



Criteria of Truth and Error

Henry Sidgwick

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II.—CRITERIA OF TRUTH AND ERROR.

BY HENRY SIDGWICK.

THE present essay is a partial discussion of what I regard as the central problem of epistemology. In order that its drift may be clearly seen from the outset, I will begin by explaining briefly—without argument—my view of Philosophy, Epistemology and their relation. I take it to be the business of Philosophy—in Mr. Spencer's words—to “unify” or systematise as completely as possible our common thought, which it finds partially systematised in a number of different sciences and studies. Now before attempting this unification, we must wish to be somehow assured that the thoughts or beliefs which we seek to systematise completely are true and valid. This is obvious; no rational being with his eyes open would try to work up a mixture of truth and error into a coherent system, without some attempt to eliminate the error.

It is *prima facie* necessary, therefore, as a preliminary to the task of bringing into—or exhibiting in—coherent relation the different bodies of systematic thought which furnish the matter for Philosophy, to have some criteria for distinguishing truth from error. It may, however, be thought that this need—though undeniably urgent in the case of such studies as, *e.g.*, Politics and Theology—will not be practically presented, so long as the philosopher's work is confined to the positive sciences. The prevalence of error in Politics is kept prominently before our minds by the system of party government; and the effective working of this system almost requires the conviction on either side that the political programme of the other party—unhappily often in a majority—is a tissue of errors. So again in Theology, it is the established belief of average members of any religious denomination that the whole world outside the pale of the denomination lies in the darkness of error on some fundamental points; and even within the pale, the wide-spread existence of right-hand backslidings and left-hand defections from the standard of orthodoxy is con-

tinually attracting the attention of the newspapers. But no doubt, in elementary study of the positive sciences, error is commonly only brought before our minds in the strictly limited form of slight discrepancy in the results of observation, as something reducible to a minimum by an application of the theory of probabilities.

Still the danger of error is only thus kept in the background, so long as we confine our attention to the more settled parts of the established sciences in their present condition. Around and beneath these more settled portions, in the region where knowledge is growing in range or depth, and the human intellect endeavouring to solve new questions, or penetrate to a more solid basis of principles, we find continually conflict and controversy as to the truth of new conclusions—which appear established and demonstrated to the adventurous minds that have worked them out—as to the legitimacy of new hypotheses, and the validity of new methods; and wherever we find such conflict and controversy, there must be error on one side or the other, or possibly on both.

And the fact of error is still more prominently brought before our minds when we turn from the present to the past, and retrace the history of the now established sciences: since we find that in almost all cases human knowledge has progressed not merely by adding newly ascertained facts to facts previously ascertained, but also, to an important extent, by questioning and correcting or discarding beliefs—often whole systems of connected beliefs—previously held on insufficient grounds. In this way, convinced by Copernicus, the human mind dropped the Ptolemaic astronomy and re-constructed its view of the planetary and celestial motions on the heliocentric hypothesis; convinced by Galileo, it discarded the fundamental errors of Aristotle's view of matter; convinced by Lavoisier, it rectified its conception of chemical elements, and relegated the remarkable substance "phlogiston"—that had enjoyed an imaginary existence for something like a century—to the limbo of recognised non-entities; convinced by Darwin, it abandoned its fundamental notion of the fixity of organic species, and accepted a revolution in morphological method.

Now the student of science is ordinarily not much disturbed by this evidence that his class forms no exception to Pope's oft quoted characterisation of man as "sole judge of truth, in endless error hurled". When, in the progress of thought, any prevalent scientific belief is recognised as erroneous, he simply discards this—with more or less endeavour to

ascertain the particular causes of error and guard against their recurrence—and, on the whole, continues his natural processes of acquiring, evolving, systematising beliefs with undiminished confidence. But to the philosophical mind the ascertained erroneousness of some beliefs is apt to suggest the possible erroneousness of all. If a belief that I once held to be certainly true has turned out to be false, what guarantees me against a similar discovery in respect of any other belief which I am now holding to be true? The mind is thus overspread with a general and sweeping distrust of the processes of ordinary thinking, which is not exactly to be called philosophical scepticism—since this usually presents itself as systematically deduced from premises accepted by philosophers—but is rather to be conceived as the naïve untechnical scepticism of a philosophic mind, which may turn out to be (as in the classical case of Descartes) a mere stage in its progress toward a dogmatic system. At any rate, it is the removal of this philosophic uncertainty—in respect of beliefs that, in ordinary thought, are commonly assumed to be true—that I regard as the primary aim of Epistemology.

I have said that this task lies in the way of philosophy ; but, I ought to add, that it does not appear to lie in the way of all philosophers. Some of those who have devoted their minds to the solution of philosophical problems seem hardly to have contemplated error except as a kind of misconduct into which the rest of the human race—and especially other philosophers—are inexcusably prone to fall. It is, indeed, a common experience of mankind in all departments of theory and practice that the liability to error is more equally distributed among human beings than the consciousness of such liability. But the variations of self-confidence that we find among persons who have devoted themselves to the business of philosophy are perhaps less than elsewhere to be attributed to differences of individual temperament: it would rather seem that in the social movement of philosophic thought there are general ebbs and flows; an age of confidence followed by an age of diffidence. It is partly the fact that the philosophic mind of the modern world is now rather at the ebb, with its constructive impulses comparatively feeble, which explains the development and the prominence that the epistemological aspect or function of philosophy is now receiving; and has accordingly led to the composition of the present paper.

I will begin by somewhat limiting my subject for clearness of discussion. I have contrasted ordinary certitude with

philosophic doubt; but even the plain man is not always cocksure. Sometimes he even doubts and suspends his judgment; but even when he believes and positively affirms, many of his beliefs and affirmations—most of those relating to the future—are intended to be taken as not certain but probable. By a ‘probable’ belief I do not now mean a belief relating to probabilities; for this may be as certain as any other—as for instance the belief that the chances are even that a penny I toss will come down tails. The theory of chances has been described as a method of extracting knowledge out of ignorance; it is undoubtedly a method of converting probable judgments into certain ones—though the certainty is of a peculiar kind, and its verification presents a special epistemological problem of some interest. But the probable beliefs that I now wish to distinguish from certain ones are beliefs which involve no attempt at a quantitative estimate of ‘amount of probability’; and they are often in form of expression indistinguishable from beliefs held with certitude:—thus when a man affirms in conversation that the new plan of international arbitration will have no practical effect, or that the Liberal Party must return to power after the next general election; it will be generally understood that though the speaker may appear to express certitude on these points, he only means that the events are extremely probable. I draw attention to this ambiguity of expression, because it facilitates an indeterminateness of thought, of which we have to take note in applying the distinction that I now draw between “certain” and “probable” beliefs. Often in ordinary thought we do not know whether we are *sure* of what we affirm unless we are led to reflect on the point; sometimes we do not know after reflection; sometimes we are conscious of elements of uncertainty which we decide to disregard, and then we say that we are “morally certain”—meaning that we should unhesitatingly act as if we were certain. This last state of mind I shall consider hereafter; at present I wish to confine attention to beliefs which present themselves in ordinary thought as certain without qualification. Of these I may roughly distinguish three chief classes: (1) particular beliefs about the present and recent past of the changing world of which we are part; (2) general beliefs more or less systematised in the sciences, especially the exact sciences, which we may happen to know; (3) beliefs that *prima facie* relate not to mere matter of fact but to moral or æsthetic valuation—to what we ought to do as individuals, or what government

ought to do, or what is good and bad in manners, literature and art. Of course in these latter regions of belief any educated person is aware that there is much doubt and controversy; still there are plenty of propositions in each of the regions indicated, which it would seem in ordinary thought as absurd to dispute or qualify as propositions with regard to the most familiar matters of fact. When Charles Lamb took a candle to examine the cerebral bumps of the soap-boiler who affirmed that Shakespeare was a first-rate dramatic writer, it was, I suppose, because the irrefragable certainty of the proposition seemed to render its express statement absurdly superfluous.

Concentrating attention, then, on beliefs that in ordinary thought are certain in the sense explained, let us—with a view to a necessary limitation of our inquiry—take a second distinction. Reflecting upon the beliefs of the truth of which I have no doubt, I perceive that some of them (*e.g.*, the propositions of Euclid) have only derivative or dependent certainty—my belief in them rests on my belief in some other proposition or propositions; while in other cases (*e.g.*, most of the axioms of Euclid) my certitude may be distinguished as primary or independent. In the instance given—as I have personally followed the reasonings of Euclid and satisfied myself as to their cogency—I might employ a clearer antithesis, and say that some of my geometrical beliefs have “intuitive” and others demonstrative certainty. But this antithesis is too narrow for my present purpose. For, firstly, I do not profess to have intuitive certainty with regard to all beliefs for which proof does not seem to be required. I am certain that I read through the three first pages of this essay before I sat down to write the fourth half an hour ago; but it would be contrary to usage to call this certainty “intuitive,” though the belief does not present itself to me as requiring proof. Secondly, I wish to include among beliefs with derivative certainty that comparatively large body of scientific conclusions which I believe to have been scientifically proved, though not to me, and which I accordingly accept on the authority of one or more other persons. Of course, in a wide sense of the word, a statement of my grounds for trusting any conclusion arrived at by some other mind might be called my “proof” of the proposition; but at any rate it would not be scientific demonstration, and it would be odd to call the certainty of any such belief to me “demonstrative certainty”. For simplicity, let us here provisionally disregard any doubts of the authority of others as others: then the distinction will be

between beliefs which requiring proof seem to have obtained it, and beliefs which do not seem to require it.

Now the errors due to taking invalid proof for valid are the special subject of investigation in the science of Logic; and it is widely held that the labours of logicians have provided adequate criteria for excluding them: that they have discovered by analysis certain forms of reasoning into one or other of which any cogent inference may be thrown, and by the application of which the validity or invalidity of any process of inference may be made manifest. Suppose we grant this: then our epistemological problem is solved in respect of dependent or inferential beliefs—so far as the process of inference by which they are reached is capable of being thrown into a logically cogent form. That is, I can in this way obtain assurance that all my apparently proved beliefs are true if the premises from which they are inferred are true: and if these premises are themselves arrived at by inference I can similarly apply the test to the proof of them—and so on till we come to the ultimate premises. I propose to assume for the purpose of this paper that Logic has done satisfactorily what it commonly professes to have done; and that our task, accordingly, may be limited to the verification of ultimate premises, or beliefs that are in ordinary thought accepted as not requiring proof.

The importance of the task thus limited has been fully recognised by some philosophers. J. S. Mill, indeed, seems disposed to bestow on this inquiry the venerable name of "Metaphysics". "The grand question," he says, "of what is called Metaphysics is 'what are the propositions that may reasonably be received without proof?'" And it is, I suppose, to propositions of this kind that Descartes' famous criterion—expressed in the formula "that all the things which we very clearly and distinctly conceive are true"—was primarily designed to apply.

On the other hand, it seems to be also primarily to this class of propositions that Kant's unqualified rejection of "a general criterion of truth" applies¹—since Kant regards Logic as having adequately furnished criteria of formal truth, and therefore of all kinds of inference. In fact Kant's condemnation of the task on which I am engaged is so strong and sweeping that I think it well to examine his arguments before proceeding further. I give it somewhat abbreviated.

"If truth consists—as is admitted—in the agreement of

¹ See section 3 of the *Introduction to Transcendental Logic (Kritik der reinen Vernunft)*. Hart., p. 86).

a cognition with its object, that object must, by the true cognition, be distinguished from some other object or objects. Now it is implied in the idea of a general criterion of truth that it is valid with regard to every kind of cognition, whatever the objects cognised may be. But then, as such a criterion must abstract from the particular contents of particular cognitions, whereas, as we have seen, truth concerns those very contents, it is impossible and absurd to suppose that such a general criterion can give us a sign of the truth of cognition in respect of its content or matter. Therefore a sufficient and at the same time general criterion of truth cannot possibly be found."

In examining this passage I may begin by pointing out that Kant's view of truth as 'consisting in the agreement of cognition with its object'—which he takes as universally accepted—cannot be applied to all propositions without a difficult extension of the notion of "object" (*Gegenstand*). This will appear, if we try to apply it to strictly hypothetical propositions, or to categorical propositions of ethical import.

To this consideration I shall hereafter return; meanwhile, in discussing Kant's definition, I shall assume for clearness, that we are dealing with judgments that are intended to represent some fact, past, present or future, particular or general. Thus restricted, Kant's argument is simple and at first sight plausible; but I think it contains a *petitio principii*. For it proceeds on the assumption that true cognitions cannot as such have any *common* characteristic, except that of agreeing with their objects; but that it is surely to assume the very point in question. To illustrate this, let us take Descartes' criterion before referred to, as the first that comes to hand in the history of modern philosophy. How can the diversity of the objects of cognition be a logical ground for denying that "what is clearly and distinctly conceived" is necessarily true?—since the distinction between clear and obscure, and between distinct and confused conception, does not become less applicable when we pass from one kind of object to another.

It may be answered on Kant's behalf that "clearness and distinctness of conception" belong to the form of thought not to its matter; that clearness and distinctness of conception may prevent us from attributing to any subject an incompatible predicate, but not from attributing a predicate that though compatible does not actually belong to the subject. But it is just this dogmatic separation of form from matter that I regard as an unproved assumption. It is surely conceivable that the relation of the knowing mind

to knowable things—to the whole realm of possible objects of knowledge—is such that, whenever any matter of thought is clearly and distinctly conceived, the immediate judgments which the mind unhesitatingly affirms with regard to it are always true. As will presently appear, I do not hold a brief for the Cartesian criterion; on the contrary, I have no doubt whatever that the Cartesian criterion taken by itself is inadequate. All I urge is that its inadequacy is not established by Kant's summary argument.

Let us turn to consider Kant's sweeping negation in relation to a different criterion, laid down by Empiricists.

I take the principle of Empiricism, as an epistemological doctrine, to be that the ultimately valid premises of all scientific reasonings are cognitions of particular facts; all the generalisations of science being held to be obtained from these particular cognitions by induction, and to depend upon these for their validity. I do not accept this principle; I think it impossible to establish the general truths of the accepted sciences by processes of cogent inference on the basis of merely particular premises; and I think the chief service that J. S. Mill rendered to philosophy, by his elaborate attempt to perform this task, was to make this impossibility as clear as day. But I wish now to avoid this controversy; and, in order to avoid it, I shall take the Empirical criterion as relating only to particular cognitions; leaving open the question how far we also require universal premises in the construction of science.

The criterion is briefly discussed by Mill, *Logic*, book iv., chapter i., §§ 1, 2. It being understood that the validity of the general truths of the sciences depends on the correctness of induction from correct observation of particular facts, the question is what guarantee there is of the correctness of the observations?—in Mill's words "we have to consider what is needful in order that the fact supposed to be observed may safely be received as true". The answer is "in its first aspect," very simple. "The sole condition is that what is supposed to have been observed shall really have been observed; that it be an observation—not an inference." The fulfilment, indeed, of this sole and simple condition is not—as Mill goes on to explain—so easy as it may appear; "for in almost every act of our perceiving faculties, observation and inference are intimately blended; what we are said to observe is usually a compound result of which one-tenth may be observation and nine-tenths inference". *E.g.*, I affirm that I saw my brother at a certain hour this morning; this would commonly be said to be a fact known through the

direct testimony of my senses. But the truth, Mill explains, is far otherwise; for I might have had visual sensations so similar as to be indistinguishable from those I actually had without my brother being there; I might have seen some one very like him, or it might have been a dream, or a waking hallucination; and if I had the ordinary evidence that my brother was dead, or in India, I should probably adopt one or other of these suppositions without hesitation. Now, obviously, "if any of these suppositions had been true, the affirmation that I saw my brother would have been erroneous"; but this does not, in Mill's view, invalidate the Empirical criterion, for "whatever was matter of direct perception, namely, the visual sensations, would have been real"; my apparent cognition of this reality (he tacitly assumes) would have been a true and valid cognition. In short, only separate observation from inference and observation—or apparent knowledge obtained through observation—is absolutely valid and trustworthy; the idea that these are "errors of sense" is itself a vulgar error, or at least a loose thought or phrase; there are no errors in direct sense-perception, but only erroneous inferences from sense.

Now I shall presently consider how far this criterion, taken in any sense in which it would be available for its purpose, is completely trustworthy. But, however, that may be, it seems to me that Kant's sweeping negative argument—which we are now examining—has really no force against its validity. No doubt, according to Kant's general view of the form and matter of thought, this criterion, like the other, relates primarily to the form; for it rests on the distinction between two different functions of the knowing mind—Observation or Perception and Inference. But I see no reason to infer that it is *therefore* incapable of guaranteeing the material truth of Empirical cognition; or that the relation of the knowable world to the knowing mind cannot possibly be what Empiricism affirms it to be.

If now we contemplate together the two criteria that have been examined—the Cartesian and the Empirical—it is evident that, at least in its primary intention, neither alone covers the whole ground of the premises for which verification is *primâ facie* required. The Empirical criterion only verifies particular premises, and the Cartesian appears to be applied by its author primarily to universals—to what is "clearly and distinctly conceived by the pure understanding".

This leads me to suggest that Kant has perhaps taken too strictly the demand for a "universal" (allgemein) criterion of truth. He has understood it to be a demand for some

ascertainable characteristic—other than truth—always found to belong to valid cognitions, and never found in invalid ones. And no doubt a criterion of this scope is what any philosopher would like to get; but any one who has realised the slow, prolonged, tortuous process by which the human intellect has attained such truth as it has now got, will thankfully accept something less complete. If (*e.g.*) any epistemological doctrine offers, among the commonly accepted premises of scientific reasoning, to mark out a substantial portion to which the stamp of philosophic certainty may be affixed; or if, again, it offers to cut out a class of invalid and untrustworthy affirmations, to warn us off a region in which our natural impulse to affirm or believe must, if indulged, produce mere illusion and semblance of knowledge—then, if either offer is made good, we shall gratefully accept it as a philosophic gain.

Now it is remarkable that in both these ways, but especially in the latter way, Kant undoubtedly does offer general criteria of truth which, if valid, are of immense importance. Indeed it is the very aim and purpose of his *Critical Philosophy*—as its name indicates—to establish such criteria: it is its aim, by a critical examination of our faculties of knowledge, to cut off and stamp as manifest illusion the whole mass of beliefs and affirmations with regard to “things in themselves” which common sense naïvely makes, and which—or some of which—previous dogmatic philosophers had accepted as valid. At the same time, by the same critical analysis, Kant seeks to stamp with philosophic precision and certitude the fundamental principles of physical knowledge—as that every event has a cause, and the quantum of substance in the physical world is unchangeable—while restricting the application of these principles to phenomena.

And here I would remark that the main importance for philosophy of the epistemological question brought into prominence by Kantian Criticism—the question as to the Limits of human knowledge—seems to depend upon its connexion with the question with which we are now concerned,—the inquiry after criteria. For our interest in Kant's inquiry into the limits of knowledge certainly depends on the fact that the limits which the critical thinker aims at establishing have been actually transgressed by other thinkers. It therefore implies an actual claim to validity on behalf of assertions transgressing the limits which the criticist denies: so that he may be viewed as propounding in respect of these assertions a criterion for distinguishing

truth from error, which stamps them as error. It is true that as regards a part of the assertions he discusses—*e.g.*, as to the infinity or finiteness of Space and time, or the infinite or finite divisibility of matter—the criticist finds a controversy going on which implies error on one side or the other: but by his criterion he decides that there is error on both sides—the “antinomy” which leads to controversy in each case arising from a fundamental misconception common to both sides.

It is no part of my plan to criticise Kant's epistemology: what I am rather concerned to point out is that his system is embarrassed in a quite special manner by the difficulty that besets every constructive epistemology—the difficulty of finding a satisfactory answer to the question, ‘Quis custodiet custodem?’ For the claim of Criticism is to establish the limits of human knowledge by an examination of man's faculties of knowledge: but the proposition that we have faculties of cognition so and so constituted can only be an inference from the proposition that we have such and such valid cognitions. It would thus seem that the Critical procedure must presuppose that truth adequately distinguished from error has already been certainly obtained in some departments. And in fact this presupposition is frankly made by Kant so far as Mathematics and Physical Science are concerned. He expressly takes their validity as a *datum*. Mathematics, he tells us (*Proleg.*, § 40), “rests on its own evidence,” and Physical Science “on experience and its thorough-going confirmation”: neither study stands in need of Criticism “for its own safety and certainty”. And he similarly assumes the validity and completeness of Formal Logic as the starting-point for his *Transcendental Analytic*.

If, therefore, we ask for a criterion of truth and error in Mathematical and Logical Judgments—and error undeniably occurs in both—or in the Empirical cognitions which confirm the general propositions of physical science, we cannot obtain this from Kantian criticism without involving the latter in a *circulus in probando*. We are therefore *primâ facie* thrown back in the former case on the Cartesian or some similar criterion for guaranteeing “truths of reason,” in the latter case on some Empirical criterion for guaranteeing “truths of fact”.

I turn, therefore, to examine more closely these two criteria. With regard to the former, however, it may be thought that such examination is now superfluous, since the historic failure of Descartes' attempt to extend the evidence of mathematics to his physical and metaphysical

principles has sufficiently shown its invalidity. "*Securus judicat orbis terrarum*"; and the inadequacy of the Cartesian criterion may be thought to be now "*res judicata*". On the other hand, Mr. Spencer has in recent times put forward a criterion which, so far as it relates to universal cognitions, has at least a close affinity to the Cartesian. I propose, therefore, to begin by some consideration of the earlier proposition.

I may begin by saying that Descartes' statement of his criterion hardly satisfies his own requirements, *i.e.*, it is not quite clear what he means by the "clearness" of a notion. I think that it will render Descartes' meaning with sufficient precision to drop the word "clear," keeping "distinct" (which, he says, involves "clear"), and explain a distinct notion of any object to be one that is not liable to be confounded with that of any different object—"object" being taken to denote any distinguishable element or aspect of Being, in the sense in which Descartes uses 'Being' as a wider term than Existence, and includes under it the objects of mathematical thought.

One further modification of Descartes' statement seems expedient: Descartes applies the term "clear" (or "distinct") "conception" to the cognition of the connexion of subject and predicate in a true judgment, as well as to the notions taken separately. But it seems desirable to make more explicit the distinction between the two; since the indistinctness that causes error may be held to lie not in the latter but in the former.

We may state our question, then, as follows: "Is error in universal judgments certainly excluded by a distinct conception of the subject and predicate of the judgment and of their connexion?" But this at once suggests a second question: "Why does Descartes hold it to be excluded?" And here it is noteworthy that he nowhere affirms the infallibility of his criterion to be intuitively known. He seems to have three ways of establishing it: (1) He presents it as implied in the certainty of his conscious existence (*Meth.*, iv., and *Med.*, iii.); (2) he presents it as a deduction from the veracity of God (*Princ.*, xxix., xxx.); (3) he rests it on an appeal to the experience of his readers (*Réponses aux II^des Objections*, Demande, vii.). The first two procedures appear to me obviously unsatisfactory¹; I therefore propose only to consider the Empirical basis of the criterion.

¹ The certainty of the proposition 'sum cogitans' surely does not carry with it the certainty of the only discoverable general reason for accepting it as certain; and—as the veracity of God has to be demonstrated—the second procedure involves Descartes in a logical circle as has often been observed.

Let us ask, then, whether, when error occurs and we are convinced of it, in mathematical or logical assertions, experience shows it to have occurred through want of distinctness in our conceptions? Now—excluding the case of reasoning in which symbols are used more or less mechanically, so that error when it occurs is usually due to a casual lapse of memory—I find that Descartes' view is confirmed by my experience in a certain sense; but not in a sense which tends to establish the adequacy of his criterion. That is, the discovery of any such error seems always to involve the discovery of a past confusion of thought; but, in some cases at least, *before* the discovery of the error the thought *appeared* to be quite free from confusion, so that the most conscientious application of the criterion would not have saved me from error. I suppose the experience of others to be similar. Let me take as an illustration a mathematical error of an eminent thinker which I transiently shared.

In an attack on Metageometry (*Metaph.*, book ii., chapter ii.) Lotze, discussing Helmholtz's fiction of an intelligent being whose life and experience are confined to the surface of a sphere, remarks that such a being, if it moved in a small circle of the sphere, would find that "the meridians known to it from other experiences make smaller angles with its path on the side" towards the pole of the circle, "and greater on the opposite side". On first reading this sentence I thought I could see clearly the fact as stated; then, on further consideration, I saw that the meridians must cut the small circle at right angles; then—reflecting on my momentary error in order to see how I had been misled—I perceived that the object I had been contemplating in idea was not a true spherical surface, but a confused mixture or *tertium quid* between such a surface and its projection on a plane. When discovered, the confusion seemed very palpable; but the opposite view had seemed clear and distinct when I agreed with Lotze's assertion, and I could not doubt that it had seemed so to Lotze himself.

I do not therefore think the Cartesian criterion useless; on the contrary, I believe that I have actually saved myself from error by applying it. But the experience to which Descartes appeals seems to me to show that judgments, universal and particular, often present themselves with an illusory semblance of distinct conception or perception which cannot be stripped from them by direct reflexion; though it often vanishes at once when the judgment is otherwise demonstrated to be erroneous. In the case of perception Descartes expressly recognises this; he speaks (*Med.*, iii.)

of the existence of things outside him exactly like his ideas as something which "I thought I perceived very clearly, though in reality I did not perceive it all". In this case, however, the Empirical criterion offers a guarantee against error by the rigorous separation of observation from inference. This guarantee I will now proceed to examine.

I may begin by remarking a curious interchange of rôles between Rationalism and Empiricism as regards the evidence claimed for their respective criteria. While the Rationalist's criterion is partly supported, as we have seen, on an appeal to experience, the validity of the Empirical criterion appears to be treated as self-evident. At least this seems to be implied in Mill's language before referred to; where, after pointing out various possible sources of error in the affirmation that "I saw my brother this morning," he says that if any of these possibilities had been realised, "the affirmation that I saw my brother would have been erroneous: but *whatever was matter of direct perception, namely the visual sensations, would have been real*". For his argument requires us to understand the last sentence as meaning not merely that there would have been sensations for me to perceive, but that my perception of them would certainly have been free from error: and as no empirical proof is offered of this last proposition, it seems to have been regarded as not requiring proof. But—even if we assume, to limit the discussion, that a man cannot, strictly speaking, observe anything except his own states of consciousness—it still seems paradoxical to affirm that the elimination of all inference from such observation would leave a residuum of certainly true cognition: considering the numerous philosophical disputes that have arisen from the conflicting views taken by different thinkers of psychological experiences supposed to be similar. Take (*e.g.*) the controversy since Hume about the impossibility of finding a self in the stream of psychological experience, or that as to the consciousness of free will, or the disinterestedness of moral choice, or the feeling-tone of desire; surely in view of these and other controversies it would be extraordinarily rash to claim freedom from error for our cognitions of psychological fact, let them be never so rigorously purged of inference.

The truth seems to be that the indubitable certainty of the judgment "I am conscious" has been rather hastily extended by Empiricists to judgments affirming that my present consciousness is such and such. But these latter judgments necessarily involve an *implicit* comparison and classification of the present consciousness with elements

of past conscious experience recalled in memory: and the implied classification may obviously be erroneous either through inaccuracy of memory or a mistake in the comparative judgment. And the risk of error cannot well be avoided by eliminating along with inference this implicit classification: for the psychical fact observed cannot be distinctly thought at all without it: if we rigorously purge it away, there will be nothing left save the cognition of self and of we cannot say what psychical fact. Nay it is doubtful whether even this much will be left for the Empiricist's observation: since he may share Hume's inability to find a self in the stream of psychical experience, or to maintain a clear distinction between psychical and material fact. Thus the Empiricist criterion, if extended to purge away comparison as well as inference, may leave us nothing free from error but the bare affirmation of Fact not further definable.

Here again I am far from denying the value of the Empirical criterion. I have no doubt of the importance of distinguishing the inferential element in our apparently immediate judgments as far as we can, with a view to the elimination of error. Only the assertion that we can by this procedure obtain a residuum of certainly true cognition seems to me neither self-evident nor confirmed by experience.

I pass to examine the criterion propounded by Mr. Herbert Spencer in his *Principles of Psychology* (part vii., ch. ix.-xii.): which, in his view is applicable equally to particular and universal cognitions. It is there laid down that "the inconceivableness of its negation is that which shows a cognition to possess the highest rank—is the criterion by which its unsurpassable validity is known". . . . "If the negation of a proposition is inconceivable"—i.e., "if its terms cannot by any effort be brought before consciousness in that relation which the proposition asserts between them"—we "have the highest possible logical justification for holding it to be unquestionable." This is, in Mr. Spencer's view, the Universal Postulate, on the validity of which the validity of all reasoning depends.

Before we examine the validity of the criterion, the meaning of the term "inconceivable" requires some discussion. In replying to a criticism by J. S. Mill, Mr. Spencer—while recognising that "inconceivable" is sometimes loosely used in the sense of "incredible"—repudiates this meaning for his own use. But I agree with Mill in regarding this repudiation as hasty, so far as the criterion is applied to propositions that represent particular facts—

e.g., "I feel cold". For in most cases in which such a statement is made it would not be true to say "I cannot conceive myself not feeling cold," since only very intense sensation excludes the imagination or conception of a feeling opposite in quality. We might, no doubt, say "I cannot conceive that I am not feeling cold": but the form of this sentence shows that I have passed from conception, strictly taken, to belief. Spencer's contention that in this case the connexion of the predicate-notion "feeling cold" with the subject-notion "self" is for the time "absolute," though only "temporarily," seems to me to ignore the complexity of consciousness. According to my experience, disagreeable sensations, when not too violent, even tend to excite the opposite imagination: *e.g.*, great thirst is apt to be attended by a recurrent imagination of cool spring water gurgling down my throat. I cannot therefore agree that the utmost certainty in a proposition representing a transient empirical fact involves the "inconceivability" of its negation—except in a peculiar sense of the term in which it is equivalent to "intuitive incredibility".

It is no doubt otherwise in the case of universal propositions intuitively known—or, in Mr. Spencer's phrase, "cognitions in which the union of subject and predicate is permanently absolute". I cannot imagine or conceive two straight lines enclosing a space: here "intuitive incredibility" coincides with "inconceivability" in the strict sense; only either attribute must be taken with the qualification that I can suppose my inability to conceive or believe to be due to a defect of my intellect.

With this explanation, I shall allow myself to use Mr. Spencer's term in a stricter or looser sense, according as the cognition in question is universal or particular. I have no doubt that "inconceivability of negation," so understood, is normally an attribute of propositions that appear self-evident truths; I think that, in trying to apprehend distinctly the degree of certainty attaching to any such proposition, we commonly do apply—more or less consciously—Mr. Spencer's test, and that a systematic application of it is a useful protection against error. But I think that the objection before urged against the infallibility of the Cartesian criterion applies equally to Mr. Spencer's. Indeed he admits "that some propositions have been wrongly accepted as true, because their negations were supposed inconceivable when they were not". But he argues that this "does not disprove the validity of the test"; chiefly because (1) "they were complex propositions, not to be established by a test applicable only

to propositions no further decomposable"; and (2) this test, like any other, is liable to yield untrue results, "either from incapacity or from carelessness in those who use it". The force of the second admission depends on the extension given to "incapacity". Casual and transient incapacity—similar to the occasional logical fallacies that occur in ordinary reasoning—would not seriously impair the value of the criterion; but how if the historical divergences of thought indicate obstinate and widespread incapacity? Mr. Spencer seems to hold that this is not the case if we limit the application of the criterion to simple propositions; thus he contrasts the complexity of the erroneous proposition maintained by those who regarded the existence of antipodes as inconceivable with the simplicity of the propositions that "embody the ultimate relations of space". But the proposition that "heavy things must fall downward" is apparently as simple as the proposition that "two straight lines cannot enclose a space"; and if analysis reveals complexity in the notions connected in the former proposition, this is equally the case with the latter, according to Spencer's own account of spatial perception: since, in his view, any perception of space involves "an aggregate of simultaneous states of consciousness symbolising a series of states to which it is found equivalent".

The difficulty of applying this criterion is forcibly presented when we examine the philosophical doctrine to support which it is especially propounded. For Mr. Spencer's primary aim in establishing it is to defend Realism against Idealism: this he regards as vital to his system, since "if Idealism is true, the doctrine of Evolution is a dream". Now, he nowhere, I think, expressly defines Realism: but his argument throughout implies that what is defended is the proposition that the Non-ego exists independently of the Ego. It is this proposition of which he seems to hold the negation inconceivable in any particular case of external perception: as (*e.g.*) where he speaks (*Princ. of Psych.*, § 441) of the "primary deliverances of consciousness which yield subject and object as independent existences;" and it is in this sense, as I understand, that in his *First Principles* (§§ 44, 45) he speaks of the "division of self from not-self" as "the primordial datum of Philosophy". If now we ask what "self" and "not-self" exactly mean, it is explained that we apply the term *Self*, *Ego* to an aggregate or series of faint states of consciousness, and the terms *Not-self*, *Non-ego* to an aggregate or series of vivid states: "or rather more truly—each order of manifestations carries with it the irresistible

implication of some power that manifests itself, and by the words *Ego* and *Non-ego* respectively we mean the power that manifests itself in the faint forms, and the power that manifests itself in the vivid forms" (*First Principles*, § 44).

Now the proposition that an aggregate of vivid states of consciousness *plus* a power that manifests itself in them is independent of an aggregate of faint states *plus* a power that manifests itself in these is certainly not simple; while, if we try to decompose it into more elementary propositions, it seems impossible to obtain any which we can even suppose Mr. Spencer to regard as guaranteed by his criterion. For, since states of consciousness *primâ facie* imply a conscious self to which they are attributed, we cannot suppose Mr. Spencer to regard as inconceivable the negation of the independent existence of an external object so far as this is taken to be an aggregate of vivid states of consciousness; especially as he sometimes uses the term "existence beyond consciousness" as an equivalent for the independent *non-ego*. Are we to take, then, as the fundamental doctrine of Realism, established by the criterion, the proposition that the power manifested in the vivid states exists independently of the power manifested in the faint states? But again it seems impossible to suppose that Mr. Spencer regards the negation of this proposition as inconceivable, because, first, he holds that "it is one and the same ultimate reality that is manifested to us subjectively and objectively" (*Princ. of Psych.*, § 273); and secondly he holds that this ultimate reality or Power "is totally and for ever inconceivable" and "unknowable" (*First Principles*, part i., chapter v.).

I cannot indeed reconcile these two statements—I should have thought that we could not reasonably attribute either unity or duality to a totally unknowable entity: but if either of the two is maintained, it surely cannot at the same time be maintained that the negation of two independent Powers is inconceivable.

I conclude, therefore, that Mr. Spencer's Universal Postulate is inadequate to guarantee even the primordial datum of his own philosophy; and, on the whole, that—however useful it may be in certain cases—it will not, any more than the criteria before examined, provide the bulwark against scepticism of which we are in search. With this negative conclusion I must here end. In a later article, I hope to treat the problem with which I have been dealing in a somewhat more positive manner