

## ON MIND AND WILL IN NATURE.

**I**N choosing a subject for the Address which it recently became my duty to deliver at the Brighton Meeting of the British Association, I was mainly influenced by the desire to make use of the opportunity to give expression to certain views at which I had long since arrived, with reference to some of those fundamental questions which lie at the basis of all Scientific thought; which views, as it seemed to me, it might be useful to propound, at the present juncture, from the Chair which I had the honour to occupy. It happened that the Physiological studies of the earlier part of my life brought me into special relation with Psychological inquiry; and the analysis of the processes of Thought by which Scientific work is carried on, became a favourite pursuit with me, when I was led, as a Professor of Medical Jurisprudence, to examine into the whole subject of Evidence and the Basis of Belief. The larger opportunities of carrying on original scientific investigations, which I have of late years enjoyed, by bringing my mind still more closely into contact with objective realities, have, perhaps, added something to my preparedness for discoursing on the subject with which I ventured to grapple. And I therefore considered that I might, without presumption, call the attention both of my Scientific brethren and of the Public at large, to what seems to me the true position of Man as the Scientific Interpreter of Nature. I did not flatter myself

that I had anything to say on this subject that would be new, either to Men of Science or to Theologians who have already gone through a like course of thought with myself; but I hoped to lead some to think upon it, who had never so thought before, and to help others to a clearer view of it than they might have themselves attained.

I was further moved to take the line I adopted, by the following consideration. No one can have followed the course of various discussions which have recently taken place between Theologians on one side, and Scientific Men (abroad, even more than in this country) on the other, without seeing that the old antagonism between Theology and Science, instead of toning down, is becoming more and more vehement. As long as the heresies of Science were confined to the Nebular Hypothesis, the Geological History of the Earth, or even the Antiquity of Man, they affected no *fundamental* doctrine of Theology. The professed believer in the Divine Authority and the literal inspiration of Genesis, *might* and *did* find means of evading the difficulties in which he found himself placed by the demands which Science made upon his intellect; and a large body of intelligent Scripturalists was coming quietly to yield to those demands, in the same way as the old Theological defenders of the Sun's motion round the Earth evacuated their fortress without any formal surrender. But the claims of Science have of late been advanced, not only more strongly, but more aggressively; and some of the positions that have been taken up have been such as apparently to threaten, not the outworks only, but the very citadel, of Religious Faith. I say "apparently," because the supposed antagonism often arises out of a misconception of the real bearing of doctrines, which have been presented in a needlessly offensive form. When the author of the "Vestiges of the Natural History of Creation," nearly thirty years ago, advanced the doctrine of the Continuous Development and Succession of Organic Life, he distinctly recognized, not only the *original* Agency of the Creator, but His *continued* action; merely arguing for "Creation by Law," as he termed it,—meaning thereby a *continuous uniformity* of Creative action, as opposed to *occasional interferences*. Now the non-reception of this doctrine was entirely due to the weakness of its basis. No one department of the Sciences brought under review had been thoroughly studied by its promulgator, who consequently fell into the most egregious blunders; and so, while the ingenuity of his conception and the fascinating simplicity of the form in which it was presented, gained for it a general currency, and doubtless prepared the way for its recent revival on a far more philosophical basis, it was unanimously pronounced, from the Scientific point of view, an entire failure. But while entirely concurring in this verdict, I took occasion at the same

time to express myself in the following terms in regard to the Religious bearing of the doctrine of Continuous Development or Evolution.

“Bringing together the facts of Geological History, which indicate that our earth was first peopled by plants and animals of a low grade of organisation, and that there has been a gradual advance in their character through its successive epochs to the present period, and comparing these with the successive gradations in development presented by the embryo of Man, or of any one of the more complex Animals, the author of the ‘Vestiges’ suggests that the highest forms of each kingdom are *lineally descended* from the lower, which have, with the progressive changes on the Earth’s surface, adapting it for the residence of higher and yet higher races, evolved themselves into beings of progressively higher and higher organisation, in obedience to laws first impressed on them by the Creator. In this hypothesis I cannot see anything that is either abstractedly improbable, or that in the least tends to separate the idea of Creative Design from the organised Creation. There is surely nothing more Atheistical in the idea that the Creator, instead of originating each race by a distinct and separate act (the notion commonly entertained), gave to the first created Monad those properties by the continued action of which, through countless ages, a Man would be evolved, than there is in the idea, to which we are irresistibly led by physiological study, that the first cell-germ of the Human ovum is endowed with such properties as enable it to become developed into a Human baby in the course of only a few months. If we believe that, to the mind of the Deity, the *past* and the *future* are alike *present*, and that His prescience is so perfect as to comprehend *all* the results of the Plan on which He works in the universe, we see His hand in the mode of creation supposed by this Hypothesis of Development, fully as much as in the one commonly attributed to Him. And if we believe that what we call the *laws* and *properties* of matter are nothing else than Human expressions of the constancy and uniformity of the mode in which the Power of the Creator is exerted, we see that the Hypothesis coincides with all that Science and Religion alike teach respecting the invariability of His mode of working. To imagine that the Creator was obliged to *interpose*, or to exert some *special agency*, for the production of new races of Plants and Animals, every time that the condition of the Earth’s surface became incompatible with the continued existence of those previously existing, and at the same time became prepared for others, appears to me the same thing as to suppose that He was obliged, through want of prospective acquaintance with the changes which the Earth’s surface would undergo, to meet the emergencies as they might arise, and to compensate for the unfore-

seen Extinction of one race of beings by the special Creation of another.”\*

Even before the date I have mentioned, at the conclusion of my first Treatise on Physiology (1838), I had expressed myself as follows :—

“If, then, we can conceive that the same Almighty *fiat* which created matter out of nothing impressed on it one simple law, which should regulate the association of its masses into systems of almost illimitable extent, controlling their movements, fixing the times of the commencement and cessation of each world, and balancing against each other the perturbing influences to which its own actions give rise; should be the cause, not only of the general uniformity, but also of the particular variety, of their conditions, governing the changes in the form and structure of each individual globe, protracted through an existence of countless centuries, and adjusting the alternation of ‘seasons and times and months and years;’ should people all these worlds with living beings of endless variety of nature, providing for their support, their happiness, their mutual reliance, ordaining their constant decay and succession, not merely as individuals but as races, and adapting them in every minute particular to the conditions of their dwelling; and should harmonise and blend together all the innumerable multitude of these actions, making their very perturbations sources of new powers;—when our knowledge is sufficiently advanced to enable us to comprehend these things, then shall we be led to a far higher and nobler conception of the Divine mind than we have at present the means of forming.” This conclusion I deemed not inappropriate to a treatise of which it had been the professed object, not to discourse of Natural Theology, but to present a series of scientific conceptions of Physiological phenomena. But from the time when I first began to think upon the subject, I had entertained a distrust of all arguments based on those *individual* instances of adaptation of means to ends, on which Paley and his school built up their proofs of “Design;”—the fallacy of such arguments lying in this, that whilst “Design” unquestionably implies a “Designer,” adaptation of means to ends, how perfect soever, by no means necessarily proves any particular adaptation to have been *intentional*. And besides, supposing that by a “fortuitous concurrence of atoms” a number of diversified types of Organization had come into being, only those *could* have survived, whose structure was adapted to their conditions of existence; so that the Teleology of Cuvier merely expressed the general existence of such adaptations, without affording any scientific explanation of them. But when, on the

\* From a series of Papers “On the Connection of Science and Religion,” published in the “Inquirer” for 1844-5.

other hand, a distinct Uniformity of Plan can be shown to exist among the structures which exhibit a vast diversity of such adaptations, and, still more, when constant Uniformities of Sequence exhibit themselves in the developmental processes by which those diversified forms are evolved, it has always appeared to me that if, on other grounds, we recognize the action of Intelligent Power in the Universe, our highest notions of its character are based on such evidence of the Continuity and Uniformity of its action.

Now, when the Hypothesis of the Continuous Development of the Organic Creation was again brought forward by a great Master in Biology, in a form which commanded the respectful attention of every one who was capable of apprehending the force of his arguments, and was sufficiently free from prejudice of whatever kind to give them their due weight, it was his deliberate purpose to place his exposition of it on the sure foundation of Scientific Method, and to leave on one side its Theological bearing. No one can have a higher admiration of the "Origin of Species" than I myself entertain; no one feels more convinced than I do, that the doctrine of "Continuous Descent with Modification," which I regard as its fundamental idea, will become the basis of the Biological Science of the future. But at the same time I cannot but regret that an undue importance (for so I feel compelled to regard it) should have been attached to the doctrine of "Natural Selection" as a *vera causa*. For Natural Selection, or the "survival of the fittest," can do nothing else than perpetuate, among Varietal forms already existing, those which best suit the external conditions of their existence; and the scientific question for the Biologist is,—what is the Cause of departure from the uniformity of type ordinarily transmitted by Inheritance, whereby these varieties come into being; and under what conditions does that Cause operate? When this question shall have been satisfactorily answered, then it will become possible to frame a scientific conception of the doctrine of Continuous Evolution, comparable in definiteness and universality to the Newtonian law of Gravitation, or to the Nebular Hypothesis of Laplace. As the tendency of each of these great doctrines was pronounced in the first instance to be Atheistic, whilst, in the end, each has been accepted as an expression of our best and highest knowledge of the Creator's action in the Physical Universe, so it will ultimately be with the doctrine of Organic Evolution; which will come to be viewed as presenting a far grander notion of Creative Design, than the idea of special interpositions required to remedy the irregular working of a machine imperfectly constructed in the first instance.

I make no exception in regard to Man; having long felt that there is nothing in the idea of his Moral, any more than of his Physical

development from an inferior type, which in the least degree alters his relation to his Creator ; and entirely sympathizing with my friend Professor Huxley in his preference for "a good respectable Ape" as an Ancestor, to a progenitor of the highest Human gifts who knowingly turns those gifts to evil account. Mr. Edward Fry has recently put forward this point in a form in which I entirely concur :—"Before we cavil at the poor relatives whom Mr. Darwin would put on us, let us consider for a moment what relatives we are bound to acknowledge. We cannot deny our descent from savages, from barbarians of brutal lives, abandoned to selfishness, lust, and cruelty, and with consciences in the most embryonic state ; we cannot deny our close connection with cannibals ; we admit our relationship to a yet more revolting class—men who have used all the appliances of civilization for the purposes of lust and cruelty—men of the type of Caligula and Borgia. With such relatives admitted, any great fastidiousness as to our genealogy seems out of place." But further, as Mr. Fry well remarks, "this dislike to acknowledge a relationship with the lower animals is not an expression of the truest Christian feeling, but is opposed to it. For Christianity has brought about a more tender regard for them than is natural to man ; and the deepest Christian feeling and the highest Christian philosophy both embrace them within their range." . . . "Men for the most part regard themselves as the special objects—nay, often as the exclusive objects of Divine favour ; they hold themselves to be the elect amongst animals, very much as Calvinists regard themselves as the elect amongst mankind." And I am convinced, with Mr. Fry, that Mr. Darwin is perfectly justified in the argument he has advanced, that the rudiments of the Moral nature of Man exist in the Brute creation ; and that his Conscience is a higher development of that sense of obligation, which is clearly enough discernible in the actions of a well-trained dog or horse, and which is not one whit more elevated in its character among many savage races, and even in the "brutal" part of our own population. For it has long been a tenet of mine, that a careful study of the Intellectual and Moral Development of a child, by a competent observer, would enable him to detect a series of stages comparable to the different grades of the like development which are presented to us in the ascent of the Zoological scale. And I cannot see that the truths of Morality and Religion which apply to Man's Moral and Religious nature *as it is*, are more imperilled by carrying back the development of that nature into the Dog or the Horse stage, than they are by deriving it from the *brute* stage of the savage or the "practical heathen" of our great towns, or from the *child* stage of the civilised Christian. "Man," said Burns, "is the God of the dog ;" and to the young child, the parent or nurse stands

in the like relation. The *sense of obligation* to a visible Power is clearly the foundation of Conscience; and it is the substitution of a *superior* for an *inferior* directing principle, which constitutes the essential difference between the highest conscientiousness of the enlightened Christian, and the honest and self-sacrificing devotion to his notion of duty, which is seen in the Horse which falls down dead from exhaustion after putting forth his utmost power at the behest of his rider, or in the Dog who follows his master to his grave, and cannot be tempted by any inducement to leave it. "No one," as Mr. Fry justly remarks, "doubts the truths of morality and religion, because there were and are savages to whom they are almost unknown;" any more, I would add, than any one doubts the truths of the "Principia," because he individually cannot apprehend them.

We see in our Biblical and other early histories, how *gradual* has been the growth of the Moral Nature of Mankind; and it seems to me that much may be learned from these with reference to our present inquiry. It was a remark of Neander, I believe, that the Jewish People was distinguished among the Nations of antiquity by the high development of Conscience; and yet it is clear that this high development was only attained after an Education, which, in its leading features, corresponds with that by which every judicious parent now endeavours to draw forth and direct the moral sense of his child. To take only one case,—revenge for injuries. It is clear that the Hebrews partook of the feeling of obligation in which the whole Semitic Race was trained, that in any case of homicide the nearest male relative should act as the *goel* or "avenger of blood." The Mosaic code did not attempt to put down this usage; but only introduced the mitigating provision of "cities of refuge," by which a duly constituted tribunal was appointed to decide whether the homicide was accidental or premeditated, and to give protection to the unintentional man-slayer, who, however, still remained liable to the vengeance of the *goel* if he should quit his refuge. Notwithstanding the general advance in the Moral and Religious sense of the Nation, which was manifested in their final and entire abandonment of Idolatry from the time of their return from the Captivity, there is (I believe) no reason for supposing that this institution underwent any essential change, until the Dispersion rendered its existence no longer possible. And even after eighteen centuries of that milder code which was intended to carry out the principle, not only of the Fatherhood of God, but of the Brotherhood of Man, we see among communities professedly Christian, not merely such an execution of "Lynch Law" as may become a terrible necessity for the maintenance of Social order, but the horrid barbarism of the "Ku Klux Klan" Society, which puts to death, with every cir-

cumstance of fiendish barbarity, a negro who has committed the monstrous crime of marrying a white woman, and is scarcely less severe upon the partner of his guilt. What result of the system of slavery can be more terrible, than the perversion of the Moral Sense which it has engendered? And whose notion of Duty should we most regard as in harmony with our own—that of the Dog or the Horse who renders the tribute of willing and even joyful obedience to the Master whom he loves, to the extent of suffering and even of death—or that of the brutal Man, who, in the indulgence of his own selfish passions, takes credit for having discharged a duty to his kind? For myself, I prefer the former; and believe that among Mr. Darwin's vast services to Science, it will hereafter be thought not among the least, that, by simply asking us to carry our ideas of Moral Development further back, he has given a new dignity and worth (in Human estimation) to that vast aggregate of God's creatures whom we are accustomed contemptuously to designate as "the lower animals," without in the least degree derogating from the superiority of Man. Sydney Smith humorously remarked that when he had been looking at the apprentice-boys pelting the monkeys at Exeter Change, he entertained some doubts as to which was the higher animal of the two; but that these doubts were instantaneously dispelled by reading a page of Shakespere, or a few lines of Milton, or a paragraph of Locke; which satisfied him that Man had nothing to fear from the competition of the blue Ape without a tail, and that we might charitably allow the poor beasts any shreds of reason and tatters of understanding they could pick up. This seems to me the reasonable view of the case in regard to Conscience also; and I am one of those who are entirely prepared to endorse Mr. Fry's well-considered opinion that "no new difficulty whatever is introduced by Mr. Darwin's demands," and that there is "something to rejoice at in the extension to the lower animals of the realms of morality and religion."\*

Having been thus prepared, from the first, to accept Mr. Darwin's doctrines—so far as I might deem them supported by scientific evidence,—as not only in no respect inconsistent with those which I had previously been accustomed to entertain in regard to the Method of the Divine Government, but as giving them a yet deeper significance, I greatly regretted to see what I regarded as their legitimate bearing doubly misapprehended. On the one hand it was affirmed by Theologians, that Mr. Darwin—whose System had introduced ideas of uniformity and harmony where everything appeared chaotic, of continuity where all regularity of sequence seemed wanting, of method where everything seemed purposeless confusion,—had, as

\* "Spectator," for September 14, 1872.



Newton and Laplace were charged with doing before him, put his own theories in place of the direct agency of the Creator; and that, by immeasurably extending our ideas of the Order of Nature, he had assumed to have rendered unnecessary an Intelligent Cause for that Order. On the other hand, the previously existing School of Nature-Philosophers of Germany, which had raised the standard of revolt against all Theological systems, and had proclaimed that Matter, and the Laws of Matter, constitute the only objects of Man's cognizance, claimed Mr. Darwin as their most potent ally; not only at once accepting his doctrines to their fullest extent, and carrying them out into applications which he would himself probably regard as premature; but representing him as having, by his System, superseded the necessity for a Creator in the world of Organized Being, as the discoverers of the Laws of Physics and Chemistry had done in the Inorganic Universe. This mode of thought, logically carried out in its relation to Human Action, had previously expressed itself in the "Letters on the Laws of Man's Nature and Development," by Henry G. Atkinson and Harriet Martineau; the doctrine of which I have been lately accused of misrepresenting, and which I will therefore set forth in the *ipsissima verba* of their writers.—"Instinct, passion, thought, &c., are effects of organized substances." "All causes are material causes." "In material conditions I find the origin of all religions, all philosophies, all opinions, all virtues, and 'spiritual conditions and influences,' in the same manner that I find the origin of all diseases and of all insanities in material conditions and causes." "I am what I am; a creature of necessity; I claim neither merit nor demerit." "I feel that I am as completely the result of my nature, and impelled to do what I do, as the needle to point to the north, or the puppet to move according as the string is pulled." "I cannot alter my will, or be other than what I am, and cannot deserve either reward or punishment."—To call this system Materialism is simply to use the Authors' own designation of it; not to cast at it an opprobrious name. And it was with the mode of thought which lands us in this system, that I set myself to grapple in my Address. For if it be once admitted that Matter and its Laws constitute the whole sum of what falls within our knowledge, that the "Laws of Nature" are anything else than Man's own expressions of the orderly sequence which he discerns in the phenomena of the Universe, and that they have *in themselves* any *coercive* action which necessarily binds down the future to our experience of the past, it seems to me that we at the same time surrender our own position as self-determining agents, and must *ipso facto* abandon the idea that there is *any* self-determining Power in existence.

Whilst I have had abundant reason to believe that the line of

argument I adopted has been deemed by those whose judgment I most value to have been not ill suited to the occasion, and that my Address will, at any rate, have the effect of stimulating thought and leading to discussion, from which Truth will ultimately emerge, I am glad to take this opportunity of giving a more special development to certain parts of my subject, on which the necessary limits of time and space obliged me to touch very lightly.

I expressed the opinion that Science *points to* (though at present I should be far from saying that I think it capable of demonstrating) the origination of all Power in *Mind*. This is no new doctrine; for, as a recent commentator\* on my Address has stated, it is as old as Socrates, who explicitly put it forth in his conference with Aristodemus and Enthydemus. But I think that it derives a new importance from the recent development of the Dynamical Philosophy, which looks at Matter as the mere vehicle of Force, and regards the various modes of Force, how diverse soever in their manifestations, as mutually convertible. The time (as it seems to me) is now come for Psychological inquirers to enter upon that *border-ground* between Mind and Body, which Metaphysicians have until lately eschewed as "dangerous"; but the intelligent cultivation of which, in my apprehension, affords the prospect of greater results in the future, than will be obtainable by any amount of *separate* study of the two parts of Man's composite nature. Here, again, I fall back on the expression I gave to the conclusions at which I had arrived nearly twenty years ago, as conveying the results which my more matured judgment has only confirmed, and to which the general progress of thought on the subject may now give wider appreciation.

"To the prevalent neglect of this department of study, may be traced many of the fallacies discernible in the arguments adduced on each side, in the oft repeated controversies between the advocates of the *Materialist* and the *Spiritualist* hypotheses; controversies in themselves almost as absurd as that mortal contest which (fable tells us) was once carried on by two knights respecting the material of a shield which they saw from opposite sides, the one maintaining it to be of gold, the other of silver, and each proving to be right regarding the half seen by himself. Now, the moral of this fable regarding our present inquiry, is, that as the entire shield was made up of a gold half and a silver half *which joined each other midway*, so the Mind and the Brain, notwithstanding those differences in *properties* which place them in different philosophical categories, are so intimately blended in their *actions*, that more valuable information is to be gained by seeking for it at the points of contact, than can be obtained by the prosecution of those older methods of research, in

\* Mr. C. B. Gibson, in the "Echo," for September 4, 1872.

which Mind has been studied by Metaphysicians altogether without reference to its material instruments, whilst the Brain has been dissected by Anatomists and analysed by Chemists as if they expected to map out the course of Thought, or to weigh and measure the intensity of Emotions.

“The Materialist and the Spiritualist doctrines alike recognize, and alike ignore, certain great truths of Human Nature ; and the question returns upon us, whether any general expression *can* be framed, which may be in harmony alike with the results of scientific inquiry into the facts of the case, and with those simple teachings of our own Consciousness, which must, after all, be recognised as affording the ultimate test of the truth of all Psychological doctrines. In the first place it may be remarked, that the whole tendency of Philosophical Investigation at the present day, is to show the utter futility of all the controversies which have been carried on with regard to the relation of *Mind* and *Matter*. The essential nature of these two entities is such, that no relation of identity *can* exist between them. *Matter* possesses extension or occupies space ; whilst *Mind* has no such property. On the other hand, we are cognizant of *Matter* only through its occupation of space, of which we are informed through our senses ; we are cognizant of the existence of *Mind* by our direct consciousness of feelings and ideas, which are to us the most certain of all realities. But, what is perhaps a more important distinction, the existence of *Matter* is especially *passive* ; left to itself, it always impresses our Consciousness in one and the same mode ; and any change in its condition is the consequence of external agency. What have been termed the active states of matter are really the Manifestations of *forces*, of which we can conceive as having an existence independent of *Matter*, and as having no other relation to it than that which consists in their capability of changing its state. Thus, *Water* continues unchanged so long as its temperature remains the same ; but the dynamical agency of *Heat* occasions that mutual repulsion between its particles, which transforms it from a non-elastic liquid into an elastic vapour ; and all this heat is given forth from it again, when the aqueous vapour is transformed back to the liquid state. On the other hand, the existence of *Mind* is essentially *active* ; all its states are states of *change*, and we know nothing whatever of it save by its changes. Sensation, Perception, Idea, Emotion, Reasoning process, &c, in fact, every term which expresses a mental state, is a designation of a phase of mental existence which intervenes between other phases, in the *continual succession* of which our idea of *Mind* consists.

“But whilst between *Matter* and *Mind* it is utterly vain to attempt to establish a relation of identity or analogy, a very close relation

may be shown to exist between *Mind* and *Force*. For, in the first place, Force, like Mind, can be conceived of only as in a state of activity; and our idea of it essentially consists in the succession of different states, under which its manifestations present themselves to our Consciousness. But, secondly, our Consciousness of Force is really as direct as is that of our own mental states; our notion of it being based upon our internal sense of the *exertion* which we determinately make to develop one form of Force, which may be taken as a type of all the rest,—that namely, which produces or which resists motion. The analogy becomes stronger when we trace it into the relations which these two agencies respectively bear to Matter. For in the phenomenon of Voluntary Movement, we can scarcely avoid seeing that Mind is one of the dynamical agencies which is capable of acting on Matter; and that like other such agencies, the mode of its manifestation is affected by the nature of the Material *Substratum* through which its influence is exerted. Thus the Physiologist knows full well, that the immediate operation of the Will is not upon the Muscle but upon the Brain, wherein it excites that active state of nervous matter which he designates as the operation of Nerve-force; and that the propagation of this force along the Nerve-trunks is the determining cause of the Muscular contraction which is the immediate source of the motor power.”

This motor power is generated, however, by Chemical changes in the substance of the Muscle itself, and in the Blood which passes through it; these changes, like the combustion of coal in the furnace of a steam-boiler, producing the *Force*, for the action of which the Muscular structure (like the steam-engine) supplies the instrumental condition. The exertion of Nerve-force in sequence to the act of volition, seems to correspond with the closure of a Galvanic circuit, which fires the charge of gunpowder that throws down a cliff or blows up a wreck.

“But we have not only evidence of the excitement of Nerve-force by Mental agency; the converse is equally true,—Mental activity being excited by Nerve-force. For this is the case in every act in which our Consciousness is excited through the instrumentality of the Sensorium, whether its condition be affected by impressions made upon Organs of Sense, or by changes in the state of the Cerebrum itself; a certain active condition of the nervous matter of the Sensorium being (we have every reason to believe) the immediate antecedent of all Consciousness, whether sensational or ideational. And thus we are led to perceive, that as the power of the Will can develop Nervous activity, and as Nerve-force can develop Mental activity, there must be a *Correlation* between these two modes of dynamical agency, which is not less intimate

and complete than that which exists between Nerve-force on the one hand and Electricity or Heat on the other."

However strange the assertion may seem, I do not hesitate to say, that the careful study of the phenomena of the various forms of Intoxication would throw more light on the relation of what has been called the *Mechanism* of Thought and Feeling to the Self-determining Will, than any other method of inquiry:—the fact which cannot be got rid of by any evasion, and which must be accepted as fundamental in its bearing on the conditions of Mental Activity, being that the presence of certain substances (as Alcohol, Opium, Haschisch, or Morbid poisons generated in the body itself), has the power of intensifying the activity of the *Mechanism*, so as to produce the most extraordinary manifestations of the Automatic activity of the Mind, whilst not only relatively but absolutely weakening the controlling power of the Will. Thus it was only when he was "half seas over," that Theodore Hook's wonderful power of improvisation could be most strongly brought into play; and when he was thus "primed," it was only requisite to name any Parliamentary orator, and suggest an appropriate subject, for him to make a speech which would be at once recognised as, alike in matter and in manner, such as the real man might have delivered!

But it is perhaps still more remarkable, that the presence of a morbid poison in the blood should be the means of bringing up, in the ravings of delirium, Memories which had long since passed away from the Conscious Mind. The case of the maid-servant who thus reproduced the passages of Hebrew, and other languages unknown to her, which, years before, she had heard her master read aloud as he walked up and down his passage, is well known. The following parallel case I heard, some years since, from an intimate friend of my own. An old Welch man-servant who had lived with one branch or another of my friend's family for fifty years, having left Wales at an early age, had entirely forgotten his native language; so that when any of his relatives came to see him, and spoke in the tongue most familiar to them, he was quite unable to understand it. But having an attack of fever when he was past seventy, he talked Welch fluently in his delirium.—Cases of this kind are often referred to as proving that impressions made upon our consciousness are *registered* by some change in the condition of the Brain which is consequent upon their reception: but they seem to me to have a yet deeper significance; as has also that very singular phenomenon of the entire *loss* of a particular language (generally, if not always, the one *last* acquired) from either a *blow* on the head, or an attack of some zymotic disease which has *poisoned* the brain for a time. If we try to think-out the subject from the Physiological point of view, it will present itself in

somewhat of the following shape. The record of each of those states of consciousness, of the aggregate of which the acquirement of a language consists, must consist in some change in the nutrition of the brain; say, for example, the development of a certain group of nerve-cells and nerve-fibres, constituting one connected system. The *material* particles constituting this system are continually changing; but, according to the laws of Nutrition so admirably expounded thirty years ago by Sir James Paget, the structure itself is kept up by re-position of new matter in the precise form of the old. So long as this structure remains in acting connection with other parts of the Brain habitually called into play, the *conscious* memory of the language is retained; that is, the individual *wishing* to recall the word or phrase that expresses the idea present to his mind, can do so. But by disuse this becomes more and more difficult. Thus it happens to myself, as doubtless to many others, that if an unusually long interval elapses without my having occasion to *speak* French, I find myself unable to call to mind French words and phrases, which, if spoken to me, or seen in writing, I at once understand; and yet, after being a week or two in France, and in the daily habit of speaking the language, I find my ideas shaping themselves in it, *in the first instance*, without the process of translation. As a Physiologist I should say that the nerve-tracks which disuse has rendered imperfect, have restored themselves by use; so that the part of the Brain which has recorded the Language, has been brought back into ready connection with that which ministers to the current play of ordinary Thought. But a more prolonged disuse gradually produces such a disseverance, that the most determined effort cannot bring about the recall of equivalents in a language once even more familiar than that of later years; and yet the mechanism of the earlier thought is still preserved in working order, waiting to be called into action. Whether it be the *toxic* condition of the blood, or the simple excitement of the cerebral circulation generally, or the special direction of blood to a particular part of it, we cannot tell; but this much is certain—that under what we cannot but term purely *Material* conditions, strictly *Mental* phenomena present themselves. But all Brain-change is (like the action of any other mechanism) the manifestation of Force; and, in my view, such changes simply translate (as it were) one form of force into another. Thus in the *original record* of any Idea, or set of Ideas, we may trace the following forms of Force:—*Chemical* force—that is, the attraction of certain Chemical Elements for each other—is embodied in the Organic Compounds which serve for the Nutrition of the Brain; *Vital* force—that is, Heat, converted by the Organism into its own form of energy, as the Thermo-electric pile converts it into Electricity—builds up these

materials into certain forms of Organized tissue ; *Nerve-force*—that is, *Mind-force* expressing itself through the Nervous apparatus—determining the particular mode in which the cells and fibres that are to record the impression shall be developed ; and, finally, the *Mind-force*, which involves, as the condition of its production, the disintegration of a certain part of the previously-formed Cerebral tissue. On the other hand, when the recorded impressions, long stored away in the depths of forgetfulness, are called back into the sphere of conscious activity, we have every reason to believe that the converse process takes place ; Chemical changes in the nerve-substance setting free *Nerve-force*, just as a Galvanic current is produced by Chemical changes in the battery so soon as the circuit is closed ; and this *Nerve-force*, transmitted to that central Sensorium, which is the instrument of the most mysterious process in our whole nature, expressing itself as *Mind-force*.

Above and beyond all this Automatic Mechanism, but making use of it for its own purposes (as I have shown in a former Paper), is that Self-determining Will of Man, on which his Moral responsibility essentially depends. I do not altogether agree with Miss Cobbe \* that this Will *is* the Ego ; I should rather say that it *determines* what the Ego shall be. For the Ego must be regarded as the sum-total, or rather as the *resultant*, of the *whole* of our Conscious Life ; and this is made up alike of Automatic and of Volitional activity. But it should be the main object of Educational discipline, so to develop and direct the Volitional power, as to give it a control over the Automatic activity ; and it should be the main object of the self-discipline of our whole lives, to keep that activity within the limits which our Will, under the guidance of our Moral and Religious sense, strives to impose upon it, and thus to bring our *entire* characters, as nearly into conformity with the Divine Ideal as our imperfect nature admits.

I have thus endeavoured to *indicate* (for at present I can do no more) the line of Scientific thought, which appears to me most likely to bring clearly before us the presence of Mind and the exertion of Will in the phenomena of the Material Universe. And I have tried to show that if the Psychologist throws himself fearlessly into the deepest waters of speculative enquiry—provided that he trusts to the inherent buoyancy of the one fact of consciousness, that we have within us a self-determining Power which we call *Will*,—he need not be afraid of being dragged down into the “coarse materialism” of the Nature-Philosophers of Germany ; but may accept to its fullest extent the doctrine of Evolution, with an increased rather than a diminished

\* “Macmillan’s Magazine,” Nov. 1870, p. 36.

reverence for the Infinite Cause which has chosen that mode of manifesting itself; and may even find in the evidence that Mental activity can both determine, and be determined by, the Automatic activity of the Brain, the most satisfactory grounds which Science can afford for his belief that the phenomena of the Material Universe are the expressions of a Mind and Will, of which Man's is the finite prototype.

And if it should be said that such a view tends to degrade Mind by bringing it into so close a relation with Matter, I would ask, on the other hand, whether it is not through the phenomena of the *material* Universe, that we derive our grandest conceptions of the Creator's Power and Wisdom, and whether such conceptions are not absolutely necessary to *complete* the conception of His Goodness which we derive from our survey of the *moral* world. For myself, I can say that no thought has been so re-assuring to me, when oppressed by the sight of what has seemed a great Moral *retrogradation*, as that beautiful analogy drawn by Hartley between the movements of the Planets as seen respectively from the Earth and from the Sun, and the phenomena of the Moral World as seen respectively from our own standpoint and as they would be seen from the centre of the whole system. For as the occasionally-*retrograde* motions of the Planets seen from the Earth would be all seen from the Sun as *continuous onward* circuits, so (says Hartley) if we could only take our stand in the Divine Benevolence, and could view all moral retrogradations (as we deem them) from that Centre, we should see them as *real* progressions. That "He maketh the wrath of Man to praise Him," or, in other words, that He turns even the evil passions of Men into instruments for bringing about His beneficent ends,—and that "the remainder [or excess] of wrath He will restrain,"—has thus impressed itself on my mind as one of the most sublime of all the utterances of that old Hebrew Poet, whose profound Religious Insight enabled him to discern by anticipation what the Philosophic Historian now deduces from the Experience of the Past as one of its highest teachings.

Theologians, then, have much to learn from Science; and if they will once bring themselves to look upon Nature, or the Material Universe, as the embodiment of the Divine Thought, and at the Scientific Study of Nature as Man's endeavour to discover and apprehend that Thought (to have "thought the thoughts of God," was the privilege most highly esteemed by Kepler), they will see that instead of holding themselves altogether aloof from the pursuit of Science, or stopping short in the search for Scientific Truth wherever it points towards a result that seems in discordance with their pre-formed conceptions, it is their duty to set themselves honestly to consider, whether conclusions upon which *all* Men of Science agree, who have applied themselves



carefully to any particular branch of inquiry (as, for example, that relating to the Antiquity of Man), or which even *most* of them are disposed to accept (as, for example, the Palæontological Continuity of Organic Life), are not at least as worthy of their credence, as the teachings of certain Ancient Books, which more and more distinctly appear, the more critically they are studied, to be simply the records of the early beliefs of the Hebrew Race as to their relations to their Theocratic Head.

That any *antagonism* should be supposed to exist between those "Laws" which express the Uniformities of Nature discovered by Science, and the Will of the Author of Nature as manifested in those uniformities,—so as for the acceptance of the former to exclude the notion of the latter,—is to me extremely surprising. And the conviction of such an antagonism which has been recently put forth by the intelligent author of "A Discourse on the Inductive Philosophy,"\* seems to me to have no other foundation than the doctrine of such Theologians as are utterly ignorant of Science, that the Universe is governed by "Arbitrary Supernatural Will." In this sense, indeed, it may well be said that "the scientific sense of the term Law is *entirely opposite* to that of Will;" still more is this the case, if "Will, in the only intelligible sense, or of which we can have any knowledge, viz., Human Will, is vengeful, arbitrary, variable, and capricious." "The distinction in the human mind," continues the same writer, "between 'Will' and 'Law,' is not only very real, but is apparently ineradicable; for it is found historically to pervade all philosophical literature."—This may be very true of the past; but at the present time there is a tendency in this as in many other departments of Philosophy, to seek for a common basis of reconciliation between doctrines which *appear* antagonistic; and that basis is to be found in the idea that the *highest*, not the *lowest*, form of Human Will is to be taken as the type—imperfect and limited as it must be—of the Divine. Look, for example, at any of the great reforms which have been carried through, within the remembrance of men still living, by the determined will of a few individuals. Was it a "vengeful, arbitrary, variable, and capricious" Will, which enabled Clarkson and Wilberforce to bring about the Abolition of the Slave Trade, or Cobden and Bright to overthrow the Corn Laws? Was it not, on the contrary, a Will which, having set before itself a great and good object, steadily persevered in the course that led towards its accomplishment, which shaped its mode of operation to the best of its limited prescience, which was not discouraged by temporary failures,

\* On the Inductive Philosophy, including a parallel between Lord Bacon and A. Comte as Philosophers: a Discourse delivered before the Sunday Lecture Society, by A. Elley Finch.

and which finally succeeded because the means employed were *on the whole* adapted to bring about the result? Now, if the Foreknowledge be infinite, there will be no failures, because the foreseen inadequacy of the means will prevent fruitless efforts. And if the Power be infinite, there will be no limitation of choice, except as to the means which will best conduce to the end in view. Thus, then there is no real antagonism between the scientific idea of Law, as expressive of Uniformity of Action, and the Theological idea of Will exerting itself with a fixed purpose according to a predetermined plan; and of the existence of such a plan, the revelations of Science furnish Theology with its best evidence. "For the Immutability of the Divine Nature is nowhere more clearly manifested than in that *continuance of the same mode of action*, not merely through the limited period of Human experience, but, as we have now strong reason (on scientific grounds alone) to believe, from the very commencement of the present system of the Universe,—which enables us to discern somewhat of the plan on which He has acted, and is still acting. If every action of the Creator were immediately prompted by present contingencies, instead of being the result of predetermination based on perfect knowledge of the future, there could be no Law. If that knowledge were, like Man's, imperfect, though we might trace a *general* method when the arrangements were viewed in their totality, the *details* would have much of that unsteadiness and occasional want of consistency which we perceive in the actions of even the best-regulated Human Mind. The *laws* would be made to bend to the necessities of the time; and new interpositions would be continually necessary, to correct the errors that would occasionally arise in the working of the machine. So far, however, is this from being the case in the Divine operations, that, in the only department of Science in which the Philosopher has been able, from the simplicity of the phenomena, to attain to a complete generalization of them, he has every reason to believe that the same laws have been in operation from the beginning, or, in other words, that the work of Creation was commenced upon a plan so perfect that no subsequent change in this plan has been required."\*

Let us take another illustration. "If I, as a Father," I wrote nearly thirty years ago, "had foreknowledge enough to form, at this moment, all my future plans for the education of my children, and had wisdom enough to adapt these plans in the best possible manner to their respective characters, as they are progressively developed, and to all the conditions in which they may hereafter find themselves, and had power enough to carry these plans into operation, so that the course of events would not require the alteration of one tittle in

\* From the "Inquirer" papers already referred to.

their fulfilment,—would not this be a far more perfect manifestation of a Paternal character, than the continual change in his schemes which the Human parent is usually obliged to make, in order to adapt them to the purpose he has in view? The perpetual recurrence of *obvious design*, in the latter case, may be, to an ordinary bystander, more suggestive of the intentions of the Parent; but the more profound observer will take another view, and will have reason to doubt, from the necessity of the perpetual change, the wisdom of the controlling power. The idea of constancy and invariability in the Creator's plan, therefore, by referring *all* those provisions for Man's benefit which He has placed before us either in possession or in prospect, to the period when this present system of things had a beginning,—simply *antedates* the exercise of this discerning Love; and so far from our ideas of its nature losing any of their force on this account, it appears to me that they ought to be strengthened and elevated, in precisely the same ratio as I have endeavoured to show that our ideas of His Power and Wisdom are heightened in proportion to the remoteness of the point from which we view His operations, and the consequent extent of the survey that we can take."

The scientific sense of the term "Law," therefore, which simply implies Uniformity of Sequence, or the occurrence of the same events under the same conditions, so far from being in antagonism with the notion of "Will," is only in antagonism with that idea of its exercise which is furnished by a Theology now disowned by the best thinkers of our time. As Mr. Herbert Spencer has well remarked, "All minds have been advancing towards a belief in the constancy of surrounding co-existences and sequences. Familiarity with special uniformities has generated the abstract conception of Uniformity; and this idea has been in successive generations slowly gaining fixity and clearness. . . . . Wherever there exist phenomena of which the dependence is not yet ascertained, these most cultivated intellects, impelled by the conviction that here, too, there is some invariable connection, proceed to observe, compare, and experiment; and when they discover the law to which the phenomena conform, as they eventually do, their general belief in the universality of Law is further strengthened. . . . . This habitual recognition of Law distinguishes modern thought from ancient thought." But not even Mr. Herbert Spencer could express himself on this subject more explicitly, than did Dr. Chalmers more than forty years ago:—"It is no longer doubted by men of science, that every remaining semblance of irregularity in the Universe is due, not to the fickleness of Nature, but to the ignorance of Man,—that her most hidden movements are conducted with a uniformity as rigorous as Fate,—that even the fitful agitations of the weather have their law and their principle,—that the intensity of

every breeze, and the number of drops in every shower, and the formation of every cloud, and all the recurring alternations of storm and sunshine, and the endless shiftings of temperature, and those tremulous vibrations of the air, which our instruments have enabled us to discover, but have not enabled us to explain,—that still, they follow each other by a method of succession, which, though greatly more intricate, is yet as absolute in itself as the order of the Seasons, or the mathematical courses of Astronomy. This is the impression of every philosophical mind with regard to Nature; and it is strengthened by each new accession that is made to science. The more we are acquainted with her, the more are we led to recognize her constancy, and to view her as a mighty though complicated machine, all whose results are sure, and all whose workings are invariable.”\*

There seems to be another source, however, for the supposed antagonism between the notion of Law and that of Will as the governing and sustaining power of the Universe; namely, the idea that when God is said to “govern by law,” it is implied that some agency exists *between* Himself and Nature. This idea seems to have its origin in the imperfect analogy supplied by Human legislation,—an analogy so misleading that I should earnestly wish that the term Law could be altogether banished from Science, if it were not that, when carefully examined, the Laws of Man’s devising are found to be nothing else than expressions of certain *predetermined uniformities of action of the Governing Power*. In the infancy of human society, the king of each people, or the chieftain of each tribe, is “a law unto himself;” that is, his decisions are arbitrary, his judgments determined by his personal will,—though not, perhaps, altogether uninfluenced by hereditary custom or by public opinion. But gradually it comes to be felt that uniformity of system is desirable, that punishments should be strictly proportioned to offences, that the rights of property should be defined, that the relations of marriage and of family, of master and bondman, should be settled and prescribed; and code of laws comes to be constructed, which attracts and crystallizes (as it were) into a definite and coherent form the separate atoms that were previously free and independent—each deriving a power of its own from either the general Will of the People, or the individual Will of the Sovereign; and that power being the real source of the efficacy of the code, which merely expresses the uniformity of the mode in which it is thenceforth to be exercised.

Parallel illustrations may be drawn from our own jurisprudence at the present time. Every one knows that, in addition to our “Statute Law,” there is a great body of “Common Law,” consisting of the decisions of those who are accredited as our ablest

\* Chalmers’s Works, vol. vii. p. 214.

Judges, upon a great number and variety of questions to which the statute law does not apply. The *coercive efficacy* of these decisions is derived from the public opinion of the legal profession which sanctions them, backed by the governing power which adopts them; and if they were digested into a Code of Statute Laws, they would only gain in accessibility, conciseness, and uniformity, perhaps at the expense of intelligibility and direct applicability. In either case they would be the expressions of the Will of the Governing Power, guided by the judgment on which it relies for its guidance.—So, again, the Law of the Equity Courts, as it is now coming to be called, is the body of accepted decisions of the Court of Chancery, upon a class of cases in which the first principles of Justice between man and man are professedly regarded as the guide, rather than formal rules. The original function of these Courts (if the popular understanding of it be well founded) was to decide cases for which the stricter jurisdiction of the Common Law Courts could not supply a remedy. The Sovereign was appealed to for his interference, and took upon himself to supply the defect, by hearing the suit and personally deciding upon it. He found it desirable, however, to have recourse to the advice of his Chancellor, who thus came to be called the “keeper of the king’s conscience;” and in consequence of the increase of appeals of this nature, that officer became in the end an Equity Judge, with authority to exercise the Sovereign Power to give effect to his decisions.—Now suppose that the views of our most advanced Law Reformers were carried out, that the unwritten Law alike of the Courts of Equity and of Common Law were reduced to a Code, that a fusion of these jurisdictions took place, and that the Judges of both, as representatives of the Sovereign, administered this Code, what would the *coercive efficacy* of this uniform system depend on, save the Power which its Ministers derive from the Sovereign, and the Sovereign ultimately from the People?

But we may go still higher. Suppose that the principles of Justice and Equity could be *perfectly* understood, and could be *uniformly* acted on,—with freedom from all personal bias, and with entire knowledge of all the circumstances of each case,—by the Judges appointed by the Crown, there would be no need of any Code of Laws at all, except for the information of those who are amenable to it. In fact, the study of their decisions would enable a systematic code to be constructed, every part of which would be in perfect harmony with the rest; just as the laws of Musical construction are mainly based upon the methods followed by those great Composers, whose works are accepted by the common consent of the most cultivated musicians as of dominant authority.

But we may go higher still. Supposing that the principles of

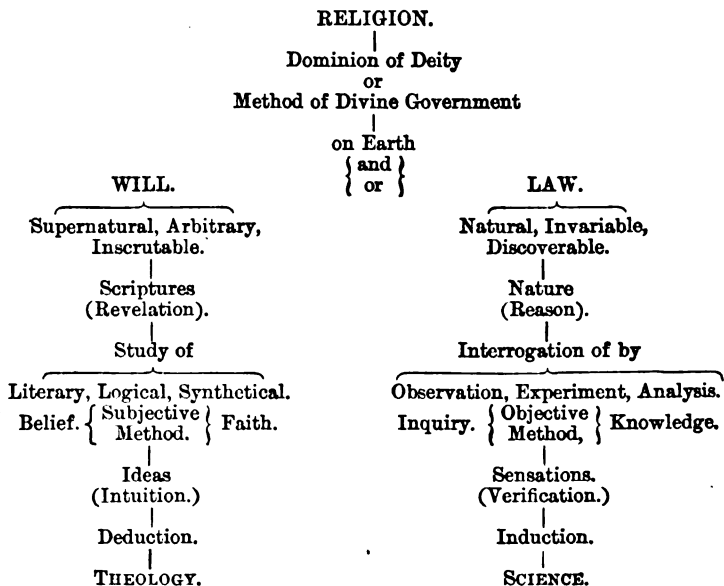
Justice and Equity were thoroughly understood and acted on by *every individual* of a community, there would be no necessity for any law whatever; since everyone, doing what is right in *his own* eyes, would also be respecting the rights of *others*. This, of course, would be the millennium of human society; and we are still far enough from it. Yet there always have been limited communities in which this condition has been approached sufficiently nearly to show that it is at any rate *theoretically* possible. In such a case, the Law, if thought of at all, would be thought of in the way that every truly right-minded man thinks of it now. For the question would be—*not*, ‘What penalty shall I incur by the violation of it?’—*but*, ‘What is it right and just that I should do in this particular conjuncture of circumstances?’ And thus the first principles of Justice and Equity, penetrating the whole mechanism of society, would guide its working as uniformly and consistently as any Code of Laws could do.

Hence the analogy of Human Legislation, when thoroughly traced out, affords no support whatever to the idea that in the Divine Government of the Universe there is an agency of any kind whatever *intervening* between the First Cause and the Phenomena of Nature. For since no Human Law is in reality anything else than the expression of the Will of the Governing Power,—whether that power be wielded by a single individual who rules by his personal supremacy, or be vested in him as the impersonation of the will of the whole community, or be directly exerted by the community itself, its action upon those who are subject to it, is simply the constant, though silent, operation of that Will; which loses all its coercive efficacy, the moment that the Power which enforces it is withdrawn by the overthrow of the Government which exercised it. Now if the Law as first laid down by a Human legislator, prove inadequate to produce the desired effect, he modifies or changes it; the alteration being required simply on account of his limited foreknowledge. Supposing him to be endowed with the Infinite Prescience of the Divine Being, all the results of any exertion of his Will that he might embody in a Law, would be so completely foreseen in the first instance, that (supposing him to be possessed of adequate Power) he could adapt his Law to the purpose it is to serve, with such perfection as to render any subsequent alteration unnecessary.

The one essential difference between Legislation, whether Divine or Human, for the Moral Government of Man, and the method of the Divine Government in the Physical Universe, consists in this:—that those predetermined uniformities of the Will of the Governing Power which are to act upon the Minds of responsible beings, must be *expressed* in a form intelligible to them, in order that they may

exert their appropriate influence ; whilst the direct and immediate operation of that Will in the phenomena of the Universe makes itself only known to us through the Uniformities which we recognize in those phenomena, *our own expressions of which* (so far as they have been discerned by us) we call the "Laws of Nature." But it is obvious that this difference is superficial, not fundamental ; affecting rather the mode in which we become acquainted with the Governing Will, than the *modus operandi* of the Will itself. We may say that God governs the Moral World by Laws, because the two great Christian Commandments are accepted by us all as expressions of His Will, conforming (as they do) to the highest teachings of our own Moral Sense. But in regard to the Physical Universe, it seems to me that we ought to substitute for the phrase "Government by Laws," "Government *according to* Laws ;"—meaning thereby, the exertion of the Divine Will, or the operation of the First Cause, according to certain constant uniformities, which are simply unchangeable because—as they were originally devised by Infinite Wisdom—any change would be for the worse.

The contrast which Mr. Finch has set forth in the following Table,



as to the method of the Divine Government, between *Will* and *Law*, seems to me to represent only the contrast between such an Anthropomorphic conception of the Deity as (I should hope) is entertained by but few Theologians at the present time, and that higher and larger conception of His Nature and Attributes which is based on modern Scientific Culture. Some thoughts on this

point, which I expressed twenty years ago in a work now out of print, may be not unappropriately reproduced here :—

“ The conception which each individual forms of the Divine Nature depends in great degree upon his own habits of thought ; but there are two extremes, towards one or other of which most of the current notions on this subject may be said to tend, and between which they seem to have oscillated in all periods of the history of Monotheism. These are *Pantheism* and *Anthropomorphism*.

“ Towards the Pantheistic aspect of Deity we are especially led by the philosophic contemplation of His agency in External Nature ; for in proportion as we fix our attention exclusively upon the ‘ Laws ’ which express the orderly sequence of its phenomena, and upon the ‘ Forces ’ whose agency we recognize as their immediate causes, do we come to think of the Divine Being as the mere *First Principle* of the Universe, as an all-Comprehensive ‘ Law ’ to which all other laws are subordinate, as that most general ‘ Cause ’ of which all the physical forces are but manifestations. This conception embodies a great truth and a fundamental error. Its truth is the recognition of the universal and all-controlling agency of the Deity, and of His presence *in* Creation rather than on the outside of it. Its error lies in the absence of any distinct recognition of that *conscious volitional* agency, which is the essential attribute of Personality ; for without this, the Universe is nothing else than a great self-acting machine, its Laws are but the expressions of ‘ surd necessity,’ and all the higher tendencies and aspirations of the Human Soul are but ‘ a mockery, a delusion, and a snare.’

“ The Anthropomorphic Conception of Deity, on the other hand, arises from the too exclusive contemplation of *our own* nature as the type of the Divine ; and although in the highest form in which it may be held, it represents the Deity as a Being in whom all the noblest attributes of Man’s spiritual essence are expanded to Infinity, yet it is practically limited and degraded by the impossibility of *fully* realizing such an existence to our minds ; the failings and imperfections incident to our Human Nature being attributed to the Divine, in proportion as the low standard of intellectual and moral development in each individual keeps down his idea of possible excellence. Even the lowest form of any such Conception, however, embodies (like the Pantheistic) a great truth, though mingled with a large amount of error. It represents the Deity as a *Person* ; that is, as possessed of that intelligent Volition, which we recognize in ourselves as the source of the power we determinately exert, through our bodily organism, upon the world around ; and it invests him also with those moral attributes, which place Him in sympathetic relation with His sentient creatures. But this concep-



tion is erroneous, in so far as it represents the Divine Nature as restrained in its operations by any of those limitations which are inherent in the very Constitution of Man ; and in particular, because it leads those who accept it to think of the Creator as 'a remote and retired mechanic, inspecting from without the engine of Creation to see how it performs,' and as either leaving it entirely to itself when once it has been brought into full activity, or as only interfering at intervals to change the mode of its operation.

"Now the truths which these views separately contain, are in perfect harmony with each other ; and the very act of bringing them into combination, effects the elimination of the errors with which they were previously associated. For the idea of the universal and all-controlling agency of the Deity, and of His immediate presence throughout Creation, is not found to be in the least degree inconsistent with the idea of His personality, when that idea is detached from the limitations which cling to it in the minds of those who have not expanded their Anthropomorphic conception by the scientific contemplation of Nature. On the contrary, when we have once arrived at that conception of Force as an expression of *Will*, which we derive from our own experience of its production, the universal and constantly-sustaining agency of the Deity is recognized in every phenomenon of the external Universe ; and we are thus led to feel that in the Material Creation itself we have the same distinct evidence of His personal existence and ceaseless activity, as we have of the agency of Intelligent Minds in the creations of Artistic genius, or in the elaborate contrivances of Mechanical skill, or in those written records of Thought which arouse our physical nature into kindred activity."

If God be *outside* the Physical Universe, then do those extended ideas of its vastness remove Him further and further from us. But if He be embodied *in* it, then does every such extension give us a larger notion of His being. Entertaining these views, I need scarcely say how entirely I concur in the following expression of them recently given by Mr. Martineau, with his characteristic power and felicity of language : — "What, indeed, have we found by moving out along all radii into the Infinite? That the whole is woven together in one sublime tissue of intellectual relations, geometric and physical,—the realized original, of which all our science is but the partial copy. That science is the crowning product and supreme expression of human reason. . . . Unless, therefore, it takes more mental faculty to construe [or, as I should say, to interpret] a Universe than to cause it, to read the Book of Nature than to write it, we must more than ever look upon its sublime face as the living appeal of thought to thought."

WILLIAM B. CARPENTER.