would see it, too, in absolutely overwhelming abundance. Only let them adhere to their own principle, or fundamental law of knowledge, that ‘like effects proceed from like causes’—a

1 In *Sophista*, p. 160.

2 *Intellectual System*, Book I, Chap. II, Sec. xix.

principle or law sanctioned by the universal voice and reason of mankind — and then, with hosts of illustrious thinkers in all ages, they would refer all the motions of heaven and earth to spirit — either to the direct agency of the Supreme Mind himself, or to the agency of created minds.

This law of belief, it may be said, leads to *Fetichism*. ‘Let an infant, for example, or a savage,’ says M. Comte, ‘on the one hand, and on the other hand, a dog or a monkey, behold a watch for the first time; there will doubtless be no immediate profound difference, unless in respect to the manner of representing it, between the spontaneous conception which will represent that admirable product of human industry as a sort of veritable animal, having its own peculiar tastes and inclinations; whence results, consequentially, in this respect, a Fetichism fundamentally common to both, the former only having the exclusive privilege of being able ultimately to get out of it.’¹ Very well; suppose all this to be true, what judgment should we pronounce on the Fetichism common to the infant and the savage, the dog and the monkey?

The infant and savage (we cannot speak for the dog and monkey) were unquestionably right in the conclusions that the motion of the watch originated in spirit. They were right in *principle*, in the *law of belief* which guided them; but they erred as to the question of *fact*. The motion of the watch was caused by the action, by the *force*, of spirit; but that spirit did not, in fact, reside in the watch as its indwelling soul or animating principle. The watch was not an animal, and it did not move itself. On the contrary, it was put in motion by the hand which wound it up. But the hand imparted the motion to it, not as an efficient or producing cause, but only as an instrument. The *cause* of the motion was the will-force by which the hand was moved and the key was turned in winding up the watch. The hand — the passive and obedient hand — was no more the real or efficient cause of the watch’s motion than was the key itself. The infant and savage were right, then, in referring the motion of the watch to the action of spirit as its cause; they only erred as to the matter of fact,

1 Cours de Philosophie Positive, 1. 3.

in placing that spirit in the wrong body—in the watch instead of in a man. The principle or law itself is universal and absolute. That is, the motion of body everywhere, and always, implies the action of spirit as its *cause*, its producing *nisus*.

An error of fact, precisely analogous to that of M. Comte's 'infant and savage,' was committed by Plato and Kepler. They supposed, not that a watch, but that the world, is an animal. They saw it in motion, and hence concluded that it was animated, and that its movements were produced, regulated, and controlled by its indwelling spirit. In this view, suggested by the fundamental law of belief in question, originated much of the Polytheism of the world, which is only a higher species of Fetichism. Newton dispelled the grand illusion, and cut up all this sort of Polytheism—the worship of sun, moon, and stars—by the roots. Explaining, as he did, all the motions of the planets, the satellites, and the comets, by means of a projectile force, once for all exerted, and the constant, never-ceasing force of gravity, he banished the idea that any of these bodies were animals, or were actuated by an indwelling spirit. The whole system became, under his mighty hand, one of pure mechanism. Sir William Hamilton, in a tirade against the study of mathematics, quotes several learned German professors, who seemed to have raised a wail over this grand achievement, because, having rived the heavens of their divinities, he robbed a kneeling and adoring world of the objects of their worship. Alas! they were no gods; they were merely dead pieces of mechanism! But if Newton, to the great grief of the learned German professors, rooted out the divinities of Polytheism, he, at the same time, restored the worship of the one true and living God. For, after all, he did not get so far away from the belief of infancy as to conclude that the motion of body is not produced by the agency of spirit. On the contrary, instead of deserting, betraying, or trampling under foot this dictate of nature, this universal law of knowledge, he ascribed the projectile force of each and every planet, satellite, and comet, to the spirit of the Almighty. He thus carried, it is true, the idea of efficient causes to the limits of the solar system; but he neither denied

the existence of such causes, nor misconceived their nature. He found them in God, in the Father of Spirits, and there rested his faith, still the faith of his infancy, only purged and purified by science of all its dross, or errors of fact, by which it had been overlaid and disfigured in the minds of men. So true is it, as Bacon says, 'that a little philosophy inclineth men's mind to atheism, but depth in philosophy bringeth men's mind about to religion; for while the mind of man looketh upon *second causes scattered*, it may sometimes rest in them, and go no further; *but when it beholdeth the charm of them confederate, and linked together, it must needs fly to providence and Deity.*'

Sir Isaac Newton, moreover, maintained that the positions of the heavenly bodies were so adjusted, and their motions, both in direction and degree, were so determined, by 'the counsel and dominion' of God, that the mighty clock-work of 'this most beautiful system of sun, planets, and comets' should continue to run on and discharge all its beneficent functions under his supervision and control. Newton did not, therefore, measure his own wisdom by the distance to which it had succeeded in removing itself from the belief of infancy. On the contrary, in his most lofty and sublime discoveries he never escaped from the simple law, which is impressed alike on the mind of savage and sage — that the motion of body, always and everywhere, implies the agency of spirit.

Let us return now, for a moment, and see how the case stands with M. Auguste Comte. He despises the blunder of 'the infant and savage,' not because any better could have been expected of them, but because he sees in it precisely the type of the supposed blunder of the theist. But, if we will speak the truth, there was more of truth and less of error in the blunder of the infant, or the savage, than in the stupendous solecism of M. Comte himself. They erred as to a particular fact; he outraged one of the fundamental and universal laws of knowledge itself. They misplaced *a* spirit; he banished *all* spirit from the universe. They, with Sir Isaac Newton and the great thinkers of all ages, referred the motion of body to the action of the spirit; he, in his 'towering pride of place,'

perpetrated the gigantic absurdity of supposing motion without a mover, an effect without a cause. He has been pleased to associate 'dogs and monkeys' with 'infants and savages' in the error, which he believes they hold in common with them and with all theists in theology. If he be not mistaken in this, then, all we have to say is, that 'dogs and monkeys' are much nearer the truth, in this respect, than the author of the *Philosophie Positive* himself. Then they, at least, do not violate, or outrage, the fundamental law of thought, on which all human knowledge reposes as its foundation. May we not, then, send M. Auguste Comte to 'dogs and monkeys' to learn a better *philosophia prima* than any that is dreamed of in his *Positivism*?

In the above view, as laid down by us, there is nothing new. For, although it first occurred to us in our own independent meditations, we have since found it ratified and confirmed by many of the great thinkers, who have studied the philosophy of mind as well as of matter, the constitution of nature as well as the mathematics and the physical sciences. Thus, for example, Dr. Samuel Clarke says: 'All things that are done in the world are done either immediately by God himself, or by created intelligent beings. Matter being evidently not capable of any laws or powers whatsoever, any more than it is capable of intelligence, excepting only this *one* negative power, that every part of it will always and *necessarily* continue in that state, whether of rest or motion, wherein it at present is. So that all those things which we commonly say are the effects of the natural powers of matter and laws of motion, of gravitation, attraction, or the like, are, indeed (if we will speak strictly and properly), the effects of God's acting upon matter *continually and every moment*, either immediately by himself, or mediately by some created intelligent being. Consequently there is no such thing as what we commonly call the course of nature, or the power of nature. The course of nature, truly and properly speaking, is nothing else but the will of God producing certain effects in a continual, regular, constant, and uniform manner; which course or manner of acting, being in

every moment perfectly arbitrary, is as easy to be altered at any time as to be preserved.'

Again, Dugald Stewart, to whom we owe the above extract, says: 'When we see two events constantly conjoined, we are led to associate the idea of causation or efficiency with the former, and to refer to it that power or energy by which the change was produced; in consequence of which association we come to consider philosophy as the knowledge of efficient causes, and lose sight of the operation of the mind in producing the phenomena of nature. It is by an association somewhat similar that we connect our sensations of color with the primary qualities of body. A moment's reflection must satisfy any one that the sensation of color can only reside in a mind; and yet our natural bias is surely to connect color with sensation and figure, and to conceive *white, blue, and yellow*, as something spread over the surfaces of bodies. In the same way we are led to associate with inanimate matter the ideas of power, force, energy, and causation, which *are all attributes of the mind, and can exist in the mind only.*' Beautiful as well as true! Through whatever machinery, or apparatus, or series of bodies, motion may be transmitted, its original source, or real cause, exists in mind, and in mind alone. Trace it through all its windings and transmissions, until its real cause be reached, and its *primum mobile* will be found to be spirit or mind. This, and this alone, is self-active; and consequently, this, and this alone, is the cause of the motion in matter; which is, by its very nature and definition, most purely passive and inactive.

Accordingly, Dr. Olinthus Gregory, formerly the distinguished Professor of Mathematics in the Royal Military Academy, at Woolwich, England, takes precisely the same view of the relation of mind or spirit to motion. 'No person,' says he, 'can look into the world with the eye of a philosopher and not soon ascertain that the grand theatre of phenomena which lies before him is naturally subdivided into two great classes of scenery—the one exhibiting constrained, the other voluntary, motion: the former characteristic of matter; the latter as clearly indicating something perfectly distinct from matter, and pos-

sessing totally opposite qualities. "Pulverize matter," says Saurin, "give it all the different forms of which it is susceptible, elevate it to the highest degree of attainment, make it vast and immense, moderate or small, luminous or obscure, opaque or transparent, there will never result any thing but *figure*; and never will you be able, by all these combinations or divisions, to produce one single sentiment, one single thought." The reason is obvious: a substance compounded of innumerable parts, which every one acknowledges matter to be, cannot be the subject of an individual consciousness; the seat of which *must* be a simple and undivided substance, as the great Dr. Clarke has long ago irrefragably shown. Intellect and volition are of quite a different nature from corporeal figure and motion, and must reside in, or emanate from, a different kind of being; a kind which, to distinguish it from matter, is called spirit, or mind. Of these, the one is necessarily inert, the other essentially active. The one is characterized by want of animation, life, and even motion, except as it is urged by something *ab extra*; the other is living, energetic, self active, and possessed of power to move other things. We often fancy, it is true, that matter moves matter; but this, strictly speaking, is not correct. When one wheel, or lever, in a system of machinery communicates motion to matter, it can, at most, only communicate what it has received; and if you trace the connection of the mechanism, you will at length arrive at a first mover, which first mover is, in fact, *spiritual*. If, for example, it be an animal, it is evidently the spiritual part of that animal from whence the motion originally springs. If, otherwise, it be the descent of a weight, or the fall of water, or the force of a current of air, or the expansive power of steam, the action must be ultimately referred to what are styled powers of nature, that is, to gravitation or elasticity; and these, it is now well known, cannot be explained by any allusion to material principles, but to the indesinent operation of the Great Spirit in whom we live, and move, and have our being—the finger of God touching and urging the various subordinate springs, which, in their turn, move the several parts of the universe. Thus God acts in all places, in all times, and upon

all persons. The whole material world, were it not for his Spirit, would be inanimate and inactive. All motion is derived either from his energy or from a spirit which he animates; and it is next to *certain* that the only primary action is that spirit.'

Robert Hall,¹ in his review of Dr. Gregory's *Evidences of Christianity*, advocates the same view, as the most rational one of the constitution of nature. (If necessary, indeed, we might adduce many other great authorities to the same effect. But reason, and not authority, constitutes the weapon of our warfare with the atheists. But this is no reason why we should not oppose the authority of really great philosophers and divines to their blind, dogmatizing, and arrogant assertions. We have done this, however, only after having first examined their arguments, and planted our own views on the solid, adamantine foundation of all human knowledge. It was, perhaps, a work of supererogation; but how many minds, especially among the young, have been caught and captivated by the imposing authority of such pigmies as Comte, and Tyndall, and Darwin — pigmies, we mean, by the side of such giants as Newton, and Plato, and Aristotle, and Bacon, and Clarke, and Cudworth.

Hence, with one more reflection, we shall quit this branch of our subject. 'I conceive,' says Hobbes, 'that nothing taketh beginning from itself.' True. Motion did not take beginning from itself; it was produced by the action of mind. The action of mind did not take beginning from itself; it was put forth by the mind itself. The mind did not take beginning from itself; it was produced by God — the self-existent and eternal *νοῦς* or Mind. But this does not suit the atheism of Mr. Hobbes. Hence he says, that 'when first a man hath an appetite and will to something, to which before he had no appetite or will, the cause of this will is not the will itself [no, the cause of *this act of the will* is the will itself, or the self-active mind], but something else not in its own disposing; so that whereas it is out of controversy, that of voluntary actions [motions in body?] the will is the necessary cause, and by

¹ Certainly one of the clearest thinkers and most beautiful writers which this or any other age has produced.

this which is said, the will is also caused by other things whereof it disposeth not, it followeth that voluntary actions have all of them necessary causes, and, therefore, are necessitated.' Thus, by the illusion above mentioned, other things beside mind are invested with the attribute of power; and these are supposed to produce effects in the self-active power of the mind, just as this self-active power produces effects in the external sphere of body or matter. The same relation is conceived to exist between the *supposed* power of external objects and the mind, as that which is *known* to exist between the mind, or spirit, and its effects. Hence, all the motions of body (absurdly called *voluntary actions*), and all the acts of mind, are bound together in one and the same adamantine circle of fate. The self-active mind is converted into a machine. By the aid of one grand illusion, and a little specious logic, the whole business is done.

This process is worthy of being distinctly noted. The atheist sets out with the idea of power, or causation, which he has derived from the will-force of mind alone, and which, therefore, as a philosopher, he should ascribe to mind alone. But, instead of this, he transfers this idea to brute, inert, passive matter, and travels around under the influence of this illusion, so that, by the time he comes back to mind, he is prepared to regard and treat all its acts or volitions as produced by the active power of body or matter! Thus, by the imagination that there is power in something beside spirit, this itself is deprived of all power — one of the most real and essential of all its attributes! The only type of power in the universe, so far as our experience and knowledge extends, is obscured, and matter alone is invested with power! Hence, according to the philosophy of Hobbes, there was nothing in the universe but 'matter and local motion.' Matter produced motion, and motion produced all things! Having obscured, nay, obliterated, the self-active power of mind (which was made in the image of God), the glory of God himself was eclipsed, and the darkness of Atheism brooded over the soul of the mighty necessitarian.

Our view of the material universe is, unless we are greatly

mistaken, recommended to the mind at once, both by its extreme simplicity and its unparalleled sublimity. In it we behold one grand relation pervading the universe, namely, that which subsists between the *action* of spirit and the *motion* of body. We have the original and only real type of this relation in the *known* experience of our own compound nature; and, proceeding by a step as legitimate and as irresistible as any other known to the reason of man, we reach the existence of other spirits beside our own, and, above all, the spirit of the great Unmoved Mover of the heavens and the earth.

But this is only the first step in our controversy with the Atheism of the present day. The second step remains to be taken. We had intended to take it now, but this article having already transgressed the usual limits, we must reserve it for some future occasion.