

# LECTURE VI.

## MATERIALISM.

### SYLLABUS.

1. What use is attempted, of the physical doctrine of the "Correlation of Forces," by recent Materialists?
2. State and refute the theory which seeks to identify animal life with vegetable, in protoplasm.
3. Show the connection between Materialism and Atheism; and the moral results of the latter. See,  
Hodge's Systematic Theology, Vol. i, pp. 246 to 299. Turretin Locus v. Qu. 14th. Lay Sermons of Dr. Th. Huxley. Dr. Stirling on "Physical Basis of Life." Dr. Thomas Brown, Lectures, 96th.

**D**R. Thomas Brown, in his Lectures, very properly remarks, that the question of man's immortality is involved with that of the immateriality of his soul. There is, indeed, a small class of materialists, who might hold man's immortality, without contradicting themselves. It is that which, like Thomas Jefferson, believed that the soul, while distinct from the body, and an independent, personal substance and monad, is some refined species of matter. They are willing to recognize only one kind of substance. But modern materialists usually deny that there is any such separate substance as soul. They regard its functions, whether of intelligence, feeling, or volition, as all results of some organization of matter. They consequently believe, that when dissolution separates the body into its elements, what men call the soul is as absolutely obliterated, as is the colour or fragrance or form of a rose, when its substance has mouldered into dust. We utterly deny both forms of materialism. My purpose at this time is to consider a class of arguments, now again current, which may be called the physical arguments, upon the nature of life and spirit. The psychological arguments, if I may so term them, will be presented afterwards.

We have seen how evolutionists seek to identify human, with animal life; by supposing man to have been slowly evolved even from the lowest form of animated creatures. If the success of this be granted, then only one more step will remain. This will be to identify animal, with vegetable life. Thus, all evidence of any separate substance of life, (*anima*) will be removed. This last step, Dr. Huxley, for instance, undertakes to supply, in his Physical Basis of Life. Before we proceed to state this theory, however, the way must be prepared, by exposing the use attempted to be made of the modern physical doctrine of the "correlation of forces."

Sound reflection would seem to indicate, that when a given physical force appears, it does not rise *ex nihilo*, and does not suffer annihilation when it seems to end. It is transmuted into

Does Correlation of Forces prove Soul a Force only?

with animal life; by supposing man to have been slowly evolved even from the lowest form of animated creatures. If the success of this be granted, then only one more step will

some other form of force. Thus: in the boiler of a steam-engine, so many degrees of caloric absorbed into a given volume of water, evolve so many pounds' weight of lifting force. In like manner, it is now supposed that light, heat, electricity, chemical affinity, are all correlated. If we knew enough of physics, it is supposed we should find, that one of these forces might always be measured in terms of the others. When one of them seems to disappear, it is because it is transmuted into some other. The doctrine, in this sense, is held by many Christian physicists: and in this form, Theology has nothing to do with it either for denial or affirmation. But recent materialists catch at it for an anti-theological use. They would have us infer from it, that all physical causes are identical. Then, say they, this analogy should lead us to conclude the same of what have hitherto been called vital causes; that in short, there is but one cause in Nature, and that is of the nature of force; while all effects are accordingly of the nature of material motion. Thus, the converging lines of science, say they, point to a central Force, as the only God, which the rational man will accept. All the universe is the one substance (if it be a substance) matter. And all effects are forms of material motion, molecular or in masses.

It is obvious that this is at best, but a vague speculation.

All forces not proved  
to be correlated.

I deny that its basis in physical science has been solidly settled, even could we grant that the use made of that basis was not utterly licentious. Has the force of gravity been yet correlated with heat, light and electricity? It seems fatal to such an idea, that a mass still has the same gravity, while its calorific and electrical conditions are most violently changed! It may well be doubted, whether the force of mechanical adhesion between the atoms of homogeneous solids, is identical with chemical affinity, or with electricity, or heat.

The latter diminishes the atomic adhesion of solid iron, or gold, reducing it to a liquid? But at the same time it increases the cohesion of clay.

Again: That this hypothesis in its extreme form, is by no means proved, appears from the ease with which a counter-hypothesis may be advanced, which physicists are not able absolutely to exclude. Let it be supposed that material forces are permanent properties of the different kinds of matter in which they severally inhere. Let it be supposed that these forces are truly distinct from each other, and intrinsically ever present, in the sense of being always ready to act. Then, all that is needed to cause the action of a given force, is to release it from the counter-action of some other force; which has hitherto counterpoised it, thus producing for the time, a non-action which appeared to be rest. Then, every physical effect would be the result of a concurrence of two or more forces; and each force would forever maintain intrinsically, its distinct integrity. This hypoth-

esis has very plausible supports in a number of physical facts; and it is in strict accordance with the metaphysics of causation. But, not to intrude into physics: we might grant the identity of these forces of dead matter, and yet deny that they are correlated to vitality. No one has ever succeeded in transmuting any of them into vital causation, nor in measuring vitality in the terms of any of these forces. To say that all thought and volition are attended by muscular contractions, and oscillations of the nerve-matter of the brain, is very far from showing that they constitute them. Let it be proved that the nerve-force in a human muscle is electrical. Let it be observed that surprise, shame, fear, or muscular exertion, stimulate the animal heat, and that the caloric in a blush upon the cheek of youth is as literally caloric as that in the boiler of a steam-engine. To what does all this come? Who or what uses these modifications of organs? The living spirit. This muscular action is quiescent at one time, active at another, at the bidding of spirit. The eyes and ears may carry to that spirit the objective sensations which are the occasions of emotion; but the emotion is always from within. Let the state of the living spirit be changed: and the occasional cause has no more power to raise the glow of hot blood, or to nerve the arm, than in a stone. As a Christian writer has well replied: the attempt to identify vital, or spiritual causation with material forces would be exploded by this one instance. Let opprobrious words be addressed to a plain Briton in the French language: and no pulse is quickened, no nerve becomes tense. Now translate the insult into English: at once his cheek burns, and his arm is nerved to strike. Why this? The French words were as audible as the English, they vibrated to the same degree upon the auditory nerves. But to the spirit of the Briton, there was no meaning. A mere *idea* has made all this difference. The cause is solely in a mental modification, of which the material *phenomenon* was merely occasion. Tyndal himself confesses that this argument of the materialists is naught: that though they had proved all they profess to prove, there is an unbridged chasm between force and life.

For, in the next place, physical force and vital causation are heterogeneous. The former, in all its phases, is unintelligent, involuntary, measurable by weight and velocity, and quantity of matter affected, producing motion, mechanical or molecular, and tending to *equilibrium*. All animal life has some species of spontaneity. Spirit, as a cause, has the unique attribute of free-agency, the opposite of *inertia*, self-active, directive. Mind and its modifications cannot be measured in any physical terms or quantities; and hence they cannot be correlated. Volition controls or directs force; is not transmuted into it. If we descend to the lowest forms of animal vitality, we still find a gulf between it and dead matter, which science never has passed

Vital Cause Heterogeneous.

over. No man has ever educed life, without the use of a germinal vital cause. This vital cause, again, resists the material forces. When it departs, caloric and chemical affinities resume their sway over the matter of the body lately living, as over any similar matter; but as long as the vital cause is present, it is directly antagonistic to them.

Huxley, who himself admits that there is no *genesis* of life from dead matter, yet very inconsistently attempts to find a physical basis of life, common to animals and plants, in a substance whose molecules are chemically organized, which he calls *protoplasm*. He asserts that this, however varied, always exhibits a three-fold unity, of *faculty*, of *form* and of *substance*. 1st. The faculties are alike in all; contractility, alimentation, and reproduction. All vegetable things are sensitive plants, if we knew them! and the difference of these functions in the lowest plant and highest animal, is only one of degree! 2nd. Protoplasm is everywhere identical in molecular form. And, 3d. Its substance is always oxygen, hydrogen, nitrogen and carbon. The fate, then, of all protoplasm is death: that is, dissolution into its four elements; and its origin is the *chemical union* of the same. Does the compound display properties very different from the elements? So has water properties very unlike the mixture of two volumes of oxygen and hydrogen gas. Yet, the electric spark flashed through them awakens the chemical affinity, which makes water. So, a little speck of pre-existing protoplasm causes these dead elements to arrange themselves into new protoplasm. There is, then, no more cause to assume in the living organism, a new and mysterious cause, above that of chemical affinity, and to name it vitality! than in the other case, an imaginary property of 'aquosity.' And, as a certain chemical aggregation of the four elements is protoplasm, the basis of all life; so the higher vital functions, including those of mind, must be explained by the same force, acting in a more complicated way.

For the facts which explode this theory, we are, of course, dependent on physiologists. The most experienced of them, then, declare that the most rudimental vitalized organism which the microscope discloses, is not Dr. Huxley's protoplasm, but a living tissue cell, with its vital power of nutrition and reproduction. That all protoplasm, or living *protein*, is not alike in form, nor in constituent elements; and so marked is this, that microscopists know the different sources of these varieties of *protein*, by their appearance. That different vitalities construct different forms of *protein* out of the same elements. That some forms are utterly incapable of being nourished by some other forms; which should not be the case, were all protoplasm the same. That while vegetable vitality can assimilate dead matter, animal

Is there a Physical Basis of Life?

No Basis of Life Except the Cell.

vitality can only assimilate matter which has been prepared for it by vegetable (or animal) vitality. And, that all protoplasm is not endowed with contractility; so that the pretended basis for animal motion does not exist in it.

The seemingly plausible point in this chemical theory of life is the attempted parallel between the production of water and of protoplasm. Life not Explained by Chemical Affinity. Asks Huxley: "Why postulate an imaginary cause, 'vitality,' in this case, rather than 'aquosity,' over and above chemical affinity, in the other?" The answer is, that this analogy is false, both as to the causes and the effects, in the two cases. In the production of water from the two gases, the occasion is the electrical spark; the real, efficient cause is the affinity of the oxygen for the hydrogen. In the reproduction of living tissue, the efficient cause is a portion of preëxisting living tissue, present, of the same kind. The proof is, that if this be absent, all the chemical affinities and electrical currents in the world are vain. The elements of a living tissue are held together, not by chemical affinities, but by a cause heterogeneous thereto, yea, adverse; the departure of which is the signal for those affinities to begin their action; which action is to break up the tissue. As to the effects in the two cases: In the production of water, the electric spark is the occasion for releasing the action of an affinity, which produces a compound substance. In the case of the living organism, there is an effect additional to composition: This is *life*. Here, I repeat, is an effect wholly in excess of the other case, which affinity cannot imitate. Protoplasm dead, and subject to the decomposing action of affinities (as water is of the metals) is the true analogue of water.

But this theory has another defect, the fatal nature of which Huxley himself has pointed out: the defect of actual verification. Has no Verification. No man has ever communicated life to dead, compounded matter. Let the materialist make a living animal in his chemical laboratory; then only will his hypothesis begin to rise out of the region of mere dreams. There are, in fact, four spheres or worlds of creature existence, the inorganic, or mineral, the vegetable, the animal and the human, or spiritual. Notwithstanding analogies between them (which are just what reason expects between the different works of the same divine Architect) they are separated by inexorable bounds. No man has ever changed mineral matter into a vegetable structure, without the agency of a pre-existent living germ; nor vegetable matter into animal, without a similar animal germ; nor animal into spiritual, save by the agency of the birth of a rational soul. The scientific, as much as the theological conclusion, is: That there is in vegetable structures, a distinct, permanent cause, additional to those which combine mineral bodies; that there is another in the animal,

distinct from the mineral and vegetable; and still another in the spiritual, distinct from the other three. The inference is *a posteriori*, and bears the test of every canon of sound induction.

This suggests our next point of reply. There is, in living tissue, a something more than the physical causes which organize it: *Design*. We have diverse and ingenious organs, wonderfully designed for their different essential functions. Now, design is *a thought!* Yea, more; intentional adaptation discloses a personal volition. Suppose that molecular and chemical affinities could make "protoplasm," can they educe design, thought, wisdom, choice? Dr. Stirling admirably illustrates this licentious assumption of Huxley, (referring still to Paley's illustration of a newly found watch): "Protoplasm breaks up into carbon, hydrogen, oxygen, nitrogen? True. The watch breaks up similarly into brass, steel, gold and glass. The loose materials of the watch [even its chemical materials, if you will] replace its weight quite as accurately as the constituents, carbon, &c., replace the weight of the 'protoplasm.' But neither these nor those replace the vanished idea, which was the important element. Mr. Huxley saw no break in the series of steps in molecular complication; but, though not molecular, it is difficult to understand what more striking, what more absolute break could be desired, than the break into an idea. It is of that break alone that we think in the watch; and it is of that break alone that we should think, in the protoplasm, which, far more cunningly, far more rationally, constructs a heart, or an eye, or an ear. That is the break of breaks; and explain it as we may, we shall never explain it by molecules."

Here, then, is a fatal chasm in the materialistic scheme. It not only supposes, falsely, that chemical affinities, with cohesion, can account for living substance; but that the force of this 'protoplasm,' unintelligent, blind, involuntary, has exerted thought, wisdom and rational choice in selecting ends and adapted means. Even if the powers claimed for 'protoplasm' were granted, still a Creator, to give us the first protoplasm with which to start, would be as essential as ever. For the scientific fact still remains, that only living structures reproduce living structures.

Last: See these words of Huxley, ("Lay Sermons" p. 38): "But I bid you beware that, in accepting these conclusions" (as to 'protoplasm') "you are placing your feet on the first rung of a ladder which, in most people's estimation, is the reverse of Jacob's, and leads to the antipodes of heaven. It may seem a small thing to admit, that the dull, vital actions of a *fungus* or a *foraminifer* are the properties" (meaning chemical and molecular) "of their protoplasm, and are the direct results of the nature of the matter of which they are com-

Scheme Material-  
istic.

posed. But if, as I have endeavored to prove to you, their protoplasm is identical with, and most readily converted into, that of any animal, I can discover no logical halting place between the admission that such is the case, and the concession that all vital action may, with equal propriety, be said to be the result of the molecular forces of the protoplasm which displays it. And if so, it must be true, in the same sense, and to the same extent, that the thoughts to which I am now giving utterance, and your thoughts regarding them, are expressions of molecular in that matter of life, which is the source of other vital phenomena."

This pretended reasoning I present to you as a specimen of the absurd and licentious methods by which the attempt is made to overthrow at once the almost universal convictions of rational men, and the declarations of God's word. The conclusions I utterly deny, even if the premises were granted. If it were proved (which is not) that vegetable life was no more than the result of adhesion and chemical affinity, this would come wholly short of the identification of animal life with vegetable. If rudimental animal life were identified with chemical action, this would be utterly short of proving that mental action is identical with the other two. The chasm between animal and spiritual action, is as impassable as ever. As we have seen, the unconscious, vegetable organism contains, in its adaptation to its end, a mark of thought about it, which cannot be overlooked. But now, the intelligent being has thought in it also; making a double and an insuperable difficulty to the materialist. For thought and rational choice cannot possibly be referred to a substance extended, inert, passive and involuntary. These functions of spirit are heterogeneous with all other forces, not measured by them, and not capable of transmutation into them. But we are now upon the threshold of the psychological argument against materialism.

The tendency of Dr. Darwin's speculations is to obliterate the distinction between man and the brutes; thus it virtually makes man also a beast. But Huxley would have us end by reducing both beast and man to the level of the clod. Why is it that any mind possessed even of the culture necessary for the construction of these theories, does not resent the unspeakable degradation which they inflict upon mankind? Men would not thus outrage their own natures, without an interested motive. That motive probably is, to be emancipated from moral obligation to God, and to escape those immortal responsibilities which remorse foreshadows. It seems a fine thing to the sinful mind to have no omniscient Master, to be released from the stern restraints of law, to be obliged to no answer hereafter for conscious guilt. For if there is no spirit in man, there is no valid evidence to us that there is a Spirit anywhere in the universe. God and immortality are both

blotted out together. But let us see whether even the sinner has any motive of self-interest to say in his heart: "There is no God;" whether atheism is not at least as horrible as hell.

The best hope of materialism is annihilation. This is a destiny terrible to man, even as he is, conscious of guilt, and afraid of his own future. Does the materialist plead that, if this fate ends all happiness, it is at least an effectual shield against all misery? I reply, that the destruction of man's being is a true evil to him, just to the extent that he ever experienced or hoped any good from his own existence. How strong is the love of life? Just so real and so great is the evil of extinction. Second: but for guilt and fear, a future immortality would be hailed by any living man as an infinite boon. And of this, annihilation would rob us. How base and vile is that theory of existence, which compels a rational free-agent to embrace the hope of an infinite loss, solely as a refuge from his own folly and fault? The vastness of the robbery of self can be poorly cloaked by the miserable fact, that the soul has so played the fool and traitor to its own rights, that it has compelled itself to seek the infinite loss of annihilation, rather than an alternative still worse!

But materialism and atheism do not make you sure of annihilation. A conscious identity continued through so many stages and changes, may continue in spite of death. Some materialists have devoutly believed in immortality. But if man is immortal, and has no God, this itself is eternal despair. Nor can any materialistic theory expel from the soul those immortal realities, sin, guilt, accountability, remorse, misery: for they are more immediately testified by our intuitions, than any physical fact possibly can be, which men attempt to employ as a *datum* for this soulless philosophy. At least, when death comes, that "most wise, mighty, and eloquent orator" dispels the vain clouds of materialism, and holds the sinner face to face with these realities, compelling him to know them as solid as his own conscious existence. But now, if his theory is true, there is no remedy for these miseries of the soul. There is no God omnipotent to cleanse and deliver. There is no Redeemer in whom dwell the divine wisdom, power, love and truth, for man's rescue. The blessed Bible, the only book which ever even professed to tell fallen man of an adequate salvation, is discredited. Providence and grace are banished out of the existence of helpless, sinful man. There is no object to whom we can address prayer in our extremity. In place of a personal God and father in Christ, the fountain and exemplar of all love and beneficence, to whom we can cry in prayer, on whom we may lean in our weakness and anguish, who is able and willing to heal depravity and wash away guilt, who is suited to be our

adequate portion through an eternal existence, we are left face to face with this infinite nature, material, impersonal, reasonless, heartless. There is no supreme, rational or righteous government; and when the noblest sentiments of the soul are crushed by wrongs so intolerable, that their perpetual triumph is felt to be an alternative as hateful as death, there is not, nor shall there ever be, to all eternity, any appeal to compensating justice! But our only master and ruler is an irresistible, blind machine, revolving forever by the law of a mechanical necessity; and the corn between its upper and nether millstones, is this multitude of living, palpitating human hearts, instinct with their priceless hopes, and fears, and affections, and sensibilities, writhing and bleeding forever under the remorseless grind. The picture is as black as hell itself! He who is "without God in the world" is "without hope." Atheism is despair.

Materialism and atheism will never win a permanent victory over the human mind; the most they can do is to betray a multitude of unstable souls to their own perdition, by flattering them with future impunity in sin; and to visit upon Christendom occasional spasms of anarchy and crime. With masses of men, the latter result will always compel these schemes to work their own speedy cure. For, on their basis, there can be no moral distinction, no right, no wrong, no rational, obligatory motive, no rational end save immediate, selfish and animal good, and no rational restraints on human wickedness. The consistent working of materialism would turn all men into beasts of prey, and earth into *pandemonium*. The partial establishment of the doctrine immediately produces mischiefs so intolerable, that human society refuses to endure them. Besides this, the soul of man is incapable of persistent materialism and atheism, because of the inevitable action of those original, constitutive laws of thought and feeling, which qualify it as a rational spirit. These regulative laws of thought cannot be abolished by any conclusions which result from themselves, for the same reason that streams cannot change their own fountains. The sentiment of religion is omnipotent in the end. We may rest in assurance of its triumph, even without appealing to the work of the Holy Ghost, whom Christianity promises as the omnipotent coadjutor of the truth. While irreligious men explore the facts of natural history for fancied proofs of a creation by evolution which omits a Creator, the heralds of Christ will continue to lay their hands upon the heart-strings of immortal men, and find there always the forces to overwhelm unbelief. Does the materialist say that the divine deals only with things spiritual? But spiritual consciousnesses are more stable than all his material masses; than his primitive granite. Centuries hence, (if man shall continue in his present state so long) when these current theories of unbelief shall have been

The Scheme Short-lived.

consigned to that *limbus*, where Polytheism, the Ptolemaic astronomy, Alchemy and Judicial Astrology lie contemned, Christianity will hold on its beneficent way.

There is an argument *ad hominem*, by which this discussion might be closed with strict justice. If materialism is true, then the pretended philosopher who teaches it is a beast; and all we are beasts. Brute animals are not amenable to moral law; and if they were, it is no murder to kill a beast. But beasts act very consistently upon certain instincts of self-interest. Even they learn something by experience. But this teaches us that the propagator of atheistic ideas is doing intolerable mischief; for just so far as they have prevailed, they have let loose a flood of misery. Now, then, the teacher of those ideas is venomous. The consistent thing for the rest of us animals to do, who are not beasts of prey, is, to kill him as soon as he shows his head; just as the deer cut the rattlesnake in pieces whenever they see him, with the lightning thrusts of their sharp hoofs. Why is not this conclusion perfectly just? The only logic which restrains it, is that Christianity which says: "Thou shalt not kill," which the atheist flouts. The only reason we do not treat atheists thus is, that we are not like them, atheists.

The Atheist the enemy of his kind.

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