

CRITICAL AND SPECULATIVE PHILOSOPHY

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BIOGRAPHICAL

§ 1. I UNDERSTAND that it is the wish of the Editor of this collection of essays that each contributor should describe his own system of philosophy. Were I to interpret this demand literally I could not contribute anything at all, for two excellent reasons. In the first place, I have nothing worth calling a system of philosophy of my own, and there is no other philosopher of whom I should be willing to reckon myself a faithful follower. If this be a defect I see no likelihood of its ever being cured. Secondly, if I had a system of my own, I should doubt the propriety of "pushing" my crude philosophical wares in competition with the excellent products of older firms with well-earned reputations. The best I can do is to state in outline my own quite unoriginal views about the subject-matter of philosophy, and about the kind and degree of certainty which we may hope to reach in different branches of philosophical inquiry.

§ 2. A man's philosophy cannot be altogether separated from his history; for Mr. Bradley's saying, that "metaphysics is the finding of bad reasons for what we believe on instinct, but to find these reasons is no less an instinct," is as near the truth as any epigram can well be without sacrificing that brevity which is the soul of wit. On this ground, and on this alone, a few autobiographical details are necessary, and may escape the charge of impertinence. I shall therefore begin by mentioning some of the books which and the men who have specially influenced me, and by enumerating those hereditary and acquired tendencies which are likely to have biassed my philosophical views. I have always been about equally interested in philosophy and in the more abstract sciences; and, as a matter of history,

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I approached philosophy from the side of natural science. I do not mean by this that I was first a pure scientist and then took up with philosophy. The latter subject interested me intensely even in my schooldays. Before I went up to Trinity I had read Mill's *Logic*, Kant's *Critique of Pure Reason*, and Schopenhauer's *Welt als Wille und Vorstellung*. I went to Cambridge as a convinced subjective idealist, who would have liked to believe that Schopenhauer had proved his case, but who felt in his bones that this was not so. It is true, however, that I studied natural science seriously long before I began to make an equally serious study of philosophy. The two subjects simply interchanged their relative importance for me as time went on.

When I first entered Trinity the college was full of philosophical discussion. Dr. Moore and Mr. Russell had both gone down; but the tradition of the former was still very strong, whilst the latter's *Principles of Mathematics*, published some four years earlier, was the basis for endless discussions among intelligent undergraduates. Probably this book, which I had read hastily in the School Library, but now studied carefully for the first time, has influenced me more than any one other. I learned from it not to *welcome* contradictions as proofs that such and such features in the apparent world are unreal. I learned to suspect that, when philosophers discovered contradictions in apparently fundamental categories, it was just possible that it might be the philosopher who was at fault and not the category. And it seemed to me that the contrast between the ways in which philosophers had dealt with the difficulties of infinity and continuity, and the way in which mathematicians like Cantor and Weierstrass had done so was most illuminating. Another writing which influenced me profoundly was Dr. Moore's *Refutation of Idealism*. This knocked the bottom out of my youthful subjective idealism, and taught me to avoid a trap into which numberless better men than I have fallen. Of course I do not think that this article does "refute idealism," even of the Berkeleian kind; but it does refute the commonest and most plausible argument for it, and forms of this argument do

appear in the writings of philosophers who would be much hurt to be called "subjective idealists."

At a later stage of my career Mr. Russell came back to Trinity, and I derived an immense stimulus from his lectures and from conversation with him. As we all know, Mr. Russell produces a different system of philosophy every few years, and Dr. Moore never produces one at all. "*Si Russell savait, si Moore pouvait*" seems the only adequate comment on the situation; but I owe more than I can tell to the speculative boldness of the one and the meticulous accuracy of the other.

In the meanwhile I devoured eagerly all Dr. McTaggart's books, and enjoyed the privilege of his lectures and his personal influence. I learned from him to look with suspicion on that "grateful and comforting" mixture of idealistic metaphysics with edifying social and ethical theory which used to emanate from the West of Scotland. His teaching and Mr. Bradley's writing strengthened in me a natural dislike for every kind of *Schwärmerei* and enthusiasm in philosophy. He little knows how nearly he made me an Hegelian, or perhaps I had better say a "McTaggartian." From this fate my native scepticism (to which I shall refer later) about all big systems based on abstract reasoning saved me at a time when I could not see precisely what was wrong in detail with the argument.

To Mr. W. E. Johnson I owe my interest in the problems of probability and induction, which have been somewhat neglected by mathematical logicians of the Frege-Russell school.

The last important external influence which moulded my philosophical views began to act when I left Cambridge and went to St. Andrews. Here I was constantly in the closest touch with Professors Stout and Taylor. It was a great advantage to me to discuss philosophical problems almost daily with men who were obviously the intellectual equals of my Cambridge teachers, and who yet belonged to very different philosophical schools from them and from each other. From Professor Stout I learned, among much else, to see the importance of psychology, a subject which I had formerly regarded with some contempt. It were difficult to mention any subject on which

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I did not glean something from Professor Taylor's immense store of accurate and ever-ready knowledge ; so I will content myself with saying that he led me to read St. Thomas Aquinas and St. Anselm, and to recognize the wonderful philosophic abilities of the mediæval theologians.

§ 3. I will end this account of my philosophical development by enumerating those innate and acquired tendencies which seem likely to have warped my views. (i) I should say that I am much more susceptible to high achievements in science than in art. I am somewhat obtuse to the influence of scenery, painting, music, and the highest kinds of pure literature. I admit in the abstract that Shelley was as great a genius as Newton or Leibniz and a greater poet than Pope. But I can understand and enjoy in detail what is great in Newton's scientific work and in Pope's verbal felicity, whilst I have to take the greatness of Shelley or Keats largely on trust. I could quite easily be taken in by an inferior performer on their lyre, but I think I could see through second-rate science or inferior epigrammatic poetry. (ii) Closely connected with this is the fact that I am almost wholly devoid of religious or mystical experience. This is combined with a great interest in such experiences and a belief that they are probably of extreme importance in any theoretical interpretation of the world. (iii) I also intensely dislike and profoundly distrust all strong group emotions. (I think that this may be an excessive reaction against an unacknowledged tendency to feel them rather strongly.) This connects with the last-mentioned defect in the following way. There seem to be two fundamentally different types of religious person, of whom the Quaker and the High Churchman are limiting cases. I do not share the emotions and experiences of either, though I admire and respect many men of both types. But I find the Quaker type far the more intelligible of the two. To me a corporate institution is always at best a necessary evil, like the string of a kite, which cannot be dispensed with, but which ought to be as thin and light as possible. Hence the attitude which the High Churchman takes towards his Church, and which many Hegelians take towards

the State, is one which I simply cannot understand at all. They seem not so much to be describing something with which I am not acquainted as to be misdescribing something with which I am all too well acquainted. As many of them are obviously at least as intelligent as I, the whole business perplexes me very much indeed. (iv) I am fundamentally sceptical, and I feel no confidence in any elaborately reasoned system of metaphysics. Even when I cannot put my finger on any definite flaw in it, there is a still small voice within me which whispers "Bosh!" A great deal of so-called scepticism is simply a particular kind of dogmatism which leads men to reject all alleged facts which do not come within the sphere of recognized science. Mine is certainly not of that type. I have always been interested in the phenomena dealt with by *Psychical Research*, and the attitude of orthodox scientists towards them has always seemed to me ridiculous. This view has been strengthened by subsequent intercourse with the skeletons which inductive logic conceals in its cupboards. Thus my scepticism makes me far less ready to reject the abnormal than are most educated men of our time. A man must know a great deal more about the secrets of nature than I do to reject any alleged fact without investigation, however wild it may seem. (v) I tend naturally to take a somewhat gloomy view of the world and its inhabitants; and I have a particular horror of all attempts to argue from what ought to be, or what we should like to be, to what is or will be. Perhaps this sometimes leads me into the opposite mistake of regarding certain types of theory as improbable simply because they seem cheerful. (vi) Lastly, I have an extreme dislike for vague, confused, and oracular writing; and I have very little patience with authors who express themselves in this style. I believe that what can be said at all can be said simply and clearly in any civilized language or in a suitable system of symbols, and that verbal obscurity is almost always a sign of mental confusion. I agree with Dr. Johnson's remark about Jacob Boehme: "If Jacob saw the unutterable, Jacob should not have attempted to utter it." I think that this may prejudice me against some

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writers who really are struggling to express profound ideas in imperfect language.

It is obvious that some of the characteristics which I have mentioned are grave defects in a philosopher, and that all have their dangers. There are evidently certain very important aspects of human experience which I can only know imperfectly through the descriptions of others, and never through my own personal acquaintance. The necessity of forewarning the reader against probable causes of error in my views must be my excuse for the apparent egoism of the preceding pages. I do not imagine that my philosophical biography is of any *intrinsic* interest or importance : but it has a *relative* importance for anyone who troubles to read my philosophical writings.

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§ 4. It seems to me that under the name of "Philosophy" two very different subjects are included. They are pursued by different methods, and can expect to reach quite different degrees of certainty. I am wont to call them *Critical* and *Speculative* Philosophy. I do not assert that either can be wholly separated from the other. The second quite certainly presupposes the first, and it is probable that in the first we tacitly assume some things that belong to the second. But they certainly can be separated to a considerable extent, and it will be best to begin by explaining and illustrating what I mean by each in turn.

§ 5. CRITICAL PHILOSOPHY.—In ordinary life and in the special sciences we constantly make use of certain very general concepts, such as number, thing, quality, change, cause, etc. Now, although we constantly *use* them and apply them with fair consistency, it cannot be said that we have any very clear ideas as to their proper analysis or their precise relations. And it is not the business of any of the special sciences to clear up these obscurities. Chemistry, e.g., tells us a great deal about particular substances, such as gold and *aqua regia*, and about their qualities and relations ; but we should not go to a chemistry

book for a discussion on substance, quality, and relation. Chemistry simply assumes these general concepts as fully understood and concerns itself with particular instances of them.

Now it is certain that our ideas about such general concepts are highly confused, and this shows itself as soon as we try to apply them to cases which are a little out of the ordinary. We think we know what we mean by "place" and "person," for instance; and we do no doubt agree in the main in applying and withholding these terms. But suppose we are asked: "In what place is the mirror image of a pin? And is it in this place in the same sense in which the pin itself is in *its* place?" Or suppose we are asked: "Was Sally Beauchamp a person?" We find ourselves puzzled by such questions, and this puzzlement is certainly due in part to the fact that we are not clear as to what we mean by "being in a place" or "being a person." Similar difficulties could be raised about all the fundamental concepts which we constantly use. Thus there is both need and room for a science which shall try to analyse and define the concepts which are used in daily life and in the special sciences. There is need for it, because these concepts really are obscure, and because their obscurity really does lead to difficulties. And there is room for it, because, whilst all the special sciences *use* these concepts, none of them is *about* these concepts as such. I regard Critical Philosophy as the science which has this for its most fundamental task.

It seems to me that such a science is perfectly possible, and that it actually exists, and has made a good deal of progress. I will illustrate this with some examples. Since the time of Berkeley and Descartes philosophers have devoted much attention to the problem of the "Reality of the External World." I do not pretend that there is any agreed answer to the question among them, but their inquiries have been most valuable in clearing up the meanings of such terms as "matter," "sensible appearance," "sensation," "perception," "independence," etc. Any competent philosopher nowadays, whether he asserts or denies the independent existence of matter, is asserting or denying something far more subtle and far better analysed than

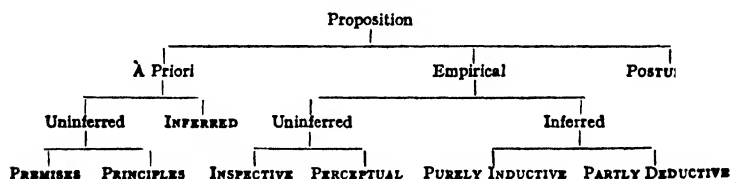
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anything which Berkeley or Descartes would have understood by the same form of words. Again, we are not agreed on the right analysis of "cause"; but any view we may reach should be far subtler and clearer than that which could have been held before Hume wrote his classical criticism of this category. In making such statements I am, of course, referring to present-day philosophers who are really capable of appreciating and continuing the work of their predecessors. In any age there is plenty of philosophical writing which is far below the level of the best work of past ages. Moreover, there are fashions in philosophy, and even the best men of a certain period may ignore important results reached by the best men of a certain earlier period which happens for the time to be unpopular. Thus the philosophers of the *Aufklärung* neglected many important distinctions which the Scholastics had clearly recognized, and I think it probable that some of the *summi philosophi* of our time tend to neglect much fine gold which was mined by Kant and Hegel. Still, with these qualifications, it is pretty obvious that Critical Philosophy, as partly defined above, does make real and fairly steady progress.

§ 6. Now Critical Philosophy has another and closely connected task. We do not merely use unanalysed concepts in daily life and in science. We also assume uncritically a number of very fundamental propositions. In all our arguments we assume the truth of certain principles of reasoning. Again, we always assume that every change has a cause. And in induction we certainly assume something—it is hard to say what—about the fundamental "make-up" of the existent world. Now the second task of Critical Philosophy is to take these propositions which we uncritically assume in science and daily life and to subject them to criticism. In order to do this we must first clear up the concepts which the propositions are about. It is impossible to know what weight to attach to the proposition that "every change has a cause" until you have assigned definite meanings to the words "change" and "cause." It is often found that a man's certainty about such propositions is directly proportional to the vagueness of the terms concerned

in them. So the second part of Critical Philosophy is dependent on the first. No doubt it is also true that the first is dependent on the second. We clear up the meanings of terms by reflecting on the propositions in which they occur, just as we clear up the meanings of propositions by finding out the right analysis of their terms. I fancy that the two processes go on by alternate steps, very much as the development of thought and of language must have done in pre-historic times.

§ 7. When we have got a clear idea of the meanings of propositions which are commonly assumed, our next business as Critical Philosophers is to expose them to every objection that we can think of ourselves or find in the writings of others. As a result of such reflexion and criticism it seems to me that we can divide propositions roughly according to the following scheme.



By an *à priori premise* I mean some proposition such as "Colour cannot exist without extension." This expresses a connexion between two universals which is seen to be necessary by reflexion upon instances and which does not need to be deduced from anything else. By *à priori principles* I mean the principles according to which we pass from asserting one proposition to asserting others. This group therefore includes the principle of the syllogism, the fundamental axioms of probability, and so on. By *inferred à priori propositions* I mean those which can be deduced from *à priori* premises by means of *à priori* principles. The proposition that π is not a rational number is an example.

By an *inspective empirical proposition* I mean one which asserts of some particular existent with which the mind is acquainted at the time some property which the mind can notice by inspection to belong to it. Examples would be:

"My headache is of a throbbing character," "A certain one of the presentations of which I am now aware is red," and so on. *Perceptual propositions* are based on those particular existents about which we can make inspective judgments, but they make assertions which go beyond these existents and their properties. They are not *reached* by inference from inspective propositions; but, if we were called upon to *defend* them, we should do so by a mixture of inductive and deductive inference from such propositions. Examples would be: "That is a red pillar-box," "A man is talking to me," and so on. An *inferred empirical proposition* is one that is derived from a number of perceptual propositions either directly by pure inductive generalization, or indirectly by deduction from one or more inductive generalizations of the first kind. Examples of the two would be: "All living grass is green" and "The benzene molecule consists of six CH groups arranged at the corners of a regular hexagon."

I have included a third great division, viz. *Postulates*. The contents of this group are extremely puzzling to me. There are certain important general propositions, such as "Every change has a cause," "All *sensa* are appearances of physical objects," etc., which I tentatively put into this group. They seem to me to have the following characteristics: (i) I do not find them self-evident. (ii) I do not know of any self-evident premises from which they could be deduced by any known logical principles. Hence I cannot group them as *a priori* propositions. (iii) If they are to be grouped as empirical propositions they would have to come under the head of inferred empirical propositions. And this seems impossible for most of them. All inductions make some assumption about the structure of nature, which may be called the "Uniformity of Nature," for want of a better name. It would evidently be circular to try to prove such a proposition inductively. Again, any particular perceptual judgment may be defended by argument if we grant the *general* principle that all *sensa* are appearances of physical objects. But I can see no possibility of inferring this principle either inductively or deductively from the existence and correlations of *sensa*. (iv) On the other hand, it is equally impossible to

refute these propositions by argument. And (v) in practice everyone assumes them, and it is difficult to see that we could possibly unify our experience or that we should have any motive for carrying our researches further if we did not assume them to be true. I take these five characteristics as the marks of a postulate.

§ 8. Now there is one suggestion that I want to make before leaving this subject. I do not think that we must *identify* necessary propositions with those which are self-evident or deducible by self-evident principles from self-evident premises. These properties seem to me to be *tests* (and the only available tests) for necessity. I would define an *à priori* proposition as one which is necessary and is recognized by us to be necessary. Hence *à priority* probably depends on two factors, viz.: (i) necessity, which is an intrinsic property of the proposition, and (ii) some special relation between the proposition and the mind which contemplates it. When this subsists the mind can *see* that the proposition is necessary, and so it is counted as *à priori*. Now there are some propositions which we can positively see to be necessary, e.g., the principle of the syllogism. There are many which we can positively see *not* to be necessary, e.g., that all grass is green or that a certain presentation of which I am now aware is red. But there are other propositions of which we cannot see either that they are or that they are not necessary, though they must of course be in fact one or the other. It is, e.g., a well-known fact that certain propositions in the theory of numbers which are now deduced *à priori* propositions were for many years accepted tentatively as the results of induction. It therefore seems to be possible that some at least of the postulates may be necessary propositions which higher or more favourably situated minds than ours would find self-evident or would be able to deduce from premises which they found self-evident. It is worth while to notice that there is a considerable analogy between the postulates and those *à priori* propositions which I have called "principles." The principles of deductive logic and of the theory of probability happen to be self-evident to us. But, if they had not been, we should certainly have had

to put them in the group of postulates ; for we evidently could not have made a step forward in unifying our experience without them. It does therefore seem possible that the analogy may be reversible, and that some of the postulates may really be necessary principles which only fail to be counted as *à priori* because we cannot see their necessity. Postulates may be called "hypothetically necessary"; i.e. they are necessary *for the purpose* of unifying our experience. *À priori* principles are hypothetically necessary, in this sense, and also *intrinsically* necessary, as is shown by their self-evidence. What I have been saying is that some at least of the postulates may also be intrinsically necessary, although we are not capable of seeing that this is so.

Suppose now that we take "necessary" and "contingent" to express intrinsic characteristics of propositions, and "certain" and "possible" to express subjective degrees of conviction in a rational but limited mind. We might then make the following statements. (i) *À priori* propositions are those which are certainly or almost certainly necessary. (ii) Empirical propositions are those which are certainly contingent. (iii) Postulates are those which are possibly necessary. Now, if we are certain of the necessity of a proposition, we are *ipso facto* certain of its truth. But to be certain of the contingency of a proposition implies nothing about our conviction of its truth. We may be certain that a proposition is contingent, and at the same time certain that it is true. I may be as certain that my headache is of a throbbing character as that $2 \times 2 = 4$, although the former is certainly contingent and the latter is certainly necessary.

§ 9. To sum up. (i) There is always a general possibility of error even about uninferred *à priori* propositions. It is admittedly possible to think that a proposition is necessary when it is not. This *general* difficulty is not a legitimate ground for doubting any *specific* proposition ; provided that we have honestly exposed it to all the objections that we can think of. But it is a ground for being always ready to re-open the question if fresh *specific* objections be brought to our notice. (ii) An

inferred *à priori* proposition is always less certain in proportion to the length and complexity of its proof. As Descartes pointed out, I have to trust my memory at the later stages for the conviction that the earlier steps were self-evident. Now, memory-propositions are empirical, and, for our purpose, must be classed with perceptual propositions. Thus the certainty of inferred *à priori* propositions is conditional; they are certain provided we can trust our memories, and that we have not deceived ourselves over any of the steps. (iii) Inspective propositions are practically certain provided they confine themselves to the positive non-relational characteristics of presentations or states of mind. The moment they go beyond this they are liable to error. Stumpf's argument shows that we can judge two *sensa* to be exactly alike when they are really different in intensity. Again, it would be perfectly possible to think that a *sensum* is *uniformly* red or *exactly* round when it is not. For these involve negative assertions, and more inspection will not guarantee them. Thus inspective propositions, though certain, tend to be very trivial. (iv) Perceptual propositions are still less certain. If I make the judgment: "This which I see is a pillar-box," I may be wrong in the following ways: (α) I may be basing a perceptual proposition on a mere image or on an hallucinatory *sensum*. (β) I may be misinterpreting a genuine *sensum*. The red pillar-like *sensum* may be due to a skilful painting on a flat canvas. (γ) The general assumption that all *sensa* are appearances of physical objects is only a postulate, and may be wrong. There may be no physical objects. (v) It is evident that inferred empirical propositions must have all the weaknesses of perceptual propositions together with others of their own. For their ultimate premises are perceptual propositions, and from these we reach inductive generalizations in accordance with the *à priori* principles of probability. But it is quite easy to show that these will not justify us in assigning any finite probability to inductive generalizations unless we also assume certain premises about the structure of nature. And, as we have seen, another postulate has to be made to justify the original perceptual propositions which the inductive

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proposition professes to generalize. Of course this is quite compatible with the fact that *some* inductive propositions may be more certain than *some* perceptual propositions. It is more reasonable to believe strongly that I *shall* be ill if I swallow arsenic than to believe strongly that a conjuror has really pounded my watch in a mortar and restored it to me, although I seem to have seen him do so.

§ 10. It is worth while to remark that sometimes it is quite certain that propositions of *some* kind are being assumed, and yet it is by no means easy to say exactly what these propositions are. In such cases the first business of Critical Philosophy is to find these assumptions and to state them clearly. This is one of the main difficulties of the theory of induction. Nearly every one was agreed that something, which they called the "Uniformity of Nature," was presupposed in all inductions. But (a) no one stated clearly what they meant by this; and (b) most writers seemed to think that nothing further was needed except the ordinary principles of deductive logic. It has therefore been an important task of Critical Philosophy to show (a) that inductive arguments can only be valid if they state their conclusions in terms of probability, and that they therefore use the principles of probability; and (b) that, if they do not *also* use some premise about nature, they will be unable to give any finite probability to their conclusions. The way is then clear for seeking the assumptions about nature which would suffice to give a reasonably high probability to the conclusions of generally accepted inductive arguments. It is easy to show that something more concrete than the Law of Causation is needed, and that the assumption of something like Natural Kinds at least is necessary. Finally, we are in a position to estimate the kind and degree of evidence which there is for such assumptions.

§ 11. It seems to me that we can lay down two useful general methods in Critical Philosophy. I will call them the *Principle of Exceptional Cases* and the *Principle of Pickwickian Senses*. I will now illustrate them with some examples. (i) If we want to clear up the meaning of some commonly used concept it is

enormously important to see how it applies to exceptional and abnormal cases. E.g., let us take the concept of "being in a place." This is commonly applied to things like pins and chairs, and it seems to be a simple two-term relation between a thing and a place. But now suppose that we ask: "Where is the mirror-image of a pin; and is it in its place in the same sense in which the pin itself is in *its* place?" It seems plausible to answer that the place where the image is is as far behind the mirror as the place where the pin is is in front of the mirror. At once two difficulties arise. (a) If you go to the place where the pin is said to be you can touch something correlated with the visual appearances which have guided you to this place. But, if you go to the place behind the mirror where the image is said to be, you may touch nothing or you may touch a brick wall. You will certainly not feel anything like a pin. (b) If you approach the place where the pin is said to be from *any* direction there will be a series of visual appearances which continues till you reach the place. But, if you approach the place where the image is said to be, you will find (a) that it is only from *certain* directions that any visual appearance resembling the pin is there, and (β) that from *all* directions of approach the series of visual appearances stops before you reach this place. Now in theory you could either take the sense in which the pin is in its place as fundamental, and try to explain the sense in which the image is in *its* place by making a number of supplementary hypotheses; or you could take the sense in which the image is in its place as fundamental, and regard the facts which are true of the pin and not of the image as due to the fulfilment of certain special conditions which *need* not be realized but which in fact generally are. The latter seems to be the only hopeful course to take. It leads us to two conclusions. (a) A perceptual object consists of several correlated components: one visual, one tactual, and so on. Generally the visual, tactual, and other components are all in the same place in important and definable (though different) senses. But they *may* be in different places when certain special simplifying conditions (homogeneity of the medium, etc.) are not ful-

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filled. (b) "Being in a place" is not a simple two-term relation between a visual appearance and a place. It is really at least a three-term relation, viz., "being in place x from place y ." Under special conditions, which happen to be often very nearly realized, there are similar visual appearances in a place from *all* places within a certain range. This is true of the pin. With a plain mirror we get a more general and less simple case. We have (a) similar visual appearances in a place from many, but not from all, *directions*. (β) There are no such appearances in this place from any place behind the mirror. (γ) There is no correlated tactual object at the place. The commoner, but more special, case is explained by the existence of a special set of simplifying conditions, which we refer to as the "homogeneity of the medium." This way of looking at the facts might be compared to regarding a circle as a specially simplified instance of the general conic section. Once you know the properties of the general conic you can deduce all the properties of the circle; but, if you insist on starting with the properties of the circle you will find a great deal to puzzle you in the properties of the general conic. Another example would be given by the study of multiple personality, telepathy, and other abnormal psychical phenomena. If we start with the view, which purely normal cases suggest, that every human body has one and only one self connected with it, and that this self is a completely unified continuous existent, we shall find the abnormal phenomena most difficult to deal with. But if we start from the other end, and regard the normal cases as due to special simplifying conditions which happen to be generally fulfilled, we may be more successful.

§ 12. (ii) *The Principle of Pickwickian Senses* was first developed by pure mathematicians in their attempts to define such things as irrational numbers. They saw that any entity which has the same formal properties as $\sqrt{2}$ and $\sqrt{3}$ are supposed to have can be taken to be $\sqrt{2}$ or $\sqrt{3}$, even though its internal structure be very different from that which people had commonly assigned to irrationals. Thus they define $\sqrt{2}$ and $\sqrt{3}$ as certain series of rationals, and show that such series have to each other

relations of the kind which irrationals are supposed by everyone to have to each other. The advantage of this definition is that it is quite certain that something exists which answers to it, whereas with other definitions of the same entities this cannot be shown to be so. Now of course most people do not think of irrationals, like $\sqrt{2}$ and $\sqrt{3}$, as *series* of ordinary numbers, but as a special *kind* of number. Hence, when we call certain series of rationals by the name of "irrational numbers," we may be said to be using the phrase in a "Pickwickian sense." (The name is due to Dr. Moore.) This principle has always been familiar in Theology. When theologians say that the Second Person of the Trinity is the son of the First Person, they are using the word "son" in a highly Pickwickian sense. Anyone who will read, e.g., St. Thomas's brilliant discussion of this subject in the *Summa contra Gentiles* will see how careful St. Thomas is to point out in his own language that phrases like "sonship" and "begetting" cannot be interpreted literally here, and will further see what an elaborate and metaphorical interpretation St. Thomas puts upon such phrases. Now Whitehead and Russell have explicitly carried this principle over into philosophy, where I am quite sure that it is destined to play a most important part. Whitehead has used it to define points, moments, etc., and has succeeded in giving Pickwickian senses to these terms, in which it is certain (α) that they exist; (β) that they have to each other the sort of relations which we expect points and moments to have; and (γ) that there is an intelligible and useful, though Pickwickian, sense in which we can say that volumes are "composed of" points, and durations of moments. This seems to me to be one of the most important steps in the philosophy of applied mathematics.

Russell has used much the same method in dealing with the still harder problem of the nature of matter, and the relation of a bit of matter to its various sensible appearances. I am not prepared to accept Russell's theory as it stands, because I think it still fails to do justice to the extreme complexity of the problem. But I think we can safely say that *any* tenable theory of matter can only admit its existence if it be defined

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in a highly Pickwickian sense. Even on the ordinary scientific view the statement that pillar-boxes are red must be interpreted in an extremely Pickwickian way before it can be accepted ; and more critical reflexion shows that still more radical modifications are needed in the common-sense view of the nature of matter. Thus the problem of matter and our perception of it seems to come to this :—" To define a Pickwickian sense of 'matter' in which (a) pieces of 'matter' shall have to each other the kind of relations which physics requires them to have ; (b) the variability and privacy of its sensible appearances shall be compatible with its relative constancy and its neutrality as between all observers ; (c) justice shall be done to the apparent dependence of its appearances on the physiological condition of the observer and the variations of the medium ; and (d) the minimum amount of purely hypothetical entities shall be postulated."

It is most important to understand that questions like : " Does matter exist ? " or " Is the self real ? " cannot be answered with a simple Yes or No. Unquestionably there are facts in the world to which the names "matter" and "self" apply ; and in that sense they are names of something real. But it is vitally important to distinguish between *facts* and the proper *analysis* or *description* of facts. The words "matter" and "self," as commonly used, do suggest certain theories about the facts to which they are applied. These theories are never clearly recognized or explicitly stated by common-sense ; and, on critical analysis, they are often found to consist of a number of propositions of very different degrees of importance and certainty. E.g., I think there is very little doubt that the word "self," as commonly used, implies something like the Pure Ego theory of the structure of those unities which we call "selves." Hence anyone who rejects the Pure Ego theory is, in one sense, "denying the reality of the self." But, if he offers an alternative analysis, which does equal justice to the peculiar unity which we find in the things called "selves," he is, in another sense, "accepting the reality of the self." Whenever one particular way of analysing a certain concept has been

almost universally, though tacitly, assumed, a man who rejects *this analysis* will seem to others (and often to himself) to be rejecting the *concept* itself. Thus James raises the question: "Does Consciousness Exist?", and suggests a negative answer. But really neither James nor anyone else in his senses doubts the existence of certain facts to which we apply the name "consciousness." The whole question is: "What is the right analysis of these facts?" Do they involve an unique kind of *stuff*, which does not occur in non-conscious facts; or is their peculiarity only one of *structure*?" To deny the first alternative is not really to deny the *existence* of consciousness; it is merely to deny an almost universally held *theory about* consciousness. Philosophy seems to me to be full of unprofitable discussions which depend on a failure to recognize this kind of ambiguity; and the Principle of Pickwickian Senses has the advantage that it forces the distinction on our notice.

§ 13. It remains to say something about the relations of other sciences to Critical Philosophy. It is clear that logic and ethics are simply branches of Critical Philosophy. Logic is its most general and fundamental part, being the science which classifies and analyses proportional forms and discusses their formal relations to each other. Now all sciences *consist* of propositions which are of various forms and stand in such relations that some are supposed to "follow from" others. But no other science is *about* propositional forms or their formal relations. Thus logic deals with the most fundamental of all concepts, and with those *à priori* principles which form the connective tissue of all knowledge. Ethics is that part of Critical Philosophy which tries to analyse the concepts and appraise the assumptions which are involved in our judgments of moral value.

The distinction between mathematics, physics, or chemistry, and what is called "the philosophy of" these sciences is, I think, pretty clear. But, as we pass to the more concrete and less advanced sciences, the distinction becomes in practice less definite. Discussions about mechanism and vitalism, e.g., are in part at least questions of Critical Philosophy, and yet

they appear in books on biology. I think that psychology is wrongly counted as a part of philosophy ; it is strictly a natural science based on observation and induction. But any standard work on psychology is full of discussions which really belong to Critical Philosophy. Attempts to analyse and define sensation, perception, selfhood, etc., belong to Critical Philosophy ; but it is quite impossible for the psychologist to avoid them, for these concepts are not, like those of physics, clear enough to be used for ordinary scientific purposes without risk of error. It is generally a bad thing when a science and the philosophy of that science are mixed up with each other, because two very different kinds of problems must then be dealt with by the same man, and hardly anyone combines the special aptitude and knowledge needed for both. We are all familiar with the nonsense which eminent philosophers have talked about scientific questions ; it is only equalled by the nonsense which eminent scientists continually talk about philosophical questions.

§ 14. SPECULATIVE PHILOSOPHY.—It is quite evident that what I have been describing under the name of *Critical Philosophy* does not include all that is understood by philosophy. It is certainly held to be the function of a philosopher to discuss the nature of Reality as a whole, and to consider the position and prospects of men in it. In a sense Critical Philosophy presupposes a certain view on this question. It assumes that our minds are so far in accord with the rest of Reality that by using them carefully and critically we approach nearer to the truth. But it is still clearer that Speculative Philosophy presupposes a considerable amount of Critical Philosophy. Its business is to take over all aspects of human experience, to reflect upon them, and to try to think out a view of Reality as a whole which shall do justice to all of them. Now it is perfectly useless to take over the scientific, social, ethical, æsthetic, and religious experiences of mankind in their crude, unanalysed form. We do not know what they mean or what weight to attach to various parts of the whole mass till we have submitted them to a critical analytic investigation. Two results follow at once from this consideration. (i) We cannot admit the

claim of any system of Speculative Philosophy to be the final truth. The best of them will be guesses at truth, and will be subject to modification as more facts are known, and as known facts become more and more fully analysed and criticized.

(ii) We must always admit the possibility that Critical Philosophy has not yet been carried far enough to make any attempt at Speculative Philosophy profitable.

§ 15. There is another general point which it seems important to notice. I think that, in different forms, it plays a vital part in such different philosophies as those of Mr. Bradley and M. Bergson, and in the thought of most great theologians, whether Christian or non-Christian. This is the question how far the discursive form of cognition by means of general concepts can ever be completely adequate to the concrete Reality which it seeks to describe. Thought must always be "about" its objects; to speak metaphorically, it is a transcription of the whole of Reality into a medium which is itself one aspect of Reality. We are bound to think of Reality as a complex of terms having various qualities and standing in various relations; because, if we do not think of it on these lines, we cannot think of it at all. With Mr. Bradley's attempt to show that this scheme involves *internal* contradictions I do not agree. But I do see clearly that we have only to compare a tune, as heard, or an emotion, as felt, with any conceptual description which we can give of them, to recognize how inadequate every conceptual description of Reality must be to Reality itself. When we can *both* be acquainted with something as a whole *and* can analyse and describe it conceptually, this difficulty is at its minimum. But we cannot be acquainted with Reality as a whole, as we can with a tune or an emotion, and therefore the difficulty is at a maximum in Speculative Philosophy. This limitation of the whole conceptual scheme is one which we must simply recognize once and for all and then ignore. We cannot avoid it in detail, and we cannot understand in outline any other kind of cognition. Since it is perfectly general, it applies equally to *every* system of Speculative Philosophy, and therefore gives us no ground for preferring one to another.

§ 16. It has been held by many philosophers, e.g., Spinoza and Hegel in the past and Dr. McTaggart at present, that important results about the structure of Reality as a whole can be reached by deductive arguments from self-evident premises. The best general account of such a view will be found in Dr. McTaggart's *Nature of Existence*. I do not think that this view can be refuted; it is theoretically possible, so far as I can see. But I am completely sceptical about its practicability. I feel pretty certain that all known attempts to elaborate a system of Speculative Philosophy on these lines either contain logical fallacies, or introduce premises which are ambiguous and only become self-evident when so interpreted as to be trivial. And I have not the slightest expectation that future essays in this direction will be any more successful.

§ 17. It seems to me that the main value of Speculative Philosophy lies, not in its conclusions, but in the collateral effects which it has, or ought to have, on the persons who pursue it. The speculative philosopher is forced to look at the world synoptically, and anyone who does not do this at some time in his life is bound to hold a very narrow and inadequate idea of Reality. This is a danger to which the natural scientist is peculiarly liable. The extraordinary success of physics and chemistry within their own sphere tempts men to think that the world is simply a physico-chemical system. These sciences, quite rightly for their own purposes, ignore the existence of minds; and scientists are liable to forget that somehow minds have grown up in a world of matter, and that it is by means of their activities that matter and its laws have become known. If a man referred to his brother or his cat as "an ingenious mechanism" we should know that he was either a fool or a physiologist. No one in practice treats himself or his fellow-men or his pet animals as machines, but scientists who have never made a study of Speculative Philosophy seem often to think it their duty to hold in theory what no one outside a lunatic asylum would accept in practice. If we remember that physics and chemistry are simply constructed to unify the correlations which we find among a selection of the *sensa* of

three or four senses, the idea that these sciences give a complete account of the structure of all Reality becomes ludicrous. Thus our inability to explain the facts of life and mind in purely physico-chemical terms is not a paradox to be explained away, but is what might reasonably have been expected from the outset.

On the other hand, the man who starts from the side of mind is equally liable to fail to do justice to the facts. The properties with which physics and chemistry deal *are* very pervasive, and we *do* know them more accurately and thoroughly than we know anything else. And minds *are* very closely bound up with certain bits of matter, viz., our brains and nervous systems, and they *do* seem to have gradually developed in a world which once contained nothing but matter. The characteristic fault of Idealism is to be unable to see the trees for the wood, and the characteristic fault of Realism is to be unable to see the wood for the trees. The great merit of Idealism is that it really has tried to do justice to the social, ethical, æsthetic, and religious facts of the world. The great merit of Realism is that it really has tried to face in a patient and detailed way the problem of matter and of our perception of it. But neither of these activities is a substitute for the other; and a genuine Speculative Philosophy must combine the detailed study of the lower categories with the due recognition of the higher categories, and must try to reconcile the pervasiveness of the former with the apparently growing importance of the latter.

§ 18. There is one thing which Speculative Philosophy must take into most serious consideration, and that is the religious and mystical experiences of mankind. These form a vast mass of facts which obviously deserve at least as careful attention as the sensations of mankind. They are of course less uniform than our sensations; many people, of whom I am one, are practically without these experiences. But probably most people have them to some extent, and there is a considerable amount of agreement between those people of all nations and ages, who have them to a marked degree. Of course the theoretical interpretations which have been put upon them are

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very varied, and it is obvious that they depend largely on the traditions of the time, place, and society in which the experient lives. I have compared the experiences themselves with sensations; we might compare the common features in the interpretations which have been put upon them with our ordinary common-sense beliefs about matter; and elaborate systems of theology might be compared with big scientific theories, like the wave theory of light. Obviously there remains a further step to be taken, comparable with the philosophic criticism and interpretation of scientific theories about matter. It seems reasonable to suppose at the outset that the whole mass of mystical and religious experience brings us into contact with an aspect of Reality which is not revealed in ordinary sense-perception, and that any system of Speculative Philosophy which ignores it will be extremely one-sided. In fact it cannot safely be ignored. If we count all such experiences as purely delusive, we must explain how such a widespread and comparatively coherent mass of illusion arose. And, if we find it impossible to take this view, we must try to understand and criticize these experiences; to sift away those factors in them which are of merely local and temporary interest; and to see what the residuum has to tell us about the probable nature of Reality. The great practical difficulty here is that those who have the experiences most vividly are seldom well fitted for the task of philosophical criticism and construction; whilst those who are fitted for the latter task are not often mystics or persons of religious genius. It is alleged, and it may well be true, that the capacity for such experiences can be cultivated by a suitable mode of life and a suitable system of training and meditation. In so far as this can be done without detriment to the critical faculties it deserves the serious attention of philosophers; for theories which are built on experiences known only by description are always unsatisfactory.

PRINCIPAL PUBLICATIONS

Perception, Physics, and Reality, 1913.
Scientific Thought, 1923.

IDEALISM AS A PRINCIPLE IN SCIENCE AND PHILOSOPHY

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