THE PSYCHOLOGICAL REVIEW.

MIND AND BODY, FROM THE GENETIC POINT OF VIEW.¹

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In the discussion of the relation between body and mind, we often find the position advanced that the experience of each is, in its original form, equally 'subjective.' Idealistic analysis of external objects reduces them to sensational and other presentational elements. It thus becomes possible to take what Professor Sanford, in his president's address printed in the last issue of this REVIEW,² calls the 'purely psychological'³ point of view, in the consideration of this time-honored problem.

The direct result of such a point of view is that we have to deal with what may be called psychic or subjective series alone, and the remote consequences, for the theory of knowledge, are the familiar ones common to the different forms of subjective idealism.

Apart altogether from the results which follow for the discussion of the relation of body and mind as indicated in detail below, I wish to discuss briefly the legitimacy of this purely subjective point of view; not so much with reference to the traditional question of the validity or sort of reality attaching to the external world, as with reference to the supposed primacy of the subjective. Does it follow that because the

¹ Lecture read before the Yale Philosophical Club on February 10, 1903, and also before the Princeton Psychological and Philosophical Seminars.

² THE PSYCHOLOGICAL REVIEW, March, 1903.

³ A better designation would be 'purely psychic'; that is, the point of view of the subject of the experience.

world as well as the self, the body as well as the mind, is a construction from data of presentation—that therefore, the subjective factors are entitled, in some sort, to greater primacy and ultimateness with reference to the universe as a whole than those which we ordinarily denominate objective and external?¹ I propose to look at the question from the point of view of the genesis of the distinction between body and mind; and in the light of our outcome to consider the general question of the relation of the two sorts of reality to each other.

I.

There has been considerable discussion lately as to the rise of this main distinction. As to the outcome, the chief results are, I think, very generally accepted—apart from differences of detail. In the first place, we may say that consciousness, in its earliest experiences, does not have the distinction between the ‘inner’ and the ‘outer,’ the self and the world. Its experience is what I shall call in a figure ‘protoplasmic’; it is in Ward’s phrase ‘a continuum,’ or in James’ phrase ‘a buzzing confusion’—the two writers agreeing, in their differences, that classification and differentiation of the sort requisite for the separation of the worlds of the subjective and the external, are absent.² Experience of this neutral or protoplasmic sort, when considered as preliminary to the later distinction, I have called, using a term which goes well with ‘subjective’ and ‘objective,’ by the term ‘projective’—the positive side of the conception being this, that even then a mental content is presented or ‘projected’ in the field of the respective sense through which it arises.

The beginning of the distinction between mind and body seems to be found—assuming that experience is at first undifferentiated or protoplasmic—in the child’s apprehension of its presentations as being respectively of or from *persons*, on the

¹ I use ‘external’ as opposed to subjective, since the term ‘objective,’ applying as well to mental objects which are not external, would be ambiguous.

² See the joint art. ‘Experience,’ in the writer’s *Dict. of Philos.*, in which James goes further than either Stout or the present writer in maintaining the virgin neutrality of experience of the earliest type, with reference to ‘inner’ and ‘outer.’

one hand, and again *things* on the other hand. If we use the symbol '*Pr.*' for projects, or presentations *not yet distinguished* as external things or as self, we may put it down that the first distinction is thereafter between '*P,*' persons, and '*T,*' presentations which are not persons — understanding, however, that in the child's apprehension this distinction is merely a distinction, not a characterization, and that it comes to him largely through the accommodations of his active life to the varying situations in which he finds himself.

He next, through a process various aspects of which are described by various authors under the terms 'introjection,' 'imitative interpretation,' etc., assimilates his *P*'s — his personal projects — to certain other intimate, pungent, highly toned experiences. These are set over against other presentations separated off as '*T*'s,' or thing-projects. The *P*-experiences have a series of aspects which I can not now describe in detail,¹ but which comprise effort, and pleasure and pain, and belong in a mysterious way to the individual himself. Things, he learns, may be left behind, may be shared, may be manipulated: and again things resist, limit activity, stand stubborn — characters, all of them, which the *P*'s do not so evidently show. Here, in this growing distinction, is the germ of the difference between that which may be *left behind and found again* — the external — on the one hand; and the ever present, the always owned — the subjective — on the other hand.

Now what it is essential to note at this stage of the progress of consciousness is this: the *P*-experiences, which by this act of interpretation have become 'subjective,' are at once and by the same act of apprehension, *common to the individual's psychic self* — which I shall call '*S*' — *and to the other self or projective person already presented in contrast to things*. The self-as-subject arises by interpretation of the objective *P*-presentation. This carries with it a further interesting implication.

The child has heretofore apprehended his own body as a thing — a projective mass of sense experiences, like other things. He now distinguishes the *P*-characters from the *T*-char-

¹ It may be said that it is not necessary for our present purpose to describe the actual materials which go into the notion of personality; of that there may be great diversity of opinion.

acters in certain things. Further, he claims the *P*-characters as being his also — as being identical with certain of his own states realized as subjective. So he treats his own body precisely as he treats other objects, and finds his subjective self-part, *S*, distinguished from his mere thing-part, *T*. The thing-part in all persons, in others and also in himself, becomes differentiated from the *S*-part. This thing-part he comes later on to call 'Body,' while the self-part he calls 'Mind.' The *S* is one of a number all of which are Mind, *M*; and the things which go with selves, being equally numerous, are Body, *B*. Here then we have discovered the great line of cleavage or segregation, as between mind and body, in its essential genesis.

The implications at this point are more or less evident. Just as at the earlier stage, in reaching the distinction between the subjective and the external, we found that the genesis of the self essentially implicates other selves, and cannot be apprehended without them, so now, with respect to the relation between mind and body. What I have called the thing-part of the person is realized, as in relation to the self-part, first in the case of other persons; but the relation is necessarily carried over to the private self, who is also considered as mind associated with body. Expressing these implications also in symbols, we may say that *M* (my mind) is thought only with *M'* (other minds), and *B* (other bodies) only with *B'* (my body), and that when one entire personality is set over against another, *M* is associated with the *B'*, and *M'* with *B*.

If this general line of genetic distinctions¹ be accepted, and we then ask what consequences would seem to follow for the discussion of the relation between mind and body, we may, I think, draw conclusions of some importance. Before proceeding, however, with the discussion it may be well to make precise the symbolism we have been hitherto employing, and to set down the stages of mental growth recognized above, in order to show

¹ In support of such views the reader may consult Royce, 'Studies in Good and Evil' (the chapters on the Self); Stout, 'Manual of Psychology,' Bk. IV., Chap. VII.; Mezes, 'Ethics, Descriptive and Explanatory,' Chap. VII.; Ormond, 'Foundations of Knowledge,' Pt. II., Chaps. VII., X.; and the writer's 'Social and Ethical Interpretations,' Chap. I., and 'Mental Development in the Child and the Race,' Chap. XI.

the sort of opposition or contrast which obtains at each stage between the two terms to the controversy, mind and body. This is done in the symbolic expressions immediately following.

The symbol $()$ is herein suggested to denote the 'becoming' or genesis of the term which follows it, from that which precedes it: it may be called *the symbol of genesis*. Its interpretation in particular cases would be alternatively in one in three modes: genesis which is indefinite as to exhaustiveness in the analysis of A into B , for which the expression is of two equal semicircles, thus $A()B$; second, genesis expressed as A exhausted in B , but not necessarily B in A , in which case the semicircle toward A is greater than that toward B , thus $A()B$, third, genesis expressed as A not exhausted in B , in which case the semicircle toward A is less than that toward B , thus $A()B$. We here have occasion to use only the first of these, the symbol of 'indefinite genesis, or genetic progression.'¹

Summing up the stages of growth, now pointed out, in symbolic statements, we have certain expressions which I shall call 'Progressions,' in distinction from 'Equations.' The sign for genesis may be rendered by the word 'becomes.'

Progression 1. $\text{Pr (projective experience) } () P + T$.

Progression 2. $P()S + S'$.

Progression 3. $\frac{S'}{T}() \frac{M}{B'} + \frac{M'}{B}$.

We may characterize these 'Progressions,' respectively, each in view of its place in the entire genetic process, as (1) the 'projective Progression,' which reads, *Projects become Personal-Pr and Thing-Pr*; (2) the 'subjective Progression,' which reads, *Personal-Pr become Subject-self and Object-self*; and (3), 'the ejective Progression,' which reads, *Object-self becomes Mind and Body*—the last alone representing complete dualism of Body and Mind.

II.

So far we have come to a dualistic stage in the development of consciousness, and we have intimated the conclusion that from this stage of interpretation, the two terms, M and B , must

¹I may emphasize the distinction intended between the values of these signs and those of signs of quantity.

be considered as strictly correlative. The determination, in the course of reflection, of further predicates for either the one or the other, if made at all, should be of such a sort that some further relation between them takes the place of this. This first and most general result requires that we must take either *the original or the derived form of experience* — the earlier stage or the later stage of conscious growth — as the basis of examination and criticism. If we take the early or protoplasmic stage, we lack the distinction altogether; and we have then to say that the question is an impossible one, since the terms of the antithesis between mind and body have purely abstract or logical value. If, on the other hand, we take the later stage, when the distinction has matured, then the two terms, mind and body, *have strictly correlative meanings*, and in recognizing the sort of predicates which consciousness and reflection attach to the one, we are bound, by right of genesis and meaning, to do the same for the other also.

Suppose that, in our further quest, the point of view described above as the 'purely subjective,' be taken; we have then to ask the question as to what form the concepts mind and body take on in the thought of the individual thinker whose point of view it is. We find that to think of body as presentation is, in accordance with Progression (3), to think other minds with it as presentation, and this involves, by Progression (2), thinking of one's own mind as presentation. In other words, it is impossible on this hypothesis to take any other than a purely phenomenistic or presentational view of both sorts of object, body and mind. The procedure which involves treating other minds as objective phenomena, and at the same time maintaining the psychic point of view with reference to one's own mind, is illegitimate.

Furthermore, to think of another mind as presentation, and to maintain also the psychic point of view, is to think of the other mind as thinking of the thinker as presentation. So there results, at the best, the notion of a series of isolated psychic centers. On this basis no general thought or theory of mind and body could be derived; for to do so would be to desert the strictly private standpoint, and bring back that of phenomenal correlation of body and mind.

If then we intentionally adopt the point of view of correlation we find two alternatives: either we have to consider the relation of the presenting mind to its object, the presented body (including by implication also the body which is associated with the presenting mind) — the relation of M to B (or to B') — or, on the other hand, we have to consider the relation of presented mind to presented body — that of M' to B .

The first of these problems would seem to be the traditional question of the relation of mind to its object: the question of theory of knowledge or epistemology. In so far as it is merely the construction of a mental object which is in question — the sort of function in exercise in the perception of the external object — we have no approach one way or the other to the question of mind and body; for whatever the result, not only does body become experience, but mind, as presenting, is also in some sort experience. And as soon as we reach the apprehension of the presenting self as some form of experience we come to the other alternative — as is symbolized in Progression (3) — that of the relation of mind as presented to body as presented. It may be said that there is a mode of self-experience of which the self is not presented as content. That view represents a later stage of reflection, I think, and it is taken up below (in the next paragraph but one).

The other form of this alternative, however, that of the relation of a mind to its own body, is an interesting case here, for we assume the brain in the body, and by our Progression (3), this B' is an implication of B (the body or brain of another which is actually presented). This is often thought to import into the question some peculiar features, for it is supposed that our knowledge of our own brain is in some way less direct, and hence, in some way, less valid and reliable than that of other brains which we might actually see if they were put before us. I am quite unable, however, to see any force in this position; for the brain in connection with another person's mind is not actually seen, but is only inferred as part of the whole of his organism of which we see the other parts; and exactly the same is true of the thinker's own brain. He does see and touch his own organism in certain features the same as those which he

experiences of other persons' bodies, and besides he has from his own body those direct sense-impressions upon the basis of which his original distinction between the subjective and the external is actually based. We may accordingly treat the two cases as really one, and accept the result stated immediately above, to the effect that the case is reduced to that of *the relation of presented body to presented mind*. We have still, indeed, two cases, one of which is that in which the presented mind is actually a different mind and the other that in which the presented mind is the same as the presenting mind, and it may be well before going further to inquire into the meaning of this distinction. It is important to do this because, in the result, we shall find that confusion on this point lends some unclearness to the analysis usually made from the subjective standpoint.

When we refer, as is done above, to the relation of the presenting to presented mind, for the purpose of the discussion of parallelism or of any other general theory, what we mean by presenting-mind-as-itself-presented is the individual mind made the object of its own presentation. We do not mean the mind as simply conscious operation upon the body presented. This latter is very often meant; as, for example, when we are told to take the point of view of the mind's spontaneous perception of body, and ask in what sense the presenting mind is then and there conscious of itself. We must take the meaning to be the individual mind as made the object of its own presentation, that is as an object additional and alternative to body likewise presented as object; because the theory requires that the view reached should cover the case of the relation of another person's mind to his body, and that would mean his mind presented as object to an onlooker in the same sense that his body is presented as object. Psychologically, indeed, the difference is that between unreflective and reflective consciousness. When it is argued that there is a form of apprehension of self as function, not as presentation, and that this apprehension is felt or in some way realized in the act of presenting body as object, we are, as I take it, abstracting from the act of reflection and in so far reducing consciousness to the stage—in the matter of the distinction of body from mind—of our Progression (1), at

which the distinction between subjective and external is not yet realized, or is so obscure that the self is not presented as distinct from other subjective selves. This latter stage, that of Progression (2), allows the distinction of self and other-self only because it permits the full and explicit presentation of the experiences common to selves as such.

If this be true, namely, that to take the subjective point of view, in the sense of supposing a conscious self-function over against body-content—that this really requires or involves the spontaneous point of view, then we must allow ourselves only the distinction between mind and body which consciousness has achieved at that stage of its development. Now we find that consciousness has then only projective distinctions, not subject-object distinctions; and if that be the stage for valid interpretation, then the question of the sort of reality attaching to either of them over against the other cannot be put at all.

I wish to insist on this result. It is fundamentally that of the general criticism made on the subjective standpoint at the end of the first or genetic section of this paper above, except that we now reach it by detailed analysis. It brings the direct charge against the subjectivists of confusing the spontaneous with the reflective points of view. Only a genetic analysis of these stages—as shown in the Progressions (1) and (2)—can expose this confusion. If we treat the body-member of the antithesis as being such a product of reflective thought, that its reality, its properties, etc., can be shown to be due to the higher activities of distinction and synthesis which characterize the reflective consciousness, then we must treat the mind, in which this thought of body occurs, as exercising these reflective processes in apprehending body. But if we do this, we are dealing not with mind as spontaneous function but as having itself as object or content of reflection set over against such a body; in other words we must take Progression (3) as the basis of interpretation. If, on the other hand, we treat mind as being the individual's spontaneous function of construction of an object, then the object, body, must be the sort of object, the 'project,' which such a consciousness is able to construct. The fallacy of the subjectivists is in saying that in contrasting body and mind,

we may mean a thought of body which is a constructed object subject to analysis, and a thought of mind which is not an object at all. Of course, if such a procedure be allowed, we may at once say : body is a complex of mental states, mind is the agent which has the states — and the conclusions of idealism follow.

But suppose we turn the tables, and commit ourselves for a moment to the diametrically opposite procedure. Suppose we say : mind is the inferred thing which, upon reflection and as the result of objective analysis, we suppose to be the bearer of psychic states ; body, on the contrary, is the immediately given, the original mode of sense-experiences of resistance, etc. : hence the primary of body. Mind turns out to be a series of epiphenomena. This is the fallacy of the materialists. Its roots are found just in taking the spontaneous standpoint for one term of the antithesis, body, and the reflective standpoint for the other, mind.

I contend that both procedures — that of the subjectivists no less than that of the externalists — that both are illegitimate. If we interpret mind and body by Progression (1), the antithesis between them does not exist, and we have no data for such a question ; if we interpret both by Progression (3), in which the dualism has emerged, we have the question of the relation between presented mind, considered as the object of reflection, and presented body, likewise considered as an object of reflection. This alone is the legitimate form of the scientific and philosophical problem.

III.

This question is that of the relation of the two general spheres of objective construction to each other. This question, as I conceive, demands further genetic analysis, for it involves the determination of the sort of objective reference attaching to each of the two modes of construction, together with their content ; also the categories in which each content is organized. In short, if we are to ask as to the reality of mind and body, and as to the sort of real relation which subsists between them, our only possible solution resides in the determination of the nature of the concepts of reality or objective validity attaching in our reflection to each.

This, of course, is a 'large order' ; and we cannot hope to

develop a theory of reality here. Yet we may assume acquaintance with the alternative historical points of view, and ask what value the genetic approach to the concept of such a real relation gives to either term over against the other. Particularly may we expect light, from the genetic progress of consciousness, upon that possible interrelation of the two spheres of reality which is involved in such a theory as that of 'interaction.' In anticipation, I may say at this point that the considerations which follow are directly opposed to the theory of interaction, and in favor of a form of psychophysical parallelism, finding its philosophical ground in a reflective monism.

When we come to ask as to the genetic procedure in the organization by which the two spheres of reality, respectively designated the mental and the physical, are constituted, we find that the processes called above 'Progressions' are to be recognized. The fundamental ground of the distinction between persons and things resides in the need of classification and reaction upon contents which have such different characters that they cannot be treated without such a fundamental differentiation. I think it is a fair statement of the generally accepted views of the two sorts of science arising from this differentiation to say that physical science is a form of knowledge in which the materials are those which can be organized under the category of 'agentic,' or what are usually called 'mechanical,' sequence. These materials are distinguished very early in the mental history of the child from the genetic or amechanical sequences, by their character as showing a certain *regularity*, *invariability*, and *reversibility*, which beget in him an attitude of discounting or predicting their occurrence and recurrence. This is the sphere of repetition, and in the reactive life, the sphere of habit. This mass of material is the domain of those retrospective, exhaustively formulated sequences which admit of measurement, and which, in their further pursuit, yield results in quantitative physical science. I do not mean to say that all physical science, all knowledge of the external world, is actually quantitative; but what I mean to say is that this aspect of the world of external objects constitutes it a mode or sphere of reality different from the mental. It is the ideal of physical science to be age-

netic and mechanical; ¹ this is the category which it exploits. In so far as this world has aspects which cannot be so treated, we find an actual tendency to divorce such aspects from the external and to read them into the subjective group— as, for example, sense-pleasures and pains, so-called subjective sensations generally, and in a less degree, odors and tastes— certain of which, under the various designations ‘secondary properties,’ etc., are thought to be more loosely attached to external objects and more nearly subjective than other properties. Yet they are apprehended by direct stimulation from external objects, in the same way that other physical properties are. ²

Such an agenetic form of sequence is what is meant by ‘cause and effect’ in the physical sciences. As soon as we attempt to make that notion mean more than temporal sequence, by introducing into it the idea of efficiency, we reach the concept of energy, which is quantitatively determined, and liable to the agenetic formula of ‘conservation of energy.’ This has led to a monopoly of the concept of cause by the physical sciences and its formulation under such dicta as ‘there can be nothing in the effect that is not already in the cause’ and the construction of the phrase ‘post hoc ergo propter hoc’ in the sense ‘non propter hoc non effectus.’ In other terms, we find the physical formula for cause and effect to be strictly an *Equation*, not a *Progression*, in the genetic meaning of Progression as indefinite inequivalence. The assertion of such an inequality is considered *ipso facto* the denial of causation.

Furthermore, this equality view of causation is dominant even in the attempts at genetic deduction of the category of cause. The experience of effort is looked upon as intensively graded in proportion to the difficulty of the movement accomplished, or to the resistance overcome in the external world.

¹ This means, finally, reducible to motion; and since motion is always reversible (whether the actual reversal is within our power or not) we have *reversibility* as the criterion of a strictly agenetic or mechanical series.

² It is interesting to note the development of this sort of construction in the history of the scientific impulse, *i. e.*, a lingering personification of the forces of nature wherever they are mystifying or not subject to regular behavior. The history of science shows the gradual reduction of the personal to the mechanical in external phenomena; but to-day spiritism remains the religion of mystified physicists!

And the next and final step in the 'physicallizing,' so to speak, of the conception, and with it of the experience on which it is based, is that the mind is supposed to be in causal interaction with the body in a way which is expressible in an equation: so much mental expenditure or experienced force equal to so much physical effect or work — muscular work, and, remotely, purely mechanical work.

It suffices, at this point, to make this fact plain — the appropriation of the notion of cause by physical science, and the very general tendency of philosophers to accept it. I shall come again to the point further down in our discussion; here we may for the present rest it, and return to the consideration of the corresponding genetic development of the notion of mind and the categories under which in turn it is constituted.

The beginning of the distinction between body and mind — as shown in our Progression (1) — is the contrast, in presented phenomena, between the regular and predictable, and the irregular and, in a sense, capricious. It is facts of the latter sort that the child finds imitatively available, and in general assimilable to those aspects of his experience embodying his own agency and his private subjective interests. These go on to be organized in the form of self, over against the antithetic organization of the phenomena of body, as sketched in what immediately precedes. For our present purpose — which is not an exhaustive statement, but merely the development of a contrast — the essential character of this type of his experience is its genetic organization. It is in the experiences of impulse, instinct, strain, effort, etc., that his personal self comes up sharply against the regularities and law-abiding changes of the physical world; and his mental growth is a series of achievements by which he reduces the conflicts, and effects a *status quo* for the practice of the essential things of his life. He grows by accommodations, personal concessions, adjustments, which become systematized in a progress of mind more and more complex, and to the onlooker, essentially novel. His instincts — the most mechanical part of him — are broken up; his impulses are inhibited; out of all the conflicts of processes that wonderful endowment of personality, voluntary self-control and determination, emerges

and becomes an instrument of foresight and prudent conduct. All this is progress—that is the point; not mere repetition. It is growth, not mere change. It is genesis, not a reversible atomic series. In type, therefore—and this is what the term means—it is genetic, not mechanical, not agenetic.

Mind, therefore, when he generalizes it, is something which is characterized through and through by growth, genetic organization. As he looks upon another person, saying of him, 'body and mind,' by mind besides body, he means a subjective part which is, like his own subjective part, a thing of growth in accommodation and self-determination. And when he says of a person that he has both body and mind, he means what he means also of himself—a being which somehow has two sides, each of them showing a characteristic type of serial change, illustrated in many particular cases. And these two sorts of change, whenever realized in a particular case, *are uniformly and continuously together*.

Now it is in this realm—that of subjective change and determination—that the mental and moral sciences find their data. The stage of reflection shown in the Progression (3) is that of dualism. The *M*-terms are instances of one mode of sequence in phenomena, and the *B*-terms are instances of another. But it is a singular and compelling fact that the *M*-terms are, in their very nature, not capable of formulation in what the writer has elsewhere called 'cross-sections'—that is by the mere analysis of a complex situation into its elements, considered as giving an exhaustive statement in terms of a fore-going or after-following situation. Such cross-sections are possible only of physical sequences. But if they be impossible mental processes, then only 'longitudinal sections' are possible: the actual statement of Progressions, as that term is defined and illustrated above.

It results that the mental sciences must always be unfinished. Their data cannot be formulated in universal statements. Only actual growth can reveal, in each case, the next succeeding mode of organization. Such concepts as we do work out, therefore, as applicable to mental change, are essentially of this 'longitudinal' character—that is they are Progressions. Cause

and effect in psychology, for example, can only mean a sequence of indefinite inequivalence between a preceding and a following term — that is, *so far as it is genetic in type*. When we say — or when the self in the case says — that the mind causes the movement of the arm, what is meant is that the experience of the moved arm is the genetic issue of the mental processes in certain directed volitions. We do not mean to say, or we should not, that cause in the physical sense, defined above as motion followed by motion in a reversible series, is all that takes place. We mean the full statement of fact of a connection between changes in the two series, in the form of a regular sequence. If we go on to interpret the sequence by either of the two conceptions of cause, we naturally fall into one or other of the two fallacious interpretations described above.

It is interesting to note that the naïve form of interpretation of the relation subsisting between mind and body is that of genetic or longitudinal sequence, not that of quantitative transverse equivalence, although the reverse is often assumed to be the case. This fact exhibits the obverse side of the movement, spoken of above, by which the notion of cause in the physical sense gradually extends itself to include mental change. We find, in the progress of racial thought, that earliest of all, the changes of nature generally are attributed to personal agencies; that this is gradually limited as natural knowledge advances; that the segregation of phenomena, under the concepts of law and necessity, narrows the sphere attributed to personal agency; until — and this is the last stand of the naïve point of view — it is only in the one case of the relation of *one mind to one body, and that its own*, that such a point of view is still held. In the theory of interaction, the attempt is made to justify this one remaining case.

But those who make the attempt do not see that this is to preserve, in the one case, the point of view which in the progress of racial reflection has been given up in other cases. Such a position is in opposition to the essential progress of physical science. In all other cases knowledge of the physical demands, for the constitution of a lawful universe, that sporadic interferences from the sphere of mind shall be abolished. Such inter-

ferences remain as the extreme resort of religious mysticism, by which, indeed, they are called 'miracles.' In such cases, they are, even to religious thought, the exception which proves the rule. They are miracles — phenomena fit to excite wonder — just because they constitute the departure from the operation of the processes natural to the group of phenomena in which they show themselves. But in the case of the relation of body and mind there still remains, in the conception of causal interaction, the confusion of the unreflective and reflective points of view due to the immaturity of the distinction between the two spheres of causation necessary to the consistent development of either sort of science.

The evolution of contemporary thought is making this evident. This appears in the greater difficulty one has in accepting the theory of interaction when the purely objective point of view is taken — that is, when one considers the case, not of the subject's own body, but of that of another. When one takes such an objective standpoint, it is found necessary to preserve at once the integrity of the physical series of brain changes, fulfilling the principle of conservation of energy, and at the same time to allow that it is in some way interfered with by mental agency. The result takes on — apart from the resort of subjectivism — one of two forms: either the express denial that the mind increases or diminishes the amount of physical energy already in play; or, on the other hand, the resort to devices by which the modifications in the quantitative determinations of physical science, due to mental activity, may be compensated for. On the one hand, we have the claim that the mind can direct, or switch off, or hold in the physical energies; or that it can decide as between alternative expressions of physical energy, without altering its quantity — suppositions long since and many times shown to be absurd. As type of the latter sort of devices we have the suggestion attributed to Lotze that the plus and minus increments to physical energy, due to mental interference, will in the long run counterbalance each other, and the actual equilibrium of the physical forces remain after all undisturbed. All such superficial hypotheses seem to me only to keep up the confusion which it is my present purpose to expose.

I may now sum up the results of the foregoing discussion.

En résumé, therefore, we find that in its actual genesis, the distinction between phenomena of mind and body, considered as distinct types of presented phenomenal change, requires the use of two distinct categories of construction, the genetic and the agenetic. Physical science it is which interprets the agenetic. Its explaining concept of cause is illustrated only and always in transformations of energy. On the other hand, the mental and moral sciences interpret the genetic, in the special realm denominated subjective.¹ They recognize, just by their distinction from the physical, the type of change which issues in progressive organization, and permits only of longitudinal or 'progressive' statement. They contrast the *Progression* with the *Equation*. The attempt is often made to interpret by one of these categories, that of physical energy, the relation between mind and body; this leads to that form of the theory of 'interaction' which accepts the energy view of causation. Mind becomes a form of energy. This, properly speaking, is a materialistic conception. On the other hand, the attempt is made to interpret the relation between mind and body as a case of Progression or genetic change; we then perforce deny that the antecedent brain state in a psychophysical sequence fully determines the subsequent brain state, and thus allow that this case is the one miracle which survives in physical nature. This is the other form of the interaction theory. Each of these attempts makes appeal to a stage of relatively naïve or unreflective consciousness. Both fall into the same confusion; but they illustrate the confusion differently. One maintains the point of view of reflection only on the side of the physical; the other only on the side of the subjective.

We have maintained, on the contrary, that the theory of the relation of mind and body must maintain consistently the opposition under which alone these two concepts develop and have validity; it must be free, in explaining the relation between the two, from the application to it of either category which belongs exclusively to one of them.

¹The sciences of life lie between. Life processes are really genetic, as is maintained below.

IV.

With so much game in our drag-net, we now have to ask the final question as to the proper apparatus for fishing in the deep-seas of the mind's more refined reflection. The problem is this: Can we hold each set of phenomena to its own legitimate construction and at the same time reach a comprehensive conception¹ of the concomitance of mind and body under which the scientific formulas appropriate to each may be given full value?

So far as the formulation reached at the stage of scientific dualism represented by Progression (3) is concerned — the point of view common to psychology and physics alike — it is expressed in 'psychophysical parallelism'; for it is the essence of that theory that it refuses to postulate any positive predicates of the psychophysical relation, and rests content with the recognition of sufficient uniformity and generality to justify investigation by recognized scientific methods in both departments of science.

More positively, indeed, psychophysical parallelism justifies itself genetically at both the stages of mental development shown respectively in Progression (2) and Progression (3). We may take the point of view of Progression (2), and deliberately refuse to allow the validity of the dualism reached by reflection in Progression (3). In that case, the phenomena of personality are simply joint phenomena; neither mind nor body is treated under peculiar categories. The interpretation of a sequence is from one psychophysical term — what we may call a *BM* term — to another; and we have no possible question of the separate action of brain-states or mind-states as determining subsequent states of brain or mind or both. We then have the simple form of Progression, *BM* () *B'M'*, in which one psychophysical term, *taken as a whole*, is considered as the antecedent of another, also *taken as a whole*.

This is to my mind, both in biology and in psychology, the only justifiable scientific method. Its merit is that it compels the equal recognition of the two aspects of phenomena whenever they are both present, and really banishes the futile question of reconciling the terms of a dualism which, so far as concrete phenomena are concerned, is abstract and artificial. I have

argued in detail for this conception in my recent work, 'Development and Evolution,' claiming that general biology suffers equally with genetic psychology from the divorce of the facts in these two allied spheres, which the traditional dualism compels. Evolution is psychophysical, not organic and *besides* — or possibly, *not at all* — mental. The psychophysical standpoint is the only valid scientific standpoint for a theory of organic descent, no less than for a theory of individual development; and the two genetic series must be interrelated by some form of 'inter-genetic concurrence.'¹ The question, of course, remains over as to the scientific formulations possible to such Progressions; that is as to a method of investigation of successive 'genetic modes' of organization.

If, however, we commit ourselves to a point of view which, as in Progression (3), results in an explicit dualism, then our care must be to reach interpretations which do not invalidate, though they may transcend, this dualism. I have shown above that the current forms of the interaction theory involve a confusion of categories, due to the failure to maintain a consistent level of mental development. The only outlet is to push reflection further, and find a category of experience within which the two forms of sequence may proceed, indeed, as demanded by reflective dualism, while still, at the same time, held in a single thought without conflict. Our question then becomes: How can we satisfy the mental demand for a type of change which shall, at one and the same time, both exhibit the form of 'progression' by successive genetic organizations and also be liable to interpretation in terms of the equations of agenetic science? This to my mind — as I have said in formulating it differently in a recent discussion — is *the* question of contemporary philosophy. I can of course, do no more here than indicate certain seemingly valid approaches to its solution.

In the first place, empirical science must do its utmost in actually finding and examining such complex sequences. But its first qualifications are to be its competency and its fairness in seeing

¹ An expression used in the work cited for the relation existing between racial evolution and individual development, of which the law of 'recapitulation' is the broadest biological formulation.

them when they are found. As a matter of fact they do not lie far out of hand. It was an insight of Aristotle that the phenomena of life contain the great things of philosophy. Life shows both the *dunamis* and the *energeia*, both the dynamic and the static, both the teleological and the mechanical, both the *Progression* and the *Equation*. Biological literature is now-a-days full of the recognition of the concurrent presence in vital phenomena of the two modes of organization; and biologists are wondering whether any theory of the principle of life is possible which is not to commit suicide by cutting its throat on the ragged edge of facts of one or other of these two sorts. Yet we find indications in recent work of ways in which biologists of the two schools, vitalistic and mechanical, are finding points of common ground. The development of the statistical method is showing ways whereby the variations and progressions demanded by vital teleology and genetic process may be allowed, at the same time that exact formulas of distribution are applied to the same cases taken in the mass. In this way, for example, that bugbear to many advocates of purpose in the world, natural selection, becomes consistent with a teleological philosophy. Economists and criminologists are reaching exact statistical formulas for events involving individual desire and choice. It is beginning to be seen, even by the most positivistic science, that genetic processes may be developed in series which also allow statement in cross-sections and equations at each successive stage. All this means that the world is after all one, and that the categories of mental construction, derived in a process of evolution by actual treatment of the world, *cannot finally reflect processes in essential contradiction with each other*.

The needs of philosophical thought, however, are more urgent; and I have no desire to deny the impulses of consistent reflection which are impatient during the slow processes of evolution. Philosophy asks: How can we think reality in one thought? In the terms of our present discussion: How can body and mind, being what we have come to think them to be, live hospitably housed together in one phenomenal group of facts? In answer to this we have all the modes of reasoning of modern philosophy, from the consistent negative processes of abstrac-

tion of Hegel, to the logical 'rectification of concepts' of Herbart and Bradley. In opposition to both these tendencies, the present speaker holds that the category of final interpretation must be *a full one, not an empty one*, if it is to have concrete significance, and if it is to have the respect and win the adherence of that class of men who make actual contributions to knowledge — the men of science. It is to be sought in the interpretation of *the actual coefficients of the fullest reality of which we can have experience*. The realities of organic life are 'fuller' than those of inorganic nature, because they require just the differential genetic treatment which characterizes the distinction between the Equation and the Progression; because life exhibits ends as well as transformations. The mental life is a form of reality which in turn is fuller than the organic; because it yields the subjective, and requires again another genetic differentiation of experiences into the subjective and the external. If we go further, we find that the highest organization of the mental life is again the fullest, the richest in what we mean by reality in its complex modes. We go from spontaneity to effort, from presentation to reflection, from fact to ideal, from automatism to self-determination. The fullest, not the emptiest, the concrete experience, not the logical universal, is the point of view of most adequate interpretation, because it is just by the processes of expansion and growth that nature makes to us her revelation. We do not realize nature by abstracting from her content. When we speak of a final or absolute experience what we mean, if we mean anything worth while, is an *all-comprehensive and completely-full experience*.

Now — to state a point of view, not to expand or justify it — there is a type of mental organization which is in certain ways 'fuller' than any other, which requires and feeds upon — or to speak philosophically, 'transcends' — the opposition between fact, with its formulations in the Equations of positive science, on the one hand, and purposes, ends, values, and Progressions, on the other hand; it is what is commonly known as *Æsthetic experience*. In the essential union of the two points of view respectively of the 'producer' and the 'spectator' from which a work of art may be approached, we find in our experience the richer

whole. In æsthetic contemplation there is the fulfilment at once of the demands for a system of relationships essentially finished and formulated—something completely true—and also the satisfaction of a genetic ideal of perfect outcome—something divinely fair!

I should hesitate to state so bald a preference in philosophy, however, and then leave it entirely without justification, at least so far as defense against possible criticisms brought from the point of view of genesis is concerned; so I shall close with the statement of two considerations which tell with some force in favor of what I have elsewhere christened in advance '*Æsthetic Idealism*.'

In the first place, if we recognize a genetic process in consciousness, we must be consistent in maintaining this or that genetic level without confusion. Failure to be consistent in this respect was our charge against both forms of the interaction theory. It follows that if consciousness goes on to a level in which the mind-body dualism fails, if consciousness itself seems to achieve a union of the terms of the earlier opposition, then it is a fair use of the genetic method to take this higher point of view. I think this is the case; that in æsthetic appreciation we reach a form of immediacy of experience in which the dualism of external and subjective is blurred and tends ideally, at least, to disappear.¹

In the second place, the problem of validity, which in psychological terms is that of belief, sets the requirement that our final postulate be not, or not merely, a logical abstraction. Logical abstraction is well in its sphere, but through its abuse the whole distinction between mind and body, together with the network of further distinctions which confuse and balk us, have their origin. So far as philosophy—to use the terms employed above—can keep to the actual fulness of experience, as enriched with the gains of its genuine genetic constructions, so far is its understanding of reality also rich and real. Now it is, in my opinion, in the æsthetic category that such genuine constructions reach their fullest development and fruition. In æsthetic

¹ Cf. Ormond, '*Foundations of Knowledge*,' Pt. II., Chaps. IX., X., for an interesting exposition of this higher immediacy of æsthetic consciousness.

satisfaction both the scientific impulse and the motor processes of practical life reach their 'end-state' — here they jointly 'issue and complete themselves.'¹

If I should now add to the count of our catch given above (at the end of the third section of this lecture), I should hold up to view certain small fishes.

First, a method is employed which aims to be strictly genetic, and a symbolism is suggested which may be used in treating all of the problems of philosophy on which genetic analysis is able to throw light. In our fishing figure — this may be likened to a somewhat novel form of net.

Second, I think it has been shown that science demands psychophysical parallelism and is content with it. It may be said by some fishermen here that this is but a sorry flounder! Yes; yet the flounder is undergoing evolution, and he shows several very promising characters. The genetic character of science is being recognized, as equally marked with the quantitative character; and there is hope for a theory of 'correlation' of these characters, which will yield a higher adaptation in the whole realm of science. Psychological parallelism then is, from the point of view of science, our positive catch.

Second, as to philosophy; we have dragged certain monsters which we have had to throw away: Interaction in both its forms — the 'cause' theory and also the 'effect' theory of mind. Having thrown away these unprofitable forms, we have thought we felt the nibbles of a fish of another species named 'æsthonomic,' a variation in the large family of Idealisms; but we have not dared to show him above water — admitting, indeed, that by a great effort we might be able to land him at all!

¹ See the writer's *Dict. of Philos.*, art. 'End-state.'