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THE
PHYSICAL BASIS OF WILL.

A Lecture

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BY

HENRY MAUDSLEY, M.D.

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THE
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IN a lecture which I gave here last year, and published afterwards in the *Fortnightly Review*,* I pointed out that moral feeling is just as closely dependent upon organization as is the meanest function of mind, and asserted broadly "that there was not an argument to prove the so-called materialism of one part of mind which did not apply with equal force to the whole mind." For this statement I was taken to task in an article in the *Spectator*, the critic in that journal summoning up to confront and confound me the alleged self-determining power of human will—the freedom of the will. I propose, then, to make this lecture supplementary to the former one in some respects, by considering now whether we are entitled to assume, as I hold, a Physical Basis of Will, or whether, as my critic thinks, we have in the Will a self-sustained spiritual entity, which owns no cause, obeys not law, and has no sort of affinity with matter. 'Tis not a discussion of much lively or fruitful promise, but inasmuch as those who engage in the Freewill controversy, while repeating the old and trite arguments, for the most part leave out of sight the physical aspect of the subject, it may be instructive to bring that more into notice, and to show that those who uphold a material basis of will have some plain facts to go upon.

They who maintain that the will is not determined

* "Materialism and its Lessons."

by motives, but is self-determined, free, do not for the most part go so far as to imply that motives are not at work in the mind, and that the will takes no account of them; they affirm that there is not the uniform, inseparable connection between motive and will which there is between cause and effect in physical nature. The will is not the unconditionally necessary consequent of its antecedent motives. It, or some other mysterious entity in the individual which, having virtually abstracted from the actual individual, they call his non-bodily self, has, they allege, an independent, perfectly spontaneous, arbitrary power to make this or that motive predominate as it pleases; to choose this or that one among motives and make it *the* motive; in doing which this self-determining principle is presumed by some, I believe, to act without motive, of its own pure motion, without cause or reason; by others to act from motives so high and fine, that they constrain it instantly, without weighing at all upon its freedom.* Clearly then we have here a very singular power in nature, which we might call *supernatural* were

* "The noumenon, *ding-an-sich*, real self," "is unknowable, inscrutable," "exists outside Time, Space, and Causality, is absolutely free," "in itself, *per se*, is unchangeable;" "and, as it is my only real being, my primitive and inborn self, it must be present as a factor in every change and every action of which my phenomenal Self, my empirical character, is capable." That is to say, itself outside Time, Space, and Causality, it is the moving principle of every change in Time, Space, and Causality which takes place through me. Of a truth a wonderful power which can thus be actually and not be theoretically at the same time in and outside Time, Space, and Causality! But more. Why does a truthful man who has told a falsehood feel a remorse? Because "his conscience tells him that he is responsible, not indeed for this particular act—since *this* he could not help—but for not being a better man." "Blame not the action, then, but the man for being capable of such an action. Whip him, not for telling this particular lie, but for being a liar at heart, in his inmost nature. For this inmost nature, his real Self, his *ding-an-sich*, which, as a noumenon, is in some inscrutable manner emancipated from the laws of Time and Causality, from the operation of motives, is absolutely free." But surely it will be, on the one hand, a singularly hard matter to lay hold of and whip the inmost nature, the real self, the noumenon, when "it exists out-

it not that it is allowed to be a part of nature acting in and upon it, although coming from a mysterious source outside it; but being thus an important agent in nature, without being of the same kind or having anything in common with anything else there—any sympathy, affinity, or relationship whatever with the things which it works in and upon—we may fairly call it *unnatural*.

If there be a power of this kind in the Universe, the reflection which occurs instantly is that causation is not universal, as people are in the habit of assuming, but that there is a large region of human events which is exempt from the otherwise uniform law of cause and effect, the region, that is to say, of man's higher mental operations. A great deal of the force which works in them and by which they work on the external world obeys not the law of conservation of energy. Now this is a rather startling reflection, seeing that the great natural argument for the existence of God is that everything must have a cause, and that for cause of all things, therefore, there must be a cause of causes, a great First Cause. At the outset, then, we come to a perplexing dilemma—to the obligation of concluding either that the will, like other things, must have a cause, or that a great first cause is not a necessity of human thought.

side of Time, Space, and Causality," and, on the other hand, rather unfair to whip vicariously the empirical character which cannot help itself, when the real culprit escapes. How whip it, too, in any case, seeing that it is a thing-in-itself, incorporeal, spiritual, "as the air invulnerable"? The foregoing extracts are taken from an account of Kant's Philosophy, by Professor Bowen, of Harvard College, U.S., in his work on *Modern Philosophy*. At the end of his exposition and comments, he says: "And thus the deep and dark problem of fixed fate and freewill is solved, the two contradictories being reconciled with each other." No doubt they are reconciled in the minds of those who, like Professor Bowen, can believe at the same instant two contradictories. Sir W. Hamilton laid it down that one of two inconceivable contradictories must be true, and it passed for a long time for high philosophy that a man should be able so to conceive inconceivables as to know them to be contradictory. Here we have a step farther in philosophy, since we have two conceivable contradictories which are both true.

But this is only a first difficulty. We are taught by those who uphold the freedom of the will that although it is not governed by motives, but is a self-determining principle in us, it is wrought upon continually and most powerfully by supernatural agency. A Divine grace is ever near to help it in time of need, strengthening it to do well, weakening it to do ill. It is God's good purpose to "master our will," and to make us "surrender and resign it to his just, wise, and gracious will;" and to make good his right, says that eloquent divine, Dr. I. Barrow, "God bendeth all his forces and applieth all his means both of sweetness and severity, persuading us by arguments, soliciting us by entreaties, alluring us by fair promises, scaring us by fierce menaces, indulging ample benefits to us, inflicting sore corrections on us, working in and upon us by secret influences of grace, by visible dispensations of providence." A stupendous array of motives this, which it is a wonder any one ever withstands, especially when it is borne in mind that they are worked by the unlimited power of Omnipotence, which has fore-known and fore-ordained the result from all eternity! However, we are not to suppose that these mighty agencies are anywise incompatible with the freedom of will; indeed, when it has surrendered itself to entire obedience it is enjoying the most perfect freedom; when it is in the grasp of Omnipotence it is most free. Hard sayings no doubt for reason, but not at all hard to faith seemingly, since many persons persuade themselves that they have intelligent apprehension of them.

The will is assailed very powerfully in a second supernatural way—namely, by the Devil, if the Devil, that is to say, be not defunct. For it seems to be an open question now whether he has not undergone by evolution such a transformation of kind as to have lost all his personality and much of his power. At the time when he paid Luther a memorable visit he was a distinct being enough, with great horns and a tail and cloven hoofs; later on, when Milton described him, he had lost these appendages, and become the great Archfiend, above his fellows "in shape and gesture proudly eminent," who

amid the torments of a new-found Hell still flung defiance at the Omnipotent, with unconquered will declaring it better to "reign in Hell than serve in Heaven;" still later he underwent philosophic transformation into the polished, cultivated, intellectually subtile, but mocking, doubting, cynical, Mephistopheles of Faust. What form and substance has he now, if form and substance he has any? Those whose professional work it is to do battle with him, and to frustrate his ever active wiles and malice, and who ought therefore to know him best, do not tell us clearly what their exact ideas on the subject are, if they have clear and exact ideas; they apparently like to believe in him as much in a vague and cloudy way as they dislike to believe in him in any precise and definite way, or at any rate dislike to be asked to define precisely their belief; but although they may not be very sure of his present form and dwelling-place, they have no doubt in a general way of the evil desires and passions with which he inspires poor human hearts, and of his open and insidious assaults on the higher aspirations of human will, which he, untiring enemy, besets, besieges, beleaguers, bombards continually. Again then we have a large region of human events—a region the limits of which it is impossible to define or to get defined—which is outside the natural law of causation, and cannot ever be made matter of scientific study. For as it is plain that we have no means by which we can measure and register the quantity and kind of energy which the Devil thus exerts continually upon the will—no Satanometer or Diabolometer so to speak—human events, so far as they are effects of his counsels and instigations, must lie outside the range of positive knowledge. But once more we are not to suppose that these supernatural workings upon the will abridge in the least degree its perfect freedom.

These are difficulties one might suppose great enough to make even the theologico-metaphysical theorist pause, but they have no effect to shake his faith in his dogma, or to lessen his scorn of the profane persons who doubt and dispute the freedom of the will. He is bold enough in the last resort to affirm that man's thoughts,

feelings, and doings on earth are not proper subjects of enquiry by a scientific method, and to avow that true knowledge of them must come either by an extraordinary metaphysical intuition or by revelation and faith. The last key to the problem for him is indeed not "Search and know," but "God spake these words and said;" not knowledge by the well-tried paths of observation and reason, but "He that believeth not shall be damned." Of which text I hope it is not irreverent to say here that whosoever believeth, whether it be on the authority of Holy Church or of Holy Scripture, that which contradicts reason absolutely needs no further damnation: he has done himself damage enough already as a rational being.

Meanwhile mankind has lived always and still lives in conformity with quite an opposite theory of human will—namely, that it is governed by natural motives. The problem of freewill is a problem of the study, it never has been a problem of practical life; a theoretical dogma of faith, not a working belief, the doctrine has flourished in an atmosphere of vague and cloudy phrases, and all discussions about it have been in the air; it has shifted its ground too and changed its form so often that it is not possible to know where and how to seize and hold it. Laws have been systematically made and punishments inflicted upon those who broke them under a very definite conviction that the will is not an uncaused power, but does move in obedience to motive, and may be fashioned to act in this way or that. The execution of a murderer does not fail to influence his likeminded fellow, who certainly has not the freedom of will to be unaffected thereby; the aim and use of the punishment are to determine his will, and it could not be of the least use if the will were self-determined. We observe historically the past actions of men in different situations and circumstances in order to gain a knowledge of the springs of human action which shall be of use to us in our present and future dealings. The person who has had much experience, whether in politics, business, or any other special department of human labour, is esteemed a wiser guide than a newcomer, because of the certainty that the thoughts and

acts of men are not in any respect chance-events, but that what they have done before, that they will do again when actuated by similar motives.

Prudence and forethought in the conduct of affairs, the provisions made for education, social institutions and usages, all the operations of daily life in the intercourse of sane men are based upon the tacit implication that acts of will are never motiveless, but conform to law and may be counted upon. There is not a single department of practical life which is not an implicit denial of a free self-determining power in each individual, and an implicit recognition of a common nature in men affected by common influences, and taking a common development in consequence. The only person who answers at all to the metaphysical definition of a self-determining will is the madman, since he exults in the most vivid consciousness of freedom and power, sets reason at naught, and often does things which no one can predict, because he acts without motives, or at any rate from motives which no one can penetrate. Did sane men possess freewill they, like the madman, would be free from responsibility, since their wills would act independently of their characters, just as they listed, not otherwise than as men used to declare, before they knew better, that "the wind bloweth where it listeth," and no one would have much, if any, motive left to try to improve his character.

We may take it then to be true that the explicit setting forth, in formal knowledge, of what is implicit in the course of human life would be a system of philosophy in which a self-determining principle had no part nor place, in which freewill would be a word void of meaning—nonsense. But true knowledge has its foundation in experience, and is really the conscious exposition of what is implicit in human progress; it is implicit in action before it is explicit in thought. Men do not divine truth and then work to it consciously; it is instinct in them before it is understanding; and when in mature time the unconscious breaks forth into consciousness, it is the man of genius who is the organ through which the expansion takes place; he is the interpreter of its blind

impulses to the age, and gives them thenceforth clear utterance and definite aim. The truth then, as testified practically by the experience of the whole world from the beginning until now, is that will is a power which does not stand outside the range of natural causation, but one which is moved habitually by motive in every man from his cradle to his grave. The freewill problem might be compared well to that great logical puzzle which so long and so much perplexed the philosophers: I mean the race between Achilles and the tortoise, where the tortoise being allowed a certain start, and Achilles supposed to run ten times as fast, it was proved that he never could logically overtake it. For if we suppose the tortoise to have a thousand yards' start, it would have run a hundred yards when Achilles had run the thousand yards; when Achilles again had run the hundred yards, the tortoise would be ten yards ahead; when Achilles had run the ten yards, the tortoise would have gone one yard; when Achilles had done the one yard, the tortoise would lead it by the tenth of a yard; when Achilles had got over the tenth of a yard, he would still be the hundredth of a yard behind; and so on by successive subdivisions of the diminishing space for ever. Clearly then Achilles never could logically overtake the tortoise, whatever he might do actually. So it has been with the freewill puzzle: the philosophers, confusing themselves and others with a juggling statement of the problem, have applied the word free to the will instead of to the man, who has always known himself to be free, not to will, but to do what he willed when not hindered from doing it by internal or external causes, just as they proved that Achilles would not overtake the tortoise, by treating a finite space which was infinitely divisible as if it were infinite.* Put the race problem in a plain way, without ambiguous use of words, and the result is plain enough: when Achilles had run one thousand yards, the tortoise would have run one

* One is required to go on subdividing a unit indefinitely, and to be surprised that the sum of the diminishing fractions never can reach 1.

hundred, but when Achilles had run two thousand yards, where would the tortoise be? Why, it would have run two hundred yards altogether, and would of course be eight hundred yards behind.

So much then for the facts in their relation to freewill. Now what are the grounds of the metaphysician's clear conviction that he has a will and that it is free? His consciousness tells him so, he says, and all the arguments in the world will not invalidate its direct and positive testimony. But does it really tell him so? One may meet that statement truly by affirming that his consciousness does not tell him anything like that which he is in the easy habit of supposing and declaring it to do. Certainly it is not true that we know immediately by consciousness that we have such a power as the metaphysician means by will. One-tenth only of that confident dogma is the direct deliverance of consciousness, the other nine-tenths are pure and gratuitous hypothesis. Consciousness tells us nothing whatever of an abstract will-entity; it makes known a particular volition when we have it and no more; the creation of an abstract will which is supposed to execute the particular volition on each occasion, and its further fashioning into a spiritual entity, is an assumption as unwarranted as any that has ever been made by the crudest materialism. It would be no whit more absurd to make a spiritual entity of sensation and to maintain that this abstract entity was necessary to produce each sensation; or to postulate a special emotional entity which operates in each emotion; or to create a spirit of *greenness* and to detect it at work in each green thing; or to discover the spirit of *stoneness* in every stone by the roadside. What the metaphysician has done has been to convert into an entity the abstract word which embraces the multitude of particular volitions, varying infinitely in degree and quality, just as at an earlier period of thought, when the metaphysical spirit had more life and sway than it has now, he explained the sleep-producing properties of opium by a soporific essence in it, and the difficulty of getting a vacuum by Nature's *abhorrence* of a vacuum; or as at a still earlier period of

thought he put a Naiad in the fountain, a Dryad in the tree, a Sun-god in the sun.

But, in the second place, while consciousness does not tell him that he has a will such as he supposes, no more has it the authority to tell him that his will is free. Consciousness only illumines directly the mental state of the moment; it reveals nothing of the long train of antecedent states of which that state is the outcome—all is dark beyond where its light directly falls; and it cannot testify anything as an eyewitness concerning what is happening there, any more than a person in the light can testify of what is taking place in the dark. Let there be a solitary gas-lamp lit in a large square on a pitch-dark night, it enables you to see immediately around it, but it does not show what is going on in any other part of the square; and if any one standing near it chanced to get a severe blow on the head from a stone coming out of the darkness, he would think it small satisfaction to be told that the blow was by a self-determined stone. So it is with consciousness; it makes known the present volition, it does not make known its causes; and that, as Spinoza pointed out long ago, is the origin of the illusion of Freewill. How, indeed, could a present state of consciousness reveal immediately another state of consciousness; in other words, how could it be itself and a former state of consciousness at the same time? But whosoever will be at the pains to carry his self-inspection patiently back from the present state of consciousness to that state which went before it, and from that again to its antecedent state, and so backwards along the train of activity which has issued in the latest mental outcome, lighting up in succession as well as he can each link in an intricate chain of many-junctioned associations, may easily assure himself that he would never have present states of feeling were it not for past states of feeling. Let the will be as free as any one chooses to suppose, it is certainly as impotent to will without previous acts of will, as a child is to walk before it has learned to step: the present volition contains the abstracts, so to speak, of a multitude of former volitions: by them it is in-

formed. The most eager metaphysician, when he is not thinking of his abstract dogma of freewill, or of an equally abstract reason whose supreme dominion over will is supposed to constitute its singular freedom,* will not deny that an individual's thinking, feeling, or acting as he does at any moment of his life is the outcome of his nature and training, the expression of his character; that his present being is the organic development of his past being; that he is fast linked in a chain of causation which does not suffer him ever to get out of himself. It is a chain, too, which, if he reflects, he must perceive to reach a long way farther back in an ancestral past than he can estimate. We see plainly how a person inherits a father's, grandfather's, or more remote ancestor's tricks of speech, of walk, of handwriting, and the like, without imitation on his part, since the father or grandfather may have died before he was born; and in the same way he inherits moods of feeling, modes of thought, impulses of will, and exhibits them in thoughts, feelings and acts which seem essentially spontaneous, most his own. Has he done well in some great and urgent emergency of life in which he knew not what he did at the instant, he may justly give thanks to the dead father or grandfather who endowed him with the actuating impulse or the happy aptitude which served him so well on the critical occasion.

We little think, for the most part, how much we owe to those who have gone before us. There is not a word which I have used, or shall use, in this lecture which does not attest by its origin and growth countless generations of human culture extending from our far distant Aryan forefathers of the Indian plains down to us; in like manner there is not a thought or feeling or volition which any one in this room can have which he could have, had not countless generations of human beings thought and felt and willed before him, and had not he himself been thinking, feeling, and willing ever since he left his cradle. It is in vain we attempt by self-inspection to make plain all the links of causation of any feeling or

* See note at the end of the lecture.

volition; the impossibility is to seize and weigh each minute and remote operative element—to bring all the contributory factors into the light of consciousness. So much is unconscious agency—temperament, character, instinct, habit, potential thought and feeling, what you will—something which lies deeper than direct self-observation or even the utmost labours of self-analysis can reach. Hence spring the illusions into which men oftentimes fall with regard to their motives on particular occasions, the remarkable self-deceptions of which they are capable. They think, perhaps, that they have acted in their freedom from certain high motives of which they were conscious when these were not the real motives which actuated them.* From the unlit depths of his being, the deep and silent stream of the individual's nature, rise the forces which break on the surface in the currents and eddies of consciousness. One may get a truer explanation sometimes of a person's conduct on a particular occasion by a knowledge of the characters of his near relations than by his own explanation of his motives or one's own speculations about them; for in their traits we may see displayed in full detail what is potential mainly and of occasional outcome in him. When acts appear to be quite incommensurate with motives, or when the same motive appears to produce different acts, the just conclusion is not that an arbitrary freewill has capriciously meddled and upset calculation, but that the motives which we discover are only a part of the complex causation, and that the most important part thereof lies in the dark. Self-consciousness is a very incompetent witness in that matter: you might as well try to illuminate the interior of St. Paul's with a rushlight. A motiveless will may be compared,

* A desire or motive does not generally go the direct way to its issue in action any more than a person necessarily goes the direct way from London to Edinburgh. He may go two or three ways, or he might go all round by Exeter, and still get there. So with desire, which goes a roundabout and very intricate way sometimes, carrying with it, so to speak, something from each place at which it has stopped on its journey.

perhaps, to a foundling baby ; respecting which wise men conclude, not that it had no parents and came by chance, but that they do not know who its parents are.

The metaphysicians have yet another argument of which they make much. They lay great stress upon their assertion that there is nothing in the operations of the body which is in the least like the energy we are conscious of as will, and that we cannot put a finger on anything in all the functions of the nervous system which can conceivably serve as a physical basis of will. Let us enquire then if that be so. The simplest nervous operation, that which is the elemental type of which the more complex functions are built up, as a great house is built up of simple bricks, is what we call a reflex act: an impression is made upon some part of the body, the molecular change produced thereby is conducted along a sensory nerve to a nerve-centre and arouses the energy thereof, and that energy is thereupon transmitted or reflected along a connected motor nerve and accomplishes a particular movement, which may be purposive or not. For example, a strong light falls upon the retina and the pupil instantly contracts in order to exclude the excess of light ; a blow is threatened to the eye and the eyelids wink involuntary to protect it ; a lump of food gets to the back of the throat and as soon as it is felt there the muscles contract and push it on. These are operations of the body in which, although they accomplish a purpose, the will has no part whatever ; they take place in spite of the will, as everybody knows, and one of them even when a person is completely unconscious. A more striking instance of an instructive reflex act is afforded by a well-known experiment on the frog : if its right thigh is irritated by a drop of acid it rubs it off with the foot of that side, but if it is prevented from using that foot for the purpose it makes use of the opposite leg. Intelligent purpose and deliberate will, one would naturally say ; but when the frog's head is cut off and the experiment made then the result is the same ; it tries first to use its right foot, and that being impossible bends the other leg across and wipes off the acid with it. As

its head has been cut off it is certain that it has not conscious intelligence and will in any definite and proper signification of those terms; it does not know what it is doing although it acts with admirable purpose, any more than the pupil does when it contracts in a strong light or than the steam engine does when it performs its useful work.* The conclusion which we must come to and emphasize is that the nervous system has the power, instinct in its constitution or acquired by training, to execute mechanically acts which have the semblance of being designed and voluntary, without there being the least consciousness or will in them. Have we not here then a pretty fair physical foundation of a rudimentary will?

Let us now go a step further. The will, as we know, has not the power to execute only, but it has the power to prevent execution, to hold impulses in check; indeed, its higher energies are most tasked, and its highest qualities shown, in the exercise of this controlling function. Our appetites and passions urge us to immediate gratifications; it is the noble function of will to curb these lower

* A critic of my book on the "Physiology of Mind," in the "Journal of Mental Science," of January last, defines the theory of freewill thus: "that *in every determination to act which constitutes a volition the determinant is not a mere datum of nerves, or sense, or passion, but is an idea actively taken up, formulated as an adequate end, and stamped as an element of happiness by that nonbodily entity which we call self. . . . This is the simple key to the whole problem of Responsibility.*" The italics are his. We may take notice here how admirably the acts of the decapitated frog fit this definition. It evidently *takes up actively the idea of getting rid of the pain, formulates it as an adequate end, and stamps it as an element of happiness by that nonbodily entity* (clearly very much, if not entirely, non-bodily seeing that it is headless) *which we call self!* Thus it gives us the key to the whole problem of Responsibility. It were well, perhaps, if all those who write about mind would follow Spinoza's advice—first study sufficiently the functions of the body, so as to "learn by experience what the body can do and what it cannot do by the simple laws of its corporeal nature and without receiving any determination from the mind." They might then, perhaps, as Schopenhauer thought, "leave many German scribblers unread."

impulses of our nature. Is there anything, then, in the operations of the nervous system which can possibly be the basis of this exalted governing function? Let us take preliminary note here that there are reflex actions going on in the body which are essential to life, but over which this mighty despot of the mind, the will, has no authority whatever—the movements of the heart and of the intestines, for example; they go on regularly night and day; if they did not we should die; but we cannot slacken or quicken or stop them by any exertion of will which we can make. The movements of breathing, which are also reflex, we can control partially; we can breathe quickly or slowly as we please, or even stop breathing for a time, but not for long, since no one can kill himself by simply holding his breath. The physiologist, however, can easily quicken or retard the beatings of an animal's heart at will, by stimulating directly the proper nerves. By irritating a nerve which goes to it—the so-called vagus nerve—he can retard them, and by irritating another nerve connected with it—the so-called sympathetic—he can quicken them. He can do with its pulsations as the coachman can with his horses, pull them in to go slowly or send them on quickly. But more—and this is the point I wish to come to—he can affect them not only in the direct way which I have mentioned, but also indirectly by a sharp impression on some part of the body. For example, if he suspends a frog by its legs and then taps sharply on its belly, he instantly stops its heart for a time. What happens is that the stimulus of the tap is carried by a nerve to a nerve-centre in the brain near that centre from which a controlling nerve of the heart proceeds, and so acts upon it as in the result to prevent or inhibit the action of the heart; in other words, what we have to apprehend and perpend in the experiment is that the physiological sympathy of nerve-centres in the organization of the nervous system is such that one centre, when stimulated to function, has the power to *inhibit* physically the function of another centre, just as the will inhibits the movements of breathing. This temporary arrest of the heart's beats by an intercurrent

stimulus somewhere into its reflex arc is after all not very unlike to temporary arrest of respiration by an intercurrent volition into its reflex arc.

Did time permit, I might bring forward many more, and more striking, instances of this kind of inhibitory action, selecting them from the operations of the human body both in health and in disease; but it must suffice for the present to set down and emphasize the broad conclusion which they warrant, namely, that one nervous centre, when stimulated into activity, may so act upon another centre as either to help, or to hinder, or to suspend its function by pure physiological mechanism. Have we not here, then, a physical basis of the inhibitory power of will? Place the fact by the side of the fact on which I laid emphatic stress just now—namely, that the nervous system has the power of executing purposive acts without any intervention of consciousness or will; and it is plain we have in the two physical functions something which runs closely parallel with the rudiments of volition and may well be their material equivalents—that is to say, power to command execution of a purpose and power to stop execution.

Metaphysicians* get their theories of will by considering its highest displays in a much cultivated self-consciousness, where the difficulties of satisfactory analysis are insuperable; but a complete and sincere study of it must deal with its small beginnings as well as with its finest displays—ought, in fact, to commence with them; for to ignore the facts of its genesis and development is to make an artificial philosophy which may serve well for intellectual gymnastics in scholastic exercises, but has no practical bearing on the concerns of real life. Let us then examine the simplest instances of primitive volition in the animal and in the infant. When a dog, in obedience to its natural instinct, seizes a piece of meat which

* They appear to be desirous of abandoning their old name of metaphysicians in favour of the new name of idealists. But they have no right to that term, which is properly applicable only to one who upholds the Berkeleyan theory.

lies near it and is punished for the theft, the memory of what it was made to suffer intervenes on another occasion between the impression on sight and the ensuing impulse, and checks or inhibits it; in like manner when an infant grasps something bright which attracts its gaze and is burnt, its memory of the pain which it suffered checks or inhibits a similar hasty movement on another occasion. Here then we have the simplest instance of will; the animal or infant voluntarily refrains from doing what its first impulse is to do—of two courses chooses the best.

But what is the probable physical side of the process? In the first case, where the dog seized the meat, an impression upon the sense of sight, the conduction of the molecular change to the nerve-centre, and the production of a special sensation, as the ingoing process; after which, as the outgoing process, the transmission of the energy along a motor nerve to muscle and a consequent adaptive movement—a sensorimotor process; in the second event, when a punishment was inflicted, the association of this sensorimotor process with the painful stimulation of another nerve-centre; and in the third case, when the dog seeing the meat refrained from touching it, instead of the instant reflexion of the sensation into movement, there was the stimulation by it of the associated centre in which the memory of the pain was registered, the consequence of which was the inhibition of the movement. One of two catenated physiological centres was in fact excited to inhibit the other. If we multiply in an endless complexity this simple scheme of nerves and nerve-centres we get the constitution of the brain, indeed of the whole nervous system, which contains an innumerable multitude of interconnected nerve-centres ready to be awakened into action by suitable stimulation to increase, to combine, to modify, to restrain one another's functions. As counterpart on the mental side to this exceeding complexity of physical structure, we have very complex deliberation going before the formation of will, which comes out at last from the intricate interactions of so many hopes, fears, inclinations, promptings, desires, reflections, and the like, of so many constituent elements of character,

that we are unable to analyze them and so to specify the exact factors in its complex causation: it is the resultant of a very intricate composition of forces. To me it seems then a fair conclusion that in the inhibitory action of one nerve-centre upon another, as disclosed by physiological observation, and in the simplest instance of volition, as known by consciousness, we have two processes which go along together parallel, and not unfair therefore to maintain that we have as good authority to believe in a physical basis of will as in a physical basis of any mental state whatever.

The plain truth is, when we look the facts fairly in the face, that we never meet with will except in connection with a certain organization of matter, varying with its variations, and exhibiting every proof of being dependent upon it. It is notably infantile in the child, imbecile in the idiot, grows in power, range, and quality as the mental powers grow by education, is mature in the adult, falls sick with the body's sicknesses, and becomes decrepit in the decrepitude of age. However free and independent in theory, it never shows its power in fact except from a good physical basis. The aim, the use, and the result of a sound moral training are to fashion a strong will; and assuredly all training acts through the intimate development of the nervous system which it produces. Good moral habits, like other habits, are formed by the structure growing to the modes of its exercise. When the physical basis is congenitally defective, as in the idiot, no excellence of training will succeed in developing a normal will, any more than much thought will add one cubit to the stature of a dwarf. And when we make a survey of the various forms of mental derangement, which we know to be the deranged functions of disordered brain, we observe that a first symptom of mischief is always a loss of power of will over the thoughts and feelings: that is the sad sign which portends the coming calamity. The person who is about to fall into acute mania has ideas and feelings surge up in his mind in the most irregular and tumultuous fashion, and is impelled by them to strange and disorderly acts. It is painfully interesting to watch the struggle

which goes on sometimes at the beginning of the attack before the failing will undergoes complete dissolution: the patient will succeed by a strong effort in controlling himself for a few moments when he knows that some one is looking at him, or when he is spoken to, and in acting and answering calmly and coherently, but the enfeebled will cannot hold on to the reins, and he relapses soon into incoherent thought, speech and conduct, becoming, as the disease makes progress, incapable of even an instant's real self-control. The person who is falling melancholic is tormented with painful thoughts and feelings, blasphemous or otherwise afflicting, which come into his mind against his most earnest wish, cause him unspeakable distress, and cannot be repressed or expelled by all the efforts of his agitated will; so hateful are they to him, so independent do they seem of his true self, that he ends perhaps by thinking them the direct inspiration of Satan and himself given over to eternal damnation. The monomaniac broods upon some idea of greatness or of suspicion, rooted in its congenial feeling of exaltation or of distrust, until the weakened will loses all hold of it and it grows to the height of an insane delusion; then he imagines himself to be emperor, prophet, or some other great personage, or believes all the world to be in a conspiracy against him. The sufferer who is afflicted with a frequently upstarting impulse to do harm to himself or to others, conscious all the while of the horrible nature of the impulse, which he fights against with frenzied energy, goes through agonies of distress in the struggles to prevent his true will being mastered by it. Everywhere we observe impaired will to go along with the beginnings of physical degeneration. And if we look to the last term of the mental degeneration, as we have it in the demented person in whom all traces of mind are well-nigh extinguished, who must be fed, clothed, cared for in every way, whose existence is little more than vegetative, we find an almost complete abolition of rational will accompanying extreme disorganization of special structure.

The lessons of mental pathology admit of no misreading; they make known everywhere an entire dependence

of will on physical organization. But there is an important aspect of the matter which I ought not to pass by altogether, although my allusion to it now must necessarily be the briefest. It is this converse and weighty truth—that actual derangement of the structure of an organ can be brought about by the continuance of excessive or disordered function; that the habitual indulgence of evil passions, ill-regulated thoughts, and depraved will does lead to corresponding physical changes in the brain; and that every person has thus in the patient fashioning and timely exercise of will no mean power over himself to prevent insanity. For the praises of such a well-fashioned will, I cannot do better than borrow the lines of Tennyson:—

Oh! well for him whose will is strong!
He suffers, but he will not suffer long;
He suffers, but he cannot suffer wrong:
For him nor moves the loud world's random mock,
Nor all calamities hugest waves confound,
Who seems a promontory of rock
That, compassed round with turbulent sound,
In middle ocean meets the surging shock,
Tempest-buffeted, citadel-crowned.

But assuredly we shall not have a will of that kind formed by treating it as a free, independent, arbitrary entity which has no affinities, is not moved by motive, and owns no law but self-caprice; it can be formed only by painful degrees, in conformity with stern laws of moral development, by one who is solicitous uniformly to use motives and make good use of them, patiently watchful to withstand and check the earliest invasion of his mind by low motives, earnest to cultivate good feelings and noble aspirations, steadfast always to strengthen the will by habitual practice in right doing—who aims, indeed, to make it, as it should be, the highest and fullest expression of a well-formed character. The acknowledgment that human will is included within the law of causation—the apprehension of the universal reign of law in mind and in matter—so far from tending to dishearten men and to

paralyze their highest efforts by driving them into a dreary fatalism, seems to me to be essential in order to infix and develop in their minds a vital sense of responsibility to search out intelligently and to pursue deliberately the right path of human progress; a responsibility, be it said, which the metaphysical dogma of free-will not merely weakens but logically destroys. Men have not been paralyzed in intelligence or effort, but have gained in both immeasurably, by perceiving and comprehending the law of gravitation; and in like manner by apprehending the reign of law in mind they will lose only the freedom to make ignorant blunders and to waste their forces unintelligently: they will obey the law whose service is their best freedom. Knowing that their efforts rest securely upon eternal law, they will know that their labours cannot be in vain: that they have the power of the universe at their backs, "the everlasting arms" beneath them.

It is unfortunate that people, scared by a horror of materialism, the "uncreating word" before which freedom of will and responsibility die, as a writer has described it lately, cannot see that the application of a scientific method of enquiry to human thoughts, feelings, and doings in no way touches injuriously the supreme authority of moral law and the power and wish to obey it. Neither moral feeling nor responsibility would be taken out of life were a purely materialistic evolution proved doctrine; on the contrary, the course of that evolution in the past would remain the best guarantee and yield the strongest assurance of a further moral and intellectual progress in the future. If it be true that men have risen by a gradual evolution from a pre-moral state of barbarism to their present height of intelligence and moral feeling, and if it be, as it certainly is, the essential principle of evolution to pass upwards from more simple and general to more complex and special organisation, it is surely a rational inference and a sound expectation that intelligence and moral feeling will reach a still higher development in the future. Science is only organised knowledge and does not pretend to do more than find out and set forth *how* things are as they are, and by help of what it

thus learns to forecast what they will be in the future; it perceives clearly how inexorably its range is limited by the limitations of our few and feeble senses, and how impossible it is that it should ever discover anything about the primal origin of things—about the *why* and *whence* of the mysterious universe of its observations. Evolution, the modern name of that conception which the old Greek philosophers, when they first formed it, called nature or the *becoming* of things (*φύσις*), is only a more exact and true exposition of *how* things have *become*, not in the least an explanation of the mystery of their *why*. By the help of knowledge slowly widening we can look back in retrospective imagination to the time and manner in which our planet and the other planets of our solar system took form by nebular condensation and started on their several orbits; we can trace with patient thought the successive changes which have taken place on the surface of the earth and have culminated in man and his achievements; we may foresee, perhaps, a time when a few miserable human beings, living degraded lives in snow huts near the equator, shall represent all that is left of the vanished myriads of the human race, or a still later period when the earth, fallen to the condition in which the moon now is, rolls on its solitary way through space, a frozen and barren globe, the tomb of a Dead Humanity;—we may, if we look far enough before and after, do all that, but we can never tell what minute fraction our solar system may be—what a vortex-molecule, so to speak—of countless other systems in the inconceivable immensities of space which lie beyond our utmost ken, and what essential relations it may have to them; we cannot tell why matter on earth has formed an ascending series of more and more complex compounds, why having reached a certain complexity of composition it became living, why organic evolution have gone on to higher and ever higher achievements until it reached the complexity of human organization and gave birth to consciousness; and we cannot tell in the least what will happen in the long long time to come, when all the operations of our solar system are ended, past as com-

pletely as the light of the first human eyes that gazed on them in wonder. Science is confined to a finite space between two infinities—the eternal past and eternity to come; it measures only a single pulsation, so to speak, in the working of a power whose source and end are past finding out, which was and is, and is to come, from everlasting to everlasting; beyond that range, narrow it is true, but more than wide enough to give full scope to all human affections and to occupy usefully all human energies, there is absolute nescience—agnosticism if you will. Organised as we are we can no more know about it than the oyster in its narrow home and with its very limited sentiency can know of the events of the human world—of the noise and turmoil, say, of an English election, or of the interesting chronicles of the “Court Circular.” What science repudiates and condemns, I believe, is the presumptuous pretence on the part of theology to know and tell all about the inscrutable, to put forward as truths, not ever to be questioned, childish explanations which are an insult to the understanding and would be its suicide if really accepted, to demand reverent assent to doctrines which sometimes outrage moral feeling, and to declare solemnly that whosoever believeth not the fables which it proclaims “shall without doubt perish everlastingly.”

What it may furthermore well repudiate and condemn is the evident want of sincerity of heart and veracity of thought shown by those who proffer and accept these explanations, by reason of which they do not honestly sound their beliefs and pursue them rigidly to their logical issues, but suffer themselves to use words habitually in a non-natural sense, and to hold side by side inconsistent and even directly contradictory doctrines, without being troubled by their manifest inconsistencies. The scientific spirit claims entire veracity of thought, whatever the result, knows that truth does not depend upon our sympathies and antipathies, is resolute to follow it to the end even at the sacrifice of the most cherished beliefs. It cannot but think it to be as demoralizing in tendency as it is insincere in fact, to profess to hold a

faith in entire reverence after having given up most of what is characteristic of it, and as certain in the end to lead to grossly inconsistent conduct. Such disingenuous dealing with momentous matters marks indeed an unverity of thought which would be lamentable hypocrisy were it not more often intellectual timidity and unconscious self-deception. But whether the insincerity be conscious or unconscious, it is incompatible with that rigid, hearty, and entire devotion to truth in thought, feeling, and expression which is the aim and at the same time the strength of a good understanding.

NOTE TO PAGE 15.—Kant's doctrine is that there is a determination of the will by pure reason, that so reason gets practical reality, and that in this absolute obedience the will has absolute assurance of its freedom. The moral law is a law spontaneously imposed on the will by pure reason: it stands high above all the motives, sensuous and their like, which determine the empirical will; it pays no respect to them, but with an inward, irresistible necessity, orders us, in independence of them, to follow it absolutely and unconditionally—'tis a *categorical imperative*, universal, and binding on every rational will. A happy thing, certainly, that a will determined to unconditional obedience by so absolute an authority retains nevertheless the absolute assurance of its freedom. But then comes the not unimportant question—What is it that practical reason categorically commands? How are we to know what the moral law dictates and forbids? The easiest thing in the world, thinks Kant: let only those maxims of conduct derived from experience be adopted as motives which are susceptible of being made of universal validity—which are fit to be regarded as universal laws of reason to govern the actions of all mankind. I do right when I do what all persons would think right in similar circumstances. Very good, without doubt, although very like the common-place maxim of every ethical system; but my difficulty has been to know in a particular case what all intelligent beings would think right. How am I to get at the universal standard or precept and apply it to my particular occasion, so as to know absolutely what I ought then to do? Kant helps me by means of two remarkable illustrations. Suicide is one. Is suicide, under the strongest temptation conceivable, ever right? I must ask myself then, "Is the principle of the admission that suicide is ever right fit to become a universal law?" No, says Kant, it is not fit, since the universal practice

sary to come down from its supersensuous heights and to be no better than gross Utilitarianism. All that it can tell me, panting for its supreme utterance, is that suicide is inexpedient as a universal principle of conduct—in fact, it makes use of the common motives of an experience which is nowise supersensuous, and instead of helping me to an absolute precept or standard to measure them by, actually comes to them for its authority. Kant's philosophy, of which the metaphysical mind is getting re-enamoured in some quarters at the present day, has its head high in the clouds and dreams there sublimely; but it finds it necessary to have its feet on the ground when the time comes for it to march.

The second instance is no more helpful. May a person in the greatest need of a loan, which he knows he will not get unless he makes a solemn promise to repay what he is perfectly certain he never will be able to repay, make the promise? No, says Kant, for if it were a universal law, all faith in promises would be destroyed, and nobody would lend money. In other words, in the long run it would be very bad for society that faith in promises should be destroyed. An excellent truth, which nobody can deny, but it evidently smacks much of the earth earthy; indeed, it would seem that those who discover the basis of morality in the social sanction may claim Kant, when he is not in the clouds, as an out-and-out supporter. It is different when he is busy spinning empty supersensuous theories which have no relation to actual life, and amusing his disciples with the magnificent dissolving views of his metaphysical magic lantern. First he presents a splendid view of supreme reason to the spectator who, as he admires it, sees the picture dissolve gradually and in its place appear the grand features of MORAL LAW, which shared with the STARRY HEAVEN Kant's ever new and rising admiration and reverence; as the gaze is fixed in admiration upon this view it melts into indistinctness, and, as it does so, there comes by degrees into clear definition the mighty figure of freewill. Thereupon, informing his enthusiastic audience that there are not really three pictures, as they might suppose, but one picture, the three being one and the one being three, Reason being Will and Will Reason, and that they cannot fail to perceive, when they reflect properly upon what they have seen, that the belief in God and immortality have now been made safe for ever, he retires amidst unbounded applause. Meanwhile, the critic who has not been blinded by the magnificent metaphysical display, and who feels that he does not live, move, and have his being in an abstract land beyond physics, asks himself with regard to the philosophy—Will it march?—and is not much surprised to find that when it begins to march it can only do so on well-worn Utilitarian tracks.

All theories of freewill seem to come to this—that the will which is swayed by low motives is not free, that the will which

of suicide would reduce the world to chaos. Very true, but it is sadly disappointing to perceive that the sublime and supreme reason has, in order to become practical reality, found it necessary to be swayed by the higher motives is more free, and that the will which is swayed by the highest motives is most free; consequently, when a person is blamed for having done ill, he is not blamed for not having acted without motives, but for not having been actuated by the highest motives. Create an artificial world of names apart from the real world of facts—a world which shall simply be made up of negations of all qualities of which we have actual experience—and let the highest motives be known in it as the Will of God or abstract Supreme Reason, you will get your service which you may please yourself to call perfect freedom. And there does not appear to be any reason why you may not create and take refuge in another still more ideal world beyond that, if persons of a positive spirit should show any disposition to invade ideal word No. 1 with inconvenient enquiries.

