It may perhaps be said that an Evolutionist theory does not profess to prove that Utilitarian and Intuitional Ethics coincide in detail, but only to afford them a broad general ground of reconciliation. But in this case it seems to me ethically superfluous, whatever historical interest it may have. For this general result may be much more easily and satisfactorily attained by a survey of men's actual moral sentiments, and a comparison of them with the conclusions of utilitarian calculation. The practical disagreements between different schools of moralists, though their magnitude and importance are perhaps commonly underrated—certainly bear a small proportion to their agreements: but a theory of the origin of morality which merely explains the latter can hardly be said to effect a settlement of ethical controversy.

HENRY SIDGWICK.

VI.—PHILOSOPHY AND SCIENCE.

I.—AS REGARDS THE SPECIAL SCIENCES.

DISTINCTIONS, not Definitions—such is and must be the primary basis of all Philosophy. Before you can give a definition you must know in general what you are about to define, that it is something proper to be defined, and has a real local habitation in the world of thought. You cannot set out to define, as a certain Scotch lawyer swore, “at large;” you cannot put up with *definitio vaga*.

It is different with what are called Systems of Philosophy. There the work of Distinction is supposed complete, and you begin with applying them to the phenomena; your country is already mapped, and you proceed to measure its divisions. Systems of philosophy which have not thoroughly done the preliminary work of distinction cannot be permanent. For instance, Spinoza begins with a definition of *causa sui*; “by Cause of Itself I understand that, the essence of which involves its existence; or again, the nature of which cannot be conceived except as existing.” Very good; but *is there* such a thing? Is such a thing possible to thought? There is at least one term here which calls for analysis. Essence may be considered to be sufficiently explained by being distinguished into the *nature* of anything as it is *conceived*. But Existence, what is that? Till we know that, we are ignorant whether any essence can possibly involve existence, whether putting “existence” into the definition of anything makes that thing to exist. There is a good deal of distinction-work to be done

with reference to "existence," before a causal connection between a thing and itself, *causa sui*, can be founded on a conceptual connection between the essence and the existence of that thing. Till then, the famous definition of *causa sui* is all in the air, a definition "at large."

System then or no system, the first thing to be done and done thoroughly in Philosophy is to distinguish,—to distinguish in order to know what to define and what sort of notions to employ in defining it; and the first distinction to be established, and one which is a pre-requisite of all the rest, is between Philosophy and Science. The ground must first be won before we can proceed to distinguish the several provinces which it contains; there can be no distinctions within philosophy, unless there is a philosophy which is itself distinct from all other branches and kinds of knowledge.

This distinction cannot be a total separation; an unscientific philosophy would be no philosophy at all. But the distinction may be drawn in many ways, of which only one can be the true one. Four ways of drawing it may be enumerated as follows:

First, it is possible so to draw the line between them that nothing remains for philosophy but the preliminary guesses at truth which men have made before striking into the true methods of discovery, which true methods with their results are science, and supersede the old mistakes which are philosophy. If this were the true account of the matter, philosophy would have no *locus standi* in the intellectual world, only the ignorant would be its votaries, and philosophers would be no better than obscurantists, basing themselves more or less consciously on the maxim, *populus vult decipi et decipiatur*. This way of looking at the matter, being very prevalent in England, may perhaps be called English Positivism.

Secondly, the line may be drawn between them by saying, that as science advances, and divides into many branches, room is made for a co-ordination and systematisation of all, which is a work demanding separate treatment and separate labourers; and that this work is philosophy. This view is Comtian Positivism.

Thirdly, it may be maintained that philosophy is the discovery of Absolute Existence, and that the sciences only then become scientific when they are deduced from the laws of this absolute existence, from which they thus receive their whole scientific character. This is the Hegelian view.

Fourthly, a position may be taken up which ascribes to philosophy as its special work, besides the co-ordination and systematisation of the second head, a negative task,—the task

of disproving and keeping out of science all ontological entities, whether these appear merely as spontaneous products of the uncorrected imagination or have been reduced into systems, such as for instance the Hegelian. This view is that taken by Mr. Lewes in the important work* which is now in progress.

There is yet a fifth view possible, the one which I shall endeavour to establish in the present paper. Briefly stated it is this: Philosophy is more than the co-ordination and systematisation of the second head, and more than the negative function of the fourth head; it has a positive content and a positive method of its own, and yet a content and a method which are in no sense ontological or transcendent. And this method and content are the permanent and indestructible *raison d'être* of philosophy, assuring to it an existence as a distinct kind of science.

Let me be allowed to dwell a little on what is involved in this view, which I have stated at present in very general terms. If philosophy has a distinct method and a distinct and positive content, it follows that there has been for some definitely assignable period a growing system of philosophical doctrine, of philosophical truths retained distinguishable from philosophical errors discarded, a system due not to one or two philosophers only, but to many, the growth not of a single epoch, but of centuries. There must be a history of philosophy different from the history of successive systems of philosophy, and from the law of their succession. The systems of philosophy are not philosophy, its history is not the history of their succession. It follows, likewise, that there cannot be a history of philosophy until the object of that history, philosophy itself, the growing system, has been detached and delineated.

But what meets us most prominently when we first turn our attention to philosophical subjects is the apparent absence of a philosophy, the obvious presence of a multitude of conflicting systems. What is the explanation of these two facts? The readiest explanation is offered by the first of the views enumerated above; the systems are present because undisciplined minds have abounded, the philosophy is absent because it is non-existent. But on the view which I am about to maintain, this easy explanation of the facts cannot be the true one. The true explanation is that philosophy is apparently absent because it is yet in its infancy, and the systems are obvious because they are necessary means of giving it birth. The systems

* *Problems of Life and Mind*. See particularly Vol. I. pp. 62, 75, 86, and Vol. II. p. 221.

would, on this view, have served a purpose consistent with their own untenability, and philosophy would have been receiving form independently of their decay. It is true that on this supposition philosophy must be as yet in a very early stage of its development, and so, no doubt, it is. Its systematisation as an organic whole is most imperfect; organisation is its primary need. But everything seems to me to show the possibility of such an organisation, the possibility of marking out and giving coherence to a body of philosophical doctrines which shall form for philosophers of all schools a common possession and a common basis, as they will assuredly have been won by a common effort.

Nevertheless, system-making in philosophy cannot be laid aside; there is one indispensable function which it alone can perform. It is the mode by which verification is effected; it is to philosophy what verification by observation and experiment is to the physical sciences. And by the nature of the case it is the only verification of which the phenomena of philosophy are capable; for these are not like those of the physical sciences, things which fall under the cognisance of the outer senses, but pure representations; pure, that is, from presentation; with these science ends, and with these philosophy begins. Its theorems consist not simply in thoughts about things, but in thoughts about thoughts of things. These pure representations, however, which are the phenomena, the facts, of philosophy must always be verifiable by the facts of nature, that is to say, in technical terms, by the presentations which they represent. In many cases these verifications are so simple that any one can perform them without a special scientific training, as, for instance, in the pure representation, "all visible surfaces are coloured." Others are more difficult, and here we must have recourse to science to prove the truth of the representation before we can admit it as a fact in philosophy.

Thus the law of gravitation is, in science, a thought about things, being, in nature, a general fact in the things themselves. Here the verification consists in examining the things. But the law of gravitation, as it is in science, in its character of a thought about things, becomes, in philosophy, the object-matter of a further examination, a philosophical one; it becomes one of the phenomena of philosophy, and the basis of thoughts which have thoughts of things for their object. Here the verification of any theorem of philosophy relating to the law of gravitation must consist, not in comparing the law of gravitation with physical phenomena, which is a verification belonging to science, but in comparing the theorem of phi-

losophy with the law of gravitation as it is in science. The ultimate as well as the particular laws of science are among the phenomena of philosophy; it is only to be regretted that they are still so few. While, then, the laws of science are verified by the facts of nature, those of philosophy are verified by the laws of science; in other words, theories of philosophy must be made to harmonise with the laws of science so far as these are at any time known; and it is from this requirement that all legitimate system-making in philosophy springs.

In these remarks we may also read the explanation of the predominantly literary character of philosophy in contrast with science, of its workshop being the library not the laboratory, its pabulum the writings of previous or contemporary philosophers. For philosophy is primarily and mainly, I mean in its whole analytic branch, concerned with *clearing the ideas*, not with discovering new facts, but with analysing old ones; its problem being, not how the world came into being, but how, having come, it is intelligible.

I now proceed to establish the true distinction, as I conceive it, between philosophy and science. In the first place it is abundantly clear that they have points of agreement. Going back to the meaning of those who first called themselves philosophers, lovers of knowledge instead of possessors of it, it is clear that the position which they thus took up was not one of disregard to knowledge already attained, to knowledge in and for itself, but the adoption of a new point of view by the observer towards that knowledge; it involved a generalisation of the notion of knowledge, and brought out the fact that while they were possessors of some portions of knowledge they were only aspirants to possess other portions, which other portions were to them as yet unknown, and only to be called knowledge *in potentia, in futuro*. At the same time this future, and not yet actual, knowledge was necessarily assumed as being of the same kind, in point of being truly knowledge, as those portions which were already reduced into possession. Philosophy, then, was conceived as a further search, a pioneering expedition into realms as yet unknown, in order to bring them under laws of the same kind as those which constituted the knowledge already discovered.

So far there is, it may be said, no very wide distinction between philosophy and science; for science, too, must always have recognised the search for further knowledge as essential to itself; a science which professed to contain only what was already known, and not also means and methods for future discoveries, would be a mere *scientia docens*, not *utens*; and philosophy would be merely a grandiloquent name for one part

of science, for that part of it which faced forwards into the as yet unknown and undiscovered. In short, if this distinction were all, the first of the views enumerated above would be fully justified.

But now comes another distinction. As science advances, her discoveries are made piecemeal, one by one ; as they are made they are compared and classified ; and thus along with the general advance of science there goes on a distinction of the whole into special sciences ; and as the number of new discoveries increases in each branch of science, the growing mass and complexity of each branch becomes sufficiently great to occupy and more than occupy the whole energies of individual men, leaving them no disposable opportunity for making discoveries in other branches than their own. But in every special branch of science, as it is thus called into being by the growth and development of knowledge, the same distinction prevails, I mean the just noted distinction between present and future knowledge, between hypotheses that have and hypotheses that have not yet been verified. Here it is that the distinct scope of philosophy takes, as it were, a second step towards its manifestation. And the general forward outlook in the special sciences taken together, as distinguished from the already acquired knowledge, taken together, in all of them, is that which marks philosophy in this its second, but still most rudimentary, stage of distinction from science. Philosophy appears in this second stage of its life, so to speak, as taking the results acquired by each of the special sciences, and endeavouring to frame hypotheses which should unite them into a single system, and make them serve as a guide suggestive of new hypotheses.

The rudiments of the notion of philosophy, as distinguished from science, are thus given by the two combined characteristics of generality and hypothesis. But the rudiments only. And these same characteristics contain in themselves the germ of a third, which is necessarily developed from them. If we stopped at these two, seeing nothing else in philosophy to differentiate it from science, we should find ourselves holding the second view, that of Comtian Positivism. For it may be argued that, even supposing the greatest completeness in the number and organisation of the special sciences to have been reached, and by consequence the greatest generality in the hypotheses which will connect their results into a system of the whole ; in which case the greatest possible difference would exist between the functions of science and those of philosophy, as they have been up to this point delineated ; even then, it may be said, the functions of philosophy, so far as they

have any scientific value, are not different *in kind* from those of science. Philosophy, the framer of general hypotheses, is merely a special science to which a particular task is assigned, for convenience' sake, that of co-ordinating the several sciences into a single system of sciences, and the results of all into a single science of nature. The main problems of philosophy would be two, or rather one with a double aspect, the Classification of the Sciences, and the Codification of the Laws of Nature ; in fact, just what Comte aimed at in his first great work, the *Cours de Philosophie Positive*. But neither of these problems is different in any essential characteristic from those of science proper, that is, from science in any of its special branches. The distinction of philosophy from science would be, then, in this case a detail, most important it is true, and even necessary, but one resting on no fundamental difference in their functions.

All this I take to be indisputable ; and if no other distinction than the two already mentioned can be shown to exist between philosophy and science, then it must be admitted that philosophy has no special *raison d'être*, no claim to a separate and independent but merely to a nominal existence, such as the term Positive Philosophy is intended to accord to it. I proceed, then, to show that there is a third characteristic, by which, in combination with the two former ones, philosophy is distinguished as different in kind from science.

All the special sciences, in their demonstrations, run up to certain ultimate notions as their basis of demonstration, and there they stop. Beyond these they do not care to pursue their analysis, content with the acknowledgment, which no one refuses, that those ultimate notions which they take as their basis correspond to realities of experience, and represent those realities with essential accuracy. Some among the special sciences base themselves upon notions which they take from other special sciences more abstract and more general than themselves ; physiology, for instance, partly upon chemical notions, partly upon mechanical, partly upon physical ; chemistry bases itself partly upon mechanical, partly upon physical ; these two last run up again into what is called rational mechanic ; and here for the first time we meet with ultimate notions which are not derived from any other more abstract special science, but are drawn directly from the fountain head, experience.

These ultimate notions are Mass, and Energy Potential and Kinetic. That is the shape into which rational mechanic has thrown the two older and vaguer notions of Matter and Force, for the sake of first defining them and then exactly calculating

or measuring them. Mass is measurable matter, "quantity of matter" being its definition. Energy, potential and kinetic, is phenomenal and measurable force, as distinguished on the one side from force as the cause of motion, on the other from particular forces, that is, groups or modes of motion of a particular kind, as, for instance, gravitation or electricity. For both force and energy involve the notion of motion, the motion of masses or portions of matter in action and reaction with other portions. And both in mass and energy taken together, and in matter and force taken together, motion is involved. Motion itself again is abstracted and treated apart from the different kinds of matter which move, in a separate branch of science known as kinematic; and this branch forms the connecting link between rational mechanic and the sciences of pure mathematic. What I have, then, specially to observe is, that in rational mechanic we meet with elements or notions which are not derived from pure mathematic, and which have no other source than direct experience; and of these notions, which in their most abstract and general shape are called Matter and Force (measurable and calculable under the terms Mass and Energy), science can give no other account than that they are facts, and ultimate facts, of experience. Experience is their source, and experience also furnishes the verification of the reasonings concerning them.

Rational mechanic, in respect of its other elements, holds of geometry and the sciences of mathematical calculation, arithmetic, algebra, and the calculus, through the medium of kinematic. And these sciences include between them, and are based upon, the notions of abstract Motion (which involves those still more abstract of Space and Time), Number, Quantity, Continuity, Discontinuity, Infinity, and Figure. Pure mathematic includes all the methods of calculation and measurement so far as they are irrespective of what the things are which are calculated or measured. And as such these sciences base themselves upon certain ultimate notions which serve as principles of the processes of calculating and measuring.

The question accordingly arises with respect to these sciences of pure mathematic,—Are they competent to explain thoroughly the nature of those notions which they assume as their ultimate bases of demonstration? Does, for instance, the calculator explain what an Unit is? Certainly not. All he tells us is—We can count anything *once*. This *once* is the unit of numeration, and it is obviously independent of, and indifferent to, any particular kind of object counted (or measured) by it. In fact, he *defines* an unit, and defines it

sufficiently for his purpose ; it is defined in such a way as to serve for a basis of further reasoning, but not in such a way as to show on what it is itself based. He *defines* but does not *analyse* it.

Again, does the geometer explain how and whence he comes by his object-matter, how he comes to regard pure spatial extension as figured ? No. He *begins* with figured space. Either he begins with the notion of Volume, and proceeds to analyse it by the ways in which it is bounded, or else he begins with the notion of Boundary, points, lines, surfaces, and proceeds to the construction of Volume. The Configuration of Space is his object-matter ; and he analyses this, notionally as well as actually, to its remotest part ; but he assumes Figured Space, in the general, *as a datum* ; he does not tell us how it comes to be possible, but contents himself with saying that we all know it to be so, and that this his basis is sufficiently clear in meaning and secure in reality.

As I am not primarily occupied with the inter-connection of the sciences, it will not be expected that I should have stated the exact moment at which these ultimate notions are introduced into the sciences, or have made a distribution of them beyond the possibility of objection. It is enough that the positive physical sciences between them, from physiology to mathematic, do introduce these to them ultimate notions, namely, Mass and Energy (which may be taken as involving the higher notions of Matter, Force, Cause), Motion, Unity, Length of Time, and Configuration of Space. And I think I have made it sufficiently evident, that these ultimate notions, ultimate to the physical and mathematical sciences, are not ultimate in all respects. They are ultimate in respect that we can securely reason downwards from them, that is to say, construct valid definitions of them, and base valid demonstrations on them, in the physical and mathematical sciences ; but not ultimate in respect that we can analyse them still farther, reasoning upwards from them, and ascending to still higher generalities and greater abstractions. Their validity as the basis of science is sought and found in what lies below them, in the concrete objects to which they are to be applied. It is conceivable they should also have another validity as deductions, or cases, of higher abstractions, to which they in their turn would serve as a basis of validity and as concrete object-matter.

The question whether any such higher abstractions are discoverable is thus posed by the sciences themselves ; and the conditions of its solution are also laid down in the posing. We are required to find an answer to the questions, *What are Mass,*

Energy, Matter, Force, Cause, Motion, Unity, Length of Time, and Configuration of Space? And the conditions of solution are, that the answers shall be in terms which do not repeat again the things about which the question is put (the common logical requirement in all solutions), but shall consist of higher generalities or abstractions, which yet shall be really known to us (not fictitious), and shall thus present us with new knowledge about the things in question. In other words, the notions in question are to be analysed or resolved into elements more abstract than themselves, which elements, in composition, shall give us again the original notions.

Now in thus approaching the question whether any such higher abstractions are discoverable, every way but one is barred to us. We start from notions representing concrete objects of experience, and representing those objects already in the most general and abstract shape. We cannot therefore look for the answer in any objects of concrete experience, or in notions representing them; because this would be to go to notions less, instead of more, abstract and general. We must pass beyond all concrete objects of experience, and beyond the most general notions which we can frame of such objects; and we have to answer the question *What? τί ἐστι;* concerning these most abstract notions. Where, then, is there a limit to our thought within which we may have been confined consciously or unconsciously,—a limit which is now to be removed and give freer scope to thought; where has there been a restriction which it is possible to take away? If there has been no such limit, no such restriction, then we cannot take a step beyond where we are already; we are already at the end of our tether, and *every* road is barred to us. The ultimate notions of science are then for us the ultimate notions in every respect, and the question whether we can refer them to higher generalities is answered in the negative.

But it becomes clear on a little further reflection that there has been such a limit and restriction, a limit by removing which we can take a step in advance and reach a still higher generalisation, yet without passing into the region of fictitious entities. For we have hitherto been regarding the objects of our enquiry *as objects*, that is to say as endowed, some way or other, with an existence independent of ourselves the spectators of them; or, if we have made a reservation to the effect that these objects are after all only phenomena relative to the percipients, still we have not as yet made any use or application of the reservation. But now the moment is come at which the fruits of the reservation may be reaped. We find that we can analyse the ultimate notions of science still farther, by looking

upon them as phenomena relative to the percipients, and asking ourselves what features they possess in this their *subjective* character, in their character of states of consciousness as contradistinguished from their character of objects, or portions of an objective world. We are thus simply taking the obverse aspect of the very same ultimate notions which we were dealing with before; and the result is a new, and subjective, analysis of those notions which in their objective aspect (in which they were the bases of the sciences) appeared to be unanalysable and ultimate.

It is found, on thus regarding them, that certain modes of Sensation in combination with pure spatial extension and pure time-duration are the constituent elements of each of these ultimate notions taken subjectively. And by pure spatial extension, and pure time-duration, I mean the *space-element* and the *time-element*, in and with which any sensation is felt. Every sensation without exception has a time-element; every sensation of sight and of touch has a space-element as well. And by calling this element *pure*, I mean that it is different from the sensation, and as different from it is unaffected by division, continuous, having no divisions of its own, but receiving them from sensation. The divisions of pure time and of pure space are given only by changes in sensation, and without these divisions of pure time and pure space we should have no consciousness whatever of time in lengths of duration, or of space in its configurations or relative positions of points, lines, or surfaces. We have also here the source of the notions of continuity and discontinuity; of quantity, which is the sole object of measurement; and of infinity, the notion of which is nothing but continuity without break, or abstracted from discontinuity.

To count a thing *once*, which is the notion of an unit, depends on that thing being distinguished by change of sensations from what precedes and follows it in consciousness, no matter whether that change is arbitrarily introduced by ourselves, as in the case of units of measurement, or not.

Motion requires change not of sensations simply, but of their position in space, taking place in succession of times.

Cause involves the notion of the inseparability of things previously regarded as separables. But to treat things as separables is to treat them *as if* one was before the other in time, whether their order of sequence may, or may not, be equally well reversed, and the things found to be simultaneous. Cause therefore requires the notion of sequence of sensations in time.

For the notion of Force (if it is held necessary to introduce

it into science in the character of a cause of motion), a peculiar class of sensations is required, that of muscular tension or effort, whether derived from efforts of our own which we feel ourselves, or from these carried over in imagination and attributed to objects which are or may be in opposition to ourselves.

Energy, if not explained by reference to force, is in that case simply a derivative of motion. It consists of changes in the position and motion of masses and parts of masses.

Mass, as remarked above, is nothing but matter scientifically treated.

And lastly, that solid resisting thing which we call Matter requires for its comprehension (speaking only of normal cases) sensations of sight in combination with those of touch and muscular tension. At any rate sensation (whether of sight, or touch, or both combined), but always in spatial extension, is the necessary and sufficient analysis of our notion of Matter.

It must suffice, in a paper like the present, just summarily to indicate the nature of the questions and answers which arise on passing onwards from the ultimate notions of science to their analysis as states of consciousness. As above I could do no more than enumerate the ultimate notions of science, without attempting to assign them with perfect accuracy to their respective places in science, so here I must content myself with indicating, and cannot pretend to demonstrate, the general nature of the analysis which these notions receive in philosophy. That analysis is a final one, in the sense that there is no further conceivable limit the removal of which would throw open another field, as the removal of the objective limit unbarred the entry into the field of subjectivity. The analysis is also an analysis of the *nature* of the things analysed, not an account of how they arise or what are their antecedents. Ultimate subjective analysis of the notions which to science are themselves ultimate,—such is the answer which I have to give to the question, What are the features which distinguish philosophy from science?

Up to this point, it will be observed, we have been occupied with the relation of philosophy to one class of sciences only, the physical and mathematical. When we come to the other classes into which the sciences are usually, and exhaustively, divided, a similar conclusion will be forced upon us. A *similar* conclusion, because in these classes of sciences, the Moral and the Logical, the ultimate notions which are their distinguishing and characteristic marks are already subjective; for which reason it is that these sciences are most usually treated as forming a part of philosophy as distinguished from science.

Interwoven as all the moral sciences are at every step with

those of the physical and mathematical series, yet their subjective character is everywhere predominant, and their objective subsidiary. They are *practical* in their character, that is to say, the comparative importance of motives to conscious beings, the comparative value of states of consciousness, is the chief matter of discussion and inquiry. Whatever notions we take as ultimate in any of them, whether (for instance) that of Justice and Injustice in Jurisprudence, of Wealth in Political Economy, of Beauty and Deformity in *Æsthetic*, of the Good of a Community in Politic or Sociology, of Good and Evil in Ethic,—these ultimate notions, ultimate in respect of the particular branches of science which are based upon them, are yet capable of a further analysis into elements, an analysis not indeed differing from what has preceded it in point of subjectivity, since both alike are subjective, but still an analysis more searching than would be strictly necessary for a definition which should afford a basis for a branch of science. I mean that, with less searching analysis and consequently less accurate definitions, the sciences based on them would be less perfect, but not therefore impossible.

In Logic again we have, as its ultimate basis, the three postulates known as the laws or principles of Identity, Contradiction, and Excluded Middle. Upon these the whole doctrine of Logic rests, and for its validity no more is requisite than the statement of them. They carry their evidence in themselves. They are in a precisely similar position to that of the ultimate notions of mathematical science. They have too, as being even more abstract than most, if not all of the latter notions,—they have immediately attaching to them the double attribute of subjectivity and objectivity. They are at once laws of things and laws of thought. At least if they should be finally held *not* to be immediately laws of things, the discussions which have been raised upon the point suffice to show the *appearance* of such a double character in them. But even in their case a further subjective analysis is possible, an analysis by no means requisite to assure us of their validity, but certainly requisite to ascertain their nature. This analysis is of the same general character as in the case of the ultimate mathematical notions. It is into some particular *volition* and *time*; that is to say, we must attend to some feeling, distinct from others, before we can say, This feeling is this feeling (A is A); This feeling is-not what is not this feeling (No A is not-A); and Everything is either this feeling or what is not this feeling (Everything is either A or not-A).

The several sciences then, in every case, yield us notions, their ultimate bases, which are susceptible of a further subjec-

tive analysis, whether these notions are themselves objective as in the physical and mathematical sciences, subjective as in the practical, or both at once as in logic. But besides these ultimate notions of the several sciences, there is yet one notion to be mentioned, a notion not peculiar to any one science, but common to all, and involved in the particular ultimate notions of each. This notion is that of Existence. Different as the three groups of sciences, physical, logical, and moral, are in point of subjectivity and objectivity, yet the notion of Existence is involved alike in all. Not Matter only but States of Consciousness also have existence; they are what they are and while they are. What, then, is the notion of Existence, and does it belong to science or philosophy to answer this question? It clearly belongs to philosophy; first, because the notion of existence is more general and abstract than any of the ultimate notions of the physical or mathematical sciences; and secondly, because subjective existence, a notion which emerges first in philosophy, is an included part of the general notion which embraces existence both subjective and objective. We may put these two reasons in somewhat different phrase. The subjective aspects of material objects exist, as well as the objects themselves; and states of consciousness, such as are the emotions, and feelings of pleasure and pain, which have no material objects, yet exist for the Subjects of them.

Subjective states and objective things, then, are both alike *existents*. But they stand in a somewhat different relation to consciousness. The objective things are the nearer of the two to the consciousness both of the individual and of the race, counting from the moment when he or it begins to philosophise; the subjective states are the nearer to the consciousness of both, counting from the epoch when sentience arises. We begin to philosophise having "objects" already formed in the mind; but there has been a process by which these objects have been formed, prior to philosophical consciousness, but not prior to consciousness generally. It is a case for the application of the maxim—What is last in analysis is first in genesis; and what is last in genesis is first in analysis. Thus it has long been observed and often repeated, that the distinction between the two kinds of existents, subjective states and objective things, is not perceived at the earliest stage of an individual's experience.

" The baby new to earth and sky,
What time his tender palm is pro
Against the circle of the breast,
Has never thought that 'this is I:'

But as he grows he gathers much,
And learns the use of 'I,' and 'me,'
And finds 'I am not what I see,
And other than the things I touch.' " •

When, however, this distinction is perceived, then both kinds of existents become objects to the percipient; and the perception of both, in their contra-distinction, is itself distinguished by the name of reflective perception as opposed to direct, and by that of self-consciousness as opposed to consciousness simply. It is this "moment" of reflective perception or self-consciousness which is the central and cardinal feature in philosophy, and that which, by enabling us to distinguish the subjective from the objective aspect of things, distinguishes philosophy from science by an inner and indelible characteristic.

The answer, therefore, to the question, What is Existence? can only be given, if at all, by philosophy. But what that answer will be, I am not now to discuss. In general terms it may be said that, for philosophy, existence means presence in consciousness; *esse* means *percipi*; and this quite generally, so as to include all the modals into which the general proposition may be thrown; as, for instance, possible existence designates what is possibly present in consciousness; actual existence what is actually present in consciousness; imaginary existence what is imagined as present in consciousness; necessary existence what is necessarily present in consciousness, and so on. For all the modes of existence there are corresponding modes of presence in consciousness, and without a corresponding mode of presence in consciousness we should have no knowledge whatever of any mode of existence,—neither what it was nor that it was. In short, consciousness itself is the subjective aspect of existence, and each in its bare generality is the ultimate and common feature of which all the modes of consciousness on the one side, and all the modes of existence on the other, are differentiations. In this most abstract and general character, their character as *summa genera* of modals, they are unanalysable into elements, consequently undefinable, and only so far capable of explanation as the two throw mutual light on each other. We know existence as consciousness, and to know that we do so is self-consciousness.

SHADWORTH H. HODGSON.

• Tennyson's *In Memoriam*, xlii.