

a dead one. These cases prove that the death or the specific organisation of the animal makes no difference. As long as it has a heart and a vagus nerve the connexion holds. These fresh instances are simply cases of Method of Difference reversed. B and C are changed, and no difference appears.

Originally, then, I have

A B C D . . .	B C D . . .
m n o p	n o p

Whence, I say, that, under the conditions, B C D . . ., A is the cause of m. Now I can vary B and C. They make no difference, and hence I can say, under the conditions, D . . . and whatever may be the other concomitants, A is the cause of m. In this way I may (and the scientific man does) eliminate every number of possible conditions.

My conclusion, then, is that the Method of Difference presupposes either existing deductions or the Law of Chances. Its conclusions cannot be more certain than these presuppositions warrant. On the other hand, starting from such basis as they afford, it is a true account of the method by which we reason to fresh results. Its material is the concrete fact of observation, and in that it discerns what elements are in universal connexion. A single application of it will establish this connexion as holding under the conditions here existing. Repetitions of it will eliminate such of these conditions as are unessential.

IS THERE AN *A PRIORI* KNOWLEDGE ?

By J. SOLOMON.

In the interminable dispute about the nature of knowledge, and especially about the views of Kant on that topic, no phrase stands out more clearly than '*a priori* knowledge' as at once the flag of one party, the red rag of the other. Yet, in my opinion, the two factions are less profoundly at variance than they suppose. It is possible to be a thorough empiricist and yet to feel under no common obligation to Kant. Such at least—I admit the unimportance of the fact—is my own attitude. To the phrase '*a priori* knowledge' strictly construed I feel an abhorrence not less than Mill, or Prof. Case in his recent work, *Physical Realism*. The combination of words is, in the strict sense, to my perception at least, unmeaning: 'knowledge' is of things; and '*a priori* knowledge' is equivalent to 'knowing things without knowing them,' without having come into any sort of contact, direct or indirect, with them. How such an absurdity can be found tolerable, since we have ceased to assume that the Creator esta-

blished for all time a harmony between the mind of man and the universe, may seem at first an impossible problem. Really, however, what the self-styled adherents of '*a priori* knowledge' establish is something very different from such an unmeaning figment. Knowledge is the mirror of the world to us; but it is also the result of a process by us. This process may be studied either by analysis of its results and comparison with that from which they have been derived, or an attempt may be made by psychological inspection, either of others or introspectively of ourselves, to reproduce its steps. To some the former, to others the latter, seems the more hopeful mode of examination; according to the sides men take they speak of rescuing psychology from the web-spinning of metaphysics or of purging metaphysics from alien empirical psychology. Neither side has really cause to abuse the other; both have done good service and taught us much. But the point here insisted on is, that both agree that knowing is a process, in which we, our self, our mind—phrase it as one will—takes an active part. This being admitted, it is asked, What is it that our mind does, and how do its processes end in producing a reflexion of the world? The answer can only be that the world must be of such a nature that mind, operating as it cannot but operate, is yet successful in reproducing it. To put it another way, mind cannot proceed a step in the construction of a world without making some assumptions about it. If some or all these assumptions are untrue, then mind is baffled either at the very start or at some subsequent point. These assumptions are what Kant and his followers most unreasonably and tactlessly (for, as we have said, the phrase was sure to produce violent remonstrance) call '*a priori* knowledge'. As has been said above, the assumptions are not knowledge, but conditions, which objects and the world at large must obey if they are to be knowable and conceivable. Those who asserted '*a priori* knowledge' had always to meet the practical question how they could truthfully attribute to children and the uneducated an understanding of, and a belief in, certain highly abstract propositions. The fact is, of course, that the uneducated do not *know* these propositions, but—what is very different—practically assume them, as analysis shows, by trusting to the natural working of their mind to bring out the truth of things. With this view the latest and not least vigorous impugner of Kantian doctrine, Prof. Case, agrees. He is practically at one with Kant in asserting, against the association-school, that knowledge is not something done *for* the mind; that the mind is not a mere plate on which the world gradually pictures itself by presentation, primary and secondary (if we may so describe the presentations or images evoked by association). I do not, of course, intend to make light of the gulf between the opinions of Prof. Case and those of Kant. Between the two views, that the immediate data of experience are a formless manifold (as Kant holds) and that these data are related objects

of a synthetic sense (as Prof. Case holds), there is perhaps an abyss that cannot be bridged. Nor am I at present concerned to deny that the Kantian theory of the data (easy as it is to attack) may still possibly be right. But where Kant and his repeaters are certainly *not* right is in speaking of that which distinguishes formless sensation from persistent and coherent knowledge as itself knowledge, and knowledge of that impossible kind designated by the contradictory epithet '*a priori*'. The mind by certain processes works up its primitive material (which may be as slight as Kant thinks, or as solid as Prof. Case holds); it finds its results verify themselves, and it thus acquires the right to call the assumptions on which alone it could work laws of the natural world: but to say that it '*knows a priori*' the world, to this limited extent at least, '*knows a priori*' that it has such laws, is the perfection of unreason and self-contradiction. Without the '*verification*' just spoken of, the mind would not '*know*' the laws at all. Kant himself felt this, but evaded its full force and misled his disciples by admitting it in a phrase of characteristic awkwardness. Though, said he, these *a priori* known laws apply to the world, yet they apply only to the world of experience, of phenomena. But this is, in fact, to admit that the laws—however much *a priori* in their origination in a conscious mind—are only *known* by the confirmation of them supplied by experience; as, in fact, otherwise nothing can be known.

An illustration of the above remarks is supplied by a recent work, which, modestly disclaiming to discuss metaphysical topics, supplies a better basis for such discussion than most of the metaphysicians have done. Dr. Venn commences his *Empirical Logic* by some chapters on the postulates of the subject. These are that the world is of such and such a nature. Dr. Venn pursues his subject with much acuteness and elaboration, and shows that the postulates about the '*logician's world*' or '*inferrible world*' are more numerous than might be supposed, and capable of distincter and closer specification than they have received. With his merits in detail, however, I have nothing to do. I only call attention to the broad, sober and eminently reasonable way in which he grasps the fact that, while we cannot but think of our minds and the world as different, yet between mental powers and the world there is an inevitable correlation, of which the details may be indeed variously apprehended, but the general truth must be allowed by all. Hegelians, of course, will refuse to recognise this explanation, as they would refuse to recognise the difficulty it purports to explain. Deny that there is any world except that existing in our sensations and the thoughts to which these, when connected together, give rise, and you naturally need no explanation of the correlation of the mentally-constructed world and the really existent world. I do not set myself to refute their theory; it is one rapidly losing hold of the minds of men, and it does not seem likely to revive. It is enough

to say—as has been said often—that men have no more ground for believing in the existence of other men—other ‘minds,’ as Hegelians would say—than they have for believing in the existence of an independent world generally: one may add, with Aristotle, in a somewhat different sense to his, *διάνοια αὐτῇ οὐθέν κινεῖ*; meaning that, even if an unchanging world could be regarded as a mental or imaginative picture, it is impossible so to regard a varying world like our own, and, above all, that most important class of variations, those in our own state. I do not add that Hegelians can give us no account of the relation of God—whom they by no means regard as unknowable—to the world, of which He is at least the author in some fuller sense than we ourselves: on this point it would be unfair to press the school, because, though they show no superabundance of modesty in assailing the problem, those who might accuse them of failing in it certainly do not pretend to be very successful themselves. But with regard to their other error, that, so to speak, of locating the whole material world in our own minds, there one may impugn their reasonings: first, by pointing out the self-contradictory consequence of their blunder, that they must end by ‘locating’ other minds within ours; next, by pointing out its origin—namely, a blind and one-sided insistence on the truth in which they, the Kantians, and those who are empiricists agree, that without the co-operation of mind and thought and will we should never read the independent world with the detail, accuracy and depth with which we do read it. Now this, it may be repeated, implies, not an origin of the world in ourselves, as the Hegelians say, not an *a priori* knowledge of it in at least some of its features, as the Kantians say, but a correlation of the World with Mind and its processes, which Thought assumes and Experience verifies.

The word ‘assumption,’ so often used in this paper, calls for some remark. It may be said that the theory above stated merely substitutes for ‘*a priori* knowledge’ something only one degree more credible—namely, ‘*a priori* belief’. It will be said that, in admitting general and highly abstract propositions to be incapable of apprehension by children and the uneducated, I am cutting the ground from under the theory that such propositions are ‘assumed’ or ‘believed’ by them. Those who have read Prof. Case’s book with the attention it deserves will be sure to remark that he at least gives no countenance to the idea that such propositions are either understood or assumed by those who may be, in a sense, said to apply them. And with regard to the illustrative chapters of Dr. Venn to which I have referred, it may be remarked that these expressly purport to state a ‘logician’s’ postulates about the world, and therefore assuredly not the postulates of children and the uneducated, who are certainly not logicians. My statement, however, was not that these postulates are ‘assumed’ or believed, or even consciously

recognised by such rudimentary students, but that they are 'practically assumed' by them—that their reasonings, when considered, will be found to conform to them. Why they should conform to them, is another question. I only say that the conformity precedes all experience and makes it possible, and that it cannot, therefore, be a deduction from experience. To what it is really due, is an important question, to which more than one answer has been or may be given. It may be said—I borrow the expression from a friend—that 'the laws of nature have so long been affecting our inherited organisms that we cannot help thinking by them as automatically as the lungs move to inspire and expire, or the heart contracts and dilates to circulate the blood'. This would be an evolutionist theory of thinking, and, as such, would in the present day meet probably with ready acceptance. It is not, however, supported by such statements—undoubtedly true as they are—as that men only gradually arrived at the apprehension of the laws which logic now recognises as essential to thought, that Plato contravened the law of Contradiction, that Aristotle was ready to admit exceptions to the law of Uniformity. For the question is not, How and by what stages did men arrive at a conscious apprehension of the essential laws of thinking as distinct from mere imagining? but, How came men to think at all, to obey those laws which only after centuries or millenia were discovered to underlie thinking? It may be that 'the environment' gradually forced them into such obedience, though I am unable to conceive how. To me it seems rather that men thought (and therefore obeyed unconsciously the laws it took them so long to formulate) through an original impulse inevitable to all beings that had become conscious of themselves. On the word 'impulse' I desire to lay stress. It might be supposed that, when it was once admitted that experience could not have taught men how to think, since without thinking there could be no experience of the requisite kind,—it might be supposed, I say, that there was no other alternative but to allow that men thought by 'instinct'. 'Instinct' is a kind of 'impulse,' and it might be urged that between the answer just given and my own there is no difference. But of 'instinct,' beyond that it is an 'impulse,' we understand nothing, though we may surmise or even prove its physical genesis. On the other hand, 'an impulse inevitable to beings conscious of themselves' is not so hopelessly indefinite. A being conscious of itself is conscious of its wants, and conscious of the limitations to the satisfactions of those wants. Of these limitations it naturally strives—at first with a purely practical interest—to form distinct ideas, to shape them into personalities and invest them with powers, as it has come to recognise itself shaped and invested. It could not express at first either its own motive or its own processes: it falls into endless blunders of detail; notably, it makes that stupendous mistake of finding living beings every-

where which has led anthropologists to describe earliest thought as 'Animism'. But it already holds and obeys, though unknown, the laws of logic, at least in its practical inquiries. The last proviso is perhaps necessary, because the well-known distinction of 'speculative' and 'practical,' if it could have been made intelligible to the primitive man, would probably have had its meaning inverted. To us truth is the end of Speculation; Practice, though it certainly cannot afford to disregard truth entirely, ostentatiously disregards much of it, and, in fact, its most interesting sections. But in Practice, and in Practice alone, was the uncompromising severity of truth felt by the primitive man; in his practice we must look for his logic: his speculation, of which he had no lack, was a tissue of imaginative, incoherent dreams, with no real significance or importance, exercising his fancy and satisfying his emotions, and not needing or pretending to do more.

Such is the explanation I should give, if asked how men come to think logically, or as I should prefer to say, come to think at all. For thinking is just the search for the systematic and permanent, and the object of its search conditions its procedure, making it what afterwards came to be described as logical, and implies a belief in a world the characteristic of which is to possess, nearer or further from its surface, system and permanence. Man did not commence this search, and by this method, because he knew 'the game was worth the candle,' still less because he knew the rules of the game, but simply because he had to do it in order that he might live. And now, to leave what has properly been an episode, I may perhaps be allowed to repeat, without opposition, what it was the primary object of this paper to establish, that philosophers are within measurable distance of admitting by agreement that, though '*a priori* knowledge' is a contradiction, yet without an '*a priori* something' there would be no knowledge, without, that is, the 'practical assumption'—not belief in or recognition—of certain fundamental characters in the world to be known.