

**The University of Chicago**  
FOUNDED BY JOHN D. ROCKEFELLER

---

THE  
PARALLELISM OF MIND AND BODY  
FROM THE  
STANDPOINT OF METAPHYSICS

A DISSERTATION SUBMITTED TO THE FACULTIES OF THE GRADUATE  
SCHOOLS OF ARTS, LITERATURE, AND SCIENCE, IN CANDIDACY  
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY  
DEPARTMENT OF PHILOSOPHY

BY  
ARTHUR KENYON ROGERS



CHICAGO  
**The University of Chicago Press**  
1899



## THE PARALLELISM OF MIND AND BODY FROM THE STANDPOINT OF METAPHYSICS.

It is not likely that any psychologist of the present day, whatever view he may hold as to the field which his science occupies, would be inclined to deny that it has at any rate a very intimate connection with the nervous mechanism of the body, and particularly with the brain. Physical conditions, as everyone knows, are all the time exerting an important influence on the conscious life, and it is an easy matter to prove that brain activity is the precondition, indispensable, so far as we can see, of at least a considerable number of conscious processes. It is natural that psychologists should hesitate about setting any arbitrary limit to this interconnection, and should be anxious, in view of the fruitful results that have already been gained, to extend the application of physiology to psychology as far as the facts will warrant. Without dogmatizing about the relation between mind and body, the cautious psychologist conceives himself justified in saying: I have found the hypothesis that conscious processes are accompanied by nervous changes a helpful one within certain fields, and therefore I will assume that the same thing holds good throughout the conscious life, and will see whether this throws any additional light on psychological problems.

Taken in this undogmatic way, the principle of psycho-physical parallelism would be accepted, I suppose, by most modern investigators. All it purports to be is a working hypothesis, which expressly refuses to bother itself with the further metaphysical questions involved. And in this, as a special science, psychology is within its right. But in the form which parallelism has taken perhaps quite as commonly, ultimate questions cannot be so readily avoided. For in this form parallelism starts out, not from the demands of the subject-matter of psychology, but from a highly metaphysical doctrine brought in from a different field. Modern science, from a complicated mixture of metaphysical postulates and experimental evidence, has built up the doctrine of the conservation of energy. According to this doctrine, energy in the material world is neither lost nor gained, and events consequently follow upon one another with such a mathematically determinable connection that the intrusion of any influence in their production

which is not represented by preceding physical events is rendered out of the question. But consciousness is not a material fact, and so would seem somehow to lie wholly outside the chain of physical processes, without causal influence upon them. The common belief, therefore, that our thoughts and desires in any way influence our actions is a delusion; instead of its being true that mind affects body and body affects mind, what in reality we have is two independent series, each corresponding in a way to the other, but neither influencing the other in any degree.

No one, probably, who has been at all touched by the scientific spirit, can avoid the feeling that there is a good deal of force in this argument. It is true that the conservation of energy is not something that has been demonstrated, and probably it never will be demonstrated; and the alarming picture of the effects on science in case a slight exception to it were to be found in some corner of the brain seems to the lay mind a trifle overdrawn. Scientists who, with Professor Clifford, call the hypothesis of a causal effect of mind on body "not untrue but nonsense," and who declare that there is no more reason for thinking that a new influence enters in connection with the brain than at any other point in the universe, are certainly forgetting their scientific modesty. Surely there is more evidence for asserting that our vision of a falling stone makes us move out of the way than for saying that the stone falls through some occult force that is unknown to physics; and if the evidence cannot be expressed in mathematical terms, it shows a somewhat provincial spirit on that account to deny it any value whatever. Then, again, the argument that the whole idea of causation comes up originally in connection with the action of the will on the external world, and that therefore the finished concept cannot wholly exclude this interconnection, while it may not be very conclusive, is not without weight.<sup>1</sup> And yet, in spite of this, the scientist will not feel convinced. His whole temper of mind points him in the direction of a strictly physical explanation of all natural processes, and to give up such an explanation in this case is only possible at the expense of an unpleasant wrench, and an abiding sense of intellectual uneasiness. It is not an easy thing for the psychologist with scientific training to imagine a molecular motion suddenly stopping without further physical effects, to give place to a sensation or memory, or to imagine a movement setting up in another part of the brain, inex-

<sup>1</sup> Ladd, *Philosophy of Mind*, pp. 218 ff.

plicable from any preceding physical cause. It should be said that the first of these suppositions is not necessarily implied in a causal relationship between mind and body; we can think of the physical effect as going on according to physical laws, at the same time that there is an additional by-effect in consciousness, outside the physical world. But there is implied of necessity a beginning of motion, or a change in the direction of motion, which is not accounted for by physical laws, and to this science cannot help but have an instinctive objection.

It must be granted, then, that metaphysical parallelism has a good deal in its favor. But because it does involve ultimate questions so nearly, its metaphysical bearings cannot be simply thrust to one side and neglected, as if they did not matter. As I have said already, parallelism in its strictly theoretical form is not a doctrine irresistibly demanded by psychological facts; rather there are a multitude of facts which apparently point to a mutual influence between mind and body. Indeed, the theory is generally recognized as a paradox; and if it is taken as anything more than a working hypothesis, then the plea is not admissible that, as a scientist, the investigator is not bound to consider the philosophical bearings of his doctrines, particularly as he usually manages to imply a pretty definite philosophical creed. It is hardly fair for the scientist to force us to follow him, under pain of being judged incompetent to appreciate self-evident truths, into regions where contradictions surround us on every side, and then to abandon us there with a few words about "ultimate identity," and "twofold aspects of reality," which, as we may guess, he leaves so general simply because he is unable himself to think out what they mean. As involving a metaphysical position already, which, moreover, in the most violent way splits up the universe into two seemingly independent halves, a theory of parallelism can be considered as at all successfully established only when the possibility has been shown that it can be adjusted to some tolerably consistent world view.

It is the object of this essay to examine the logic of the situation, and to discover into what different forms the doctrine of parallelism will work out, and whether any of these forms is ultimately tenable. I shall precede this with a slight historical sketch of the doctrine. This historical sketch, as involving really the whole relation between mind and body, might easily become elaborate; but I shall attempt

only an outline, leaving it to the more critical exposition to go into greater detail. And, finally, I shall try in a tentative way to offer the solution of the problem which suggests itself to me, in the hope that the critical part of this essay will have pointed out certain considerations that may give the solution some degree of probability. Already in Descartes most of the elements of the modern problem make their appearance. Matter and mind are at last clearly distinguished, so clearly that it now becomes a serious question how they are ever to be related again. In the world of matter mechanism has all but triumphed completely. Animals, at least, are automata, and if we except a very few activities, notably that of speech, the same thing is quite conceivable as regards the human body as well.<sup>1</sup> Indeed, man as purely sensitive and appetitive is seemingly regarded by Descartes as a machine, though the matter is a little complicated by the vacillating position which he adopts in reference to sensation, which he assigns now to the mental, and now to the physical world.<sup>2</sup> But at any rate in the case of man he stops short of pure mechanism, for the mind, as a thinking and active substance, has the power to break into the physical series, which it does through the medium of the pineal gland, where body and soul come into contact.

The difficulty of making intelligible this mutual influence between heterogeneous substances led, in the Cartesian school, to a gradual undermining of their substantial character, and an insistence on the ultimate reality, God, as the explanation of their interaction. The fact of interaction, however, of a change in the physical series finding at least its occasion in the mental, was still undisputed. Spinoza carried out this tendency to its conclusion. Descartes himself had recognized that mind and matter must be substances only in a secondary and derived sense; Spinoza drops the term substance altogether as referred to them, and they become merely attributes of the one eternal substance, God. But with this the problem of their interaction at once assumes a different aspect. As each attribute expresses the eternal and infinite essence of God, there can no longer be any question of their influencing one another, for they are not two things, but at bottom one. The one reality manifests itself in two different forms, which must therefore both absolutely correspond, and be absolutely complete, each in itself. For each mode

<sup>1</sup> *Cœuvres*, IX, p. 424.

<sup>2</sup> *Cf.* K. Fischer, *Descartes und seine Schule*, Dritte Auflage, Pt. I, p. 429.

of extension there is a corresponding mode of thought, but extension is modified only by extension, and thought only by thought, never the one by the other. This conclusion Spinoza goes on to fortify by various empirical examples of what mechanism can accomplish without the aid of intelligence,<sup>1</sup> but this is by the way; the real basis of his parallelism is metaphysical throughout.

Leibnitz, no more than Spinoza, can conceive of a mutual interaction between soul and body, but in endeavoring to account for the relationship he strikes out into an entirely new type of theory. Mind and matter no longer stand on a metaphysical equality, but the only ultimate reals are immaterial beings. Such beings, or monads, exist, each shut up within its own nature, and developing of itself, without being influenced directly by any other monad. But the nature of the monad depends finally upon God, and in determining that nature God took due account of all other beings; and so it happens that, without the necessity of any influence passing from one monad to another, all develop harmoniously together, and each by the very unfolding of its own nature reflects the course of the entire world, from its particular point of view.

A host of immaterial beings, however, whose nature consists in perceptions, does not by itself account for the material world. That which lies at the basis of matter is the fact that the monad is not pure activity, but has a passive side as well.<sup>2</sup> And this passivity is not a mere limitation, but an essential part of its being; it means that the monad is not in reality a thing standing by itself, but that it has a relationship to the whole universe.<sup>3</sup> In so far as it is pure activity, it sets up the law for other monads; their activity has to be adjusted to it. But, on the other hand, in so far as the law of its nature is determined with reference to the activities of other beings, it feels itself relatively passive, it fails to find within itself the full explanation of its act, and so its perception is confused.<sup>4</sup> Such confused representations are what lie at the bottom of our ideas of matter; and since their basis is passivity, it is natural to apply the term matter especially to those monads which are most passive, and whose representations are most confused, while the higher monads are distinguished as souls. What, therefore, we ordinarily call matter, the thing which we suppose

<sup>1</sup> Eth., Pt. III, Prop. 2, Schol.

<sup>2</sup> Philosophische Schriften (ed. Gerhardt), Vol. 7, p. 530.

<sup>3</sup> *Ibid.*, Vol. 6, p. 546.

<sup>4</sup> *Ibid.*, Vol. 6, p. 138.

to exist in the external world, is due to the confused way in which the soul represents the activities going on in other monads. The representations themselves, accordingly, are phenomenal, but they point to actual realities in the shape of collections of immaterial beings, each with its own inner life. Every finite monad, then, by the very fact of its inclusion in the life of the universe, must have a body. It must mirror, that is, the surrounding monads more or less confusedly, and still more confusedly the remoter ones; and since there are certain monads with which it is more closely connected than with others, these form for it a body, and through this body, which is affected by every movement in the universe, it gets a confused perception of the entire world.<sup>1</sup> The soul gives laws to the body simply by the fact that its representations are more distinct, and so have to be taken account of in the inner life of the monads of which its body is made up. There is no force transference. The soul acts according to final causes, the body according to efficient;<sup>2</sup> neither requires the other to explain it, and yet both act in harmony because they have been adjusted at the start.

It probably is apparent already that there is an ambiguity in this statement, which, however, Leibnitz himself never fully clears up. It may perhaps be put in this way, that the preëstablished harmony in the inner development of the monads is not altogether equivalent to a preëstablished harmony between the development of one of the monads, the soul, and the actions, not of other monads, but of collections of monads, phenomenal bodies. Granting that those ideas in souls which represent the quantitative relationships of physical science, the series of efficient causes, are distinct, and so that they point to a reality, yet they cannot represent real relations between bodies, since bodies themselves are phenomenal and not real, and they evidently do not directly represent inner activities of other monads, which are not material facts but perceptions, and exceedingly confused perceptions at that. What we must suppose, accordingly, is this. Our perceptual experience has a certain relation to, stands in some way as a sign for, that vast system of relationships which make up the body of science. The vaguest and most confused feeling of the lowest monad stands in a definite connection with the physical influences which are raining in upon its body from the entire universe, so that the monad can be said

<sup>1</sup> *Philosophische Schriften* (ed. Gerhardt), Vol. 6, p. 599.

<sup>2</sup> *Ibid.*, Vol. 6, p. 599.



to mirror, though confusedly, all that is going on in all its fellow-monads. But this physical universe of science, again, is not the actual world; it only points back to the ultimate reals, the units of force whose actual life is a life of representation, of mental activity, and whose relationships it somehow stands for. But these relationships *between* monads evidently have no real existence in a world in which the individual monads, shut up within themselves, are the sole reality; and therefore, if they are to refer to any reality at all outside their actual appearance as representations, it can only be because they point to something which exists within the mind of God. We accordingly are led to this conception: that the inner life of the monads is arranged by God to fit in with, correspond in a way to, a certain set of symbols which he has in his mind, and which it is a part of the arrangement should be reproduced on occasion in the mind of finite monads, which by this means are able, not indeed to know the reality of the world, but to know certain relations which themselves have a relation, more or less symbolic, to that reality. It is doubtful whether this approximation to ideas in the mind of God ought strictly to be called preëstablished harmony in Leibnitz' sense, and it is perhaps still more doubtful whether the translation of the relations between representative states in the monads, most of them inconceivably obscure, over into the definite quantitative relationships of science, can really have any meaning for us. At any rate we are left in the somewhat awkward position of having two external worlds on our hands, one made up of monads, and one in the mind of God; and how we are to bring these together is far from being clear. Unfortunately Leibnitz never attempted to work out the consequences of his theory in a systematic way, and his answer to the questions which suggest themselves here is necessarily imperfect.

With Kant there begins a new philosophical development which, in the German Idealists, shifts the standpoint from which the whole question is approached in so peculiar a way that, while the term parallelism may still be used, it is doubtful whether we really are dealing with the same problem. This came about through the transference of interest by Kant away from the relation between experience and a reality beyond it, to the distinction and the functional relation of elements within experience itself. For Kant, indeed, the problem of a *Ding-an-sich*, of a noumenal reality back of the phenomenal world, still remained, and he makes the suggestion that the reality which underlies

the manifold of sense and the unifying function of the understanding may perhaps be one and the same.<sup>2</sup> But with Fichte the thing-in-itself drops away, and Nature becomes only a phase in the activity of the Ego, which points to nothing beyond. The Fichtean standpoint was accepted by Schelling also, at least in his earlier thought, but in Schelling's case the philosophy of nature gradually came to assume an independent position alongside that of intelligence. From these two relatively independent starting-points, Schelling tried to establish a thoroughgoing parallelism between the activity of intelligence in creating for itself a world of nature, and the activity which is expressed objectively in nature itself, and which rises gradually to intelligence in man. And because he took them in this way as independently valid, he was at last driven to postulate back of the two series an ultimate identity, in which the distinction of subjective and objective is done away, but which constitutes the ground of both. In Hegel this thoroughgoing parallelism disappears again, for since on Schelling's own principles nature only exists for intelligence, it clearly ought to be subordinated to intelligence, and not put on an equality with it. The reconciliation of subject and object is found, therefore, not in an ultimate identity, but in Absolute Spirit, for which the distinctions of subjective and objective themselves exist, and in relation to which they have their meaning. Nature is not a thing by itself, then, but only a stage in the development of Absolute Spirit, the phase of externality, which in consciousness returns to itself, and is taken up as a factor in the higher unity which includes subject and object alike as necessary moments in the fullness of its own life. The parallelism which is involved in this conception is evidently not the parallelism of subjective conscious states with brain movements, but is got at rather by tracing in nature the dialectical process for which the general schema is given in Logic. A criticism, therefore, can only be directed against the general philosophical standpoint which is represented, and this does not come within the scope of the present essay.

In Schopenhauer we have a return to Kant and to the thing-in-itself, but to the thing-in-itself as identified with Will. The parallelism is thus drawn between the noumenal reality which reveals itself in our conscious life as will, and, on the other hand, nature, the world of idea, which is not the product of will, but its phenomenal appearance. There is consequently no causal relation between the will and the

<sup>2</sup> Kritik (ed. Adickes), p. 693.

objective world ; causation only applies between phenomena. With Schopenhauer we come closer to the standpoint of natural science, but the scientific interest does not become supreme until we get to Fechner, who was the first to approach the problem definitely from the side of the scientific doctrine of the conservation of energy, and its applicability to the brain processes. Fechner's solution follows in general the lines which Leibnitz had marked out, but with important differences. With Leibnitz he makes reality essentially spiritual ; my real self is my consciousness, my body is only the appearance which this presents to an outsider. So, too, Fechner agrees with Leibnitz in carrying the psychical aspects of reality down below man and the animals, into the plant, and even into the inorganic world. But whereas for Leibnitz the monads were independent bits of reality, and God was apparently another reality alongside of them, whose relationship to them was, moreover, very problematical, Fechner makes his whole theory turn upon this relationship, and consequently he is led in the opposite direction from the monadology of his predecessor. God is the one reality who includes within himself all finite lives, and these have their being, therefore, not as hard and fast, mutually exclusive existences, but only as elements in the one great consciousness of God. And so in the physical world, motion does not depend upon forces which belong to the individual atoms, but the law of motion is bound up with the unity of the system to which the atoms belong. If now we ask why my consciousness should be split off as it is from the rest, the answer is found in the law of the threshold. A certain definite intensity, which Fechner supposed could be reduced to a mathematical law, raises conscious processes above the level of surrounding processes, and gives them a relative independence. Such semi-isolated systems are what we know as individual minds. Only those processes which are enabled in this way to cross the threshold are, accordingly, experienced directly by the individual whom they constitute ; all others appear to him as objective, as material. Since, however, we know reality in ourselves, we can infer that the true nature of the external world, likewise, is of a piece with this. The bond between the inner and the outer aspect is conformity to law. The same law which is revealed in the particular collocation of atomic motions in the external world which makes up the unified body, manifests itself directly as the unity of consciousness.

Since Fechner's time, and largely through his influence, parallelism,

in one form or another, has been somewhat widely adopted, without, however, bringing out much that is essentially new. Among those who have accepted Fechner's solution are, notably, Paulsen, and, with modifications, Wundt, while Riehl has shown a tendency to go back to Kant. In England the doctrine has also sprung largely from the scientific interest, and has been brought forward mainly by scientists of a philosophical turn, who have been led to it through the exigencies of the scientific law of the conservation of energy. Here belong, in particular, Lewes' positivistic parallelism, Huxley's automatism, and Clifford's mind-stuff theory. The latter theory is given a somewhat original turn by Romanes.<sup>1</sup> Instead of finding the reality of the external world in psychologically inexplicable bits of mind-stuff, by following the analogy of the human consciousness he reaches the conception of nature as the phenomenal appearance of one great consciousness, the mind of God. This, of course, is closely related to the position of Fechner and his followers, but differs from it in that it apparently does not give a separate psychical life to individual things, apart from such beings in the organic world as we ordinarily endow with consciousness. Finally it may be noted that parallelism is being very generally accepted by recent psychologists, either as a philosophical creed or as a working hypothesis, usually, however, without any great amount of elaboration being attempted. It is evident from the foregoing sketch that the principle of parallelism is capable of a number of very different metaphysical interpretations, and the main types of these I shall now go on to consider.

The essential feature of parallelism, as I shall discuss it, is this, that there are two series of facts, brain changes and conscious processes, which on their face are of a totally different nature; and that the physical series, at any rate, is an unbroken one, whose complete physical explanation is furnished without any help from the outside. There are four general types of theory with which, conceivably, this might be consistent. It may be that mind and matter are two different substances, meaning by substance a special and separate kind of reality; and that each is entirely inadequate of itself to account for anything whatever in connection with the other. Or it may be that the physical series is the reality, of which mind is only an epiphenomenon, with no physical effects. Or it may be, again, what at present under various forms goes by the name of monism, that mind and brain are not

<sup>1</sup> *Mind and Motion and Monism*, New York, 1895.

independent, but are aspects, or sides, or whatever you please, of a single reality, whose relation to them has thereupon to be discovered. And, finally, one may suppose, with various shades of meaning, that the reality is wholly ideal, though it will not be possible to draw any strict line of division between this and the preceding type of theory.

The difficulties which beset the common way of looking at mind and body as two distinct substances have had a large part to play in philosophy since the time of Descartes, and the various attempts to meet the difficulties have only served to bring them into stronger relief. Those attempts which imply a mutual influence between the two, either directly, or indirectly through the power of God, do not concern us here. Assuming the principle of parallelism, two possibilities are open. It may be that we can only say: Here are two substances, two separate realities, which as a matter of fact do run along parallel to one another, without our being able to say anything more about it. It is evident that this is the negation of philosophy. If the substances are really distinct, then the parallelism is a wholly surprising and inexplicable fact; if there really is a parallelism, then some relationship is necessarily implied, which the theory by its own admission is unable to account for. It must be, then, that there is a third reality which is able to furnish a reason for the relationship between the first two. This third reality, which we may call God, creates, presumably, the two series, each complete in itself; but by reason of their common relationship to God they show a relationship to each other. But if the former theory would make two substances, this makes three, and all the difficulties are retained which philosophical thought has found in representing to itself the action of one substance on another of an entirely different nature. One can only say that mind and matter are products of the divine creative will, and this is no explanation, but a falling back on divine power which, in ways inscrutable to us, makes all things possible.

Much more commonly held as an explicit theory is materialistic parallelism, and of this, with some reservations in both cases, Professor Huxley and Herr Münsterberg may be taken as representatives. In the face of his repeated remonstrances I do not want to accuse Mr. Huxley of being a materialist, but I think that the criticism of his position will fairly apply to the cruder doctrine of materialism as well. In so far, that is, as consciousness is taken as a product of that essential reality which is represented in the physical world, and a

product which, in turn, has no voice whatever in determining the future changes which this basal reality is to undergo, the position is essentially the same, whether the world is regarded as adequately described in terms of matter or not. It is not easy to decide precisely what Mr. Huxley would accept as the final form of his belief, but one thing at least stands out with sufficient clearness. Consciousness, he says, is as much a function of matter as motion is. Sooner or later we shall arrive at a mechanical equivalent of consciousness, as of heat. We have as much reason for regarding the mode of motion of the nervous system as the cause of the states of consciousness as for regarding any event as the cause of another. There is as much propriety in saying that the brain evolves sensation as that iron evolves heat. Consciousness, on the other hand, cannot be conceived, in turn, as having any effect on matter. It cannot cause motion, but is a mere collateral product. The soul is to the body as the bell of the clock to its works, and consciousness is as much without effect as the sound when the bell is struck.<sup>1</sup>

If we take these words in their most obvious meaning—and strict materialism at least does this—then the body is an automaton, producing a certain by-product which we call consciousness, but absolutely uninfluenced by consciousness in turn. But this position is an unjustifiable one. If nervous changes are the cause of consciousness in any sense of the word which has meaning to the scientist, then energy must be expended in producing it; and if consciousness represents energy expended, it not only may, but must, influence the brain in return. It is arbitrary to allow causality in one direction while we deny it in the other. To be consistent we must either say, with the thoroughgoing materialist, that consciousness *is* material, and consequently both influences and is influenced; or, if we persist in calling it an unessential by-product, then we must admit that the word product has in strictness no scientific meaning, and that we have not really succeeded in correlating consciousness with the physical world at all, but have left it standing as something isolated and inexplicable. The physical analogies which Professor Huxley uses really do not mean anything when we look at them closely; heat and sound as such are themselves facts of consciousness; they are not analogous to, but identical with, that which they are used to throw light upon. As a fact of consciousness, sound is just what is to be explained; as a physical product, the sound

<sup>1</sup>Lay Sermons, pp. 338-9; Science and Culture, pp. 242-5, New York, 1890.

of the bell is not without effect, but has definite physical results. And it may be well to mention the psychological consequence that, on Professor Huxley's statement, each element of consciousness is a separate fact produced directly by the physical mechanism, and that between different facts of consciousness there is, accordingly, no connection.

For materialism this reply holds good unreservedly; it would not be fair, however, to leave Mr. Huxley here, for he has a more or less definite philosophical creed which puts a more complicated aspect on the matter. As nearly as I can interpret him, his philosophy is as follows: The only thing that we can know directly is states of consciousness. What we call matter, therefore, is not ultimate; it is wholly inconceivable that extension should exist independently of such a consciousness as our own.<sup>1</sup> All I can mean when I say that thought is a property of matter is that, actually or possibly, a consciousness of extension and of resistance accompanies all other sorts of consciousness.<sup>2</sup> Whenever those states of consciousness which we call sensations, etc., come into existence, complete investigation will show reason for the belief that they are preceded by those other phenomena of consciousness which we give the names of matter and motion.<sup>3</sup> But back of these phenomena we may conceive that there is a reality which is their cause, but between which and the sensation no similarity is imaginable.<sup>4</sup> For between the cause and the sense effect the nervous system intervenes. As Mr. Huxley, however, has failed to work out his conception in detail, it becomes necessary here to interpret him. Two possibilities, I think, are open. Either Mr. Huxley means that sensations break up into two quite distinct series, and that one series, comprising sensations of extension and resistance, forms a closed circle, upon which none of the remaining sensations have any influence; or else, when he says that sensations have no influence on the material world, he is not to be understood as meaning that one set of sensations has no influence on another set, but is referring to all sensations alike. In the first case the two series are separated absolutely; in the second they are separated for one purpose, and classed together for another. If we are to hold him strictly to his assertion that sensations are all that we possibly can know, then the first of these meanings is the only legitimate one. But in that case the statements that

<sup>1</sup> Lay Sermons, p. 327.

<sup>2</sup> *Ibid.*, p. 341.

<sup>3</sup> Hume, p. 95, New York, 1894.

<sup>4</sup> Science and Culture, p. 216.

he makes lose all their plausibility. This closed circle of sensations of extension and resistance, which are supposed to accompany all others, is something that no one ever has experienced or can experience, and consequently by definition it has no reality. For, not to speak of other difficulties, it is wholly out of the question that I, when I have the sensation of red, should see the movement in my brain that accompanies it. It may be said that if I cannot see the movement myself, at least some one else who is looking on might do so. Granting the fact, which is a somewhat doubtful one, all that we have, nevertheless, is another sensation in another man's mind. My sensation does not enter into his consciousness, nor his into mine, and it is difficult to see how, without a number of highly important assumptions, the two are to be correlated at all, even if we admit the existence of this second fact. It is noticeable that the sensationalist philosopher usually considers that he is very ill-used if he is not allowed in the interest of common sense to drop his principles long enough to assume the existence of other minds in communication with our own, whereupon he takes them up again as if nothing had happened, and proceeds to reason on them for the future with great rigor. But allowing that the assumptions are legitimate, then to get what we are after we should have to say, not that the other man has a sensation, simply, but that, through its effect upon his own brain, he has been made aware of a fact which is not merely his sensation, and which is connected with my sensation of red. But here we fall naturally into a theory quite different from Mr. Huxley's, the theory, namely, that sensation and brain movement stand for a single fact, in one instance as it is experienced directly, and in the other as it appears to a looker-on. For my sensation, which is a fact standing on its own merits, and the vision of brain movement, which points to a real process, and is mediated by an observer's brain, are at any rate not upon quite the same level; they are still differentiated, even if one does not adopt the monistic view. Both would still involve the same reality, but in a different way; the reality which manifests itself phenomenally as molecular motion *causes* the sensation of red. But with this difference, it is a question whether we have a right to take them, in the way Mr. Huxley, without further criticism, does take them, as perfectly homogeneous facts.

The last paragraph is sufficient to show that Mr. Huxley actually has in mind the second of the two alternatives mentioned, and that he



really is opposing all sensations alike to certain realities beyond them, not one set of sensations to another set. Indeed, the latter conception is not only not plausible, it is, so far as I can see, pretty nearly meaningless. To say that hypothetical sensations of molecular motion condition sensations of color, while these exert no influence in turn, is, if we are really talking of sensations only, an absurdity. Taking, then, the other as his real meaning, I have three remarks to make. In the first place Mr. Huxley does not show us, and, so far as I am aware, does not make an attempt to show us, how, if sensations are all we can know, we are to pass from mere sensation to a reality back of it. In the second place I do not see, in particular, what right we have on the same showing to split up our sensations into two classes, and allow only one of these to point to a reality beyond, while we deny this to the other. Granted, however, that these difficulties have been surmounted, what precisely is the conception with which we are left? Well, the material world with which we are dealing is no longer sensation, but those real processes which sensations, or certain of them, reveal. This is clear from the fact that if we deal with it *as* sensation, the relationship to a human brain is always involved; whereas, of course, the physicist is concerned with the processes in themselves, not as they affect an organism. Upon these real processes all our conscious life depends, the so-called objective sensations as well as the subjective; and it is therefore obviously impossible that one of these should be the cause of the other. But we must suppose, I should say, that there is some real connection between unknown processes and sensations, and between the unknown processes themselves; otherwise we have asserted, not only that we cannot unify the world ourselves completely, but that no such unity exists. Furthermore I should say that the *relations* which exist between the sensations to which we give the name of matter would have to correspond to real relations in the underlying noumena, or we should have no basis for saying that the physical series was shut up within itself, and that consciousness had no effect upon it. What now Mr. Huxley's theory would mean, if translated into these changed terms, would be this, that the phenomenal appearance of the unknown reality can be explained, or predicted, solely from the data given in one particular sort of sensations which we call objective. The relations which hold between these—more or less hypothetical—sensations of extension and resistance, and these relations alone, we assume apply to reality; material processes, that is, indicated by such

sensations, are to find their sufficient explanation in other material processes; they are to be conceived as capable of giving rise to a series of sensations which ideally would form an unbroken chain, in which no other sensations have any place, but which would themselves, no more than these other sensations, enter into the corresponding but more ultimate circle of actual processes for which, as sensations, they stand. This at least conveys a fairly definite meaning, and I have at present only two things to say in reference to it. It has been reached, as has been noticed already, by a process of assumption rather than of proof, and is in contradiction to the premises from which it started. And, in the second place, even if it is granted, it still fails to meet the difficulty which was mentioned at the start, and while it justifies the scientific demand for a mechanical explanation, it does so only at the expense of leaving sensation altogether outside the intelligible scheme of things. There seems to be a possibility, indeed, by going a step further than Mr. Huxley does, of reaching, on the basis of these same results, a more organic view, and so of introducing once more the causal efficiency of the conscious series. For strict automatism here would imply that the action of an unknown reality in producing a known reality, sensation, is entirely without influence on the relation which the former bears to the other unknown real processes thereafter; and this not only cannot be proved, but, if we regard the world as a unity, it is altogether improbable. This, however, represents a somewhat different type of theory from Mr. Huxley's, and it will come up again at a later point in the discussion.

To criticise adequately Professor Münsterberg's doctrine of parallelism would mean a discussion of the whole question as to the problem of psychology. Inasmuch, however, as he stops short of a metaphysical theory, if indeed he would allow that such a thing is possible, I do not think it is necessary for my purpose to attempt such a task. Münsterberg starts in avowedly from the scientific rather than from the philosophical standpoint, and makes the postulates, which science ordinarily makes, of a double series of facts, the external world and conscious processes. Now the external world is explained when it is reduced to a series of continuously intuitable processes;<sup>1</sup> and the world of consciousness, when it is analyzed into sensations which can be reproduced in the individual.<sup>2</sup> Between conscious facts, however,

<sup>1</sup> *Schriften der Gesellschaft für psychologische Forschung*, Vol. I, p. 104.

<sup>2</sup> *Ibid.*, p. 106.

there is no necessary connection such as exists in the physical series.<sup>1</sup> But now experience shows that conscious facts depend upon certain physical processes, brain processes, namely, as their condition. If, accordingly, each sensation can be correlated with a definite brain event, the necessary connection, which is lacking by nature to consciousness, can be transferred to it from the other series.<sup>2</sup> This is a brief statement of Münsterberg's position, and it evidently leaves things in much too disjointed a state to be taken as a finished philosophy. The two series stand completely apart, for causation has no meaning between them, but only between physical facts;<sup>3</sup> and when we are given leave, if we wish to picture the relation, to use the image of an inner side, the suggestion suffers too much from the vagueness I have previously noticed in parallelistic theories to be worth anything as an explanation.

If we take this last suggestion as serious, Münsterberg would have to be classed as a representative of the third form in which parallelism may be held, the form which is most widely accepted at the present day, and which has especially gained for itself the title of monism. The various forms of monistic theory are frequently lumped together as if, because they spoke of matter and mind as two aspects of a single reality, they all were practically of the same type. As a matter of fact, these words may be used to characterize a number of different, and indeed irreconcilable, standpoints. Accordingly it will not be necessary to dwell upon such general statements as, for instance, that of Höffding,<sup>4</sup> which hardly do more than raise the problem. As has been said already, it is not of much metaphysical value to assert that we have two manifestations of one and the same being, that a single principle has found its expression in a double form, unless we at least indicate a way in which this may be conceived. It is not hard to see that such a statement merely veils the difficulty, unless we make it far more explicit. What do we mean when we speak of two sides of a single substance? The image is only misleading when carried outside the physical realm. We have simply made the assertion that mind and matter are one, and have not explained it in the least or shown how it is possible. For us the two are distinct and different; we cannot squeeze them together as we might two lumps of dough, and call them parts of the one lump

<sup>1</sup> Schriften der Gesellschaft für psychologische Forschung, Vol. I, p. 111.

<sup>2</sup> *Ibid.*, p. 117.

<sup>4</sup> Psychology, chap. ii.

<sup>3</sup> *Ibid.*, p. 117.

which they form. The fact that, on any theory which admits their separateness, one is known only indirectly and through the other, is enough to keep us from thus putting them on an equality, to say nothing of identifying them. It is this which makes the analogy of aspects, or sides, misleading; for the aspects of a thing are both alike aspects to a perceiving mind, and it is just at this point that the comparison breaks down. Such a mode of expression apparently thinks that a theory of knowledge is unnecessary. We may pass on, therefore, to the more definite types of theory. And these will naturally fall into two main classes, according as the two aspects are regarded as standing on a metaphysical equality, and the real as an unknown something back of them; or according as they are looked on as an outer and an inner side, of which the inner gives us reality in its truer form. As a further principle of division, we may distinguish theories which make the distinction of aspects apply to reality as a whole, and those which confine it to the individual organism; and, again, between atomistic and non-atomistic theories. It will not prove feasible to carry out a rigid schematism, but the different phases of theory will take their places without much forcing in the course of the discussion.

If we begin with the metaphysics which puts thought and matter on an equality, and which finds in the distinction between them a characteristic of reality as such in its whole extent, we have of course the classical expression in Spinoza. It is perhaps misleading to go on and say that for Spinoza the reality is back of these, as something unknown. Undoubtedly he intends to assert that thought and extension are real characteristics of substance, and that in knowing them we know substance in its very essence. Nevertheless we do practically have to fall back on something very like an unknown reality. Without this we are left simply with a string of attributes, each of them possessing a quasi-independence of its own, and only making up the one substance as taken in their sum. It seems clear, however, that substance is regarded, not as the sum of attributes, but as an underlying unity which it is difficult to speak about except as a reality behind them, and which is related to them, moreover, not in such a way that one attribute expresses a part of the substance and another attribute another part, but so that each single attribute expresses fully the essence of the one undivided substance regarded in different ways. It is true that this does not make the matter much plainer when we try to think it out; one might rather say that, while the attributes are undoubtedly

expressions of a substance which is one and indivisible, the whole problem of the relation involved is fundamentally obscure, and will not admit of any clear solution, so long, at least, as, with Spinoza, we assume uncritically the fact of knowledge. We can make more intelligible this conception of attributes as expressions of the essence of reality under different aspects by reference to a consciousness to which they are aspects; and probably it is because he had this intelligible meaning in his mind, without distinguishing it accurately from the other, that the difficulties failed to appeal to him more strongly. On this view attributes would be merely subjective modes in which reality appears to us, and many of Spinoza's statements might, in fact, have this significance attached to them if taken by themselves. As a matter of fact, there is hardly any doubt that he would have repudiated this meaning, and would have stuck to the objective interpretation of the attributes. But at any rate we find ourselves confronted here with a real difficulty for parallelism—the difficulty, that is, of keeping thought down to the level of the other attributes. If attribute is defined as “that which the intellect perceives of substance as constituting its essence,” intellect has a position which is decidedly unique, including, as it must, all other attributes within itself; or, rather, existing as a parallel series to each separate attribute. For if it does not do this, then, apart from the change which would be required in the definition, there would be a special relation between the attributes of thought and of extension which would have to be explained.

The extreme difficulty of working the conception out, however, only comes to light when we consider Spinoza's doctrine of modes, as it bears upon the relation of mind and body. The two attributes, extension and thought, are entirely distinct; but for each mode of extension there is a corresponding mode of thought, or idea, and consequently the first thing that forms the actual being of the human mind is the idea of an individual thing actually existing; that is, the body.<sup>1</sup> Now, what we should naturally understand by this would be that there is an extended thing on the one hand, and an idea of it on the other, and that the thought series is simply a copy of the extended series. And sometimes it is evident that this is what Spinoza has in mind. When he says that a true idea must agree with that of which it is an idea,<sup>2</sup> this is the sense in which he is using the words. How-

<sup>1</sup> *Ethic*, Pt. II, Prop. 11.

<sup>2</sup> Pt. I, Ax. 6; cf. Pt. II, Prop. 7, Schol.; Prop. 32.

ever, if the same conception were applied to the particular case of mind and body, it would mean that the human mind consists of an exact knowledge of the human body, and this is very plainly not the case. In order to meet the facts of experience it is necessary to shift the meaning of the words, and the justification of this is as follows: Modes are not realities in themselves, and they are not effects that follow from God, even, in so far as God is infinite, but only in so far as he is affected by another mode.<sup>1</sup> So the human body, as a mode, or a collection of modes, of extension, is caused by God as affected by other modes of extension; and the idea of the body, similarly, is caused by God as affected by other modes of thought, the ideas of other things.<sup>2</sup> Since, then, God does not have an adequate knowledge of the body simply as he constitutes the essence of the human mind, but as he includes other modes as well, that which makes up the human mind is not true and distinct ideas of the human body by itself, but ideas of the affections of this body through the action of other modes of extension, ideas which, since they involve the nature both of our own and of external bodies, are confused and inadequate. All which means, translated into modern terms, that every conscious fact is dependent on the action of the external world in setting up processes in the bodily organism; but that the resulting state is not a copy either of the external vibrations or of the brain movements, as to the very existence of which it is of course wholly in the dark.

Obviously Spinoza has no right whatever to use these two meanings interchangeably; but this is exactly what he does. There are consequently two strains running through all his argument which have to be carefully distinguished in order to give an intelligible sense to what he says. I am by no means sure that I am able to interpret Spinoza in a satisfactory way; and to follow him, indeed, into the details of interpretation would lie outside my purpose. But a general statement of what I understand him to mean will probably not be far from the truth, and it will serve to bring out the difficulties in his parallelism, which is what I have chiefly in view. I think, then, that we may get some idea of what Spinoza intends by entirely setting aside, to begin with, the conscious lives of individuals, and the world as it comes to us through the senses, and by looking merely to the world of science. Suppose we take the conception of a world formula, from which, in terms simply of matter and motion, the whole course of the universe, and every par-

<sup>1</sup> *Ethic*, Pt. I, Prop. 28.

<sup>2</sup> Pt. II, Props. 19, 24 ff.

ticular thing in it, can be rigidly calculated. Without attributing just this conception to Spinoza, he undoubtedly held that something analogous to it constitutes *the* reality, just as the ordinary scientist does at the present day. He differed from the ordinary scientist in two ways. In the first place, he held that the reality is simply a matter of perfect definition and logical deduction. From the bare definition of God an infinite number of things can be deduced :<sup>1</sup> from God, the attributes ; from the attribute of extension, motion and rest ; from motion and rest, other properties ; and so on, the whole forming a perfect logical chain, to each link of which the idea of God gives eternal necessity and validity. It is to these properties, beginning with motion and rest, that Spinoza gives the name of infinite modes.<sup>2</sup> In the second place, the scientist regards his world as a world of matter simply ; for Spinoza, corresponding to each mode of extension there is a mode of thought as well. And this is what, from one point of view, he means by the thoroughgoing parallelism of thought and extension. It is not a parallelism with finite states of consciousness, but only a recognition of the fact that the world of science is not matter simply, but matter that can be *represented in thought terms*, and that thought, therefore, has an equal right to existence with extension. These eternal and unchanging modes of thought, corresponding to eternal modes of extension, are what constitute the infinite intellect of God.<sup>3</sup> It is here we find room for that eternal part of the human mind which existed before the body came into being, and will continue to exist after it is destroyed.<sup>4</sup>

Even taking this conception entirely by itself, we at once stumble on a difficulty in carrying out the parallelism, in consequence of a new series which is immediately introduced, the *ideæ idearum*. To know, according to Spinoza, is to know that one knows, and so we have a second series of ideas which is connected with the first, as the first is connected with extension. But this breaks down the exactness of the parallelism in any case, and, moreover, the analogy of the connection with the bodily series will not hold. For while extension and thought are wholly unconnected, thoughts, and thoughts of thoughts, belong to the same attribute, and therefore have a causal relation to one another apart from correspondence. But it is not necessary to dwell upon this, in view of the fact that the whole standpoint, whatever its scientific

<sup>1</sup> Ethic, Pt. I, Prop. 16.

<sup>3</sup> Cf. Pt. I, Prop. 16.

<sup>2</sup> Pt. I, Prop. 23.

<sup>4</sup> Pt. V, Prop. 23.

value, is not parallelism at all. Parallelism, if it means anything, means the correspondence of thoughts to processes in the outer world ; what Spinoza means, so far, is the intelligibility, the capacity of being put in thought terms, of an eternal universe, from which finite thoughts have been completely dropped. When he talks of thought as coextensive with things, he does not mean, at least in so far as he is really in earnest with his conception, that a stone thinks ; he means that a stone can be reduced to certain modes of extension which are thinkable. It is only when we take up the second relation of body and mind that we approach the real problem of parallelism.

In passing from infinite to finite modes, to thoughts and things as we know them, we come upon the great gap in Spinoza's system. Hitherto reality has been looked upon as timeless, a system of necessary relations. But what, then, are we to do with the finite and changeable, with things and thoughts that come into existence and disappear ? Spinoza answers by begging the question, for, as Professor Caird says, after declaring that the finite mode is as such unreal, it is no explanation to go on and say that each particular mode can only be accounted for through another mode. Hitherto cause has been identified with ground ; now all at once we have to admit a new kind of causality, to account for the temporal existence of modes as over against their essence, and a causality, moreover, which, strangely enough, depends for its effectiveness upon finiteness itself, that is, upon negation.<sup>1</sup> The general difficulties, however, are sufficiently plain, and we may pass to the special bearings upon parallelism.

But even yet there is one more stage through which we must pass before we get to the actual facts of our conscious lives. This is the stage of the ordinary scientific conception of a world of finite processes, which appear and pass away, but which are connected by necessary laws. Between this and the infinite modes, as has been said, there is an essential difference. Infinite modes follow directly from the nature of God himself, and apparently by this method we can reach the essences of things. But their existence as events in time depends upon other finite processes, and these again on others, and so on in an infinite series.<sup>2</sup> But now these finite processes, once more, are thinkable, and so they have corresponding finite modes of thought, which truly represent them, just as was the case with the infinite modes.<sup>3</sup>

<sup>1</sup> Martineau, *Study of Spinoza*, p. 206.

<sup>3</sup> Pt. II, Prop. 7, Schol.

<sup>2</sup> *Ethic*, Pt. I, Prop. 28.



Here we find a place for that "idea of a human body actually existing" which constitutes the original being of the human mind, although it may be entirely lacking from the individual consciousness which we ordinarily call human. But here again we only have the world of science duplicated, in terms both of thought and of extension, and not at all the particular events of our conscious lives. It is now time to turn to these directly.

It must be remarked, in the first place, that when "idea" is taken as the finite conscious state that goes along with a certain brain state, not only does an idea not as a rule truly represent its correlate in extension, but it never by any possibility can do so. For if a certain movement accompanies a certain conscious state, the consciousness that knows this movement must be accompanied by a second and a different brain state, and so on forever. The consequence of this is that parallel to finite modes of extension there are *two* thought series, one which is an accurate copy of the modes of extension themselves, and which is represented by the "idea of a human body actually existing," and another, represented by our actual thoughts and sensations, which never is a copy of the modes of extension. But now the question comes up whether we are not in reality left with modes of thought merely, without any modes of extension at all. For if these modes of extension exist, how are we to get at them? Apparently it must either be through thought or through imagination. Now, through thought we can get adequate ideas in this way: we can say that anything in our perceptions is real which is common to all modes of extension alike, for since it belongs both to the external object and to our own body, we can be sure that it is not due to the confusion caused by their interaction, and so that we have got at the real nature of an object as such.<sup>1</sup> These ideas are, notably, extension, and motion and rest; and these, along with whatever can be deduced from them, are the only ideas which are adequate. But by this method we cannot possibly get outside the infinite modes; it can teach us nothing whatever about finite modes of extension. There is, left, then, only imagination, to which, indeed, the modes of extension are directly referred by Spinoza;<sup>2</sup> but it is not easy to see by what path we are to reach them. No finite thought gives us its corresponding brain state directly, at all events, and so it must give us some other mode than the one with which it is correlated. And this we naturally think it does when it

<sup>1</sup> Ethic, Pt. II, Props. 38 ff.

<sup>2</sup> Pt. II, Prop. 17, Schol.

refers us to things in the outer world. Spinoza sometimes adopts this naïve point of view, and can say, for example, that the body exists as we know it. But such a possibility is overthrown by his whole theory of perception. For it appears that what is given us in perception is a confused idea, in which the nature of our own body and the nature of external bodies are inextricably mixed up together. Indeed, what we get in this way, *par excellence*, is the nature of our own body as affected.<sup>1</sup> How now are we to get the two disentangled? How make the confused idea adequate? This Spinoza does not tell us. Everything that we get through perception is of this confused nature; what we call objects are in reality affections of our own body; these very objects, even if they are supposed to give us modes at all, are not to be regarded as single modes, but as collections of them; it is hard to see how we ever are to get order out of this chaos. Our simplest way is to follow Spinoza himself, and to say that finite modes of extension are essentially unreal.<sup>2</sup>

There is still one more difficulty to consider in Spinoza's system, the relation between our adequate and our inadequate ideas. The position which our ordinary consciousness holds in the universe is plainly anomalous. Since God is everything, there can, of course, be no room for it outside of God, and yet it is accorded a place within God's nature very grudgingly, and it is only our adequate ideas—ideas, that is, of God and his attributes, and of whatever flows from these—that are really said to form a part of the divine intellect. But just in what sense this latter statement is true is a little dubious. We cannot identify these ideas with what already has appeared as the divine intellect, for, while they refer to the same objects, they are not by any means the same. They are particular thoughts—thoughts, say, of extension as infinite—which appear in individual men; and, on this showing, to make the parallelism complete, we should have to suppose a number of infinite extensions, to correspond with the thoughts of different men. It is, indeed, only through this somewhat inexplicable reference to realities that such thoughts differ from their neighbors, and that is not enough to dissolve their connection with other finite thoughts. The fact that they refer to an absolute cause does not take them out of the necessary connection in which, as thoughts, they stand, though Spinoza might seem to imply this at times. He is inclined, as it seems to me, to swallow up their existence as thoughts in their

<sup>1</sup> Ethic, Pt. II, Prop. 25.

<sup>2</sup> Cf. Pt. II, Prop. 17, Schol.

objective reference, and to transfer to them the infinity and the independence of bodily conditions which belong to their objects, the attributes or God as such.<sup>2</sup> And when he does remember that, after all, they are thoughts in individuals, he compromises on the idea of a series which never ends, just as in the case of the finite modes, but whose members yet are eternal, a conception whose accordance with Spinoza's principles can at least be questioned.<sup>3</sup>

The special type of parallelism which Spinoza represents has not found many direct imitators, but perhaps this is the most convenient point for considering briefly the statements of a recent writer, Mr. Lloyd Morgan, although what Mr. Morgan has to say appears to me somewhat fluctuating in its tendencies. He begins by contending that it is only artificially that subject and object ever have been separated. What we have given originally is just a bit of common experience; subject and object are distinguishable aspects of what in experience is one, and these distinguishable products of our abstract thought we have endowed with independent existence.<sup>3</sup> This might mean that experience falls apart into two series, some of the elements of experience entering into one, and some into the other; or it might mean, again, that the same thing which, objectively considered, we call an object, subjectively is a group of sensations; that is, the self. I suspect that these two meanings are more or less confused, but either interpretation will fall in with the criticism I have to make. And I do not see how either of them is to be reconciled with what Mr. Morgan goes on to say about the continued existence of something corresponding to the objective side, whether it is perceived or not.<sup>4</sup> If, when he says that the object is simply a distinguishable aspect, he means no more than that the particular psychosis which stands for object is not a thing independent of the subject, the psychical series itself, he is saying what no one denies. What, however, we ordinarily mean when we speak of subject and object as distinct, is just this continued existence of a something which the object in consciousness refers to, and Mr. Morgan therefore admits all that is asked of him. But one does not see by what right he thus puts a separate reality back of what is only an abstraction.

This, however, is only the starting-point of Mr. Morgan's theory,

<sup>2</sup> Cf. *Ethic*, Pt. V, Prop. 39.

<sup>3</sup> Pt. V, Prop. 40, Schol.

<sup>3</sup> *Introduction to Comparative Psychology*, p. 2, London, 1894.

<sup>4</sup> *Ibid.*, p. 3.

and the logic of his further conclusions is, I think, as follows: He has taken the object as a mere distinguishable aspect of experience, and he retains this mode of statement even after he has put a reality back of the objective side. Object now may mean, either a particular group of elements in the stream of conscious processes (or, it may be, a particular way of viewing these), or it may mean this independent real: and it is only in the first sense that we are at all justified in calling it an aspect. But now Mr. Morgan goes on to identify subject and object with mind and body,<sup>1</sup> and, of course, to transfer what applies to one set of terms to the other also. But while the subject, as the inner aspect of experience, may indeed be identified with mind, the body cannot be identified in the same way with the object, for it constitutes at best only a very small part of the objective aspect of existence. Moreover, in which way does Mr. Morgan intend to use the word "object" as applied to the body? as certain objective elements in the stream of consciousness, or as the supposed reality back of them? His words might seem to favor the first view, but I think he would be forced into the other, for everything, nervous changes and all, when taken as it appears in consciousness, would come directly under the head of mind, and not of body. Mr. Morgan's process, therefore, is as follows: He starts in by distinguishing the object as an aspect, and nothing more. Then he puts behind this abstraction an independent reality to which it refers. This reality is next narrowed down to changes in the human body, and the whole of what in the first instance was the subjective side of experience is correlated with this small section of a reality existing alongside, and so outside, of consciousness, with the word "aspect," however, still retained. In consequence of this the line of correspondences is shifted, and instead of having, as before, a group of sensations correlated with a thing in the objective world, a flower, or stone, or whatever it might be, we find its correlate in a number of hypothetical brain processes, differing from it in every way. And now there is one step more. We have brought up with aspects, just as we started out with them; but aspects of what? There are three meanings that might be ascribed to the statement that body is the outer aspect of mind. We might be thinking of the conscious processes in which body is made known to us; but these, as has been said, are a part of the conscious series itself, and so are not body, but mind. Or we might be referring to the unknown reality which we

<sup>1</sup> Introduction to Comparative Psychology, p. 9.

have postulated back of objects. But this is just what Mr. Morgan needs as the metaphysical basis for both his series alike, and so he dissolves this from any exclusive connection with the objective side, and assigns it the rôle, which at first was given to "experience," of serving as the real unity of which mind and matter are aspects.<sup>1</sup> But what sort of an existence, then, does matter have, which can justify our putting it on a level with consciousness, as equally a manifestation of the real?<sup>2</sup> We cannot ignore the fact, which modern philosophy has brought out so plainly, that matter is known only indirectly, through the medium of consciousness. When we speak of aspects we must, once more, have not only something which appears, but also something to which it is an appearance; and so far as regards matter, we seem to have this in the conscious subject. But where is the second term to which consciousness is an aspect? In consciousness we seem to have a real fact, thrown off in some way, it may be, from the underlying unity, but having also a degree of self-subsistence. Can we in like terms speak of matter as self-subsistent, as existing in the way we know it? The whole history of idealism is a protest against this. Accordingly we find Mr. Morgan slipping into a mode of statement which really implies another theory. When he speaks of "one real process, objectively presented as energy, subjectively felt in consciousness,"<sup>3</sup> it is hard to get away from the fact that consciousness is first hand and matter only second, and that, therefore, to put them on the same level is impossible. And we are naturally led to the standpoint which recognizes that there is no third and unknown reality, but that in the inner aspect itself reality is revealed to us.

Before passing on to this, however, there is one more attempt to refer the two aspects to an entirely unknown reality which deserves attention. This is the theory which is presented by Professor Riehl, and which differs from metaphysical parallelism in general, in that it does not seek to apply the conscious aspect to reality as a whole, but confines it to a connection with the organism alone. In this way it at least avoids the difficulties attending the theory of unconscious mental states, and it agrees better with the natural view of mankind, which hesitates to attribute anything like consciousness to the inorganic world. Briefly, Professor Riehl's view is as follows: There are certain real processes in the universe, entirely unknown in their reality, but appearing

<sup>1</sup> Introduction to Comparative Psychology, p. 10.

<sup>2</sup> Cf. p. 7.

<sup>3</sup> *Ibid.*, p. 331.

phenomenally as matter in motion. At a certain point in these processes, when matter has reached a certain degree of organization, sensibility arises. But this new term, mind, is not a different thing from the phenomenon with which it is correlated. The two represent the same unknown process, on the one hand as experienced by myself, and, on the other, as viewed by an outsider.<sup>1</sup> Mind is not a product of matter, but of the unknown reality of which matter is a phenomenon.<sup>2</sup> In this way the difficulty as to the reciprocal influence between mind and body may be solved. Neither a mental fact nor a physical fact, viewed as a separate and distinct thing, can be said to be one the cause of the other. The will which seems to be a cause of motion is not an additional term which breaks into the physical series; the will itself, viewed in one aspect, from the outside, is no more than a link in that series. At the same time, the presence of the mental side argues a difference in the unknown real cause, which does not allow the result to be just the same that it would have been had the mental fact not existed. So that we can still say that, in a sense, the will is the cause of the motion.<sup>3</sup>

Our experience, to follow out Professor Riehl's theory, tells us that, corresponding to certain of our sensations, there are real external processes, whose nature, however, is entirely unknown to us. And in imagination we can trace these processes back of our own life, and even of the life of the race, to a time when mind did not exist in any form. The reality, therefore, is entirely non-mental, until at a certain point a new product, consciousness, makes its appearance. But now mind, while it may not be reality in its deepest sense, is yet, we must suppose, more real than matter, which is a mere appearance and nothing more; while a sensation, so far as it goes, is an actual fact in the universe, without necessarily standing for anything else. The very fact that the external world appears to consciousness would indicate that consciousness must have some degree of reality of its own, and be at least relatively independent of the external processes which appear. And the nearest conclusion from this would be that mind qualifies nature in a more thoroughgoing way than has so far been admitted. If it were really true, as we have supposed, that up to a certain point consciousness has been absent from the universe, then it follows that in the totality of existence a new thing has suddenly sprung up, unlike any-

<sup>1</sup> *Philosophische Kriticismus*, Bk. 2, Pt. 2, pp. 196, 212, Leipzig, 1887.

<sup>2</sup> *Ibid.*, p. 198.

<sup>3</sup> *Ibid.*, p. 200.

thing that has gone before. But the rise of a new thing, consciousness, out of an entirely unconscious world-ground, involves difficulties of its own. The fact that mind comes into existence at all is enough to show that it is not foreign to the nature of existence, and so, unless we admit a break in the continuity of the real, we must think that reality already had mental threads running through it, which is much the same as saying it was conscious. But, without insisting on the last conclusion, it may be well to examine Professor Riehl's position in somewhat more detail. And, as nearly as I am able to make it out, the following is a fair statement of his general theory of knowledge: As phenomena of consciousness, we find subject and object always relative to one another, always correlated. This means, I suppose, on the one hand that we cannot know changes in objects which are not at the same time changes in conscious content, and, on the other, that a sensation is not given first as subjective, from which we then proceed to infer the existence of objects, but that it is only as over against the object that the subject can be known at all.<sup>1</sup> It is by an abstraction that we separate the two, and we cannot therefore suppose that matter, the physical side, has an independent existence as we perceive it.<sup>2</sup> The very fact of perception makes it relative to consciousness. But, while this is true of it as object, that is, as phenomenal, we must nevertheless believe that there is a real existence which is the cause of the phenomenon, and which is wholly independent of consciousness.<sup>3</sup> It is a clear dictum of sensation that it does not depend upon itself. Only, this reality must be wholly unknown in its nature, for to be known it would have to enter into a relation, and so be changed. The very fact that the real appears differently according as it is in relation to different sense organs is enough to show this.<sup>4</sup> Each sensation, then, represents the real in a certain relation, and if we choose out sight and touch to stand for our world rather than the other sensations, it is only because their greater persistency, and their spatial quality, make them more amenable to quantitative treatment.<sup>5</sup> But we can never take these as absolutely real, and derive, for example, sensations of sound from motions, for that is simply an attempt to derive one sensation from another. We only translate the unknown reality as it appears in terms of sound into terms of sight, so as to bring out its quantitative relations more clearly.

<sup>1</sup> Philosophische Kriticismus, Bk. 2, Pt. 2, p. 30.

<sup>2</sup> *Ibid.*, p. 31.

<sup>3</sup> *Ibid.*, p. 40.

<sup>4</sup> *Ibid.*, p. 189.

<sup>5</sup> *Ibid.*, p. 37.

The first ambiguity I find in this relates to the sense in which we are to understand that the psychical and the physical are mere abstractions from what is directly given, the psycho-physical. Several answers are suggested, which do not seem to me by any means identical. First, there is the distinction between what does and what does not point to an external reality, between perceptions, that is, and feelings.<sup>1</sup> This cannot be ultimately tenable, for, in the first place, it is hard to see how that can be a mere abstraction which points to an independent reality, such as the correlated abstraction does not point to; and, in the second place, the so-called physical phenomena are psychical occurrences as well. Then, again, we may draw the line between a certain set of conscious phenomena, sensations of sight and touch, which, in a more or less arbitrary way, we choose to regard as our world, and all other phenomena;<sup>2</sup> but this is confessedly arbitrary, and cannot be final. The principle, however, which lies at the bottom of this choice may seem to furnish a more adequate line of division, and in this sense the physical world consists in the quantitative, as over against the qualitative, elements of experience.<sup>3</sup> Here the physical appears as undoubtedly an abstraction, though an abstraction, it is to be noticed, which is not made along the same lines as when previously the objective side was spoken of as abstracted. And, moreover, this conception is apparently to be regarded as ultimately valid, in so far at least as we are to consider that quantitative relations do represent actual relations in the unknown real.<sup>4</sup> If it were otherwise, I do not see how science could make use of it as a formula to cover all possible operations of the real, a formula under no circumstances to be interfered with by the introduction of qualitative terms. But here again, for one thing, we seem to be compelled to leave on one side a part of the conscious life, which has no quantitative aspect in the sense in which mechanical science takes account of it. The same fault can be found with still another principle of division, which Professor Riehl seemingly has in mind in what already has been referred to in regard to the relation of subject and object; the same fact is physical or psychical, according as it is viewed as an object or as a group of sensations.<sup>5</sup> This, I say, does not take in those facts of consciousness which are not objectified at all. The real problem that lies back of all these, in some degree

<sup>1</sup> Philosophische Criticismus, Bk. 2, Pt. 2, p. 190.

<sup>2</sup> *Ibid.*, p. 38.

<sup>4</sup> *Ibid.*, pp. 40, 193.

<sup>3</sup> *Ibid.*, p. 24.

<sup>5</sup> *Cf.* p. 182.



mutually inconsistent suggestions, I take it is this: The psychical, in some way or other, evidently includes all the contents of consciousness; and if physical and psychical are abstractions, both alike ought to be present in each conscious fact. The difficulty, therefore, lies in combining this coextensiveness of the two aspects with what seems the essential characteristic of the latter, its quantitative nature. Now, there is a way in which this can be done, if, that is, we oppose the whole series of our conscious states to the series of quantitatively determined physiological processes, as they appear to one who is looking at our brain.<sup>1</sup> And it is to this that Professor Riehl finally comes. But in doing so he has leaped from a relation within a single consciousness to what exists for two separate consciousnesses; the psycho-physical is divided between the psychical which I am conscious of, and the physical in the consciousness of another. This may be tenable in itself, but I am entirely unable to see how it is consistent with the position from which Professor Riehl starts, according to which the psycho-physical is the immediately given, unitary fact of experience.

There is still another ambiguity that I find when this is brought into connection with Professor Riehl's doctrine of the unknowable. Here again we have a relation, not, however, as before, between phenomena, but a relation involving an external reality. As Professor Riehl nowhere to my knowledge clearly distinguishes the use he is making of the word in the two cases, I am inclined to believe that the force of his argument sometimes depends upon his passing from one use to the other; at any rate, I do not find his treatment altogether clear. The ambiguity, perhaps, is brought out if we ask the question: To what is the unknown real relative? Apparently there are two motives back of the conception. In a number of passages Professor Riehl says definitely, "relative to consciousness."<sup>2</sup> Taken strictly, of course, consciousness cannot be one of the related terms; things can only be related *within* consciousness, in any intelligible sense of the word. What, however, is meant, I suppose, is this: that in order for a thing-in-itself to be known, it must enter as an object into consciousness, and accordingly be related to a subject.<sup>3</sup> But this apparently formidable statement after all means nothing more than that, if I am to know anything, it must become an object of *my* knowledge; for the notion that a thing, to become known, has of necessity to lose alto-

<sup>1</sup> Philosophische Kriticismus, Bk. 2, Pt. 2, p. 200.

<sup>2</sup> Cf. p. 143.

<sup>3</sup> *Ibid.*, p. 150.

gether its original characteristics which it had out of knowledge, I am unable to see the justification, unless it is assumed to start with that reality is essentially unknowable, unrelated to consciousness. To say that such an unknowable thing cannot appear in consciousness, be known, except as it is falsified, certainly is true, but I do not feel the cogency of the premises. Without dwelling on this, however, we seem again here to have the relation between *phenomenal* object and subject, not between the thing-in-itself and something else. The unknown thing acts as cause of the phenomenon, and not as one of the related terms. There is nothing, indeed, to which the external reality can be related, except a noumenal Ego, or consciousness abstracted from its content, which I do not understand Professor Riehl to postulate. But now I have an idea that there is mixed up with this quite another conception, that which involves the relation of the thing-in-itself to the various *sense organs*, from which consciousness arises as a product. In a sentence closely connected with one already quoted, he carefully avoids saying "related to consciousness," and says instead "that which becomes an object by entering into the relation which gives rise to consciousness;"<sup>\*</sup> that is, I should say, which enters just into this relation with different sense organs, and so is differently perceived in each case, without ever revealing itself as it is in its own independent existence. According to this, then, an unknown process, given to us no matter how, by coming into relation with another reality, that which underlies, say, the organ of sight, sets up still a third process, which somehow has connected with it consciousness. This product, the perception, has no immediate knowledge of either the second or the third term of the series, but only of the first term. I do not see, therefore, how by itself it can involve a relation, unless there can be a relation with only one term. Moreover, there is, as I shall show in another place, no reason whatever, when we state the conditions exactly, for saying that the fact of consciousness may not give, not simply the existence, but the nature of the first term, just as it professes to do. But as I am not concerned at present directly with Professor Riehl's theory of knowledge, it is sufficient to have pointed out that there are obscurities in it. It remains to say a word more on the direct relation which it bears to his theory of parallelism.

And the chief criticism I would make here is, that it is not fully apparent, on Professor Riehl's showing, how we are justified in calling

<sup>\*</sup> Philosophische Kriticismus, Bk. 2, Pt. 2, p. 142; cf. p. 36.

the conscious fact and the appearance of my brain to a second observer aspects of the *same* thing. The former, indeed, cannot be called an aspect or appearance at all; between it and the brain process there intervenes no sense organ, such as furnishes the ground for denying that our consciousness truly represents reality. It may be an aspect of a third object, but not of the brain process of which the second observer's vision is an aspect. Accordingly one of two things will have to be true. Either consciousness and the brain process are literally the same thing, and in that case I see no escape from saying that the reality is consciousness, of which the brain is the phenomenal appearance, and so that in this particular piece of reality at least there is nothing unknown; or—and this seems nearer to what Professor Riehl has in mind—that consciousness is a *product* of the real process. But in that case it is a new fact added to the reality, and not an aspect of it; and consequently it is not the same thing as the vision of brain molecules. If the particular movements which are correlated with the human consciousness are, on their qualitative side, sensation and will, why would not the natural conclusion be that other movements, homogeneous with the first, have the same conscious nature also? This is, at least, easier than to suppose that consciousness is somehow all mixed up with a larger reality which is entirely unconscious, and that this mixture appears as motion. This latter conception is really meaningless, and if we do not accept the conscious nature of reality as a whole, we have, as I say, to set off consciousness as a product relatively independent of its ground; and the homogeneous physical phenomena cannot then be taken as an aspect of the unknown process plus a heterogeneous product, but must refer to the unknown process alone. The first hypothesis is one that will be considered presently; the second comes back to a parallelism, not between two aspects of the same thing, but between an unknown reality and certain products which somehow it manages to throw off. There is, indeed, in the notion that the qualitative side of existence may have the power to determine, without interfering with, the quantitative side, a suggestion which will be considered later; but the value of this only comes out when it is separated from its connection with the doctrine of the unknowableness of reality. The very statement that there is such a thing as a qualitative side to reality is meaningless, if by insisting on the necessarily unknown character of reality we empty the word "quality" of all significance.

I think it will be apparent from what has already been said that,

on the principles of parallelism, if the attempt is made to put mind and matter on a level as aspects, recourse must be had to a third and unknown reality back of them ; but that the aspects, when subjected to criticism, refuse thus to be made equal, since consciousness shows a tendency to claim reality in a higher degree, and so to dispense with any unknown substratum. The idealistic type of theory which results from this may now be subjected to a more careful examination ; and as a transition to this, a word may be said in regard to Professor Clifford's mind-stuff theory, though in itself this can hardly be said, I think, to have much philosophical importance. According to Professor Clifford, feeling, or mind, is the reality of which body is the appearance to an outside observer ; but mind is regarded as a mere aggregate of mind-stuff, appearing in the form in which we know it only in connection with the brain ; and mind-stuff is looked at, after the analogy of matter, as made up of minute bits of feeling, which thus form the ultimate reality. One general objection to this view will appear in what follows ; but few psychologists, I think, are apt to assent to it in the somewhat bizarre form in which Clifford left it. The conception of separate bits of feeling floating about, and uniting to form conscious minds, is rapidly being outgrown by modern psychology. Such a conception affords no rational basis either for the unity of consciousness or of the world, and it is attended by a multitude of other difficulties psychological and otherwise, upon which it will not be necessary for me to dwell.<sup>1</sup> In passing to more developed forms of the same type of theory it will be convenient to consider all of them more or less in a lump, without distinguishing them except as occasion may require. The first point, however, which suggests itself concerns rather that form of the theory which is presented by Fechner, though I am not certain that the question which it raises is a fatal one, or that Fechner may not already have met it more adequately than I give him credit for.<sup>2</sup>

If we follow out the illustration which Fechner uses, then beneath all individual lives there is the one unitary life of God. Above this general level certain processes raise themselves, like a wave above the surface of the ocean, and these constitute the consciousness of an individual, the consciousness, say, which is bound up with our solar system. This exists for itself, but it is for God as well ; it still remains a part

<sup>1</sup> For a criticism of Clifford, see *Mind*, Vol. VI, pp. 153, 365.

<sup>2</sup> I have not had access to Fechner's more metaphysical works, and most of my information is at second hand, especially from Lasswitz' *Life of Fechner*.

of the ocean from which it sprung. On this wave, again, a similar wave appears, and so we may go on until we reach the topmost crest, in the actual consciousness of a human being. But now, to reverse the process, below the threshold of our conscious life lies the larger and more general organic life, and below this, perhaps, the planetary consciousness; and finally there is the ultimate connection of all alike in the life of God.

Now, this would naturally imply that what I call my consciousness is only a relatively small part of a larger consciousness, which is coextensive with the processes of the whole organism; and it implies also that this larger consciousness is not separate from my own, but includes it, that it knows and feels all that I know and feel, and a great deal more besides. For if the still deeper consciousness of the world takes up into itself everything that lies above it, so my organic consciousness must take up my clearly conscious life, and connect it in a conscious unity with itself. I do not think that Fechner means to suggest this conclusion. Apparently he supposes that my consciousness is the central consciousness of the organism, and not a mere element in a larger I; and that subconscious processes, while they exist for themselves, are split off from my central consciousness, and only form a conscious unity with it when they cross the threshold. And there is at least some justification for this latter view in the fact that other conscious unities do, it seems, exist in the body distinct from that unity which I call myself. Unless I mistake his meaning, every physical system, simple or complex, is an individual; and this would at least apply to the cells which form the body, and it is difficult to say to how many other of its constituent parts. Accordingly we cannot avoid the question as to what is the connection within the organism of these separate unities, which here at least do not stand in the relation of a smaller wave on the surface of a larger one.

There are three possibilities which occur to me. Perhaps each individual system alike, including our actual consciousness, is a wave which rises above the surface of a single organic consciousness, this latter, again, rising above the still lower level of the planetary life. Apart from the previous difficulty that on this view our consciousness is only an element in a larger conscious unity connected with the body as a whole, it is a further objection that this gives only a mechanical connection to the different individuals which make up the organism. They exist alongside each other, not in the form of a system. There is only

a substratum which joins them together, and the nature of this substratum, moreover, is decidedly problematical. The same objection applies even more strongly to a second possible conception, namely, that such individual unities arise directly from the underlying planetary consciousness. This does not necessitate a conscious I which is more than the consciousness which I myself experience, but it does away with a unitary organism altogether. And another query also might arise regarding both these suppositions. The organic life represents a more simple order of conscious facts than my self-conscious life, and we should expect this to indicate the direction of greater and greater simplicity. But it is chiefly of these lower processes that the life of God is made up ; points of consciousness with so high a development as man displays are comparatively rare, and it hardly seems likely that they are sufficient to dictate the quality of the whole. Are we, then, to draw the inference that God's life is less highly developed than our own ? This is at least a possible conclusion.

In what has preceded, certain points of view have made their appearance, without, however, being able so far to find an adequate ground. There has been the thought of reality as a thoroughly articulated whole, a growing complexity of systems from the simple to the complex, and so of the organism, among other things, as showing these same characteristics in its own individual structure. And the human mind has been looked upon, in accordance with the natural standpoint, as representing the central reality of the organism on its conscious side. There is a third conception, now, which would give validity to both these postulates. As physical systems combine in ever larger systems to form cell, organism, planet, and whatever may be beyond these, so human consciousness might be regarded as a stage in the ascending series which leads from the simplest individuals, represented in the least complex physical and chemical systems of the body, up to the life of God. From the analogy of the physical world, this would seem the natural conception, and it certainly has points of contact with Fechner's thought. All the elements of the absolute consciousness, it will be noticed, have thus an existence for themselves as individuals, though the combinations into which they enter may throw an entirely new light upon them.

But now, to make this view consistent, it is impossible that the lower organic consciousness and the planetary consciousness should both be below the threshold for me ; they must lie in opposite direc-

tions. And in whichever direction they are taken to lie, the result is not satisfactory. If all the organic processes are above the threshold, then we are conscious of them directly, and this contradicts both Fechner's statements and the facts. If a lower consciousness exists only as it forms an element in my actual consciousness, it does not exist at all, for I am not conscious of it; and, similarly, if conscious elements are so altered beyond recognition by entering into combination, all individual processes would be irrecoverably lost, not simply transcended, in the life of God. A conscious state is what we are conscious of, it is not a multitude of hypothetical simpler states of which we are entirely ignorant, except as the outcome of a process of reasoning. Unconscious mental states in this sense are inconceivable. And since the life of God is all, lower processes would not exist. If, on the other hand, we take these other processes as actually existing below the threshold of our own consciousness and separate from it, though capable, it may be, on occasion, of crossing the threshold, we are undermining the plausibility of the conception of God as the all-inclusive life. Human consciousness is, according to this, not something which includes lower systems within itself, but an addition to them, just as the system of the heavenly bodies may be considered as above, and relatively independent of, the smaller systems of molecules and organisms which compose the world. And so, if man is a direct chain in the link which leads to God, we should have to suppose, on the same analogy, that above human consciousness there is a higher consciousness connected with that larger system which, overlooking the law of the individual organism, connects all organisms together; and, above that, another system still, until we reach the final synthesis in God. But the lower systems are not taken up into this life of God; they similarly are below the threshold for him, and so God is not complete reality after all. I do not see, then, that we are left with any consistent notion as to how conscious individuals enter into the make-up of a larger unity. Fechner suggests that individual human minds are connected in the world consciousness as separate sensations are connected in our own. But this merely shows how a process ordinarily below the threshold can rise above it, not how two systems on different levels can be combined as a conscious whole, while still remaining two. Whatever a sensation may be outside my consciousness, when I perceive it it has become a part of the system which my consciousness represents, and for the time being, so far as psychology

shows, belongs to that alone. Before it crossed the threshold it may have had existence for another lower consciousness, but it was not identically the same sensation then, for at least its intensity was less; and when, moreover, it once has crossed the threshold, it ceases to exist for the lower consciousness in becoming mine. I do not see why the same thing should not be true of the world consciousness as well; whatever is for me is not for the world, and only can exist for the world consciousness if it ceases to be mine. If human minds, to repeat, exist comparatively unchanged within a larger mind which unites them all, then the subconscious bodily processes ought similarly to exist in the human mind, a supposition which has been considered already. For the comparison really to be enlightening, it would have to imply that a sensation, at the same time that it is my sensation, has in addition an existence for itself, and that for it the rest of my consciousness is below the threshold; and this it would be difficult to maintain. Sensations, therefore, since they are elements in a single system, give no explanation as to how different systems can be combined.

Whether these ambiguities which I have been considering are fatal to the theory or not, they suggest, at any rate, the need of a somewhat more careful elaboration. There is, however, a further difficulty connected with the spiritualistic type of parallelism, which is not confined to that form of the theory which Fechner represents, and which has to do with the relation that exists between the conscious reality and the objective or scientific aspect of the world. A general statement of the difficulty is this: There is, it seems, a reality, consciousness, and the phenomenal appearance of that reality in the material world. Now, from this one might naturally conclude, with Leibnitz, that matter is confused or imperfect perception. But the scientist will hardly be willing to grant this; it is, indeed, hard to suppose that what we take as the type of exact knowledge, what serves as the explanation of all the facts that come to us through the senses, is only due to our finiteness and limitation. And yet, what foundation can we give to it in reality? If God is all, then reality is to him as he experiences it, and there is nothing beyond him which can appear as a phenomenon. The reality is not my brain which another man sees, but my consciousness. My brain is real only as it forms part of this second mind. For a portion of reality, therefore, material processes may exist; for reality as a whole they have no existence, except as in a fragmentary



way they enter into the make-up of finite minds. And as we can no longer fall back, with Leibnitz, on a plan existing in the mind of God, since God is not something apart from the world, we must conclude that the whole system of relationships which science takes for its goal has, as a system, no objective validity. But if the world of science is cut off from God, how are we to account for its apparent orderliness and intelligibility, for the service which it renders us in explaining our experience? If the system of atomic motions, which to an observer represents my consciousness, does not, as an actual fact, correspond to the reality for which it stands, what reason can be given why the formula should fit in with and anticipate experience so neatly, since even for finite minds it has existence only in the vaguest outline? The matter is still more complicated by the question which may arise as to which of two very different things we mean by the phenomenal appearance which consciousness presents. What to me, we are told, is my conscious life appears to another as my brain. But is it really the brain which my neighbor might see if my skull were laid open? or is it the hypothetical movements of hypothetical atoms which science has constructed? Apparently the latter, for my brain appears, so far as my powers of vision can detect, much the same whatever thoughts may be going on in my mind. This phenomenal appearance, therefore, is nothing that ever actually appears to anyone. I look at my neighbor's brain and have a vision of a grayish, corrugated substance. What is the conscious process which is the reality of that phenomenon? Evidently there is none. But then, how can I be so sure of the phenomenal counterpart of my neighbor's conscious life, if this never actually appears? Clearly there is some connection between the two objective worlds of perception and of science, but it is not so clear just what the connection is.

However, passing over the world of naïve perception, we may confine ourselves simply to the world of science. Molecular vibrations, it was seen, and, *a fortiori*, all other objective phenomena, are entirely different from the supposed realities of which they are phenomena, and consequently the only section of reality I know anything about is that little piece which I call myself. As my states, objective visions are real; but unless now they are more than my states, I am shut up to subjective idealism. But how can they point to anything beyond themselves, when by the terms of the theory they are mere phenomena, confessedly different from the reality? The contents, at least, differ absolutely;

may the relations after all be the same? But relationships cannot hang in the air; to be real they must be relationships within reality. And since my consciousness is one particular section of reality, I ought to be able to detect in it the formulæ which appear in the scientific construction of my brain movements. Evidently if I could do this, physiological science would be a much easier matter than it is at present. It may be said that it is just our actual sensations which do lie at the basis of our scientific formulation of the world, and so that the relationships are present, at least implicitly. But, of course, for science, the formulæ which are got from the data of our external perception are referred, not to me, but to other objects, or, on the hypothesis of parallelism, to other beings; they are not the appearance of my section of reality at all. Accordingly we have no right to say that this or that material object is in reality a conscious being, but only that we have this or that perception; and even if we could thus get beyond ourselves, we should not be much better off, for we should have to confess that as to the real nature and meaning of the world we were wholly in the dark, unless, perhaps, we fell back again on something like the unexplained, preëstablished harmony of Leibnitz.

This conclusion is, indeed, partially admitted by Wundt, in so far at least that the extension of the psychical nature of reality to the world at large is recognized as a mere hypothesis, and incapable of proof. And more than this, the foundation of Wundt's whole theory rests upon the same postulate; and if I am not mistaken, it is only because, in the course of his argument, he makes a transition to a very different standpoint, that he can admit the conception of a metaphysical parallelism even as a possibility. There are few critics who are willing to confess to a clear understanding of Wundt's theory of apperception, but at least in a general way his position is as follows: What we call the physical and the psychical are not by any means to be regarded as two distinct substances. On the contrary, they both deal with identically the same reality, but from different points of view.<sup>1</sup> We can abstract from the subject of experience, and can take objects as existing by themselves; and as such they make up the external world. But just this same experience from which we have abstracted is, when taken immediately, what we call the psychical. It is the difference between regarding experience as a manifold of processes and as a manifold of substances;<sup>2</sup> in the latter case we have the same experi-

<sup>1</sup> Grundriss der Psychologie, pp. 3, 11.

<sup>2</sup> *Ibid.*, p. 368.

ence, but certain elements have been left out. To explain the object thus abstracted, we introduce various supplementary concepts, which, however, become useless as soon as we begin to deal again with the whole of reality as immediately given.<sup>1</sup> Substance is one of these supplementary concepts. There can accordingly be no question of an interaction between the physical and the psychical, for that would mean an interaction between the immediate and the conceptual, abstract, orders of existence;<sup>2</sup> we have instead an identity, viewed, however, in two different ways. But the parallelism which results in this way is not a metaphysical principle, to be applied forthwith to the entire universe; as a matter of fact there are a vast number of objects which we can approach only mediately, through the method of the natural sciences, and there are other facts, again, which are presented only immediately—all those contents of our consciousness which do not have the character of ideational objects. Certain facts, however, belong to both kinds of experience, and it is to these that the principle of psycho-physical parallelism applies.<sup>3</sup> But it cannot apply, then, to what makes up the specific character of psychological experience, and this includes, among other things, the characteristic combinations and relations of psychological elements and compounds.<sup>4</sup> It is true that there are combinations of physical processes running parallel to these, but the characteristic content of the psychical combinations can in no way be a part of the causal relation between the physical processes. The psychical synthesis does not contradict the laws of causation, but neither is it accounted for by them, because natural science purposely abstracts from all that makes the psychical combination specifically what it is.

Now, the objection which I should bring against Wundt's argument is, in general, this: If the physical has to do with the objects of experience, which have thus been precipitated from their fluid state as conscious processes, and been given a substantiality and fixedness of their own, then by definition it is independent of those elements which characterize the psychical processes as such, here, particularly, of the combining function; since, as abstracted, it can only be subject to a connection in space and time. But is this equivalent to saying that, since the brain processes are physical, it is only with the objective elements of experience that they are parallel, not with the volitional or

<sup>1</sup> Grundriss der Psychologie, p. 6.

<sup>3</sup> *Ibid.*, p. 371.

<sup>2</sup> *Ibid.*, p. 371.

<sup>4</sup> *Ibid.*, p. 373.

apperceptive? I do not think it is at all. Abstract the objects which make up the content of my experience from the experience in which they exist, and, of course, there is nothing in the former which explains the elements that have been left out. But the relation of the whole of consciousness to the brain processes is not due to such an abstraction. I am, indeed, entitled to say that the conceptual additions which were originated to explain the physical aspects of experience, the relations of objects, do have this value only with reference to objects, and not to the parts of experience which physics abstracts from. But here objects are taken as objects, not as elements of consciousness, and we have a relation, not between the physical and the psychical, but between two aspects of the physical, the naïve and the scientific. And it is a relation between all the objects of our experience and the whole of the conceptual world of science. On this view, brain processes would be related, not to our sensations in general, but to that object of external perception which we call the brain. How, now, do we get from this to a relation between a certain small section of physical processes and certain psychical elements which run through our whole experience, not even objects, it will be noticed, but sensations? By starting out, I think, from one standpoint, and then shifting without notice to another. If the one experience is all we have, then it may be that the physical is that experience looked at from a certain abstract point of view, and we shall have, not two things, but one. But in that case, I should say, the parallelism of the physical and the psychical would be coextensive with experience itself. The physical world would be an abstracter copy of the world of immediate experience, only with some of the filling dropped out. Wundt, however, goes on to say that it is only certain elements in experience in which both sides appear; most objects are given only mediately. But this means that we now are taking objects as distinct from experience, and not as mere abstractions from it.<sup>1</sup> It is not enough to say that we merely take these objects as distinct for certain purposes, recognizing all the time that they are in reality abstractions. We cannot get to a conclusion by means of an hypothesis, and then hold to the conclusion while we throw the hypothesis overboard. And it is only on the hypothesis of realities distinct from our experience that we manage to make a transition from the physical world as an abstraction from the whole of experience, to the conception of a parallelism between the same whole experience, and a

<sup>1</sup> Cf. *Grundriss der Psychologie*, p. 370.

very small part of the physical world, the brain processes. And so, when we have reached this latter result, we have no right to keep to our former statement that physical and psychical are only two ways of looking at the same reality; for we have more than the reality of our experience: we have this experience set in a world which enormously transcends it. If we compare Wundt's statement at the start with the statement with which he ends up, the difference, I think, will be apparent. His first statement is this: "It follows, then, that the expressions outer and inner experience do not indicate different objects, but different points of view from which we start in the consideration and scientific treatment of a unitary experience. We are naturally led to these points of view because every concrete experience immediately divides into two factors, into a content presented to us, and our apprehension of this content."<sup>1</sup> And so at the end he continues to use this same conception of a unity of experience apprehended from different sides; physical and psychical are still nothing but components of a single experience, the psycho-physical, which is merely regarded in the two cases from different points of view.<sup>2</sup> But how are we to make a unitary experience out of sensations and brain motions? If we notice what Wundt meant by a unitary experience in the first place, we shall see how far off the track he has got.

Theories of parallelism, as we have seen, have been originated for the purpose of justifying that scientific attitude which tends to look upon the physical world as subject to invariable laws, which do not admit the intrusion of other, spiritual, elements that would break the continuity. In examining these theories, difficulties of various sorts were found, which they did not satisfactorily meet. If we took mind and matter as two substances differing in kind, then we found there was no way available of bringing them together. The next step, consequently, was to deny that we had two things at all, and to find true being in a reality differing from them both, of which they were somehow sides or aspects. But it soon appeared that the figure which these words imply could not easily be carried out, principally because the thought side showed an invincible tendency to exalt itself above the side of matter, and to refuse to be put in the same category with it. Consequently we were led to look for reality, not in a third substance, but in one of the two we already had on hand, while we degraded the

<sup>1</sup> Grundriss der Psychologie, p. 3.

<sup>2</sup> *Ibid.*, p. 371.

other to the rank of mere appearance. But when we tried to give to matter the title of reality *par excellence*, we found that this left consciousness wholly unaccounted for, while we also got into difficulties in attempting to fit our conception into any tenable theory of knowledge. The only thing left, then, was to find reality in the conscious life as such. But in trying to work this out along the line which Fechner brought into fashion, and allow but a single fact of existence which appears as consciousness or as matter, according to the way we look at it, it was seen, again, that the conception failed to make itself clear, and that it resulted in an agnosticism quite antagonistic to the spirit of the theory itself.

The path which still is left open is, consequently, a pretty definitely limited one. Reality, whenever and wherever it is found, is of the nature of experience; and the sections of reality which are represented by the outer world and by the lives of individuals are not one thing looked at in different ways, but quite distinct—these are the postulates of the conception which I shall advance, arrived at by a process of exclusion. The problem once more, accordingly, is this: Science denies the influence of consciousness on the physical world. Nevertheless, when brought face to face with this conclusion as the last word in the matter, the human spirit rebels against the thought that reality, in its final analysis, is a mere mechanical, unmeaning process. It demands the spiritual as the presupposition of the natural, and it backs its demand by showing that what we call matter is, after all, only known to us through the medium of consciousness. And it also points to the human body, where, palpably, matter is affected by mind, and where it is an overturning of all our natural way of looking at things, as well as of that habit of thought which science has fostered, and which makes us look, in explanation of a new phenomenon in the organic world, to the advantage it gives the organism, to deny that we, as conscious beings, are the necessary explanation of movements in the physical world.<sup>1</sup> The only way I can see, therefore,<sup>2</sup> of getting out of the dif

<sup>1</sup> For a statement of the general arguments in favor of an interaction, see James, *Psychology*, I, pp. 128 ff.

<sup>2</sup> Granting, that is, the validity of the general point of view here adopted. In the following pages I shall confine myself to a statement of the position which I wish to suggest, without attempting to justify its presuppositions, or to consider any save a few of the metaphysical difficulties which it involves. For this the excuse, of course, will be that I am not trying to set up a philosophical system, but only to reach a tenable solution of one particular problem. In so far, however, as this solution seems to

ficulty without sacrificing either the continuity of the physical series or the intelligibility of the psychical, is by supposing that the physical universe of science is not in itself final, but that it merely expresses the way of working of a spiritual reality, whose essential characteristics we know in that conscious self which, in relation to our own bodies, has at least the appearance of giving laws to matter. Such a position would agree with Leibnitz and Fechner in making the reality of the world spiritual, but it would not agree in reducing the world of external perception and of science to a mere phenomenal appearance, wholly different from the reality it represents. With materialism, it would recognize in these a knowledge which, *so far as it goes*, is true, but, nevertheless, following the suggestion of Riehl, it would subordinate the quantitative mechanism of science to the side of quality or meaning, through which the former would be determined. In what follows I shall endeavor to make clearer what I mean by this; and since the whole question as to the possibility of a mutual influence between the two series turns upon what we understand by the term causation, it will be necessary to begin with a somewhat extended examination of this concept. In this examination I shall try to develop a theory as to the nature of the causal influence which shall render it possible to accept what common sense seems to demand, without at the same time disregarding any reasonable claim of science.

Mill's treatment of causation may be taken as a convenient starting-point. According to Mill the only link between two events which we can discover is invariability of succession, and it is this which lies at the bottom of our ideas of causation. Without inquiring whether experience is really of such a nature that our belief in the universality and necessity of causation is fully accounted for as a mere induction from instances of invariable sequence, it is enough to notice that Mill himself seems to admit that mere invariableness is not sufficient. Taking the statement as given above, it is not easy to see why the objection that this would make day the cause of night is not justified. In trying to show that it is not justified, Mill admits another element, meet the requirements, it will naturally add so much weight to the presuppositions on which it is based. The standpoint which I adopt, in opposition to what may roughly be called Hegelianism, is dualistic to this extent, that it postulates a certain separateness of existence on the part of individuals, and of that absolute reality represented by the world. A metaphysical justification of this position, especially from the side of epistemology, will be found in an article entitled "Epistemology and Experience," in the September number of the *Philosophical Review*, 1898.

necessity or unconditionalness. By invariable antecedent, he says, we mean not simply that the antecedent always has been followed by the consequent—which would seem to be all that his premises allow—but that so long as the present constitution of things endures, it always will be so. As between mere invariableness in the past, therefore, and necessity, however that may be interpreted, causation always implies the latter. A single instance *may* be enough to make us join two events as cause and effect, a thousand may be insufficient. It is, therefore, necessary to look further than to mere experience of past invariableness to discover the nature of this necessary connection.

As one way of approaching this, a second question may be asked: Does the cause precede the effect, or is it simultaneous with it? Mill leaves this question undecided, as of no importance for theory. The ordinary answer probably would be that cause and effect are successive. This is a natural consequence of our practical use of the concept. We cannot use a cause to produce an effect, or predict an effect from its cause, without practically taking the time interval into account. On the other hand, it may be asked how an event which is past, and, therefore, unreal, can produce the real. Or, again, how can anything be a cause unless the effect is already there? If the effect is delayed, then some other cause is required to account for it.

Without entering into an examination of this for the present, it is enough to point out that, if it is to throw any light on the problem of necessity, it must be carried further. If we have merely two events, whether successive or going on together, there can be no bond between them. If any link were inserted, just the same problem would arise as regards the relation of this link to both. If the two are given as separate at the start, no way appears of bringing them into connection. To avoid this difficulty, are we not bound to regard them as both originally elements of a larger whole, and only ideally to be distinguished? A cause is a cause, not in itself, but by reason of its place in a more inclusive reality. But in this case it might appear difficult to distinguish between cause and ground. Given a certain whole as a fact of experience, and its elements are logically related, so that they reciprocally and necessarily imply each other. Cause and effect would thus mean, either that if a part of a whole is given the rest is necessarily implied, or that, given an event, its cause is the explicit statement of its conditions, since it is impossible from this standpoint to maintain sharply the distinction between cause and effect. This is



Mill's sum of conditions, except that while Mill tried to connect this with invariable succession, by making the effect follow the sum of its conditions, in reality it must *be* the sum of its conditions. The cause of day is the presence of the sun in a certain relative position to the earth. But day is not something that follows these conditions; they are what we mean by day.

There is no doubt that this represents a position which, for many purposes, is satisfactory, and yet the naïve standpoint naturally feels a difficulty with it, when it is taken as a complete statement. This difficulty consists partly in the fact that apparently it takes causation out of time altogether, and makes of it an eternal fact. It gives to it necessity, but it is the same necessity that belongs to a geometrical truth. Causation is our key for explaining the world of change, and this would seem to make change impossible, or at least to have no relation to it. If the cause is the effect, then all causes and effects appear to flow together and become synchronous, and nothing to be except an unchanging logical ground. The difficulty is evidently connected with that something which the naïve view almost always identifies in some way with cause, and which we call efficiency, influence, power, force. Evidently there is no force in the logical antecedent which compels the consequent to be, and we therefore have to inquire whether this idea of force should be dropped from the concept of cause altogether, or whether it has some justification.

In the first place, a distinction clearly has to be made between two different sorts of cases. In a geometrical truth all the conditions relevant are present as facts which bear no relation whatever to succession in time. If we conclude from the existence of a triangle that its angles are equal to two right angles, there is no possibility of its turning out differently, for in the conditions which make it a triangle the whole unchanging and unchangeable system of relations is already there. Here we should hardly think of saying that the triangle was the cause of the magnitude of its angles. So if we say that day is caused by the presence of the sun, we also take no account of succession; the presence of the sun *is* day, as a single, eternal fact. But there is a difference when we come to events into which the time interval enters. If we ask the cause of a stone's fall, the sum of conditions would be simply an accurate description of the facts. Given two bodies of unequal mass, and they do as a matter of fact approach each other with velocities that follow a definite law. This we call gravita-

tion, and say it is the cause of the stone's fall, though gravitation is of course nothing but a description of what actually takes place. Naïve thought, however, is certainly not satisfied with this; it demands some sort of power which makes the facts what they are, which makes the bodies approach. Does this demand rest on any sufficient basis?

To my mind there is a real justification for it, which marks it off from all such questions as simply demand the wherefore of existence, why a straight line is the shortest distance between two points, or why there is any world at all. It is not as a mere fact, but as an action, a change, that it calls forth the inquiry. A mere fact, when it is once given, we simply have to accept; an event involves a new kind of connection within the fact, along the direction of the time succession, and it is just this connection which the idea of force supplies to popular thought, and which logical necessity is incapable of giving. Logical necessity requires that the whole fact be given, as a simultaneous, or, more properly, a timeless fact; and consequently it does not apply to the—so to say—lengthwise direction of an event. A succession of events is bound together by no such necessity, except as we look at it as completed, and so take it out of time. Uniformities of succession, therefore, as real processes, are dissolved from all connection with necessity, or with any bond except a temporal one. Suppose, as physics does, that we isolate two bodies from all conditions that will prevent their free action, then the fact is that they will approach each other according to a certain law. This is, by supposition, simply a fact, beyond which we cannot go. Now, if we take the fact as a whole, and say that the conditions are the cause of the event, then to say that in another case the same cause would have the same effect would be mere tautology, for the conditions are a description of the effect. But what we could not say is that the latter event might not in its first half coincide absolutely with the former, and then in its last half be wholly different, that the same two bodies might not at one time approach each other with velocities varying inversely as the square of the distance till they met, and at another time approach with accelerated velocity till within a mile, and then stop, or go on with constant velocity. As a matter of fact, we should feel sure that other conditions had come in to produce the change, but I do not see that we should have any ground for this, apart from a subjective expectation of finding nature uniform, a belief with no foundation beyond Mill's inductive ground. That is, if cause is a mere statement of the conditions,

then in the case of events in which the conditions are not complete in an ideal moment, but where an interval of time comes in between the beginning and the end, we have, so far as I see, no necessity whatever that two events that begin exactly alike, and are subjected to no disturbing influences, should end the same. In the former case the necessity was a logical one; given the whole and the part is implied. But here, since the whole stretches over an interval of time, the whole is not given, and there is no necessity. And the point is not that we cannot prove necessity absolutely, but that there is nothing on which necessity, or a bond of any kind, can be based. There is no sort of connection present, unless we abstract entirely from time, to give any rational ground for our conviction that a difference in the course of events implies the presence of new conditions. To get this, I think we are compelled to introduce into the concept of cause something apart from a mere description of the whole event; that is, we come back to what looks like the idea of force again. And since force implies not simply an event, but something acting, it would seem impossible to refer cause simply to events, and to sever its connection with substantiality.

If now it should appear that the conception of cause as efficient, effect-producing activity is an essential element in the make-up of our world of experience, and that the various other conceptions already noticed take their places easily in relation to this; and if we should find a way of conceiving the reality of force so as to make it intelligible, and strip it in some degree of its mysterious character, we should at least be in a position to avoid travelling too far from the everyday view of causation. A very little consideration is enough to show the part which the idea of force plays in the construction of the world. Our experience is a whole, as has already been said. It is not made up of separate qualities which combine into things, and separate things which combine into a world, but qualities and things are such only as parts of the universe. Now, a thing, taken solely by itself, might be looked at as a union of certain qualities belonging together in space. But really this is not sufficient to make it a thing. It does not thus exist by itself, but as a part of the world, and an essential element of thinghood is that it should play its part in this world; in other words, that it should be causal. A thing that did not make itself felt, did not produce effects, would be a mere floating product of imagination. A stone that did not hold us up when we sat upon it, an arrow that did

not pierce the animal's body and bring it to the ground, could not enter into relations at all with other things; and a world made up of such isolated sense pictures would be a mirage, an unreal vision. Causality is, then, essential, it is the connection between things without which they could not be things in a common world. As surely as the world is a world of substances and not of mere thought relations, as surely as this world is a unity and not a mere collection of disconnected things, the substances which make it up must act on and affect each other, that is, they must show causation. In order that the world should be a unity, it is not enough that one event should follow on another; the first must somehow be the reason for the second.

In one form or another, then, this idea of an active power must enter into a final definition of cause which shall contain all that we actually mean when we use the word. It is not enough that one stone should lie above another in space; the second stone must hold the first up. It is not enough that a falling tree touches a man and the man then falls to the ground; the falling tree knocks him down. Of course, for a satisfactory analysis it is impossible to stop here; I only wish to show that in the common-sense view the notion of force is essential to the causal concept. I shall attempt presently to indicate how the notion is to be more exactly defined.

But to say that nothing can enter as a thing into our world of experience except as it enters into causal relations to that world, is not strictly equivalent to the ordinary axiom of causation, that every event, every change, that is, in a thing, must have a cause. Let us take an object that has been at rest and now begins to move. What has been said before would require that this moving thing, to be real, should in some way enter into causal relations with the rest of the world, affect and be affected. But what is the necessity we feel which prevents us from stopping with the simple fact that the thing begins to move, and compels us to hunt for a cause of this and of every other change? I do not know that I can explain this except by saying that it is simply the necessity of making things intelligible. As a matter of fact, we can perfectly well *imagine* an event taking place without any preceding cause, if we merely cut it off from everything else and refuse to ask questions about it. But if we try to explain it at all, we can only do so by finding out its relationships to other things; to become more than a brute fact, to enter into an intelligible system, it must, that is, in a world in which causality reigns, be referred to a cause.

It is evident that the result so far arrived at is not identical with the ordinary scientific conception, and we have still to consider the relation which the latter bears to it. And first with regard to the statement that the cause is the effect. There can be no doubt that this has an intelligible meaning for us. We do not hesitate to say that water is caused by the union of molecules of oxygen and hydrogen; strictly speaking, the union of oxygen and hydrogen *is* water. We say that death is caused by poisoning, but if we state all the conditions accurately, the effect on the tissues, etc., then poisoning *is* death. Here cause means explanation, a spreading out before us of the one fact with all the relationships involved. But this is not using the word in the same way in which we have been using it heretofore. To take the first example, we apparently are not speaking here of an event at all, but of a mere fact, water; and in that sense cause and effect are identical. But we also may refer to the actual coming into existence of water, and then we can speak of the cause in what, from the naïve point of view, is a stricter way. It is not enough then to stop with the mere fact of the union of oxygen and hydrogen; we may still go on to ask, Why do the molecules approach and join?, and at once the concept of force comes in. And even when it is a question, not of the becoming, but of the being of water, science points us to a continuous activity rather than to a simple fact; and after our first question we may ask again, Why do the molecules perform these peculiar vibrations which lie at the basis of the phenomenon we call water? In other words, in explaining any fact which is really an event, and not merely a system of relations like a truth of geometry, the explanation which points to the sum of the conditions always involves in addition that causal action of objects on one another which we say is due to force. And for the reason that the causal relation, strictly speaking, is a relation between things, it is only in a secondary, or at least in another sense, that we can speak of the cause of a whole complicated fact or event.

If, then, the idea of force is an essential element in our conception of causality, how is science justified in its tendency to rule the idea out? Without pretending to lay down any definitive statement as to the problems and methods of science, I think that in a general way the reason is this: Science aims to explain the world by relating an event in certain definite ways with other events. Now, the idea of cause as force simply supplies us with a bond between things, it does

not tell us at all what particular effects go with particular causes ; while it is just this which it is the business of science to discover. If we take such an event as the fall of a stone to the earth, the popular explanation probably would be at the present day that it is due to attraction between the earth and the stone. But this merely states why anything takes place at all. In reality we have an event of a definite kind, and it is the exact nature of the event that we are practically interested in, for the other element can be taken for granted. It is not simply two bodies that attract each other, but two bodies with a definite mass, and a definite distance apart. The effect is not simply the fall of a stone, but the stone falls with a certain velocity. Science aims to state these facts exactly, to describe in exact terms the whole event, in so far as this is necessary in order to get the law which it follows, of course with an interest in it not as an event, but as the means of reaching a formula which shall apply to other events as well. But with this aim it is evident that for science the concept of force is superfluous. Science does not attempt to state why, but how bodies move. It has to do with conditions, not cause ; cause in the sense of force is metaphysical or practical, and not scientific at all.

For the scientist, then, the idea of force has no practical value. All that he cares to know is the law that events follow, the mathematical relations that they disclose. But when he thereupon proceeds to say that for a larger world view also the concept of force is barren, he is going beyond his right. The answer to him is that, when we look at the world naturally, things do inevitably seem to affect one another. And if the skeptic tries to prove that all we possibly can know is a string of successive events, and that no scrutiny can reveal any bond between them, he has to meet the objection that at least we talk of efficiency, of one thing acting on another, and that, when we attempt to explain this as a mere time succession, invariably we find that we have not exhausted what we supposed ourselves to mean.

It is quite as evident, however, that our first notion of force has to be modified. It is impossible to hold that force resides somehow in an individual thing, and passes over to the thing moved or affected. Force transference is unthinkable. We are accordingly led to think of the force as residing, not in the thing by itself, but in the larger reality of which the reacting things are both elements, and so, finally, in the reality of which the one universe is the expression, in order to avoid having a multitude of separate and, hence, unrelatable things on our

hands. If, now, we try to go further, the only intelligible meaning I can give to force or efficiency is suggested by our own conscious activity. What can I mean when I say that one thing affects another? Nothing, so far as I see, except as they stand in relation to an intelligible purpose, to an activity which is being carried toward a conscious end. Between two events, merely as events, there is no discoverable bond; but there is a bond between them, and an intelligible one, when they are both looked at as elements in a purposeful activity. For with reference to the end one conditions, affects, the other. Of course, I do not mean that we cannot think of one event causing another except as we think of some purpose which they serve, though this might perhaps have been psychologically true in the origin of the idea of cause; but only that, if we try to make the connection intelligible, this is the only way in which we can represent it. Such a conception is not identical with the theory, which is very commonly brought forward, that we get our idea of cause from the action of the will on the external world, though it is more or less closely related to this. It is quite possible that the notion first arises in this connection. But what I have in mind is not a fiat of will as cause, followed by a physical occurrence as effect, but the actual exercise of will as progress in purposive action, as an active experience. What I mean may be illustrated by thought activity. In active thought we have the end in view determining the appearance and connection of the different thought elements, but each element also, not in its own power, but by its relation to the ruling idea which is manifesting itself in the process as a whole, has likewise its influence on that which follows, is in a sense its cause. Now, if we can look on the world as representing the life of God, his conscious activity, and on individual things as the elements in that conscious life, then the same conception would hold good of them, though God's activity would have to be conceived as far more creative than our own thought life. Force, then, would be will, but by will we should not mean something that comes into the series of conscious processes from the outside to change them, but this series itself regarded as an active process, and so as an expression of will. Force simply stands for the fact that reality is not a mere intellectual system of unchangeable relationships, but a movement, a process of active experience governed by purpose, such as our own lives reveal. Since, accordingly, it is only because this reality comes to us piecemeal that we feel the need of binding its elements together by some power which

lies outside them, we must constantly bear in mind that the words necessity, efficiency, have lost much of their old connotation.<sup>\*</sup> What we have is just the one active process of God's life, which, as active, we call will; and the connection of the elements belongs to them, not through the application of external force, but simply because they *are* elements of a unitary conscious life.

The idea of causality has thus led to the thought of the world as the realization of a conscious, creative will, analogous to what we experience in our own conscious lives. Within this life there is a certain objective framework, as there is in our individual experience, and it is this which, divorced from the side of meaning and inner appreciation which it has in its own proper being, reports itself to us through the senses as the world of outer things. The question of parallelism, therefore, resolves itself into the question as to what connection our conscious lives and purposes have with the workings of this ultimate reality out of which they spring. And before this can be answered, it is necessary to consider the larger problem of the part which purpose plays in general in the explanation of the world. We say that events take place mechanically according to certain laws, and when it has discovered those laws, science has done its work and can go no further. But is it possible for philosophy to stop here, too? I do not think that it is. When we have said that under such and such conditions two bodies act in a certain way, there is still a perfectly justifiable question to ask: Why do they act in this way? I do not mean that we necessarily can find any definite or complete answer to this question, but only that the mere statement of a law is not of itself an explanation which we recognize as final, except as we can point out its place in the *meaning* of the world. This is simply the conviction, which no amount of criticism of the older argument from design has shaken, that when we trace the path which the evolution of the world and of man has followed, we find it far too intelligible to allow us ever to rest satisfied with the idea that it has come about by chance, or, in other words, that it is meaningless. Now, the only approach we can make to a practical answer—and this, I think, is actually the way in which we do look at the matter when we are not coming at it consciously from a scientific, and therefore abstract, point of view—is to say that it is the nature of the things concerned, a nature which we know from the qualities they present to us, and the part they play in

<sup>\*</sup> Cf. Dewey, "The Superstition of Necessity," *Monist*, Vol. III, p. 362.



the world, which makes them act according to the law, rather than the law which determines their nature. The law, that is, in the sense of physical and mechanical law, is not the presupposition of reality, but merely the way in which reality works; and we know reality most truly, not in atoms and molecules, but in the world of mutually reacting things which lies spread out before us and enters into the meaning of our lives. Even in science, when two chemical substances, for example, act on each other according to a law which differs from the law according to which two other substances act, we naturally are inclined to say that it is due to the nature of the chemical elements themselves. And my contention is that when this is interpreted correctly it really is the case. According to such an interpretation, the absolute reality is a spiritual Being whose conscious life is in part represented by the world we know; and the activity of this Being follows definite laws which can be discovered, and which, because they are regular and undeviating, we may call mechanical. The elements of his life, that is, have these regular relationships to one another. This one ultimate unity of law differentiates itself in what for us is a manifold of subordinate systems, and it is to these minor unities that what we know as things correspond. But instead of looking at the laws as ultimate facts, we are rather to regard them as wholly derived and secondary, and as determined to be what they are, directly by the nature of the thing for whose working they stand, but ultimately and really by the part which this thing plays in the purposive action of the one Being of whose life it is a partial expression. And this will remain true whether, on the one hand, science finally succeeds in deriving all phenomena whatever from a single formula or law, or whether we ultimately have to accept a number of such formulæ, which cannot be reduced to one another, as the expression of those apparently different activities which we call physical, chemical, organic, and the like. So far at least we are in the latter position, and it is quite conceivable that we never should get beyond it. But even if the goal of mechanical science were attained, and we should at last be able to explain all phenomena alike from a single conception, such, for instance, as the laws which govern the impact of elastic bodies, I do not see that this would make any difference. No theory of science can ever alter the fact that the mechanism of the world has actually worked in a way which appears to us in the highest degree intelligible and, in the broad sense of the term, purposive. And if this working can be reduced

to a single mechanical formula, that heightens, if anything, the impression of intelligence displayed. It still remains incredible that the mere brute motion of atoms should have reached blindly these results, if they were entirely foreign to its nature; that would at least require a distribution of the atoms to begin with against the probability of which the chances are enormously great. The final truth is therefore, again, the conscious, purposive life of the ultimate Being, and each individual element in this life is not determined mechanically by the law, but has its own share in determining what the law shall be. The purely mechanical view implies that reality belongs first of all to the atoms and the relations which exist between them as individuals, and that out of these certain products are built up. So that, once get a number of atoms with their immutable forces at work, and the history of the world is determined as a secondary result. But on the other view, our starting-point is not a host of separate atoms and forces, but the one world, and it is only in relation to this one world that the laws of the individual atoms are what they are. And this conception of a law of the whole, again, as determining the parts, has no real meaning until we get beyond the merely physical universe, which is a collection of individuals, of parts lying one outside the other, to the world of consciousness and purposive action, where the end in view gives a unity that binds the whole together. But while the ultimate explanation of things thus belongs to the realm, not of efficient, but of final cause, we are not to understand that the two realms contradict or interfere with one another. Efficient cause simply expresses the way in which purpose works itself out. And, of course, it does not follow that it is the business of the scientist to hunt for final causes. We do not know, and we never can know, the purposes of the universe in so definite a way that we can deduce from them the mechanical law of its action, and so completely rationalize it. Science must of necessity work from the other direction; in order to fulfill its practical end it is in duty bound to have nothing to do with purpose or design, but only with the discovery of uniformities of working.

It is outside the purpose of this essay to enter into a metaphysical justification of the possibility of such an absolute experience, and of our knowledge of it, but a suggestion may perhaps be made as to the general way in which it is to be conceived. What in our conscious life we find most difficulty in attributing to the Absolute is the compulsion, the comparative passivity which runs through it, and the recog-

inition that it is based on something external, which we know, but *are* not. God's activity, on the contrary, must be creative throughout; an "object" cannot be for him, as it is for us, something which is recognized as existing independently, but must be exhausted in the part it plays within experience. Now, something of what this might be I think we have faintly shadowed forth in our own inner life of the imagination, where we are able to get away to a degree from the feeling of externality and constraint which belongs to the life of the senses. The best example of what I mean would perhaps be found in artistic creation. The materials must indeed be given us from without, but once given we can use them as we please. They appear for us and take their places in the stream of thought directly through their relation to the central meaning, without the need of anything mediate to set them in motion, as external objects need the action of the body; and when we come to reflect upon them, they do not have, at least of necessity, the substantial character, the reference to a reality that lies beyond the experience itself, which makes objects of the senses so refractory to thought. This faded and colorless life of course is unreal as compared with the vivid life of the senses; but if we can think of it as gaining that vividness, that sense of reality, which belongs to external perception, without at the same time losing its own self-containedness, we might have some conception of the true nature of the ultimate real. Or, put from the other side, we may think of it as something such as our own active life in the world of sense perception would be, if that world, in all its elements, could answer directly and immediately to our will, if it presented nothing to us that was contingent, nothing that seemed to go its own way regardless of our purposes or even contrary to them, and to set up conditions which we simply must accept, no matter what our preference. Naturally this is not something that we can imagine, for we are not ourselves the Absolute, but it does not follow that we cannot think it. The whole purposive, meaningful course of the world would thus make up the life of God, and what we know as things would be elements in that life, as individual thoughts are elements in our own thought activity. The reality of "things," therefore, would be, not some indescribable substratum in which qualities inhere, but simply the subordinate unities within the conscious life of the Absolute, which, indeed, in reality are nothing separate, but which our abstracting thought is able to distinguish. It is only when we isolate these from the experience to which they belong that we need

the concept of substance. And by purposive activity, again, we should mean, not that God has some future end in his mind toward which he is working as a goal, and for which the world is a means; but that in the process of his life itself the purpose is immanent, that his life has a unified meaning for which, just as a process, it is the expression. For God the real and the ideal are one. He does not need to "stop and think," for there is nothing to break in upon his activity; his life is one of immediate experience, not of thought or judging.

If such a conception were true, it would, as it seems to me, keep us from the necessity of breaking either with the validity of scientific knowledge, or with the naïve belief in the reality of the world of perception. Science tends to reduce the world of the senses, the actual living world of color, and sound, and objects animate and lifeless, to a mere subjective phenomenon, and to find reality as such only in the complicated play of innumerable atoms in space. The ordinary man rebels at this; to him the real is what he sees and feels. But now the philosopher comes in, and calls attention to the fact that the same argument which makes color subjective applies just as truly to extension, and impenetrability, and, indeed, to everything that enters into the conception of the scientific world of atoms. We thus are driven to a complete agnosticism; our consciousness cannot by any possibility give us reality as it is, but only as it appears. "The great fact insisted on by Descartes," to quote Mr. Huxley, "that no likeness of external things is or can be transmitted to the mind by the sensory organs, but that between the external cause of sensation and the sensation there is interposed a mode of motion of nervous matter, of which the state of consciousness is no likeness, but a mere symbol, is of the profoundest importance. It is the physiological foundation of the doctrine of the relativity of knowledge. The nervous system stands between consciousness and the assumed external world as an interpreter, and realism is equivalent to the belief on the part of the deaf man that the speaker must always be talking with his fingers. There is no similarity conceivable between the cause of the sensation and the sensation."<sup>1</sup>

Now I should hold, on the contrary, that in so far as we know the world of perception, we know reality in a true sense as it is. In the same way in which we can know the contents of our neighbor's mind by reproducing these contents in ourselves, or, indeed, in the same way in which we can know our own past experience, so in external per-

<sup>1</sup> Science and Culture, p. 216.

ception we know the facts of reality approximately as they are in the absolute experience. The absolute is, indeed, far more than we know; we only pick out details here and there, and piece them together, without being able to reach the point of view from which they all appear as a unified whole; but nevertheless, so far as our knowledge goes, it is real knowledge. Granting there is such a thing as knowledge at all, there is no longer any impossibility that our experience should reproduce reality, if reality is spiritual, of the same texture as our own conscious selves. And this does not deny in any way the facts of science. The essential truth of science is the fact of law, of definite relationships which can be exactly expressed. It is interested in how reality acts, rather than in what it is. Accordingly it need not deny that the reality from which it is an abstraction is, in its completeness, a concrete experience, similar in nature to our own sensuous life, if only this be supposed to move in accordance with law, and to reveal definite connections between the elements which our thought can distinguish in it. All that we need contend for is that what we represent to ourselves as quantitative physical laws correspond to real relationships in God's experience, which have real value for it. In this way we can give back to the world the beauty and richness of life that science seems to rob it of. Indeed, while both views represent reality, that is, represent what has its counterpart in God's conscious life, the naïve view of the world is in a sense more real than the scientific. For the mathematical relationships of science, embodied in the world of atoms and forces, give only the framework of reality, the manner of its working on the quantitative side, while it is only as this is clothed upon with the fuller content of our everyday experience that we can begin to get at its real nature, and so its meaning.

And to the difficulty as Mr. Huxley presents it there is an answer. Between the sensation and the cause, he says, there comes in a link which is completely heterogeneous, the nervous system; how do we know, then, that the product corresponds to the reality which produces it, and, indeed, must not the coöperation of the nervous system inevitably falsify the product? What lies at the bottom of this argument is, I think, a confusion which is apt to arise here between the fact of consciousness and the brain motion, and the consequent assumption that because the brain motion is not the same as the motion of molecules in the object which gives rise to it, so the conscious process cannot represent the object itself. But the conscious process is not the

motion of particles in the brain, and bears no resemblance to it; it is not a causal product of the object and the organism in the sense in which the brain motion is, for causation, as it is used here, is applicable only to the physical world. Mr. Huxley's own illustration assumes as much. What the deaf man is interested in is not the symbols, but that which the symbols enable him to interpret. Through the symbols he does get to the reality, the meaning which exists in the mind of the person who is talking to him; and he would get to the same reality whatever symbols might be used.

It only remains, therefore, to define more exactly the way in which the relationship of mind and body is to be understood. We may grant to science that the brain is a mechanism, meaning by this that, like the rest of the universe, it works according to fixed laws, which science can conceivably discover, and that, moreover, in these laws it follows the principle of the conservation of energy. But why it should follow just these laws and no others is capable of a further explanation. In the same way in which we have supposed that every law that the scientist discovers has its source in the conscious, purposive activity of God, that each chemical substance, for example, is attracted or repelled in just the way it is by reason, ultimately, of the part which it plays in God's conscious life; so, if in connection with the brain a quasi-independent consciousness appears, if, possibly, the deepest significance that we can discover in the world lies just in the development and the relations of such finite selves, then they, too, would help determine the laws of the world, and in particular of that special part of the world with which they stand in most immediate contact. God is a self, a unity of conscious experience, akin in nature to the life which we live as individuals. But just as our life has meaning only as it recognizes its place in a community of beings, of finite selves, whose mutual co-working for a common end constitutes the essence of our experience as such, while yet this experience as an existence is separate and distinct, so God's life is only real to him as he sets up a social order, a community of beings, of selves, whose experiences are as existences distinct from his, while yet it is only by the creation of such distinct unities of experience, and the working together with them for a common purpose, that the value of his own experience is constituted. What we know as objects in the external world form elements in this life of God, and among these elements it is the body with which the reality of such finite experiences is more directly in connec-

tion. As God's activity, expressed in the regular workings of the world of things, includes within its meaning the interaction between itself and finite lives, my consciousness will be a factor in determining what the mechanical laws of the world's activity shall be ; and this part which my consciousness plays will express itself most directly in the brain. No fact of my conscious life will be without its counterpart in some brain process, because my life is nothing except as it is in interaction with reality as a whole. But because it is meaning which determines law and not the opposite, the play of God's conscious life into mine is the ultimate fact ; and because this is nothing that is arbitrary or chaotic, but is subject to law, the law can be detected in the outcome. God's activity is in part represented by the changes in the physical world, and the law of these changes is determined by the fact that they are stages in a conscious and purposive life. But this purpose, again, is constituted by the relation in which the unity of experience which makes up God's life directly stands to other finite lives which exist outside the limits of the physical world which science studies ; and so such lives help determine ultimately the laws of the world. Since, however, they do this originally, through the medium of the unitary purpose which establishes the laws, rather than by coming in afterwards to change laws already established, science cannot appeal to them. Above the system of quantitative relationships which make up the universe of science lies the world of meaning, of conscious purpose, by which the former is determined ; and of this world of meaning finite consciousnesses are a part. As such they are not to be explained by mechanism, for it is on them that the laws of mechanism depend, not, again, in their own power, but through the part they play in the activity of the whole. Consciousness accordingly is nothing that breaks into the mechanical workings of the brain from the outside to deflect it from its course ; science needs none but mechanical laws in the case of the human body as well as of the stone ; for mechanism only means that reality acts with a certain mathematically determinable regularity. What the nature of this regularity is it rests for science to discover. Once more, physical laws are only the quantitative expression for the working of spiritual laws. We can conceive that certain relationships of uniformity and regularity should exist between the elements of the absolute experience, which we get at in the form of physical laws. But these as such are an abstraction, and so depend upon the meaning of the experience as a whole, and, indirectly, upon

the part which each factor has in that meaning. But it is only when we are inquiring into the why, the final cause, of the course of events, that we can appeal to meaning ; if we want to get at the how, the actual nature of the uniformities, we must look away from the world of meaning, and so from the conscious self, and have regard simply to what the course of events is. If we find the uniformity in it, the laws which we detect will not be interfered with by final causes, because final cause is just what we have abstracted from. Consciousness does not influence the course of events by breaking into an order which is already established, but by helping to determine in the first place what that order shall be.