

# Photographic Sciences Corporation

**23 WEST MAIN STREET  
WEBSTER, N.Y. 14580  
(716) 872-4503**

**CIHM/ICMH  
Microfiche  
Series.**

**CIHM/ICMH  
Collection de  
microfiches.**



**Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques**

**© 1984**

# Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☒ Coloured covers/  
Couverture de couleur
- ☒ Covers damaged/  
Couverture endommagée
- ☐ Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- ☐ Cover title missing/  
Le titre de couverture manque
- ☐ Coloured maps/  
Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- ☐ Bound with other material/  
Relié avec d'autres documents
- ☐ Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distortion le long de la marge intérieure
- ☐ Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- ☐ Additional comments:  
Commentaires supplémentaires:

- ☐ Coloured pages/  
Pages de couleur
- ☐ Pages damaged/  
Pages endommagées
- ☐ Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
- ☐ Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
- ☒ Pages detached/  
Pages détachées
- ☒ Showthrough/  
Transparence
- ☒ Quality of print varies/  
Qualité inégale de l'impression
- ☐ Includes supplementary material/  
Comprend du matériel supplémentaire
- ☐ Only edition available/  
Seule édition disponible
- ☐ Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/  
Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

The copy filmed here has been reproduced thanks to the generosity of:

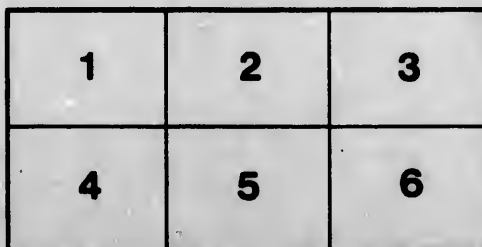
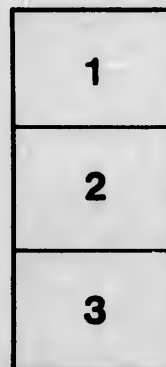
Metropolitan Toronto Library  
Social Sciences Department

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol ➡ (meaning "CONTINUED"), or the symbol ▼ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Metropolitan Toronto Library  
Social Sciences Department

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole ➡ signifie "A SUIVRE", le symbole ▼ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

ails  
du  
odifier  
une  
image

errata  
to

pelure,  
on à

32X

5.  
The Relation of Philosophy to Science.

SS

REF  
CIR

SR

REF  
CIR

AN INAUGURAL LECTURE

DELIVERED IN

THE CONVOCATION HALL

OF

Queen's University, Kingston, Canada,

ON OCTOBER 16TH, 1872,

BY

John Watson, M. A.,

PROFESSOR OF LOGIC, METAPHYSICS AND ETHICS.

KINGSTON:

PRINTED BY WILLIAM BAILLIE.

1872.

The Relation of Philosophy to Science.

---

AN INAUGURAL LECTURE

DELIVERED IN

THE CONVOCATION HALL

OF

Queen's University, Kingston, Canada,

ON OCTOBER 16TH, 1872,

BY

John Watson, M. A.,

PROFESSOR OF LOGIC, METAPHYSICS AND ETHICS.

---

KINGSTON:

PRINTED BY WILLIAM BAILIE.

1872.

METROPOLITAN  
TORONTO  
LIBRARY

789  
YONGE  
TORONTO  
M4W 2G8

## THE RELATION OF PHILOSOPHY TO SCIENCE.

---

The object of an introductory lecture is to indicate, in a general way, the sphere and limits of the Science which has afterwards to be treated in a detailed and systematic manner. We cannot at present be expected to give more than a vague idea of the topics afterwards to be discussed at length, and may, therefore, seem occasionally to be deficient in that definiteness and accuracy of thought, which are all-important in a teacher of Philosophy. With the view of obviating, as far as possible, the difficulties that unavoidably lie in our way, we propose to discuss, as fully as time will allow, the relation of Philosophy to the Special Sciences; a course which will, by the force of contrast, throw into bolder relief the nature of those problems with which we shall be afterwards occupied.

Truth, from its very nature, is a complete unity, and if it could be proved that the results of one department of human enquiry directly contradict those of another, the whole edifice of knowledge must fall to the ground. For such a disharmony would imply that there is something in the nature of intelligence itself which precludes it from ever attaining to truth. If equal evidence can be brought to shew that what may be proved in one way may be equally disproved in another, we should be forced to take refuge in the unwelcome conclusion that we are the sport of a desire for knowledge that can only lead to irremediable disappointment.



It is, therefore, matter of some surprise that most—we might almost say *all*—of those scientific men who have spoken of the relation of Philosophy to Science, maintain that there is an absolute opposition between these two spheres of knowledge. One of the most eminent living Biologists of England deliberately asserts, and enforces with all the ability for which he is distinguished, the startling proposition, that Philosophy no less certainly leads to Idealism than Science to Materialism. "Follow out the teaching of the one," says Mr. Huxley, "to its legitimate conclusions, and you are forced to admit that matter is a mode of mind; accept the results of the other, and you cannot deny the inference that mind is a mode of matter." That Science inevitably leads to absolute Materialism, or the position that man is simply the product of the forces of nature, Mr. Huxley endeavours to prove upon scientific principles. In all organisms, whether vegetable or animal, there is one common basis of life out of which they spring and which is identical in all, whether it is regarded from the point of view of form, of function or of substantial composition. This physical basis of life, or protoplasm, as it has been called, is found upon analysis to be composed of water, carbonic acid and ammonia. The composition of these in certain proportions gives rise to life, and hence life is due solely to chemical elements. Moreover, as thought or consciousness is dependent upon life, and life upon material elements, it, too, is ultimately resolvable into forces of nature. The conclusion, therefore, to which our author comes is that the most rigid scientific demonstration leads us to believe that man is of the same nature with the ground on which he treads. Let us hear Mr. Huxley's own words: "It may seem a small thing to admit that the dull vital actions of a fungus or a foraminifer are the properties of their protoplasm, and are the direct results of the nature of the matter of which they are composed. But if, as I have endeavoured to prove to you, their pro-

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

This is the scientific or materialistic side of the theory : philosophy conducts us by a different path to exactly the opposite conclusion. Having led us into "the slough of Materialism," as he aptly calls it, Mr. Huxley would extricate us from it by showing that an inspection of consciousness leads us with equal certainty to the Idealistic position that matter is dependent upon mind. The external world, he says, is only known to us as states of our consciousness, and all knowledge is made up of such states. Some of these we attribute to self and some to not-self, but in either case we never get beyond our own consciousness. By Philosophy we are thus taught a different lesson from that inculcated by Science. Between the two there is an irreconcilable contradiction, and we can only say, that as we neither know what matter nor what mind is *in itself*, but only as it presents itself *to us*, there is probably some method of reconciling their antagonistic deliverances, if the limitations of human thought did not prevent us from ever discovering it.

It does not belong to our province to enter into the scientific question raised by Mr. Huxley—whether, namely, life is the mere product of chemical composition ; and we shall content ourselves with remarking that, whether true or false, the theory has not yet been proven. Approaching the problem from a purely philosophical point of view, we shall endeavour to show, that even if it were

established, as a matter of *fact*, that life is evolved from matter, the inference that thought is resolvable into material forces is utterly untenable.

There is nothing new in the assertion of an absolute opposition between Philosophy and Science, Thought and Nature, Reason and Experience: it is, as Mr. Huxley candidly admits, simply the philosophy of David Hume, adjusted to the advances of modern science; and transformed, we may add, from a Scepticism into a Dogmatism. The contradiction here expressed is that which forms the special problem of Philosophy, and has demanded solution from the very dawn of speculation. So soon as man has satisfied his material wants, the sense of a contradiction between what *seems* and what *is*, between the outer world of sense and the inner world of thought, begins to break upon his mental vision; and he awakes to the consciousness that there is an unexplored, supra-sensual realm, transcending all that he has hitherto known. At an early period in the history of a nation this perception of a region higher than the phenomenal world expresses itself in the half-unconscious revelations of poetry, and in the proverbial sayings of men gifted with more than average insight; it is at a late period in the history of thought that it seeks to embody itself in that systematic knowledge which constitutes philosophy. The whole history of philosophy is a record of repeated attempts to give an adequate solution of the problem to which we have referred. The earliest philosophers were unable to give any satisfactory reply, because they aimed at what was beyond the reach of the human intellect; attempting too much they ended by gaining nothing. They vainly strove to answer the question, What is the origin of all things? and it was only when Socrates directed his attention to man himself, seeking to discover the essential nature of thought, that philosophy entered upon its proper task; and although this point of view was afterwards obscured and lost, it has been recovered in modern

times, and philosophy placed upon a secure foundation. This result has not been effected in a day; it has been the slow and gradual growth of all modern systems of philosophy. Now, therefore, that it has been so emphatically declared that Philosophy and Science stand to each other in the position of irreconcilable enemies, the question as to how, by availing ourselves of the wisdom of the past, the contradiction between the phenomenal and the ideal, the world of nature and the world of thought, is to be reconciled, has become an all-important one. It is no solution of the difficulty to be told that it is insoluble; in this way the claim of reason to be heard may be suppressed for a time, but it will inevitably force itself again upon our notice and refuse to be dismissed. To give an adequate reply to this fundamental question would require the unfolding of a complete philosophy, and we must content ourselves with indicating in outline the solution we deem the only adequate one.

Those who tell us that Science and Philosophy lead to directly opposite conclusions, tacitly assume that both are *co-ordinate*, and that the results of the one are not less *ultimate* than those of the other. Science leads to Materialism, Philosophy to Idealism, and we must accept the deliverances of each as of equal value. But is this assumption tenable? or does not the apparent antagonism between the two spheres of knowledge arise from regarding them as co-ordinate, when in reality the one is subordinate to the other and finds its final justification in it? It will be our duty in the sequel to show that the latter is the true alternative: that a clear conception of the legitimate sphere of each will break down the hard opposition which is supposed to subsist between them, and that the asserted materiality of mind results from pushing the boundary of science beyond its proper limits.

The special sciences are, from their very nature and method of investigation, *limited* in their range, and hence can never give more than a limited explanation even of

the class of objects which form their province. They discover truth, but it is only relative truth. Their object-matter is the phenomenal, and whatever advances they may make, they must ever be restricted to the phenomenal. Thus far our scientific men are right in saying that knowledge is limited to phenomena, and that of things in their real essence we have no knowledge; for, properly viewed, the phenomenal world means one side of knowledge taken in abstraction from the other. Now,—not to insist upon the evident fact that each of the sciences is restricted to a particular and limited sphere of investigation—even if we view all the special sciences in relation to each other and as constituting one organic whole, we can only discover relative truth, and we are therefore debarred from rising higher than phenomena, and, consequently, from finding an ultimate explanation. The starting point of science is the world as it appears in ordinary consciousness—the world as independent of thought and made up of a collection of individual and independent things,—and however great its discoveries may be it never abandons this point of view. But in so conceiving the world, Science has made one great abstraction: it has abstracted entirely from self-consciousness or thought, and in so doing it has implicitly *assumed* the materiality of the mind. For if the world is absolutely independent of thought, the latter must be purely *passive* in its apprehension of knowledge, and have no existence except in so far as it is acted upon from without. This, however, is merely another way of saying that the mind is material, for this proposition can have no other intelligible meaning than that all modes of consciousness are transformed forces of nature. It is very easy, therefore, for Mr. Huxley and others to shew that the method of science leads to the conclusion that mind is a manifestation of matter, for this is merely an explicit statement of that which is taken for granted at the outset. Thus we learn at once the proper sphere of science, and the necessity of a branch of knowledge which

shall transcend it and carry up its generalizations into a higher unity. Unassailable so long as it keeps within its legitimate sphere, science inevitably falls into error when it seeks to bring consciousness, as well as the phenomenal world, within its grasp. While it keeps within the range of the material world, its materialism is just, for it is dealing *with* the material; when it applies to thought the same method it adopts in regard to nature, it necessarily falls into grave error. Mr. Huxley, therefore, commits a vital mistake when he assumes that the conclusions of science are as ultimate in their nature as those of a true philosophy; for, to be so, they must explain not nature alone, but also self-consciousness.

The failure of science to reach ultimate truth arises, then, we may say, from its assuming external nature at the beginning; for its very method implies the independent existence, or—what is the same thing—the absolute truth of the outer or phenomenal world. Now it is here where science fails that philosophy triumphs. To the question, What is Nature? philosophy is not content to answer with science, "There are such and such laws of nature," or even, "All material things are indissolubly united together." An ultimate explanation must tell us not only what are the forms or laws of a thing, but what it is *in itself*, in its essence, in its truth. Carry up your generalization of facts as far as you please, conceive nature as a congeries of laws, or, if you will, as a correlation of forces, and we must still ask, What is this unity of forces or laws? What is nature itself? and what is its relation to intelligence? It is only by an appeal to philosophy or pure thought that any adequate answer can be given to such enquiries. Philosophy, unlike the special sciences, does not deal with a particular section of knowledge, but with the essential nature of all knowledge, and hence it aims at revealing ultimate or necessary truth. The statement that knowledge is limited to the phenomenal is true only when applied to common consciousness.

and to science ; it is the special business of philosophy to transcend the world of phenomena and to disclose the world of real being, by a discovery of the true bond of connection between thought and nature.

From the primary assumption of the absolute independence of the outer world flow other assumptions which essentially belong to the scientific method. Having abstracted from self-consciousness and thus virtually asserted that it is capable of arriving at the highest truth attainable by man, Science necessarily takes for granted a number of logical notions, without subjecting them to a process of criticism. It seems to be merely enquiring into the laws of nature and to be quite passive in its presence, while it is really guided and controlled by categories which are the common stock of the age to which it belongs. These categories it finds in common consciousness ; it does not think of enquiring into their origin and testing their validity ; nor, indeed, has it, *as science*, a perception that any such investigation is needed. Starting, as it does, with the opposition of subject and object, and concentrating its attention upon the objective world alone, it is the victim of the natural illusion that the categories it brings to nature it extracts from it. It makes continual use of such fundamental notions as *being, force, cause and effect*, without dreaming of making them an object of special inquiry. Such notions lie at the basis of all thought, and constitute "the diamond net" which envelopes all the material of thought and gives it order, coherence and consistency. The assumption of these categories is at once the strength and the weakness of science : its strength, because without them it could not make a single step in advance ; its weakness, because it is led to overlook their true origin and nature. So soon as we seek to discover, prove and concatenate these notions, we see that they must be referred to thought and not to nature, to the inner and not to the outer world ; and thus the need of a science which shall exhibit the necessary re-



lation and interdependence of the fundamental notions that underlie all thought and being—the science of *Logic*, the first department of Philosophy—clearly manifests itself to our minds.

It may seem, at first sight, to be of little moment whether we say that these categories belong to nature or to thought; and in one sense this is true. Speaking in an external way, we may say that they belong to both; it is not less true that the category of *causality*, for instance, is evolved by thought than that it is manifested in nature. From another point of view, however, it is of the last importance which of these alternatives we accept; for if these notions pertain to the external world alone—to Nature taken in abstraction from Thought—the mind becomes the mere sport of impressions acting from without, and is therefore materialised. Here again the imperfection of the view which would co-ordinate science and philosophy, regarding them as two parallel lines that never meet, becomes apparent. For it is manifestly a complete inversion of truth to conceive of thought as entirely dependent upon matter, when all that gives meaning to matter is resolvable into thought; it is to degrade self-consciousness by weapons furnished by itself.

We have seen, then, that the special sciences are limited to the relative and phenomenal, and that they contain a number of uncriticised notions, because of their primal assumption of the absolute independence of nature; and we now remark that, for the same reason, their list of categories is defective and incomplete. As Science always keeps within the limits of the phenomenal world, its categories are unmethodized and limited in number, because they are picked up at random, instead of being obtained by a careful elimination of all that belongs to the empirical consciousness. This uncritical use of these fundamental notions runs through all theories, such as that of Mr. Huxley, which confine themselves to the



scientific method ; but it is especially apparent in the reasoning of Mr. Herbert Spencer, chiefly because he has expressed, in a clear and logical way, the legitimate conclusions to be drawn from that method. Following out the result of the special sciences, he arrives at the conclusion that the sensations and emotions in consciousness are equivalents of material forces, and, by inference, that mind is a product of nature.

The main aim Mr. Spencer has in view is to shew that mechanical forces, chemical action, vital energy and the phenomena of consciousness are each resolvable by analysis into manifestations of force and transformable into any one of the others. Space and Time are evolved by a more and more perfect generalization of individual instances of *resistance* to our muscular energies, and are thus reduced to *force*. Matter, scientifically considered, is made up of resistance and extension, the former being the primary notion, the latter the secondary. Motion, again, involves the conceptions of Space, Time and Matter, and as these have been already reduced to manifestations of force, it follows that it also is a mode of Force. We are thus driven to the conclusion that "Force is the ultimate of ultimates ; Matter and motion, as we know them, are differently conditioned manifestations of Force ; while Space and Time, as we know them, are disclosed along with these different manifestations of Force as the conditions under which they are presented." Now it is admitted by all, continues Mr. Spencer, that Matter is absolutely indestructible, *i.e.*, can never be either increased or diminished ; and this admission, converted into scientific language, means that any given quantity of Force always remains the same. Again, it is an established law that, "when not influenced by external forces, a moving body will go on in a straight line with a uniform velocity," and this law properly means that Motion, as well as Matter, is "indestructible." Mr. Spencer, therefore, instead of saying that "Matter is indestructible,"

and that "Motion is continuous," would prefer to comprehend both statements under the one formula, that "Force is persistent." This formula implies that Force never either increases or diminishes *in quantity*; but as there are undoubtedly changes in force, whether manifested in matter or in motion, how is this position to be established? By the fact, it is answered, that the motion which in certain cases seems to be entirely lost, is in reality merely transformed into *equivalent* Forces. Motion that is arrested produces, under different circumstances, heat, electricity, magnetism, light; and all chemical changes are simply modes of Motion or Force. It is further apparent that vital actions are merely transformed chemical forces; and this holds good whether we speak of the plant or of the animal. Finally, consciousness is itself reducible to material Force. The sensations which affect our organs of sense are directly related to external forces, of which they are the equivalents, and are thus new forms of the Force which produces them. Nor can we deny a like genesis to emotions, for the relation between emotions and the physical effects produced by them is quantitatively as exact as that between external agents and the sensations they excite.

We have in this theory a conception of the universe, inclusive of man, in which no sphere is higher than another. Mechanical are transformed into chemical forces, the latter into vital energy, and this again reappears in equivalents of sensation and emotion. The world, to the eye of Science, is thus a vast level plain; to Philosophy, on the other hand, it is, like the celestial orbs in Dante's "Paradiso," an ascending series of realms, of which the first rests on earth and the last terminates in heaven. Beginning with physical forces, Philosophy ascends gradually upwards, through chemical energy and vital action, till it attains to the sphere of man, regarded as a spirit, from which the ascent to God, the first and the last, upon whom all the lower spheres are dependent, and whose nature

alone supplies the key that unlocks the whole universe, is easily and necessarily made.

An examination of Mr. Spencer's reasoning will make this more apparent. His highest conception of the world is that of forces and correlations of forces. The proposition that the given quantity of force in the universe always remains the same, however it may change its outward manifestation, contains two notions, *change* and *identity in change*. Now this will be found upon examination to be simply the category of cause and effect in a concrete form. When a cause is transformed into an effect, it changes its form, but remains virtually the same. In the notion of cause, as of force, we have therefore change and identity in change. The heat of the sun is the cause of evaporation and re-appears in the form of vapour; the condensation of this vapour is the effect of the action of the winds; the rain which falls from the clouds, or, more accurately, the rain which *is* the clouds, is dispersed over a particular tract of land, and, as effect, assumes the form of a river-current. Our notion of cause and effect is therefore simply that of the unity of identity and change—identity of matter combined with change of form; and we are thus entitled to assume that whatever holds good of the relation of cause and effect will also be applicable to the correlation of forces.

Now unless the category of causality adequately characterise the phenomena of life and of consciousness, as it undoubtedly does those of the inorganic world, the reasoning of Mr. Spencer will be vitiated. But no great amount of consideration can be required to prove that this category does not properly apply to the phenomena of the *organic* world. So long as we are speaking of material things, the category of causality is correct and appropriate; it fails when we rise to a higher sphere. In the phenomena of life, we have not simply to explain a relation of so loose and external a character, that one force is completely transformed into another force and ceases to

exist in its first form. This relation is transcended even in *vegetable* life. We do not adequately express the nature of the plant when we say, with common consciousness, that it possesses leaves, stem, colour, or with Chemistry, that it is composed of certain elements, or even, with Mr. Spencer, that it is a manifestation of force. All this is truth, but it is not the whole truth; we have not yet pointed out what distinguishes the plant from a mass of inert matter. From one point of view, then, we may here, in strict propriety, apply the notion of cause; from another, a higher notion is required, which shall at once include and transcend this lower notion. For while the plant exhibits the action of chemical forces, and thus comes under the relation of cause and effect, it also displays phenomena of a much loftier nature. It is not held together *merely* by chemical relations; it cannot be broken up into parts, like a stone, and still remain a plant; for it is a unity which is continuously differentiating itself into manifold variety—a totality that is ceaselessly evolving itself into externality—and this it is which constitutes its Life. The plant, therefore, is inadequately conceived when it is subsumed under the notion of causality or force; its essential nature can only be expressed when it is referred to the higher notion of *life*—a notion which at once includes while it goes beyond the lower notion of causality or force. To view the plant solely under the relation of cause and effect is, in short, to leave out all that is characteristic of it as an organism, and therefore to degrade it to the level of inorganic things. Even if it could be shown that the plant has been developed out of inorganic matter, still, as in that case matter must have contained the plant *potentially*, the latter is *ideally*, or in the order of thought, primordial; and in attempting to reduce the organic to the inorganic, Mr. Spencer has eliminated the higher element to be found in the former, and has thus vitiated the whole of his reasoning.

Now what is true of vegetable life is true in a still higher way of *animal* life. The unity of the former is not so complete that it cannot be broken up into different parts without ceasing to be a unity. Each part of the plant is, to a great extent, a repetition of the other, and is capable of forming a new plant by being simply severed from its parent and placed in proper external conditions. This, indeed, is also true of the lowest type of animal, where the line of demarcation between the vegetable and the animal world is so indistinct that what may in one way be classed as animal, may also be regarded as vegetable. With a more complex structure, however, this difficulty ceases, and we find an organism in which no part exists except for the rest, while the whole are gathered up into an ideal unity that is manifestly more perfect than that exhibited in the highest vegetable organism, and is in complete contradiction to the loose and external unity of inorganic things. It is in virtue of this presence of life in all the parts that the animal has sensation; and hence Aristotle was justified in saying that "the soul (life) is all in the whole and all in every part." The animal is thus determined to evolution *from within* and not conversely, although the possibility of such an evolution is conditioned by the external world. Now exactly in proportion as the animal organism increases in complexity, and at the same time becomes a more and more perfect unity, the category of causality becomes less and less appropriate, so that in the higher organisms its inadequacy is forced upon our notice. For the category of cause, or, if you will, of force, implies as has been said the transformation of one phenomenon into another, and therefore the complete extinction of the former. In life, however, we have not simply one phenomenon ceasing to be, in its transformation into another, but a unity that continually differentiates itself into infinite variety, and by this very process maintains itself. Here, therefore, the notion of causality utterly fails. It is true, indeed, that

as the animal is not only a vital organism, but also exhibits mechanical and chemical forces, it may in one way be subsumed under the notion of cause, but it is only in so far as it is viewed as mechanical or chemical—only in so far as we abstract from what is *distinctive* of it, viz. its *vitality*—that this is legitimate. When we wish to designate what is essential to it as an organism, we have, explicitly or implicitly, to leave the notion of causality behind and employ a higher notion.

We have already said that sensation as sensation belongs to life and not to thought. A mere sensation is but an affection of the nervous organism, and exists in the animal without implying a *consciousness* of its existence. The animal is in complete unity with its sensations, and has no power of abstracting from them; it is affected by them for a moment, and then they vanish for ever. It is the power of abstracting from sensation, and making it an object of consciousness that distinguishes man from the animals, and renders him capable of thought. Even, therefore, if it could be proved, by the scientific method, that life depends upon a due proportion of certain chemical elements, and consciousness upon life, it would not follow that consciousness is a mode of matter. For consciousness includes the mechanical, chemical and vital forces, while it adds an element of its own higher than either. The notion of causality, which we found to be imperfect even when applied to the organic world, becomes much more inadequate when we reach the higher realm of consciousness. It is by abstracting from what is characteristic of it, that the dynamical philosophers are enabled to give plausibility to the theory that the phenomena of consciousness are but transformed material forces. It may seem, indeed, that little is gained by pointing out that the notions employed by the physicist in the explanation of nature are imperfect; for is it not a fact, it may be said, that consciousness is dependent upon life, and life on matter, and how then

can it still be held that consciousness is not a mode of matter? But the answer is simple: as the conclusion that mind is material is based upon an imperfect use of categories, the whole conclusion is thereby vitiated. Nature is undoubtedly rational, but not *to itself*; it is only in so far as it is brought within the dominion of thought that it renders up its meaning, and the whole progress of thought is a history of the discovery and the deepening of categories. Now these categories science, from its assumptive character, can never prove, and hence its explanations, while relatively true, are not final. In its search for unity, it fails to perceive that no absolute unity can be obtained by simply leaving out all difference, and fixing upon agreement alone, for the differences are not less essential than the agreements. When, therefore, it asks, What are the points of agreement between consciousness, life, chemical action and mechanical force? it overlooks the fact that it has, by asking the question in this way, virtually *assumed* the identity of the highest with the lowest sphere; for what is common to the two extremes can only be that which is distinctive of the *lowest*. If, as we have shown, the various spheres of the universe form an ascending series, in which each higher realm includes while it transcends the lower, we can only adequately explain the highest by gradually descending to the lowest. To make consciousness dependent upon matter is to reason in a circle; for matter has no meaning apart from consciousness.

The bearing of these considerations upon the general question of the relation of Philosophy to Science will be readily anticipated. The dynamical theory of the world, which attempts to reduce all phenomena to manifestations of the "persistence of force," is found to be partial and imperfect, and to be inapplicable so soon as we attempt to apply it to the inorganic world. Legitimate when put forward in explanation of dead, inert matter, it totally fails when applied to animal organisms, with their



wondrous power of continuous adjustment to external circumstances, and their indefinite power of preserving that unity in the midst of diversity which constitutes their life. And when we leave the phenomena of life and sensation, and seek to account by the scientific method for the phenomena of consciousness and thought, the imperfection of the scientific method becomes glaringly apparent. Its plausibility depends upon the assumption that pure sensation and thought are identical, whereas the one completely transcends the other; for, properly speaking, sensation does not belong to thought but to life. When, therefore, consciousness is viewed as a bundle of sensations, not only is its true nature overlooked, but the possibility of knowledge is destroyed. This will be best shown by a summary of the sensational philosophy.

Locke, like our scientific men, starts with the assumption of an external world, complete in itself, and composed of an infinite number of distinct and individual things. Hence thought or consciousness is regarded as a *tabula rasa* on which the world writes. When we ask, from this point of view, how we come to have the knowledge we possess, we obtain a wrong answer, because we have asked a wrong question. For if the mind is purely passive, all its knowledge must be got, as Locke held, from sensation, for this is merely another way of saying that all knowledge comes from *without*. But as a sensation is a perfectly immediate, simple affection, and contains nothing but itself, it was easy for Bishop Berkeley to show that Locke, in distinguishing between the primary and the secondary qualities of body—the former being regarded as existing in the external world in the same form as in sensation, and the latter as present only in *us*—laid down an untenable position. For as a sensation exists only as it is known, to speak of an external world beyond sensation is to make a gratuitous assumption. The external world of individual things, therefore, with which Locke started, has disappeared and left be-



hind only a series of sensations belonging to the subject. All existence is now reduced to self and states of self; the objective world, just because it was assumed to be objective or self-dependent, has converted itself into a subjective world of sensations. Moreover, if, in the act of knowledge, the knowing self is purely passive, as Locke maintained, it also must be built up, if it exist at all, out of pure sensations. This is, however, but another way of asserting that self *is* this series of sensations—the conclusion deduced by Hume from the philosophy of Locke. All knowledge is thus reduced to a thread of sensations following each other in time. Hume did not, like his follower, Mr. John Stuart Mill, maintain this position dogmatically; but he asserted with perfect justice that it was the legitimate result of the Lockean philosophy. We have thus seen that Empiricism, starting with an external world, seemingly independent, ends with conceiving knowledge as a series of sensations without a self to know them and without an object in which they can be known. It is the contrast between what Sensationalism intended to do, and what it really did, that constitutes the Scepticism of Hume. The fact to be explained was a permanent and *objective* world; the theory propounded to explain this world converted it, instead, into a series of *subjective*, fleeting, simple sensations. It is this contradiction between theory and reality that Hume signalised when he spoke of the absolute opposition between common sense and reason, and which makes his philosophy one of the bitterest sarcasms on human knowledge that has ever been enunciated. It is this contradiction, in another form, that defies the solution of our modern Physicists.

It may seem that Hume, in reducing the philosophy of Locke to a series of sensations following each other in time and spread out in space, had brought it to its utmost simplicity. But Empiricism has a still "lower deep;" for there are two fundamental notions which Hume did not account for—those of Space and Time. Now, assum-

ing for a moment that Time, as Locke argued, is generated by reflection upon successive states of consciousness, the idea of Space still remains to be explained. And if, as is maintained, all knowledge may be reduced to a series of sensations, and therefore to a succession in time, it is evident that the spatial must be evolved from the temporal relation—the position adopted by recent Sensationalists. The reduction of Space to Time must, indeed, be forever unsuccessful: whether we try to derive Space from the simultaneity of different sensations, with Mr. John Stuart Mill, or from the direction and intensity of muscular effort, with Mr. Bain, we attempt an impossible task; for sensations, are, from their very nature, fleeting and individual, and hence can never transform themselves into our conception of a world of permanent and co-existing objects. It is, however, of more importance to observe that it is quite in harmony with the Sensational theory to attempt this reduction, and to regard space as generated out of a temporal succession of sensations. We are thus left with nothing in the universe except a series of impressions, and it will not be difficult to show that even this series is doomed to disappear before the test of criticism. Sensations, from their very nature, are incapable of mutual relation. The very idea of a sensation is that it is simple, individual, and contains nothing but itself; and hence it no sooner gives place to another impression than it must vanish into non-existence. It cannot exist in relation to another sensation, because relation implies *comparison*, and comparison could only take place if it were capable, as it evidently is not, of objectifying itself and then relating itself to another sensation. Thus, even the "series," which is always tacitly assumed by the Empiricist, involves an assumption he is not warranted in making—the assumption of the mutual relation of different sensations. We are thus compelled to speak of knowledge as a number of disconnected and individual impressions, existing out of relation to each

other, and therefore out of time ; and hence Time, as well as Space, has disappeared. It does not mend the matter to say, with Mr. Mill, that the sensations are related by *association*, for as *individual* they cannot relate themselves. Here then we lose the last hold upon the world of reality, for as consciousness can only exist as a relation, and the sensations are *ex hypothesi* out of all relation, they cease to exist ; Nature and Thought alike disappear,

“ And, like an unsubstantial pageant faded,  
Leave not a wrack behind.”

Absolute Nihilism, then, is the legitimate and demonstrable result of Empiricism. Starting with the absolute independence of nature, and therefore virtually with the assumption that consciousness is entirely dependent upon the material world, it tries to build up the external world and the world of thought out of sensation. The disastrous result of this mode of procedure we have already seen : knowledge is brought into conflict with itself, and finally accomplishes its own destruction. Where then is the fallacy of Sensationalism—for fallacy there must be—to be found ? It lies in this, that the essential activity of *thought* has been overlooked. When it is said that nature and thought are evolved out of pure sensations, it is erroneously assumed that sensation in consciousness and sensation out of consciousness—or, otherwise, that life and thought—are convertible. But reflection upon the nature of thought makes the fallacy of such a view obvious. A sensation, as soon as I think it, becomes more than a sensation. In doing so I transform what was before a particular into a universal. As a thinking being I have the power of abstracting from all modes of consciousness and concentrating my attention solely upon myself, the being who thinks. In all the varying operations of thought, therefore, the Ego or Self remains as the permanent factor. And, further, this abstract self, while it seems to be perfectly simple and immediate, is in reality universal, for

each thinking being, like myself, is a self, and for this very reason capable of thought. Now, this self, which is common to all intelligences, is not, like a sensation, perfectly simple; for, from the very fact that it can make itself its *own* object, it contains distinction or difference within itself. And just because I can think away from all my particular states, I am capable of having something as an object of thought; in the very act of apprehending self I apprehend a not-self. Hence the two are inseparably united, and in apprehending an object, I bring it under the dominion of thought, and infuse into it the universality or permanence that belongs to thought. Spirit, therefore, in virtue of Thought, destroys the assumed independence of Nature and assimilates it to itself. The permanence which we ascribe to the outer world is thus produced by the *activity* of thought, instead of being, as is assumed by the Empiricist, *passively* imprinted upon the mind; what we call experience or objectivity, is really the product of the universalising power of reason.

This exhibition of pure thought or the Ego, as the only possible explanation of objectivity is what the great German philosopher, Kant, designates, in his somewhat barbaric terminology, "the synthetical unity of Apperception (self-consciousness)." The process, that is, by which experience is gradually built up is essentially a *synthesis*, and the great imperfection of Locke, leading, as it did, to the Scepticism of Hume, was in regarding it as a mere analysis. We have before us, says Locke, experience, full-formed and complete in itself, and the only object of philosophy is to analyse it into its component elements. It was thus overlooked that all analysis implies a prior synthesis, and hence that no explanation of knowledge can be adequate which bases itself upon analysis alone. To Kant, on the other hand, experience was the result of the synthetical power of self-consciousness. Starting, like Locke, with sensation as one element of knowledge, he held that this of itself can never gener-

ate experience, and that the other element is supplied by thought. Experience is the product of two factors, the one *a posteriori*, or given from *without*, the other *a priori*, or supplied from *within*. Thought for its part has, as the essential and necessary heritage of its nature, the faculty of forming judgments, and in doing so it employs such fundamental notions or categories, as Unity, Reality, Negation, Cause and Effect. Into these categories thought *cannot but* differentiate itself, for they belong to its own inner nature, and to think is to employ them. Hence, also, they are *universal* and *necessary* notions, for otherwise we should have the contradiction of that which belongs to the very essence of thought being limited and contingent. We have thus, on the one hand, a groundwork of sensations, and on the other hand, self-consciousness radiating into a number of necessary notions. Neither separately can give knowledge, for the sensations are nothing until they are thought, or, as Kant expresses it, "sensations are *blind*;" and thought cannot come into exercise without the aid of the sensations, for as the categories are mere *relations*, thought can only use them when it has got something to *relate*, or, in the words of Kant, "the categories are *void*." But now, if thought bring the sensations into relation with the categories, shall we not then have knowledge? Yes, answers Kant, but for one thing: that experience is only possible, on the one hand as a succession of mental states, and on the other hand in the form of objects lying outside of each other; in other words, to complete our theory of knowledge we require to account for Space and Time, which are the conditions of all external or internal experience. Whether then do space and time belong to Thought or to Nature? Evidently to the former, is the answer, for they are necessary and universal, and necessity and universality are the criteria by which we discover what belongs to self-consciousness or is *a priori*. We can now explain how experience is possible. Thought

differentiates itself into the categories, and, by means of the universal perceptive forms of Space and Time, gathers up into itself the sensations which form the material of knowledge. Thus we get a world with objects extended in space and existing in time, and viewed under a variety of necessary relations. To Kant, therefore, knowledge is essentially a synthesis, and a synthesis which is only possible because self-consciousness is the universal that lies at the basis of every experience, and reduces it to a unity. Kant has the honour of effecting a complete revolution in philosophy. Instead of attempting to explain thought by experience, he accounts for experience by thought. It is, therefore, with perfect justice that he regards himself as having done for philosophy what Copernicus accomplished for astronomy. Copernicus, when he found that the motions of the stars could not be explained by assuming them to revolve round the spectator, tried the effect of making the spectator revolve, and the stars remain at rest. Similarly, Kant, finding that Locke's assumption of the absolute passivity of the mind led to the complete overthrow of knowledge, was led to adopt the theory that the mind is essentially *active*, and was thus enabled to explain the fact of experience. He has, therefore, simply followed the method in which all great discoveries have been made—viz., by setting up a theory and regarding it as true or false according as it does or does not account for the facts it has to explain.

To Kant, then, belongs the high merit of pointing out the method which a true Metaphysic must adopt; but he has not himself followed out that method to its ultimate results. An ultimate explanation of knowledge must, as he perceived, be based upon the activity of self-consciousness in all its manifestations, for any other supposition leads to Scepticism and, by an easy path, to Nihilism. But in the "Critique of Pure Reason" there is this essential imperfection, that it does not tell us *how* or *why* thought or self-consciousness develops itself into the in-

finite variety of experience. Thought, the Categories, the forms of Space and Time, and a groundwork of Sensations, are all, *somehow or other*, necessary to constitute experience, but when we ask *why* this is so, Kant has no satisfactory answer to give. *Why*, we may ask, does thought differentiate itself into categories, and what is their number, relative importance and interconnection? *Why*, again, has thought two and only two pure perceptions—those of Space and Time? *Why*, finally, does thought, by means of its categories and pure perceptions, transform sensations into experience? A proper answer to these questions will give a true system of *Metaphysic*.

To this conception of Metaphysic as the science which deals with the ultimate *ground* or *reason* of things, it may be objected that it is a purely supposititious knowledge. There are, it has been said, ultimate truths which, *as* ultimate, are incomprehensible and unthinkable, and which, therefore, from their very nature, cannot be proven. We know *that* they are, we cannot tell *why* they are; for to do so would be to resolve them into a higher notion; which, *ex hypothesi*, is impossible. But this objection arises from a false notion of what proof is. We prove an *a priori* truth when we shew that it belongs to the essential nature of thought, and consequently that without it thought is impossible. The problem of Metaphysic is not simply to find unities in Nature *per se*, or in Thought *per se*, but to shew how, from the very nature of the case, the former must be resolved into the latter, and that only in this way can an ultimate unity that embraces both be obtained. To do this in a strictly systematic way is at present impossible, as it would require the unfolding of a complete system of metaphysic. We must, therefore, content ourselves with shewing that, looking at thought as a whole, and as displayed in the history of the race, it must necessarily pass through certain stages, culminating in ultimate truth. We say *must*, for it can be proven that thought is essentially *dialectic* in its nature,



*i.e.*, that it is impelled on from one stage to another by the inner necessity of its own nature. These stages we shall briefly indicate, premising that they are not to be found by a mere inspection of the individual consciousness, but by an examination of the universal consciousness of mankind. The individual may stop at the first or some succeeding stage, without going through the whole cycle of thought; only in the infinite possibilities of the race is the full stature of the perfect man to be found.

The first and lowest stage of thought is that of the *Sensuous Consciousness*; the peculiarity of which is, not that in it alone the outer world affects the mind through the senses, but that reflection is at its minimum, and hence the object known and the person knowing it are each regarded as simple, immediate and individual. Whether the mind is filled with a number of external impressions or of internal feelings, it accepts either, without any enquiry into their real source or validity; thought is so little active, that it seems entirely passive. A number of sensations, supplied by the various senses, arise in consciousness, and seem to constitute all the truth attainable by man. We, who are at a later stage in the development of humanity, easily perceive that this was an illusion but it never occurred to those sunk in the sensuous stage of thought to question the truth of what appeared in their consciousness. If they had been capable of asking themselves, "What certainty have we that our immediate knowledge is real?" the only answer they could have given would have been: "We know it is real because it *is*, because we *feel* it to be real." But here, the mere *existence* in consciousness of anything is regarded, or would have been regarded if those at this lowest stage of thought had been capable of interrogating themselves, as a proof of reality and objectivity: the two senses of the word "being"—that of a mere predicate, and that of a developed experience of the objective world—being as



yet inseparably interwoven with each other. It is in this identification of what is in consciousness and what is in reality, that the great imperfection of the philosophy of Berkeley consists. The lowest stage of consciousness is formalised, and in this, rather than in his denial of an external world, the great imperfection of his system is to be found. "There is," Berkeley maintains, "an absolute identity of sensation and the conscious self; the *esse* of things consists in their *percipi*—sensation and existence are synonymous;" and hence, because he deals with pure sensations alone, he fails to shew how objectivity, since it is not to be accounted for from without, comes into consciousness at all.

This first form of consciousness may be illustrated by the infancy of the race. The savage is dominated by the individual sensations which come and vanish from his consciousness like shadows. Like a child, he only sees or hears what comes directly before his notice. He has no interest in the external world apart from its subserving his material wants, and hence, when not engaged in hunting or fishing, or in war, he passes his time in a listless indolence, allowing impressions to move through his consciousness without an effort to retain them, compare them, and investigate into their source. Moreover, as he has no evidence for the reality of his impressions except that they *are*, that they pass through his mind, he is a prey to all kinds of superstitious terrors; even his rudimentary ideas of religion contributing to people the world with invisible enemies. As the only evidence he has for the objectivity of his ideas is the mere fact of their existence in consciousness, reality and fiction, the world revealed by his senses and the world conjured up by his terrors, are to him indistinguishable.

It is difficult for us who have advanced beyond this first crude stage of thought to divest ourselves of our acquired notions, and to put ourselves at the point of view of those who knew of nothing beyond it; but it may assist us in

doing so if we compare it with analagous states of our own consciousness. In what, for instance, consists the illusion by which, in dreams, fancies seem realities if not in this, that we assume, without reflection, the validity of what passes through our minds, simply because it does pass through our minds? When we emerge from this realm of unreality the spell is destroyed, because we find, by comparing our fancies with facts we have established by numberless relations to thought, that the former are devoid of the reality or objectivity of the latter. And so the victim of spectral illusions, in which imagination projects images that, at first sight, wear all the semblance of truth, may satisfy himself of their deceptive nature by employing the test of other senses besides sight, and thus converting his uncriticised impressions into definite knowledge. These illustrations may make more apparent the imperfection of the sensuous consciousness, and the logical necessity by which thought is impelled to a higher stage. The mind cannot rest satisfied with taking merely individual things, out of relation to each other, for in doing so it has, unknown to itself, implicitly related them; it naturally and necessarily regards reality, not as a chaos of isolated impressions, but as forming a cosmos in which each thing contains relations within itself, and is related to other things. Thought, excited to greater activity, reflects more carefully upon the objects presented to it, and discovers that they contain many qualities, and must therefore be expressed by manifold predicates. This second stage of thought may be called *Observation*.

The simple belief in the truth of any phenomenon that arises in consciousness has now given place to deliberate reflection upon individual objects and upon their mutual relations. Mediate has been substituted for immediate knowledge, experience for sensuous certitude. Higher categories are applied to objects than mere *being*. The observing consciousness advances beyond the fleeting impressions of sense to things in their concrete reality. On

the one hand, it views objects as composed of various qualities—such as *solidity, extension, figure*,—and on the other, it soon discovers that it must view them in relation to each other, *i.e.*, as manifestations of such notions as *unity, plurality, cause and effect*. The plant I see, for example, may be viewed as a concrete object, made up of root, stem and leaves; or again, it may be regarded as a unity, a plurality or a totality—as a plant, as possessed of certain definite parts, or as an object that is at once one and many; or finally, it may be referred to the category of causality, since it depends for its existence upon situation, soil and moisture. By the observing consciousness we thus come to regard things as possessed of various qualities, as gathered up into classes, and as interconnected with each other. Common consciousness, and the special sciences in so far as they merely generalise groups of phenomena from observation, belong to this phase of thought, and differ only in the greater or less accuracy of their results.

At this stage in the development of thought we have, then, an objective world, which is composed of individual things mutually related to each other, and which seems to be entirely independent of the knowing subject. To common consciousness and to science, nature has no deeper meaning than this; but to a philosophy explanatory of it the further question must be asked, “What is the relation of the objective world to *thought*?” This is the question to which the “Critique of Pure Reason” seeks to give an answer. Kant assumed the world as it presents itself to ordinary consciousness, and, in the limited extent we have mentioned, to the special sciences, and, by a critical enquiry into the ground of experience, was forced to deny that absolute dualism between thought and nature, which led to Hume’s Scepticism, and which has resulted in modern Materialism. Nature or experience, he argued, cannot be accounted for except on the supposition that thought brings a large contribution of its own to assist in

producing and completing it. Neither in thought alone, nor in nature alone, can we find that permanence and objectivity which is assumed both by common consciousness and by science, but can not be proven by either; only by the union of the two—by an orderly interblending of *a priori* and *a posteriori* truths—can this be effected. As, therefore, the philosophy of Berkeley, and of all Sensationalists, interprets the first phase of consciousness, the deeper meaning of the second is revealed in the Metaphysical system of Kant.

Thought is, however, capable of a still further advance than that which is attained by the observing consciousness. It rises above that conception of the world which regards it as a congeries of objects, possessed of different qualities, or grouped together into classes, or related to each other by universal notions; for the very idea of a correlation between facts leads to a more intimate relation than that as yet attained. Thus thought is, by its own nature, impelled to seek higher unities than it has hitherto found, and ends with conceiving the world as a system of *laws*. This stage of thought is the *Understanding*. The phenomena of nature are now transmuted by the action of thought into exemplifications of necessary laws, and thus half-subjective generalizations are raised to objective truths. Science, in so far as it is not a loose grouping of facts, but a collection of laws, belongs to this stage of thought. The special sciences, while they are still limited to the observation and classification of facts, belong to the observing consciousness; when they carry their inductions so far as to find the laws that regulate phenomena, they have come within the range of the Understanding. The advance from the one stage to the other thus consists in finding greater permanence or objectivity in nature, in finding that it is not governed by caprice but by reason.

The philosophical consideration of this mode of thought reveals truth higher than that which is discovered by

those who assume the absolute independence of nature, and therefore the passivity of thought in its presence. It is true that the great object of scientific men is to eliminate all that is subjective, and to interpret nature from itself alone. But this, when examined more closely, only means that we must exclude our *individual* fancies or opinions and hold only that to be a law of nature which all intelligences or universal thought would recognise to be true; for law in its true sense means an inseparable unity, an indissoluble connection, of distinct relations. The Understanding, therefore, has penetrated into the inner soul of Nature and found it to be rational. What, however, is overlooked by those at this stage of thought is that in discovering the laws or necessities of Nature, we have at the same time found that it is a manifestation of *Thought* or *Reason*—the thought, not of this or that intelligence, but that which is participated in by all. And thus, in another way, we come back to our original statement that the special sciences are not fully conscious of the truth they reveal, because of the dualism they assume between nature and intelligence. Viewed from the higher platform of philosophy, the lesson taught us by the progress of science is the continuous discovery of a greater and greater unity between Thought and Nature; and, although Science does not perceive that in mastering nature it is at the same time revealing the thought latent in it, its unchecked progress is a prophecy of ultimate triumph—the reduction of the whole external world to a system of laws—the revelation of the absolute rationality of the universe. The progress of thought has been, as it still is, an ever greater assimilation of nature into itself, and thus to philosophy Thought and Nature are found to be but obverse sides of the same shield.

We have occupied so much time with the logical and metaphysical sides of Philosophy, that we can only add a few words on the contradiction which it is the office of Ethics to solve—that, namely, of Freedom and Necessity.

The metaphysical theory which reduces the nature of man to a bundle of sensations, naturally leads to the ethical theory that he is the slave of uncontrollable feelings and desires against which he is powerless. For if the actions of man are entirely due to natural impulses, any given action will be determined by that impulse which preponderates at the moment; and hence Hume but expressed in clear terms the result of this view when he said, in his incisive way, that "Reason is and must be the slave of the passions." It in no way mends the matter to explain that the basis of duty is to be found in the happiness of the majority; for although this idea, when systematically carried out, *may* lead to a course of conduct that will harmonize with the dictates of duty, it cannot serve as a substantial basis upon which a *system* of Ethics may be reared. The ultimate ground of action is pleasure, and no adequate reason can be given by the Utilitarian why the individual may not act in accordance with his depraved tastes, if they are depraved, whether his conduct will contribute to the happiness or misery of others.

We do not obtain more satisfaction, but rather less, by interrogating any of the Ancient Philosophers; for, as they had no appreciation of the glorious destiny to which man is reserved, they were unconscious that any reply was needed. Man was by them regarded not *as* man, but *as* a member of the State; and hence the sole method of elevating him was by adding to his natural advantages the endowments and privileges of the few. Aristotle's ideal of humanity, the magnanimous man, is a Greek citizen, possessed of the highest honours the State can confer upon him, and conscious that he is worthy of them; courageous, honest, cultured; contemptuous of the applause of the common mass of men, but pleased with the approbation of the more refined; born of a good family, and prosperous in his worldly affairs; asking favours of no one, or only with the greatest reluctance,

but rejoicing to confer benefits upon others. Such an ideal, it is evident, is only attainable by the privileged few, but by that few may be realised with comparative ease. Now Christianity, by recognising all men as equal in the sight of God, broke down the middle wall of partition between master and servant, cultured and uncultured, and contemplated man simply as man; while, in setting up an ideal of infinite purity, which embodied the essential nature of the human Spirit, it destroyed the self-righteousness of the Ancients and substituted an infinite despair of perfection by showing that "after we have done all we are unprofitable servants." Christianity, therefore, in unveiling the infinite possibilities of humanity, and demanding their realization, necessarily implied the freedom of man, for only as free can he work out his high destiny. How is this demand to be reconciled with the fetters of necessity by which he seems to be enchained?

Much unnecessary confusion has been introduced into this question by the way in which human liberty has been conceived. Freedom, it has been held by the majority of Moralists, can only exist if we can act independently of motives, and even in opposition to them. It requires very little consideration to see that if this is the only possible conception of freedom, man is a slave to the most absolute necessity. He finds himself at his birth restricted by position, circumstances and many other relations to others, which he cannot by any effort shake off. He cannot, further, perform the most trivial act without having *some* motive for it, simply because he is a rational being and not a mere animal. Freedom, therefore, in the sense of exemption from all external influences and restraints, is a mere figment of the brain, invented by a scholastic subtlety and felt to be absurd by the common sense of mankind. But there is a truer and higher way in which freedom may be conceived, which at once secures moral responsibility, and allows for the



influences of society upon the individual. The highest freedom is not that in which we act *without* motives—for that would be mere caprice—but that in which our action is regulated by the highest laws of our nature. The profligate man, who is under the dominion of sense, the capricious man, who is tossed to and fro by every wind of passion, and the wilful man whose only motives are to act in opposition to motives, seem to themselves to be free, but in the light of reason they are in the hardest bondage. He, on the other hand, who regulates all his actions by eternal principles of duty, may seem to be bound by the chains of necessity, but he really enjoys the highest liberty. For he is not subject to any external necessity, but only to the inner necessity of his own nature, in obeying which he purifies and strengthens his will and becomes a master where others are slaves.

The possibility of working out one's freedom through seeming necessity, may be seen in all the relations into which man is brought. At first every one is under apparent bondage to his superiors in the family relation, but in reality this is the means by which a measure of freedom is attained. It is true that he must render implicit obedience to those in authority over him, but in so doing he learns to free himself from an undue accentuation of his own individual desires, and to seek his freedom where alone it can be found—in the subordination of his own will to the good of others. By and by he is liberated from the restrictions of the family, but he finds that he has only thrown off one yoke to take upon himself another and a heavier burden; he is now a citizen—a member of the State—and as such he not only enjoys the rights of a citizen, but is also bound down by the duties of his new relation, which hold him as by adamant chains. Here, again, he is free in so far as he voluntarily and cheerfully discharges his duties; he is a slave if he attempts to avoid them and to throw them upon others. He cannot, further, be a member of the state without being more



than this ; for a state is but one of the community of nations, and he who is a member of the one is a member of the other also. He alone, therefore, is free who recognises in every man of whatever country or position that humanity which unites the race by the bonds of a common brotherhood, and who freely discharges the duties he owes to all. He is enslaved who shuts his eyes to this truth and seeks only the satisfaction of his own selfish inclinations.

We cannot conclude this lecture without remarking that the three departments of Philosophy of which we have spoken are intimately related to one of the most important subjects that can engage the attention of the human mind. It is not for us to intrude into the sacred realm of Theology; but this we may say, that Logic and Metaphysic and Ethics were incomplete if they did not, as their final result, lead us up to the Infinite and to God. Philosophy elevates itself above all mere opinions, above all untested assumptions, above all caprice and impulse—in short, above all that is peculiar to this or that individual—and lives and moves in the realm of necessary truth. It shews that man is able to free himself from all unwarranted beliefs and to unveil the secret of the universe, by discovering the essential rationality that, however it may be concealed from those who seek it not, shines through all the outward manifestations of Nature and of Spirit. All men, consciously or unconsciously, participate in universal truth, and thus there is a universal consciousness, given *through* the consciousness of the individual, but in no way *dependent* upon it. In thus revealing necessary truth, Philosophy at the same time reveals Him who is Truth itself. We do not affirm that every man, or any man, can fully comprehend the infinite fulness of the Divine nature; but neither, we venture to assert, need we raise an altar to “the unknown and unknowable God,” in whose existence we may believe, but whose nature must be forever concealed from us. The human Spirit, made in the image of God, Nature, “the visible garment of

God," and Duty, the voice of God speaking in the innermost depths of our moral nature, agree in pointing upwards to the Great Being whose essence they unfold. And thus the assurance which Religion gives to the individual man of the existence of a Supreme Being whom he must reverence and love, Philosophy endorses and supports. The fundamental notions with which it is the office of Logic to deal may not inappropriately be termed the plan of the universe as it existed in the Divine mind before the creation of the world; the long but sure path, by which Metaphysic ascends from the inorganic world to the world of living beings, and thence to the realm first of individual consciousness, and next of universal thought, at last terminates and loses itself in the all-embracing glory of God; and the highest lesson that Ethics has to teach is that only by unity with the divine nature, only by the elevation of his individual will to the high standard of duty, can man enter into the glorious liberty wherewith the truth makes free.

I should have preferred closing this lecture without making any reference to the feelings awakened within me upon the present occasion, did I not think it but just—not to use a stronger word—to express my public thanks for the honour which has been done me by my appointment to the chair of Philosophy in this University. Knowing the eminent success which has attended the labours of my predecessors, I feel that my position is a peculiarly arduous one; but this I may be permitted to say, that as the study of philosophy has been to me a source of exquisite pleasure in the past, so nothing could now give me more intense satisfaction than to be assured that I shall be in the future a successful teacher of Philosophy in Queen's University.

