V.—CRITICAL NOTICES.

Mind and Matter. By G. F. Stout. Cambridge, at the University Press, 1931. Pp. xii + 325. 12s. 6d.

Philosophy, according to Prof. Stout, has two parts, *viz.*, (1) an analysis of ordinary experience in order to find a coherent account of the principles involved in it, and (2) an enquiry as to whether the universe is a self-complete unity, or an endless series, or an aggregate. In this, the first volume of his *Gifford Lectures*, Prof. Stout considers what is involved in one's knowledge of oneself, of the physical world, and of other selves. The volume is divided into four Books. The first deals with the *Animism of Common-Sense;* the second is concerned with the *Psycho-physical Problem;* the third discusses, from an historical and critical point of view, our *Knowledge of Physical Existence;* and the fourth, which discusses the same subject independently, contains Prof. Stout's own positive doctrine.

In Chapter I. Prof. Stout enquires what authority philosophers ought to attach (*a*) to Common-Sense, and (*b*) to Science. He points out that "Common-Sense" may mean either the beliefs of the average man as opposed to the expert, or "the whole in which the partial views due to one-sided interest and experience are so combined and harmonised that they converge again to a focus". When philosophy appeals to Common-Sense it is certainly not appealing to the plain man as against the expert, except in so far as there is reason to think that the expert has some particular narrowness or blindness, in consequence of his special training and interests, which makes him ignore aspects of reality that plain men recognise. Nor is the appeal directly to the consensus of opinion of educated persons; for, on vitally important topics, there is no such consensus. The philosopher has first to compare and correlate various conflicting views, including those of technical experts; to allow, so far as he can, for personal, professional, racial, and historical bias; to take into account religious, ethical, æsthetic, and social experiences, and their embodiments in religions, social institutions, and works of art; and thus to formulate the beliefs of Common-Sense for himself before appealing to Common-Sense as a witness or a judge.

All this seems to me true and important. I would only add that the philosopher must remember that he is himself a technical expert with certain special sources of bias. He would not have become a

philosopher unless his tastes and interests had been considerably different from those of most men; he could not follow his calling unless he denied himself many experiences which most men value highly; and his professional training and mode of life may make it hard for him to understand and to appraise fairly a career of passionate emotion or vigorous action, not "sicklied o'er with the pale cast of thought".

When the philosopher has formulated for himself the beliefs of Common-Sense he must not swallow them whole. He must first ask whether any of them are likely to be racial illusions, completely explicable by certain features in human nature and human history which have no tendency to produce true belief and a strong tendency to produce false belief. He must not, however, think that, because a certain determinable opinion has been held by primitive men in a determinate form which is now known to be false, it must therefore be false in every possible form that it could take. The fact that it has always been held in some form or other is, *pro tanto*, a point in its favour. Again, the philosopher should expose even those parts of the Common-Sense view against which there is no presumptive evidence to every objection that he can think of himself or that other competent thinkers have suggested. Any belief that passes these tests should be provisionally accepted, provided, I suppose, that it does not conflict with other beliefs which have also passed them. The mere fact that experts in a certain special domain, using certain special methods, see no reason to accept such a belief may be dismissed as irrelevant.

This brings us to the question: "What weight should be attached to the fashionable contention that natural science ought to be the sole arbiter in all theoretical questions?" It is only necessary to state clearly what are the objects and the methods of natural science in order to dismiss this claim as unfounded. The object is to discover general laws of sequence and co-existence by means of which we can infer what is likely to happen under assigned conditions. The method is that of observation, extended by hypothesis and generalised by induction. Now there is obviously a great deal in the world beside general laws of sequence and co-existence, and we are interested in a great many other things beside inferring what is likely to happen under assigned conditions. And it is quite certain that induction, if it can be justified at all, cannot be justified by the methods of natural science.

The rest of Book I. is devoted to one special feature in the Common-Sense view, *viz.*, "the tendency to find Mind in Nature generally, and not only in the form of individual minds connected with particular bodies such as those of men and animals". This Prof. Stout calls "Common-Sense Animism". He discusses it in three aspects, *viz.*, in connexion with causal process, in connexion with teleology, and in connexion with æsthetic experience. His conclusion is that this feature in the Common Sense view cannot be dismissed *in*

limine as a relic of barbarism, but must be treated with respect. Whether it can survive philosophic criticism remains to be seen; and the upshot of the detailed enquiries of the rest of this volume is held to be that it can and must be accepted as valid.

It seems to me that the most important topics in the book are (1) Prof. Stout's attempt to refute Materialism, (2) his theory of Activity and of our awareness of it, (3) his theory of the nature of the physical world and our knowledge of it, and (4) his theory of the embodied self and our consciousness of it. These subjects are closely interconnected, but I will separate them as far as I can and discuss them in the above order.

(1) *Refutation of Materialism.* This is treated mainly in Book II. In Chapter I. Prof. Stout points out that the relations of mind to matter can be approached in two different ways. On the one hand, there is the subject-object relation in which any mind stands to anything that it cognises. On the other hand, there is the psycho-physical relation in which each mind stands only to a certain very limited parcel of matter, *viz.*, its own organism.

Now the scientist necessarily ignores certain aspects both of the human body and of the human mind. Each of us knows his own body in a peculiar way in which no-one else can know it, *viz.*, through "internal perception". And each of us in ordinary life regards his body, as so known, as a part of himself. "What we know or seem to know in ordinary self-consciousness . . . is a concrete whole within which mind and body are only abstractly distinguishable as partial factors. It is, however, the mental factor which gives the whole the character of being a self or 'I'" (p. 67). Now, owing to the essential privacy of this datum, the scientist cannot start from it. It is necessary for his purpose to deal only with public data. Hence he has to treat every human body, including his own, simply as it appears to external perception, *i.e.*, to the senses of sight and touch.

As regards the mind, Prof. Stout thinks that the scientist, in his professional capacity, almost inevitably takes the view that there is a series of events, each of which is purely mental and not physical, and that these in some unexplained way "represent" other events which are purely physical and not mental. He points out that any such view makes the knowledge of physical events by human minds, which the scientist assumes to exist, quite unintelligible. In this connexion Prof. Stout asserts that "my idea of X" is not something existentially distinct from X, but is "X, as it appears to me". (It is clear that, even if this be in some sense true, it needs to be very much explained and qualified before it will become plausible when, *e.g.*, Mr. Pickwick is substituted for X.) He also remarks that there are mental facts about physical objects. Thus it is a mental fact about a certain picture that it reminds me of a certain scene, whilst it is not a mental fact about the picture that it is painted in oils on canvas. Any predicate that belongs to an object only in virtue of the fact that some mind cognises the object is a mental predicate.

The scientist as such, then, almost inevitably takes an inadequate view of the human body and a largely mistaken and superficial view of the human mind. The scientific discussion of the psycho-physical problem is, therefore, bound to be philosophically unsatisfactory. Prof. Stout undertakes to show that, even within the limits thus imposed, the scientific theories about the mind-body relation raise fundamental metaphysical difficulties.

The three alternative theories are Interaction, Parallelism, and Materialism (by which Prof. Stout means Epiphenomenalism). The first two assume the existence of two kinds of substance, *viz.*, minds and bodies. The third assumes that certain bodily events *generate* mental events, as distinct from partially determining changes in a pre-existing mental substance. Taken as purely scientific theories, *i.e.*, simply as attempts to state in general terms the observable connexions between events in brains and mental events, Common-Sense has nothing to say against any of them. But it is extremely difficult to keep Materialism within these limits, since the concept of generation, which is an essential part of it, is quite different from the ordinary scientific notion of causation or of the production of a compound by the more intimate union of previously dispersed elements. On the other hand, when *all* the observable facts are taken into account, Materialism is much more satisfactory, as a scientific theory, than Interactionism or Parallelism. For many facts strongly suggest that each mind is *existentially* dependent on its body, and is not an independent substance which interacts with its body or runs a parallel course to the latter. Now neither Interactionism nor Parallelism can account for these appearances without making elaborate supplementary assumptions. So the position is this. Either there is some fundamental objection to Materialism or there is not. If there is not, it holds the field. But, if there is, we cannot simply reject it and accept one of its rivals as it stands. The rivals will have to be developed and supplemented until they are no longer merely scientific theories.

I agree entirely with Prof. Stout in this conclusion. I would only add that I am inclined to think that, in order to account for some of the facts dealt with by Psychical Research, Materialism would have to be abandoned or supplemented in a most elaborate way, even if there were no philosophic objections to it.

In Chapter III. Prof. Stout ignores Materialism for the moment and discusses Interactionism *versus* Parallelism. His conclusions may be summarised as follows: (1) There is no trace of empirical evidence for interaction. No doubt this negative fact could be explained consistently with interaction, but this could be done only by making supplementary hypotheses for which there is no ground unless we are convinced that interaction *must* be a fact. (2) The mere dissimilarity of mind and body is not an adequate ground for denying the possibility of interaction. (3) It is self-evident that interaction can take place only between parts of a whole which has

some special kind of inner unity. In physics the unity is that of a single spatial system, but this cannot be the unity between a mind and its body. So a mind and its body cannot interact unless they be united by some other kind of tie. For, otherwise, why does my mind act on a certain body only and not on other bodies, and why is it acted upon only by this same body and not by others? (4) Similar remarks apply to Parallelism. Unless mind M be united by some special tie to body B why should events in M run parallel to those in B rather than to those in B', and why should events in B run parallel to those in M rather than to those in M'? (5) Thus both theories must admit that they presuppose some specially intimate tie between a mind and what is called *its* body. Now, when the nature of this union is carefully considered, it is seen to be too close and intimate to admit of interaction. Something like the Double-Aspect Theory must be accepted. But we must not assume that the nature of the one Thing, and the way in which it combines its two Aspects, are unknowable to us. In ordinary self-consciousness we are directly aware of this one thing with its two aspects, *viz.*, our embodied mind or our ensouled body.

In Chapters IV. to VII. inclusive, Prof. Stout attempts to refute Materialism as a philosophic theory. He begins by pointing out that the utmost that the empirical facts can tell us is that the apparent origin, development, and ending of any mind are determined by material conditions, and that no other conditions can be observed. It does not follow that no other conditions are needed, nor that, if there be other necessary conditions, they are not themselves mental. It is true that we have no empirical evidence for the existence of minds other than those connected with human and animal organisms. But an intelligent ant might find no evidence for minds animating those—to it—enormous and incalculable material systems which are human organisms. And so it is not antecedently impossible that there may be mind in nature where we see no trace of it. This, I think, must be admitted for what it is worth.

The argument in Chapter V. is as follows: The laws of nature, which are established by scientific induction, are laws of the correlated variation of interconnected determinables. And the various special laws are not independent and isolated; they fall under more general laws and form a single interconnected system. Were this not so, little, if any, reliance could be placed on inductive generalisations. All this is generally admitted about inanimate matter, but about animate matter there is a controversy. Organisms have the appearance of being teleological systems. Some people think that no ultimate *laws* hold of living matter which do not also hold of inanimate matter, and that the peculiar behaviour of living organisms is due to the very special *arrangements* of the non-living elements of which they are composed. Other people think that some of the *laws* of living matter are unique and ultimate. These alternatives

are the mechanistic and the vitalistic. On this controversy Prof. Stout's position is as follows:—

(1) Materialism implies a mechanistic view of organisms. Any ground that there may be for regarding a mechanistic view as inadequate to account for the teleological character of organisms is a ground for postulating in connexion with them an agency analogous to mind, and is, therefore, a ground for rejecting Materialism. (2) The converse does not hold. The mechanistic view of organisms might be true, as Prof. Stout is himself inclined to think, and yet it might be necessary to postulate the agency of something akin to mind in order to account for the very special material collocations which would be responsible for the origin, development, and peculiar behaviour of organisms. (3) Even on the vitalistic view the laws of organisms, though not *derivative from* those of inorganic matter, would be concerned with the same determinables, *viz.*, motion, energy, spatio-temporal structure, etc., and with their correlated variations. To ask whether the origin of organisms can be accounted for by the laws of inorganic matter is to ask an intelligible question, even if the answer be in the negative. To ask whether the origin of a mind can be accounted for by the laws of matter, whether inorganic or organic, is to ask a meaningless question. For we are now concerned with the manifestation of a new determinable characteristic, and not with the correlated variations in value of already manifested determinables. Science may quite properly say that it can discover nothing but the material conditions of mental events. But, if anyone says that these are the *complete* conditions, he is, according to Prof. Stout, asserting what is self-evidently impossible.

In § 6 of this Chapter there is an argument to show that Materialism is logically incoherent. I am not sure that I understand it, and so I am going to state what seems to me the essential point in my own way. We must remember that Prof. Stout takes it to be an essential feature of Materialism that all mental events are "effects" which are not themselves cause-factors in the production of further effects. Now it is plain that, if there be any evidence for the doctrine that all mental events are completely determined by material conditions, it must consist almost wholly of testimony. Now for each of us this testimony takes the form of noises, gestures, or marks made by other human bodies. If we accept Materialism as a complete account of the facts, all these noises, marks, and gestures are completely determined by purely material causes, and any mental events which may accompany them have nothing whatever to do with causing them. If so, it is most rash to assume that they are accompanied by and are the expressions of thoughts, feelings, and other mental events. But, unless they are assumed to be so accompanied, they are no evidence for any proposition about mental events, and are therefore no evidence for the proposition that all mental events are the inert by-products of purely material causes. This argument does not of course disprove Materialism. But it does show that it is a logically

incoherent doctrine, in the sense that the more strongly one came to believe it the less right one would have to attach any weight to the alleged evidence for it.

The argument in Chapter VI. claims to show that Materialism assumes a kind of causation which bears no likeness to that which is recognised by science and Common-Sense, and is simply unintelligible. It may be summarised as follows: (1) The validity of induction, at any rate as a process by which probable conclusions can be rationally drawn, must be accepted as a fundamental datum. No-one *really* doubts it, and we are much more certain of it than of any epistemological theory which would throw doubt on it. (2) Consequently anything that can be shown to be involved in the validity of induction must be accepted. (3) Now it involves at least the following principles about change and causation. There are certain ultimate continuants, which neither come into being nor pass away in the course of nature. Coming to be and passing away happen only in connexion with compound continuants. Such changes consist in the fact that certain ultimate continuants begin or cease to stand to each other in certain determinate forms of those determinable relations in which they always stand to each other. Again, all changes of quality or relation take place in accordance with general laws, such that each change is completely determined by the particular conditions which immediately preceded it in accordance with these general laws. The reason why we can make only probable inferences about matters of fact is because we can never be sure that we know all the relevant conditions or the precise form of the relevant laws. It is not because the laws themselves are only statements about probability, or because it is uncertain whether matters of fact are completely determined by previous conditions in accordance with laws. Lastly, qualitative change is always the manifestation of a determinate under some determinable which has already been manifested in some other determinate form. It is never the manifestation of a determinate under some hitherto unmanifested determinable. (4) It follows at once that, if the world ever consisted wholly of things which had only primary qualities, it could never begin to manifest secondary qualities. If we suppose that the manifestation of secondary qualities is determined by the action on minds of things which have only primary qualities, we give up Materialism at the first move. For this hypothesis assumes the existence of mental continuants as well as material ones; and it is contrary to the general principles of change that these continuants should have been generated from pre-existing purely material continuants. (5) Let us suppose then, as we certainly must, that material things always have had secondary, as well as, primary qualities. Suppose, if possible, that the world at one time consisted wholly of things which had primary and secondary qualities but no mental characteristics. Then it could never have begun to manifest mental characteristics. For there is just the same disparity between

the characteristic of cognising or desiring and that of being red or hot as there is between the characteristic of being red or hot and that of being extended or movable. There is no determinable under which psychical and physical characteristics are determinates, even when physical characteristics are taken to include secondary qualities. In asserting that purely physical processes suffice to "produce" mental events, the Materialist is simply talking without thinking and without conveying any meaning to his hearers. His statement sounds intelligible because the word "produce" has a meaning when used in science of such processes as the "production" of water from hydrogen and oxygen. But this cannot be what it means when used in the present connexion, and the plain fact is that it means nothing to anyone when so used.

In Chapter VII. Prof. Stout considers the relation of Materialism to teleology. The argument may be summarised as follows: (1) There are certain objects which we distinguish as "artificial", *e.g.*, books, bridges, etc. These always have among their cause-factors certain movements of human bodies. And they are designed and desired by the human beings who make these movements. (2) The Materialist must hold that the desires and thoughts which accompany such movements play no part in determining them. The bodily movements are completely determined by purely physical causes, and the accompanying desires and thoughts are idle by-products of the latter. (3) This view is rightly condemned by Common-Sense as incredible. Let us grant that it is conceivable that the collocations of matter in the original nebula were such that at a certain time they would inevitably give rise to a certain organism which would go through the movements that produce the manuscript of *Hamlet*. There still remains the inexplicable coincidence that then and not till then there also arose certain thoughts and desires of which this manuscript was the expression, although these mental events had no influence whatever in determining the movements which produced the manuscript. Even if it were intelligible that purely material events should produce experiences at all, there is not the faintest reason why the experiences produced when the bodily movements are made should have the least relevance to the movements or the manuscript. On the Materialist view such undesigned and inexplicable coincidences are continually happening. Since this is incredible, we must assume that in such cases mental events do play a part in determining bodily movements. (4) It is, however, quite certain that they are not the complete causes of such movements. Unless the mind were provided with an organism of a very special kind, and unless this organism were very specially adapted to its material environment, the volitions would be ineffective. Now the adaptation of a mind to the organism which it animates, and of the latter to the rest of nature, is certainly not due to any human or animal mind. Since it is an instance of teleology it must be ascribed to something akin to design. Hence we are forced to

postulate the agency in nature of mind which is not that of any human being or animal.

The last stage of this argument does not seem to me very impressive. Why should there not be laws in nature, analogous to those of chemical affinity, such that a certain kind of rudimentary mind and a certain kind of rudimentary organism were attracted to each other? And why should not the detailed adaptation of the developed mind to its developed organism be due to the constant influence of each on the other in the course of their joint development?

(2) *Activity and our Awareness of it.* The two chapters in which most information is given on this subject are the second of Book I. and the sixth of Book IV. Where they overlap it would seem that the latter is meant to be a more accurate statement of what has already been propounded more popularly in the former. I must confess that I find it extremely difficult to understand Prof. Stout's doctrine on this subject, and what follows may well be irrelevant and mistaken.

Activity is described in Book IV., Chapter VI., as a characteristic of certain processes. It is that characteristic which "gives to a process the unity of an action, as contrasted with a plurality of separate occurrences assumed to compose it by their temporal and spatial juxtaposition". This characteristic has degrees, and the concept of a completely active process is an ideal limit. "In so far as a process is active, events in it have no loose and separate being apart from it; they exist only as stages or phases in it."

It is not at all clear to me what, on this view, would be meant by calling a process "imperfectly active". Taking any process P, and any event E within it, it must be the case that an event otherwise precisely similar to E *could* or that it *could not* have occurred outside P. What then can be meant by saying that P is only "slightly active" or that it is "very highly active"? Would P be a very active process if and only if it contained many events such that events otherwise precisely similar to these could not have occurred outside P? And would P be only slightly active if and only if it contained few such events? The notion of a process composed of a mixture of events, some of the one kind and the rest of the other kind, is not very easy to grasp. Perhaps the situation could be clarified by introducing McTaggart's notion of "sets of parts". A set of parts of any whole is a group of its parts which together just make it up without omission and without repetition or overlap. One and the same whole may have many different sets of parts. Now one way of giving a meaning to the notion of degrees of activity would be the following: (i) P is an active process if and only if it has *at least one* set of parts such that no event precisely similar in other respects to any member of this set could have occurred except as a phase in P. (ii) P is a completely active process if and only if *every* set of parts of P has this property. (iii) P is more or less active

in proportion as it has more or fewer sets of parts which have this property.

There is perhaps another way in which the notion of degrees of activity could be made consistent with Prof. Stout's statements about activity in general. Suppose, as before, that P is a process and E is an event in it. Then, even though no event exactly like E in other respects could have happened except as a phase in P, it may be that events in other respects more or less like E could happen without being phases in P. We might then suggest the following meaning for "degrees of activity". P would have a high degree of activity if and only if every event that can occur without being a phase of P bears very little resemblance to any event which is a phase of P. P would have a low degree of activity if events which very closely resemble phases in P can occur without being phases in P.

Before leaving this part of the subject there is a further possibility to be mentioned. So far we have confined our attention to a given particular process P, such as a certain performance of a certain opera. Let us now take into account other processes, more or less like P as wholes. Then we might say that P is only slightly active if either (*a*) events very unlike phases of P can occur as phases in processes very like P, or (*b*) events very like phases of P can occur without being phases in any process that closely resembles P. And we might say that P is very highly active if no event which even remotely resembled a phase in P could occur except as a phase in a process which very closely resembled P. I have no idea what Prof. Stout would say to any of these suggestions. But I do think that he has left the whole conception of activity and its degrees in very considerable obscurity, and that some further pronouncement by him would be very helpful to readers of his book.

I will now try to state in my own words what I understand to be Prof. Stout's theory of the connexion between activity and causation. This is developed in the course of a criticism of Hume's theories on the same subject. (1) The primary experience from which we derive the idea of activity is that which we have when we try to move something, or to resist being moved. It is not necessary that the effort should be successful, and it is not sufficient that sensations of movement should be experienced without voluntary initiative or control. (2) Whenever we are aware of our own agency we are aware of it, not as a total cause, but as one cause-factor in a total cause which contains other cause-factors. (3) We *know* that it has a tendency to produce the desired result; that, if the other cause-factors are as we believe them to be, the desired result will inevitably follow; and that, on the same hypothesis, the desired result will inevitably fail to take place if we fail to take this action. But we may be mistaken as to the nature of the other cause-factors, and so the desired result may fail in spite of our action or may take place in spite of our failure to act. (4) One's own contribution to such a transaction is

itself a complex unity of simultaneous and successive partial movements. The special nature and the special order of these is largely determined by the purpose and interest of which the action is the expression. My total action and the other cause-factors with which it co-operates are conceived as phases in a whole which bears to them the same kind of relation that my action as a whole bears to its own partial phases. Unless my actions had this kind of internal unity to a fairly high degree I could not conceive the unity of any process in which they and other cause-factors co-operate as a total cause. If, on the other hand, my own actions had this internal unity to so high a degree as to be completely self-contained, I could not conceive of transactions in which I and other things or persons each play their parts. (5) We are therefore bound to conceive interaction in general as taking place between processes, each of which has its own internal unity and a tendency to go on of itself in a certain characteristic way in the absence of the rest. They interact with each other and modify each other's development because they are phases in a single more complex process, just as each of them is a whole in which there are simpler phases united in a characteristic way. (6) The unity of a whole whose parts are co-operating cause-factors can be conceived only by analogy with the unity of an action whose various phases are expressions of a single interest or purpose. This plainly does not entail that each cause-factor must be conceived as analogous to a mind with a will of its own. But it does imply that the various processes which interact in nature must be conceived as various phases in a single process which expresses a single interest or purpose. And this cannot be the interest or purpose of any human or animal mind.

(3) *The Physical World and our Knowledge of it.* In the earlier chapters of Book III. Prof. Stout expounds and criticises certain important theories on this subject. The theories chosen for discussion are those of Descartes and Locke, of Berkeley and Mill, of Leibniz and Lotze and Ward, and of Kant. Kant's theory receives the most elaborate treatment and has two chapters allotted to it. I propose to pass at once to Chapter V., in which Prof. Stout states and defends the view which he has developed in the course of his criticism of the other theories. It may be summarised as follows: (1) Each of us is acquainted at each moment with certain particular existents, *e.g.*, sensa, feelings, thoughts, etc., and about these he has knowledge by acquaintance. (2) Any knowledge that anyone may have about any existent with which he is not then acquainted must be founded upon his present acquaintance with some other existent. (3) Knowledge by acquaintance about a particular never occurs by itself. It is always one factor in a total cognitive state which contains as another factor knowledge, founded upon that acquaintance, about some other particular which is not at the time an object of acquaintance. (4) It is a fundamental fact that, somehow or other, we have genuine *knowledge* about independent physical objects.

(5) We are never acquainted with any physical object. Knowledge of physical objects is founded upon acquaintance with sensa, and knowledge by acquaintance about sensa is inseparably bound up with knowledge of physical objects founded upon acquaintance with sensa. (6) Though knowledge of physical objects is *founded upon* acquaintance with sensa, it is not *inferred from* what we know about sensa by acquaintance. It is non-inferential knowledge, though it is not knowledge by acquaintance.

Prof. Stout illustrates and tries to recommend these doctrines by the analogy of remembering a past experience. It is certain that I am not acquainted with such an experience when I am remembering it. It is certain that I could not remember it now unless I were now acquainted with something relevant, *e.g.*, an image. It is certain that I do not reach my memory-knowledge that I had this experience in the past by inference from what I know by acquaintance about the present image. Anyone who admits these contentions about memory, and yet denies the possibility of Prof. Stout's doctrine of our knowledge of physical objects, must rest his case on the following distinction. What we remember are our own past experiences, with which we were or might have been acquainted when they were happening. But physical objects are not and never have been our experiences, and they are not things with which we ever could be acquainted. Prof. Stout denies that this distinction is relevant. And the difference, though still great, is in fact not so great for him as it is on many theories. For he holds that the sensa which we sense are elements in the physical world. And he holds that the experiences which we introspect always have material as well as mental characteristics.

It is of course no part of Prof. Stout's doctrine that all our judgments about physical objects which we perceive are correct in every detail. No such claim would be made for memory-judgments. What is claimed is that we *know* that there are physical objects and *know* that we have had experiences which we are no longer having, and that we have *rational beliefs*, which can be made more and more comprehensive and certain by suitable methods, about the details of the physical world and about the details of our own past experiences.

The theory outlined above is worked out more fully in Book IV. Prof. Stout begins by elaborating the distinction between internal and external perception. Internal perception is that peculiar kind of awareness which each of us has of his own body and of certain changes in it, and which no-one has of anyone else's body or of changes in it. Internal perception does not involve for the percipient any distinction between a sense-organ by which he perceives and an object which he perceives by means of it. In external perception the percipient always perceives internally the sense-organ which he is using, in addition to perceiving an external object. And he internally perceives his sense organs only in using them to perceive external objects.

Every visual field, no matter what its content may be, has the same fundamental inner structure. There is a central part of maximum distinctness, and in every direction from the centre the distinctness of the content tails off towards the periphery. Now I can at will bring any item from the periphery to the centre. While this is happening it will increase steadiiy in distinctness; other items which were central will meanwhile become peripheral with a steady decrease in distinctness; and so on. Such changes as these I can determine whenever I like, and they will always follow the same general course. But these are the only changes that I can count on being able to make at will in the visual field. I have no direct control over its concrete filling. And sometimes changes even of the kind which we have been describing take place *independently of my will*. Now I ascribe the constant structural features of all my visual fields to my eye and its structure, and I ascribe the variable concrete filling of my visual fields to external objects which I perceive with my eye. I ascribe the transference of an item from the centre to the periphery of a visual field, and *vice versa*, to the fact that I am perceiving the same external object with different parts of my eye. When such changes are initiated, continued, modified, and reversed at will I ascribe them to the motion of my eye. When they take place without or against my will I ascribe them to the motion of external objects.

The same general principles apply to the perception of external objects by touch. Here, however, there is an additional complication. I cannot see my own eyes; my perception of them is purely internal. But I can touch my own hands. So, when I perceive an external body with my right hand, I have, not only an internal perception of my right hand, but also an associated idea of this hand as an external object which has been felt in the past by my left hand. The way in which this association works is as follows. My present perception of the external object by my right hand is inextricably bound up with my present internal perception of that hand. My previous external perception of my right hand by means of my left hand also involved an internal perception of my right hand. My present perception of the external object by my right hand is linked by this common factor with the idea of my right hand as an external object which I got when I perceived it by means of my left hand. Prof. Stout thinks that this is the basis of measurement by superposition.

Whenever I touch anything I have pressure-sensations with a characteristic local sign. These give me at the same time an internal perception of my hand and an external perception of the body which it is touching. Now I can voluntarily initiate a certain bodily process, *viz.*, that of pressing or thrusting, which I internally perceive by means of certain characteristic sensations. The intensity of the pressure-sensations in general varies with this process. Sometimes it varies very little, as when I push a match-box over

a smooth table. I then perceive the external object as offering very little resistance. Sometimes it varies very greatly, as when I push a heavy table. I then perceive the external body as offering very great resistance. In both cases I perceive myself as acting and being resisted. In other cases such changes of pressure-sensation start without my initiating them, but I can determine by my subsequent action whether they shall increase greatly or slightly. In such cases I perceive an external body as acting on me, and myself as resisting it with more or less vigour. Prof. Stout thinks that such experiences constitute our primitive perception of causal interaction between two physical things, and that any account of perception which ignores this dynamical aspect of it is essentially inadequate.

This view must be contrasted with what Prof. Stout calls the *Causal View*. On the Causal View we never *perceive* physical objects as interacting and thus determining variations in our sensible experience. We always *infer* their existence and actions as remote conditions of our sensations and their changes. This is the characteristic view of natural science when it becomes reflective, and Common-Sense accepts the Causal View in regard to many sensible experiences, *e.g.*, dreams, variations in the visual appearances of remote objects, etc. Prof. Stout's contention is that the Causal View can legitimately be applied over a very large range of facts, but that it undermines itself if extended so far as to exclude his theory. For the Causal View presupposes that we know, or have some reason to believe, that there are physical objects and that they interact with each other. If Prof. Stout be right, we *do* know this by direct perception in the case of our own bodies and their interactions with external bodies which they touch, push, pull, resist, etc. With this knowledge as basis each of us can legitimately regard his body as, *inter alia*, a physical object that can be known by external perception; and from this basis a causal theory can be developed. But, if the Causal View be extended to cover the whole field of perception, it can neither account for the notions in terms of which it is formulated nor justify the presuppositions on which it is based.

The third Chapter of Book IV. deals with the Sensory Continuum. The following are the main points. Our knowledge of physical objects depends on two inseparable factors in our experience, *viz.*, the sensing of sensa and the perception of acting and being acted upon. The former is the basis of our knowledge of the kinematic, geometrical, and qualitative aspects of matter; the latter is the basis of our knowledge of its causal and dynamic aspect. Although the two sides of the one experience are indissolubly connected, they can to some extent be treated separately. Prof. Stout begins with the sensory side.

Sensa of the same kind, sensed by the same individual, are found not to be isolated and independent. They are rather to be regarded as outstanding differentiations in a single sense-continuum. The

various sense-continua, visual, tactual, auditory, etc., which fall within the acquaintance of a single individual are interconnected into a single continuum by the intimate connexion of each with the continuum of this individual's organic sensations.

Now the physical world as a whole is also conceived as a unified system. But its unity is not thought to be at all closely analogous to that of any finite individual's sense-continuum. Sensa which are intimately connected in my sense-continuum may be manifestations of physical objects or events which are only remotely connected with each other, and conversely. The sense-continuum of any individual corresponds directly only to a certain small part of the physical world, *viz.*, his brain and nervous system and certain processes in them.

Prof. Stout suggests that the sense-continuum of each different finite individual is a different selection out of a much wider and more enduring world-continuum, and that it stands to the world-continuum in a similar relation to that in which a particular sensum stands to the sense-continuum of which it is a differentiation. It may be that the greater part of the world-continuum is not an object of acquaintance to any finite mind. But we have no need to assume that this part is ontologically different in kind from those parts which are the sense-continua of the various finite individuals. And it is not incredible that the whole world-continuum might be the sense-continuum of a single non-human mind.

The advantage claimed for the above hypothesis is that it makes the apparent coming into being and ceasing to be of a sense-continuum at the birth and the death of an individual less mysterious than it would otherwise be. It is like the coming into being and the passing away of a sensum in an individual's sense-continuum. And the physical and physiological conditions on which such changes depend will be ontologically homogeneous with their effects, since they will be changes in other parts of the world-continuum, *viz.*, those parts with which no human mind can be directly acquainted but which are not ontologically disparate from the parts with which we are acquainted.

It seems to me that such a suggestion cannot be judged unless it is worked out in much greater detail. It seems plain that the world-continuum would have to have many more "dimensions" than any known sense-continuum in order to account for the facts, and in general that its structure would have to be very different from that of any known sense-continuum. Exactly how much analogy would remain when this was allowed for I cannot pretend to say, but I suspect that there would be very little. And the supposition of a mind which was acquainted with all the sensa that any mind is acquainted with, though not logically impossible, is contrary to all analogy with known facts, since it implies that two minds can be acquainted with one sensum.

Chapter IV., whilst still confined to the sensory side of perception,

is mainly epistemological, as contrasted with the predominantly ontological interest of Chapter III. The gist of it is as follows. Our knowledge of sensa by acquaintance and our knowledge of physical objects by sense-perception are both instances of *knowledge* and are both *immediate*, in the sense of being non-inferential. But there the resemblance between them ends. The test for the former is simple inspection of the datum with which one is acquainted. The test for the latter is correlation with other perceptions into a coherent system of physical judgments.

Prof. Stout distinguishes between what he calls "the perceptual appearance of a physical object" and "the immediate content of sense-perception in perceiving it". He identifies the former with "what the physical object appears to be" in a particular perception of it. The immediate content of sense-perception may vary without any variation in the perceptual appearance. There are, *e.g.*, very good reasons to hold that the visual sensum which I sense when looking at a match-box increases in extensity as I move across the room towards the box. But it cannot be said that the box "looks" larger or smaller during the process. On the other hand, a variation in the sensum *may* involve a variation in the perceptual appearance. If a man, at whom I am looking, climbs up a tall chimney, the visual sensum which I sense decreases in extensity and the man does "look" smaller than he did when he was on the ground. Conversely, I suppose, the perceptual appearance may vary while the sensum remains unchanged. It would be plausible to suggest that this happens with the figure which sometimes looks like a staircase and sometimes like an overhanging cornice.

Prof. Stout also introduces, in this connexion, the term "perceptual datum". He defines this as "the probability that a thing is as it seems to be in this or that perception taken in isolation or comparative isolation from others by which it might be confirmed or upset". This does not seem to be very accurately put. I would suggest that what Prof. Stout means is the following. The fact that in a perception the perceived object *seems* to be so-and-so is a datum with respect to which there is *always* a finite probability, and *never* a certainty, that it *is* so-and-so. Judgments of the form "This physical object *is* so-and-so" can and must always be tested by their coherence with a whole system of perceptual data. We are thus led to draw a distinction between the characteristics which a perceived thing most probably has, when all the relevant perceptual data are taken into account, and those which it undoubtedly seems to have in a certain perceptual situation. A stick, which almost certainly is straight, undoubtedly looks bent when half in air and half in water. This discrepancy compels us to recognise a distinction between something that we are acquainted with, which must *be* bent in order to account for the object looking bent, and something else, which we are perceiving by means of this bent sensum, which is almost certainly straight. Once our attention has been drawn to the distinction by

glaring examples like this, we are led to inspect the sensa with which we are acquainted in other cases. We shall then very often find that there are variations in the sensum which make no difference to the perceptual appearance of the perceived object.

In Chapter V. Prof. Stout discusses the status of secondary qualities. The orthodox view is that physical objects really do have the qualities of shape, extension, motion, etc., and that we can discover the determinate values of these qualities in any particular case by comparison of and reflexion upon the perceptual appearances. But bodies do not have such qualities as colour, temperature, etc., at all. Now it has to be granted that bodies seem to have secondary qualities just as much as they appear to have primary qualities. And it must be admitted that the appearances vary from subjective causes in the case of primary qualities as much as they do in that of secondary qualities. Thus the orthodox view is not easy to maintain.

The physical reality of primaries is admitted because otherwise the whole causal order of nature, as known to science and Common-Sense, would break down. What is the difference between secondaries and primaries which has caused so many people to reject the physical reality of the former whilst accepting that of the latter? And is this difference relevant?

The difference is this. There are two ways in which we can pass to the notion of an objective determinate quality. One of them is applicable to both primary and secondary qualities, but it does not carry us very far. The other is applicable only to primary qualities, and it is capable of indefinite extension and refinement. The first method is to assign certain standard conditions of perception, *e.g.*, white light, a normal human eye, etc., and to identify the determinate value of a quality which really belongs to a body with that which appears to belong to this body when it is perceived under these standard conditions. This method never gets rid of reference to a percipient. The second method is twofold. (i) It identifies the real determinate qualities with those values which have to be assigned to physical determinables in order to bring the changes of bodies into a single system of causal law. (ii) It uses measurement by superposition of one body on another. These two factors are mutually interlocked. We could not formulate or test laws unless we could more or less accurately measure the values of the variables involved in them. On the other hand, our more delicate measurements are possible only by indirect methods which presuppose a knowledge of causal laws. This second method reduces reference to a percipient to a minimum. But for two reasons it can be applied only to primary qualities. It is only in respect of their primary qualities that physical objects are superposable extensive quanta, forming a single spatial and kinematic system. And it is only the primary qualities of objects that seem to be directly relevant to their causal interaction. It seems to be only in terms of extension and motion that fundamental laws, pervading the whole of nature,

like those of geometry, mechanics, and electromagnetics, can be formulated.

Is the apparent causal irrelevance of secondary qualities also real? Prof. Stout holds that it is not. Everything in nature has both primary and secondary qualities. In those parts of nature with which we are acquainted, *viz.*, sensa, both kinds of quality are manifested to us inextricably united. We can often infer with high probability the determinate primary qualities of parts of nature with which we are not acquainted, but we cannot infer with any high probability even the determinable (much less the determinate) secondary qualities of such parts of nature. The secondary qualities of any physical thing are correlated with its primary qualities. But the connexion is not causal, for this would involve the same kind of difficulty as the "production" of mental events by purely non-mental causes. The secondary qualities of a given thing at a given moment must be causally determined by its secondary qualities at the previous moment and by the secondary qualities of other things which are interacting with it. But we have no means of discovering the laws of this causal determination of secondary qualities. Instead we have to be content with *de facto* rules of correlation between secondary and primary qualities, and genuine causal laws of the determination of primaries by primaries.

In Chapter VI. Prof. Stout discusses the part played by the experience of activity in our perception of physical objects. His doctrine is as follows: The experience of pushing, pulling, thrusting, resisting, etc., gives us the perception of ourselves as agents in transactions in which other agents co-operate as cause-factors. On this kind of perceptual experience is based the notion of the physical world as a system of interacting substances. But this would not suffice to account for our perceiving one of these agents as our own *body*, and conceiving the rest of them as other *bodies*. It is the sensible aspect of our total experience which accounts for this factor in our knowledge of the physical world.

(4) *The embodied Self and Self-consciousness.* This subject is dealt with in Chapter VIII. of Book II., and Prof. Stout reverts to it in the last two chapters of the volume. Prof. Stout says that the notion of a disembodied mind is as alien to Common-Sense, at all stages of culture, as Materialism itself. And he agrees with Common-Sense in rejecting the notion.

There are certain common expressions, such as "I am seeing a bird", in which it seems obvious that we cannot substitute for "I" either "my mind" or "my body". Sometimes, indeed, the word "I" is used as equivalent to "my body", as when I say that some day I shall be mouldering in the grave. But in such cases I realise that what will be mouldering will not be "I" in the sense in which that word is used when I say that I am seeing a bird. There are also phrases like "I see with my eyes", "I lift my hands", etc. But one cannot substitute "my mind" for "I" in such phrases and keep

in touch with Common-Sense. Nor can one substitute "my body" or "a certain part of my body".

Prof. Stout's interpretation of such facts is as follows. Whenever I am aware of myself I am aware of something which combines in an inseparable unity two factors. On reflective analysis these can be distinguished, and one is then recognised as mental and the other as bodily. Now my body is known to myself and to other people by sight and touch and hearing as one material object among others. And on reflexion I identify the self of which I am aware, in respect of its material aspect, with the whole or some part of my body as a perceived material object. *E.g.*, what I am aware of as "I" when I say that I am seeing a bird includes something which on reflexion I should identify with what other people see as my eye. What I am aware of as "I" when I say that I am thinking hard includes something which, on reflexion, I should identify with an inner part of what I can touch and other people can see as my head. And so on.

In the third section of Chapter IV. of Book III. the opposing theory of Monadism is criticised. And in the third and fourth sections of Chapter VI. of Book IV. there is a very elaborate criticism of Ward, who is regarded as the strongest representative of the view that we could begin by being aware of ourselves in isolation, and could then arrive at a belief in the existence of other individuals interacting with us, on the basis of this experience and reflexion upon it.

Prof. Stout's own view is that one's belief that certain bodies, other than one's own, are animated by minds is reached by inference. Resemblance between such bodies and one's own is neither necessary nor sufficient to justify such an inference. The real basis is as follows: We act towards these bodies on the hypothesis that they are animated by minds like ours, and see if they respond as they might reasonably be expected to respond on that hypothesis. In some cases the hypothesis is verified in such minute detail and over so wide a field that doubt becomes impossible. It must be remembered that, on Prof. Stout's view, each of us starts with the positive *knowledge* that he is an embodied mind, that there are other bodies which interact with each other and with his own, and that the processes of external nature are expressions of mind akin to but other than his own. What remains to be determined is whether certain particular parcels of matter are animated by individual minds; and this question can be decided in many cases quite certainly and unambiguously by appropriate evidence in the way of responsive bodily behaviour.

There remains one other point to be noticed, *viz.*, Prof. Stout's view about the physiological correlates of mental events. In the case of sensation I understand his view to be that in having a sensation I internally perceive a certain physiological process. This same process, as it would be externally perceived by an idealised physiologist or anatomist, is what would then be called the "physiological correlate" of my sensation. The question then arises whether acts and processes of thinking and feelings of pleasure and pain have

special physiological correlates distinct from the physiological correlates of acts and processes of acquaintance with sensa or images. Prof. Stout holds that there is no reason to think that they do. Every difference in thought, according to him, is correlated with a difference in sensation or imagery, and every difference in the latter has its correlated physiological difference. It is only in this indirect way that thought can be said to have a physiological correlate. And similar remarks are held to apply, *mutatis mutandis*, to pleasure and pain, which are alleged to be essentially bound up with the experience of successful or of thwarted conation.

It is plain that a great deal of Prof. Stout's book might be true, and would be important, even if the animistic doctrine which he thinks he has established were rejected or held to be unproven. The criticism of Epiphenomenalism or Materialism, the theory of a non-inferential knowledge of particulars with which one is not acquainted, and the contention that we have such knowledge of material things, all merit most serious consideration even by those to whom the Animism appears fantastic. The same may be said of the doctrine of internal and external perception, the account of the embodied mind, the criticism of Hume's theory of causation, and the positive theory of our perception of causation through awareness of our own active co-operation with and resistance to other things. Speaking for myself, I must gratefully acknowledge the pleasure and stimulus which I have received from Prof. Stout's treatment of all these fundamental points. If little is conclusively proved, some old alternatives are almost disproved, and several new alternatives, which may be of great importance, are suggested and shown to be highly plausible. But the animistic theory, to which all these clues are supposed to point, is so vaguely formulated that I can neither conceive it clearly nor see what entails it or what it entails. I strongly suspect that, if it ever became definite enough to be susceptible of criticism, it would be found to solve no old difficulties, to raise many and great new ones, and to derive but a feeble probability from the facts which Prof. Stout adduces in its support.

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Kulturphilosophische Grundlegung der Politik. By RICHARD KRONER. Berlin, Junker und Dünnhaupt, 1931. Pp. 112. R.M. 5.50.

NOTHING could illustrate better than this book the width of the gulf which still separates the Rationalist[1] and Empiricist traditions in Philosophy, and especially in the sphere of Political Philosophy.

[1] I use the term 'Rationalism' in a wide sense to include the whole development of the tradition from Descartes to Hegel, and do not confine it to the period of 'dogmatic Rationalism' between Descartes and Leibniz.