

OPENING LECTURE.

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Were I asked for a title to the following remarks it would be "The Proved and the Unproved." The department of Apologetics, which deals with the arguments for and against the Scriptures and the Christian religion founded upon them, will be satisfied with nothing less than proof on either side. Such proof, it is not too much to say, has never yet been given by the opponents of Christianity. I do not say that they have not disproved many wrong interpretations of Scripture, and erroneous statements of theologians and faulty beliefs of individual Christians; but the word of our God has stood, and shall stand forever. Science professes to be in a position to criticize and condemn Scripture, which it regards as unscientific, because itself is a system of rational proof. The theologian, on the other hand, maintains that his book and system, so far from being unscientific, are at the head of all the sciences; and that his rational proofs are infinitely superior to those of any science whatsoever. Scientific men, (I speak only of those who are at variance with revealed truth, and use the general term because it would be unworthy to apply to them any less honourable title) scientific men are not always careful in accepting facts or in framing arguments. You are familiar with the story told of a certain scientific association that sat face to face with the problem, "How is it that when a fish is placed in a vessel of water the contents of the vessel are not increased?" Many were the explanations given, and days were wasted in discussion before a profane sceptic ventured to ask if it were true that when a fish is placed in water the bulk of water is not increased. Frowns and indignant murmurs met the sceptic's question, but the experiment was tried, and the learned Society discovered to its great discontentment that time had been spent over a wonder which had no existence, save in the brain of the member who proposed the discussion. In this case a fact was taken for granted. I well remember a metaphysician of somewhat mature years but immature learning, whose mind was saturated with the language of Locke's Essay on the Human Understanding. In a debate on the relative merits of the rational and sensational philosophies, he was appointed to champion the latter. Being of a devout nature the metaphysician felt that the highest claim to excellence in a system of philosophy was the proof it afforded of the divine existence. His argument, taken from the two extremities of Locke's Essay, and with which he was, to judge by frequent repetitions, thoroughly satisfied, was briefly this, "All knowledge is derived from experience—consequently there is a supreme Being." He did not deign to give the intermediate steps by which Locke passed from the premiss to the conclusion. If he had, he could hardly have failed to learn that from such a premiss such a conclusion could never follow. Yet he is as wise and as logical who informs this nineteenth century, that because all nature works in accordance with fixed, inherent laws there is no God.

When a school-boy is called up to establish a theorem in Euclid's Elements of Geometry, if he construct his figure and pursue his mathematical course of reasoning correctly, he is entitled at the conclusion to a triumphant Q.E.D., or in plain English, I have demonstrated that which was to be demonstrated. But should his construction be wrong, his reasoning goes for nothing, and even with a perfect figure, the want of a single link in the chain of reasoning will send him back to a renewed study of what he has not proved. Now the world is full of boys of larger growth, who unhappily have no school-masters to send them back to the learner's bench when they fail; who persistently blunder in premisses and conclusion, in statement of fact and in argument. They see with their microscopical and far reaching eyes what the practical observer fails to discover. There are chasms also in the bridge by which they pass from accepted truth to that which they propose to demonstrate, at which the honest reasoner stands aghast; but genius goes *per saltum*, over the yawning gulf they gaily spring, and with hat in hand turning round to an admiring public, they make their bow, complacently exclaiming "You see ladies and gentlemen, *quod erat demonstrandum*." As far as actual appropriateness to the circumstances is concerned, they might as well shout *abracadabra* with the ancient Cabbalists or *Shallaballa* with modern Punch and Judy men. But the admiring public, that troubles itself no more with the merits of the argument than the parents at a school examination do with the reasoning in the *pons asinorum*, raises an applauding shout that runs through newspapers and reviews, and scientific societies and literary coteries and academic halls; and each admirer says to his fellows "he has done it, it is proved, nothing can be more certain." What has been done, what is proved, what is the most certain thing in the world? He has destroyed the authority of the Bible; he has proved that life and soul are properties of matter, and nothing is more certain than man's descent from a Tunicated Mollusk.

It would be a sad and painful experience to many of the best and wisest of mankind were these statements true; yet feeling should have nothing to do in this matter. It was a painful thing to many in mediæval days to learn that the sun did not circle about our planet, and even now there are not a few who grieve to think that creation was not completed in six working days. But astronomical and geological science proved these points, and they are now all but universally accepted. It may or may not be a matter of practical importance whether our physical progenitor was a monkey or no, or whether the lower forms of life were endowed with powers of development into the higher. I have no right to interpose my feelings or prejudices as a man and a believer in persistence of specific type, nor may I turn to ridicule a scientific view brought forward by an honest worker in a field not far remote from my own. The Ancient Roman said, "I am a Roman citizen, and consider that nothing human is foreign to me;" so the theologian may say "I am a Bible student, and as such, no science lies beyond my field or is unworthy my attention." This right, however, I do possess, to demand proof for every assertion of the naturalist, the historian and the philosopher. Demonstration outside of the

exact sciences is of course impossible, but evidence may be convincing that is not mathematical or logical demonstration, and such we must require. As candidly as the school-master listens to the enunciation of a proposition, and calls upon his scholar to demonstrate his theorem, must the student of science receive the statement of the supposed discoverer and attend to his evidence on its behalf. But it may be said the school-master knows more than the boy of the subject in which he examines him; whereas we whose time is given principally to other matters, know very much less than our scientific opponents in the fields which they have made their own. To this, it may be answered, first: That we are not left to depend upon our own resources, inasmuch as there are many of the best students of science whose conclusions are diametrically opposed to those which are put forward in contradiction of revealed truth; second: That the same amount of knowledge and talent is not necessary for the proof of a discovery that is required to make it—otherwise the tyro in Geometry is as great a mathematician as Pythagoras or Euclid; third: that, while in the reception of statements of fact, we must depend upon the testimony of scientific observers, in judging argument we must depend upon our own reasoning powers. We are qualified, therefore, in calling up our advanced class in the sciences, and in passing judgment upon the conclusions of the scholars composing it.

Here, for instance, is an amiable scholar whose whole life has been devoted to the study of animals from the highest to the lowest in the scale, who has examined their formation and studied their habits, a second *Æsop* in his interpretation of the emotions and language of the brute. The artificial naturalists at the close of last century were delighted with Erasmus Darwin's smooth flowing verses setting forth the Loves of the Plants, and he, the later Darwin and relative of the poetic botanist, has devoted a not inferior prose to the task of charming the world with the interesting phenomena of animal life. He propounds many new and startling doctrines, all of which may be termed theories of development. Species and genera are not independent creations but the present results of development, for the highest species is a development from the next below it and so on to the end, wherever that may be found. Man as an animal follows the same law, and must trace his ancestry back through many grades of life to a marine Ascidian, destitute of every sense and of every organ of sense but an aperture that answers the purpose of a mouth. But man as an intellectual and spiritual being is of the same parentage, and so, proceeding upwards from this senseless creature, Mr. Darwin traces the rise and development in animals of the intellectual, active and moral powers by which man is distinguished. The development of species, the descent of man, and the development of soul, are the three leading theorems of the Darwinian system, and the latter depend logically upon the former. The arguments by which the theory of the development of species is maintained are far from unreasonable. The author of the theory finds in the paleontological record, or in the fossils of successive geological strata, a pretty regular gradation of animal forms, proceeding chronologically from the lowest up to the highest. He finds that modifications of climate and other circumstances do modify the forms and habits of animals, and shows how it might be possible for parts of their structure in course of time to change to the corresponding parts in higher forms. He introduces a doctrine of natural selection, or the survival of the fittest in the struggle for existence, and another of sexual selection, or the union and perpetuation of special excellencies in individuals, both of which are capable of full illustration, and which tend to show the probability of development. And, in addition to other supposed proofs, he cites instances of varietal changes very remarkable in character, to which he considers that the change from one species to another is a trifle. Now the work that Mr. Darwin has accomplished as an observer is very valuable and of permanent interest. Some of his facts, perhaps, would not stand the closest investigation, but the fault lies not so much with them as with his interpretation of them. Be that as it may, can we say that he has demonstrated his theorem, the development of species? Has he ever witnessed the development of species in actual operation? No, nor has any one else. Are his laws of natural and sexual selection worthy of the name—in other words are they invariable in their operation? Very far from it, as he himself is bound to confess and as many intelligent observers testify. Does the record of geological formations open to investigation, reveal a general progressive development from the animalcule to man? No, for many links are wanting in the chain, and in certain parts of the record it would be as easy to account for the phenomena of animal succession by a theory of degeneration. To frame a theory that will account for facts is not necessarily to have discovered the cause of the facts; for fifty other theories might answer the same purpose; hence our Scriptural belief in a Divine artificer, who created all living creatures after their kind or species according to the regular gradation and the wondrous harmonies of a Master Builder's plan, is at least as worthy of credence as Mr. Darwin's ingeniously wrought hypothesis. The theorem is not proved, for Zoology, Paleontology and Scripture testify against it. Failing in the lower or fundamental assertion he cannot expect to succeed in the higher. If the cat does not develop into the tiger nor the wolf into the dog, it cannot be that the monkey develops into the man. We thank Mr. Darwin for his interesting anecdotes exhibiting the emotional and quasi-reasoning powers of the brute creation, but will be excused as sober reasoners who want proofs, from leaping the chasm that separates instinct from soul.

Theories of development do not necessarily exclude a Creator and an over-ruling Providence, although their tendency is to show that the world can do without His aid. But theories of evolution as distinguished from those of development absolutely dispense with a first cause and governor of the universe. Professor Tyndall puts the case very intelligibly when he states that all intellectual and so-called spiritual phenomena are forms of life, the promise and potency of which he discerns in matter. Herbert Spencer, a philosopher rather than a naturalist, but of the gross materialistic school to which heterodox naturalists belong, rightly finds in the universe no such thing as dead matter, but matter pervad-

ed by and acted upon by force, and this force is in relation to matter the potency which evolves all existing objects and powers material, vital, rational, social and moral. The history of the world and of every object in it is the story of evolution—given matter with force and you require nothing else to develop all the phenomena of which the human mind is cognizant. Tyndall, and others even before him but none so beautifully as he, have set forth the doctrine of the conversion of forces, showing, for instance, that motion when checked is converted into heat, and heat when set free is converted again into motion. Similarly Herbert Spencer, by the same doctrine of correlation of forces, would produce thought force, the result of heat force, chemical force, nerve force creating motion in the brain. This is a step far in advance of Mr. Darwin's development of the soul from instinct, for instinct may be Divine in its origin and may develop under the guidance of an all-wise and powerful Providence; but thought is simply force, a property of matter, and is evolved according to necessary laws that require no superintendence. Is the theory of evolution proved or demonstrated? We are told that it cannot be demonstrated because the facts necessary lie beyond our reach and are not subject to observation. It is true that no one has ever yet produced life from heat or any other kind of physical force; and an equal want of success would attend any effort to produce thought from the same; but the advocates of the theory tell us that their theory affords an explanation of existing phenomena. I have already said that there may be fifty explanations of existing phenomena equally good. If it were not so, how is it that the history of the intellectual world is the history of unnumbered philosophies, by which men have sought to explain things as they are and their causes? The Bible statement, that God created the plant and animal worlds, with their distinct varieties of life, and made man a living soul, is a far more satisfactory explanation. It may be called incapable of proof, since no eye of the human observer witnessed the creation, but the doctrine of Spencer and Tyndall and others is equally incapable of proof. But again the premises or facts of these gentlemen are wrong. They mistake analogy for similarity or identity, when they give the one name of force to motion and heat and chemical action on the one hand, and to life and human power on the other. The wing of the bird and that of the butterfly are analogous, but the creatures are of totally different structure. So it is with the motion of the particles that constitute mineral bodies and fluids and the phenomena of vital force, as well as with the matter in which the forces reside. In the one case there is homogeneity and dead uniformity; in the other differentiation and spontaneity. There is molecular attraction, or the drawing together of ultimate particles of matter, in the plant as well as in the drop of water, but the plant possesses in life something else to which there is not the slightest approach in the fluid. In like manner human power is placed in the same category with vital and physical forces. Man cannot create force, but he can control and direct it, and this is power, a very different thing from force, and greatly superior to it. "When," it has been asked, "will sun-force make an Atlantic cable for us, not to speak of making a man for us, as we are virtually asked to believe?" The evolutionist argument proceeds then on an assumption that physical forces, life, and human power, are energies, so similar that they may be derived the one from the other, which is not proved.

But supposing that life, a living structure, were actually evolved by matter, would not that fact settle the question? Spontaneous generation is not a new doctrine. Old Sanchoniatho, in his Phœnician history, and the cosmologists whose view is reported by Diodorus of Sicily, derived animal as well as plant life from a primitive slime or mud that lay on the earth's surface. Gesner, the German mediæval naturalist, and Walton, the famous angler, believed that the pike was produced from the pickered weed, which grows abundantly in many of our lakes and rivers; and we know the popular beliefs of boys and housewives, that horsehairs will develop into eels, and that mites are spontaneously generated in cheese. But naturalists have long since framed the axiom *omne animal, or omne ens, ex ovo*, every animal or every living thing comes from the egg. Dr. Bastian doubted this, being a disciple of the school we have just considered. He made experiments in glass vessels, from which he professed to have excluded all germs of life, and discovered that certain entities which he thought intermediate between the plant and the animal, were generated. These objects, the largest of which was one-three-thousandth of an inch in diameter, are known as Bacteria, and are generally supposed to belong to the vegetable kingdom. But vegetable kingdom or animal, it made no difference—life was produced from so-called dead matter, and if one kind of life, why not another? Professor Huxley, a great believer in protoplasm, or a physical basis of all life, and whose leanings were all in favor of evolution, doubted the accuracy of Dr. Bastian's experiments, and thus showed himself so far a true man of science. Other investigators, such as Pasteur, Frankland and Sanderson, repeated the experiments, and, in every case in which due precautions were taken to exclude germs occurring in air and water, failed to discover a single trace of Bacteria or any other form of life. Spontaneous generation, therefore, is not proved, and Dr. Bastian must go back to the learner's seat with Spencer, Tyndall and Darwin to try again.

The writers whose special views have been before us, concur with the whole school of positivists, with which they are more or less connected, in asserting the incredibility, and even the impossibility, of the miracles recorded in the Bible. Laws of nature, they hold, are fixed and inexorable, as all observation testifies, with the exception of that of the men who relate the story of the Bible wonders and other credulous and unscientific persons. But their induction of observed law is imperfect, for they fail to take into account the fact that there is no such thing as independent working on the part of any one law. Laws limit and even supersede one another in their operation. The law of life in the plant operates in an opposite direction to the law of gravitation, and the law of human power limits and directs those of animate and inanimate nature. Neither gravitation, nor light, nor heat, nor chemical action can produce a vegetable cell or the bone of an animal, but life can. Nature produces neither bread nor wine; but man's power does both. Is it not beg-