

**The philosophical corruption of the science of psychology**  
**An antiphilosophical study of**  
**A. N. Whitehead's Process and Reality**  
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**Abstract**

It will here be claimed that Whitehead's book, which is presented as an explanation of a 'philosophic scheme' called the 'Philosophy of Organism', infringes upon the science of psychology and thereby corrupts that science with misleading and false notions. The defects of Whitehead's presentation of issues of psychology are partly matters of *ignorance* of what William James calls the stream of thought, habit, knowing by acquaintance, knowing about, the sense of sameness, and association, partly *defect understanding* concerned with sensation and perception.

**1. Introduction**

This is an analysis of A. N. Whitehead's *Process and Reality* from 1929, quoted from the corrected edition of 1979. In this analysis it will be established that while the work is presented by the author as a contribution to philosophy, the work includes important claims that belong to the science of psychology, of mental life. In addition, it is established that the psychological claims made in the work are based on misguided and false notions of mental life, as these were presented by such philosophers as John Locke. This is shown by means of a comparison with the notions presented by William James in his *Principles of Psychology* from 1890.

A. N. Whitehead's *Process and Reality* opens in the *Preface*:

"These lectures are based upon a recurrence to that phase of philosophic thought which began with Descartes and ended with Hume. The philosophic scheme which they endeavour to explain is termed the 'Philosophy of Organism.'"

The work opens;

CHAPTER I. SPECULATIVE PHILOSOPHY - SECTION I: This course of lectures is designed as an essay in Speculative Philosophy. Its first task must be to define 'speculative philosophy,' and to defend it as a method productive of important knowledge.

Speculative Philosophy is the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted. By this notion of 'interpretation' I mean that everything of which we are conscious, as enjoyed, perceived, willed, or thought, shall have the character of a particular instance of the general scheme.

The dependence of the work upon psychology appears right from this opening of the work. Indeed 'every element of our experience' and 'everything of which we are conscious, as enjoyed, perceived, willed, or thought' are obviously matters of mental life.

A further similar indication is found on p. 17:

Philosophy destroys its usefulness when it indulges in brilliant feats of explaining away. It is then trespassing with the wrong equipment upon the field of particular sciences. Its ultimate appeal is to the general consciousness of what in practice we experience.

Here 'the general consciousness of what in practice we experience' is again a matter of mental life.

## 2. Whitehead's terminology

Detecting the issues of psychology in Whitehead's work is made difficult by Whitehead's dominating tendency to express himself in special terms introduced by himself. As an aid around this difficulty, some of the more important of these special terms are given below, followed by a quotation from Whitehead's work where the term appears, taken from first occurrence of the term. The explanations are ordered by the page number.

**extensive continuum:** p. xii: For example, in Part II there is a chapter on the 'Extensive Continuum,' which is largely concerned with the notions of Descartes and Newton, compared with the way in which the organic philosophy must interpret this feature of the world.

**actual entity, becoming, being, relatedness:** p. xiii: The positive doctrine of these lectures is concerned with the becoming, the being, and the relatedness of 'actual entities'. An 'actual entity' is a *res vera* in the Cartesian sense of that term; it is a Cartesian 'substance,' and not an Aristotelian 'primary substance.'

**immediacy, objective immortality, creative advance:** p. xiii-xiv: All relatedness has its foundation in the relatedness of actualities; and such relatedness is wholly concerned with the appropriation of the dead by the living—that is to say, with 'objective immortality' whereby what is divested of its own living immediacy becomes a real component in other living immediacies of becoming. This is the doctrine that the creative advance of the world is the becoming, the perishing, and the objective immortalities of those things which jointly constitute *stubborn fact*.

**coherence, concrescence:** p. 7: The coherence, which the system seeks to preserve, is the discovery that the process, or concrescence, of any one actual entity involves the other actual entities among its components.

**ontological principle:** p. 13: The truth itself is nothing else than how the composite natures of the organic actualities of the world obtain adequate representation in the divine nature. Such representations compose the 'consequent nature' of God, which evolves in its relationship to the evolving world without derogation to the eternal completion of its primordial conceptual nature. In this way the 'ontological principle' is maintained—... p. 18: In its recurrence to the notion of a plurality of actual entities the philosophy of organism is through and through Cartesian. The 'ontological principle' broadens and extends a general principle laid down by John Locke in his *Essay* (Bk. II, Ch. XXIII, Sect. 7), when he asserts that "power" is "a great part of our complex ideas of substances." The notion of 'substance' is transformed into that of 'actual entity'; and the notion of 'power' is transformed into the principle that the reasons for things are always to be found in the composite nature of definite actual entities— ... The ontological principle can be summarized as: no actual entity, then no reason.

**individual actuality (unity of experience):** p. 15: Each actual occasion contributes to the circumstances of its origin additional formative elements deepening its own peculiar individuality.

**actual entity, actual occasion:** p. 18: 'Actual entities'—also termed 'actual occasions'—are the final real things of which the world is made up.

**prehension:** p. 19: With the purpose of obtaining a one-substance cosmology, 'prehensions' are a generalization from Descartes' mental 'cogitations,' and from Locke's 'ideas,' to express the most concrete mode of analysis applicable to every grade of individual actuality.

**subjective aim, subjective form:** p. 19: ... any characteristic of an actual entity is reproduced in a prehension. It might have been a complete actuality; but, by reason of a certain incomplete partiality, a prehension is only a subordinate element in an actual entity. A reference to the complete actuality is required to give the reason why such a prehension is what it is in respect

to its subjective form. This subjective form is determined by the subjective aim at further integration, so as to obtain the 'satisfaction' of the completed subject.

**nexus:** p. 20: Actual entities involve each other by reason of their prehensions of each other. There are thus real individual facts of the togetherness of actual entities, which are real, individual, and particular, in the same sense in which actual entities and the prehensions are real, individual, and particular. Any such particular fact of togetherness among actual entities is called a 'nexus' (plural form is written 'nexüs'). The ultimate facts of immediate actual experience are actual entites, prehensions, and nexüs.

**eternal objects, *Rés Verae*:** p. 22: *The Categories of Existence* - There are eight Categories of Existence: (i) Actual Entities (also termed Actual Occasions) or Final Realities, or *Rés Verae*. ... (v) Eternal Objects, or Pure Potentials for the Specific Determination of Fact, or Forms of Definiteness.

**ingression, datum, conceptual prehension (feeling, valuation, reproduction, registration, recognition):** p. 22-3: *The Categories of Explanation* - There are twenty-seven Categories of Explanation: ... (vii) That an eternal object can be described only in terms of its potentiality for 'ingression' into the becoming of actual entities; and that its analysis only discloses other eternal objects. It is a pure potential. The term 'ingression' refers to the particular mode in which the potentiality of an eternal object is realized in a particular actual entity, contributing to the definiteness of that actual entity. ... (xi) That every prehension consists of three factors: (a) the 'subject' which is prehending, namely, the actual entity in which that prehension is a concrete element; (b) the 'datum' which is prehended; (c) the 'subjective form' which is *how* that subject prehends that datum. - Prehensions of eternal objects are termed 'conceptual prehensions.'

**real internal constitution, essence:** p. 25: The phrase 'real internal constitution' is to be found in Locke's *Essay Concerning Human Understanding* (III, III, 15): "And thus the real internal (but generally in substances unknown) constitution of things, whereon their discoverable qualities depend, may be called their 'essence.'"

**lure for feeling, data:** p. 25: It is an essential doctrine in the philosophy of organism that the primary function of a proposition is to be relevant as a lure for feeling. For example, some propositions are the data of feelings with subjective forms such as to constitute those feelings to be the enjoyment of a joke. Other propositions are felt with feelings whose subjective forms are horror, disgust, or indignation.

**ontological principle, act of experience, satisfaction, feeling:** p. 40: ... the ontological principle. It is the principle that everything is positively somewhere in actuality, and in potency everywhere. In one of its applications this principle issues the doctrine of 'conceptualism.' Thus the search for a reason is always the search for an actual fact which is the vehicle of the reason. The ontological principle, as here defined, constitutes the first step in description of the universe as a solidarity of many actual entities. Each actual entity is conceived as an act of experience arising out of data. It is a process of 'feeling' the many data, so as to absorb them into the unity of one individual 'satisfaction.' Here 'feeling' is the term used for the basic generic operation of passing from the objectivity of the data to the subjectivity of the actual entity in question.

**givenness:** p. 42: There must, however, be limits to the claim that all the elements in the universe are explicable by 'theory.' For 'theory' itself requires that there be 'given' elements so as to form the material for theorizing.

**extensive relationships, presentational immediacy:** p. 61: CHAPTER II - THE EXTENSIVE CONTINUUM - SECTION I - We must first consider the perceptive mode in which there is clear, distinct consciousness of the 'extensive' relations of the world. These relations include the 'extensiveness' of space and the 'extensiveness' of time. Undoubtedly, this clarity, at least in regard to space, is obtained only in ordinary perception through the senses. This mode of perception is here termed 'presentational immediacy.' In this 'mode' the contemporary world is consciously prehended as a continuum of extensive relations.

**initial aim (basic conceptual aim, initial subjective aim):** p. 105: He (God) cares not whether an immediate occasion be old or new, so far as concerns derivation from its ancestry. His aim for it is depth of satisfaction as an intermediate step towards the fulfilment of his own being.

**propositional feeling:** p. 164: There are three successive phases of feelings, namely, a phase of ‘conformal’ feelings, one of ‘conceptual’ feelings, and one of ‘comparative’ feelings, including ‘propositional feelings’ in this last species.

**causal prehension (feeling):** p. 175-6: We will keep to the appeal to ordinary experience, and consider another situation, which Hume’s philosophy is ill equipped to explain. The ‘causal feeling’ according to that doctrine arises from the long association of well-marked presentations of *sensa*, one precedent to the other.

Occasionally Whitehead explains some of his terminology, e.g. on p. 141:

‘In the philosophy of organism ‘the soul’ as it appears in Hume, and ‘the mind’ as it appears in Locke and Hume, are replaced by the phrases ‘the actual entity,’ and ‘the actual occasion,’ these phrases being synonymous.’

Merely an inspection of these explanations shows that Whitehead in his philosophical treatise is greatly concerned with issues of mental life. This is clear from the many references to ‘experience’ or ‘feeling’.

There is other evidence that Whitehead is concerned with issues of psychology even when expressing himself in the terms quoted above that are not commonly used in writings about psychology. Thus on page 35 one finds:

Such a nexus is called an ‘enduring object.’ It might have been termed a ‘person,’ in the legal sense of that term. But unfortunately ‘person’ suggests the notion of consciousness, so that its use would lead to misunderstanding.

Similarly on page 107 one finds this passage:

But a living nexus, though non-social in virtue of its ‘life,’ may support a thread of personal order along some historical route of its members. Such an enduring entity is a ‘living person.’

Again page 118 mentions:

Thus the ‘eye as experiencing such-and-such sights’ is passed on as a datum, from the cells of the retina, through the train of actual entities forming the relevant nerves, up to the brain.

Already in the explanations of ‘ingression, datum, conceptual prehension’ on p. 23, quoted above, a defect of Whitehead’s presentation comes strongly into focus. Indeed, the explanation says:

(xi) That every prehension consists of three factors: (a) the ‘subject’ which is prehending, namely, the actual entity in which that prehension is a concrete element; (b) the ‘datum’ which is prehended; (c) the ‘subjective form’ which is *how* that subject prehends that datum.

This explanation can only be understood as a screen hiding that what is at stake, to wit, the totally dominating situation, in which all of us find ourselves most of the time, of a person having (experiencing) sensations of some environment. Describing this situation in terms of the ‘datum’ which is prehended’ and ‘the ‘subjective form’ which is *how* that subject prehends that datum’ is psychologically misguided. The matter will be discussed in more detail below in the context of ‘perception’.

Another defect of Whitehead’s presentation is his adoption of the ‘ontological principle’. The quotations from his text related to this principle, p. 13 and 40, given above merely serve to obscure the issue. In Runes’s *Dictionary of Philosophy* ontologism is explained: ‘deriving the existence of entities independently of experience merely on the basis of their being thought.’ The defect of this principle is pointed out explicitly by William James when in his CHAPTER VII, *The methods and snares of psychology*, he writes about ‘the misleading influence of speech’, saying more specifically:

“Empiricist writers are very fond of emphasizing one great set of delusions which language inflicts on the mind. Whenever we have made a word, they say, to denote a certain group of

phenomena, we are prone to suppose a substantive entity existing beyond the phenomena, of which the word shall be the name.” [I 195]

In Whitehead’s text the defects arising from his adoption of the ‘ontological principle’ appear in his use of such terms as ‘consciousness’ and ‘knowledge’, as discussed below.

To the difficulty of his special terms is added Whitehead’s verbose style, combined with his very sparing use of concrete examples in his presentation.

However, scattered into this jungle of philosophical verbosity one will find pronouncements that can clearly be understood to be matters of psychology. These are in particular pronouncements in which Whitehead uses the terms *feeling*, *experience*, *conscious*, *consciousness*, *knowledge*, *sensation*, and *perception*. These pronouncements will now be considered in turn.

### 3. Feeling

The word *feeling* is first used by Whitehead in this passage:

P. 25: For example, some propositions are the data of feelings with subjective forms such as to constitute those feelings to be the enjoyment of a joke. Other propositions are felt with feelings whose subjective forms are horror, disgust, or indignation.

Here the word *feeling* refers to something experienced by human beings, confirming that his presentation at least to some extent is a matter of psychology.

### 4. Experience

*Experience* is explained in Webster’s Dictionary:

1. a particular instance of personally encountering or undergoing something: *My encountering the bear in the woods was a frightening experience.* 2. the process or fact of personally observing, encountering, or undergoing something: *business experience.* 3. the observing, encountering, or undergoing of things generally as they occur in the course of time: *to learn from experience*; the range of human experience. 4. knowledge or practical wisdom gained from what one has observed, encountered, or undergone: *men of experience.* 5. *Philos.* the totality of the cognitions given by perception: all that is perceived, understood, and remembered.

William James talks of ‘experience’ when introducing ‘attention’, in a polemic against

“such writers as Locke, Hume, Hartley, the Mills, and Spencer ... These writers are bent on showing how the higher faculties of the mind are pure products of ‘experience’ ... But the moment one thinks of the matter, one sees how false a notion of experience that is which would make it tantamount to the mere presence to the senses of an outward order. Millions of items of the outward order are present to my senses which never properly enter into my experience. Why? Because they have no *interest* for me. *My experience is what I agree to attend to.* Only those items which I *notice* shape my mind—without selective interest, experience is an utter chaos.” [I 403]

Typical uses of ‘experience’ in Whitehead’s work are the following:

P. 15: “individual actuality (unity of experience);”

P. 20: “The ultimate facts of immediate actual experience are actual entities, prehensions, and nexūs.”

P. 175-6: “We will keep to the appeal to ordinary experience, and consider another situation, which Hume’s philosophy is ill equipped to explain. The ‘causal feeling’ according to that doctrine arises from the long association of well-marked presentations of *sensa*, one precedent to the other. It would seem therefore that inhibitions of *sensa*, given in presentational immediacy, should be accompanied by a corresponding absence of ‘causal feeling’; for the explanation of how there is ‘causal feeling’ presupposes the well-marked familiar *sensa*, in presentational immediacy. Unfortunately the contrary is the case. An inhibition of familiar *sensa* is very apt to leave us prey to vague terrors respecting a circumambient world of causal

operations. In the dark there are vague presences, doubtfully feared; in the silence, the irresistible causal efficacy of nature presses itself upon us; in the vagueness of the low hum of insects in an August woodland, the inflow into ourselves of feelings from enveloping nature overwhelms us ... ”

In this last passage, exceptionally, Whitehead shows by examples, such as ‘the low hum of insects in an August woodland’, that his unfamiliar terminology refers to people and their ordinary experience, surely matters of mental life.

Side by side with these uses of ‘experience’ Whitehead talks of ‘acts of experience’:

P. 40: “Each actual entity is conceived as an act of experience arising out of data. It is a process of ‘feeling’ the many data, so as to absorb them into the unity of one individual ‘satisfaction.’”

This raises the question: What are ‘acts of experience arising out of data’? With the word ‘act’ something related to human activity is clearly indicated, but what? There are further references to ‘acts of experience’ on pages 68, 75, 155-56, and 157::

P. 68: ... in connection with the presumption that an actual entity is an act of experience.

P. 75: In the quotation from the second *Meditation*: “I am, I exist, is necessarily true each time that I pronounce it, or that I mentally conceive it,” Descartes adopts the position that an act of experience is the primary type of actual occasion.

P. 156: Thus, according to the philosophy of organism, in every act of experience there are objects for knowledge; but, apart from the inclusion of intellectual functioning in that act of experience, there is no knowledge.

P. 157: It is impossible to scrutinize too carefully the character to be assigned to the datum in the act of experience. The whole philosophical system depends on it.

These quotations fail to explain what is meant by the phrase ‘act of experience’, not a single example is given. This is a major defect of Whitehead’s work.

Another major defect in the work is that ‘attention’ is unknown.

## 5. Conscious - consciousness

‘Conscious’ and ‘Consciousness’ are prominent sources of confusion in writings about psychological subjects. The common uses of the terms are given in Webster’s Dictionary: *conscious* is used as an adjective, meaning: *aware, knowing, with mental faculties awake*, e.g. *she became conscious of a dripping sound*. *Consciousness* is used as a noun in two ways. In one way the meaning is stated as: *state of being conscious*, e.g. *he fainted but soon regained consciousness*; in the other way the meaning is stated as: *totality of a person’s thoughts and feelings*. This second use of the word in its vague generality is problematic. The term *consciousness* is therefore generally unfit to be used in precise description. It can only be used loosely.

William James in his description of mental life uses the term *consciousness* mostly in what he *calls the stream of consciousness, of thought*. In this description the stream of consciousness denotes *what is experienced by any person in any wake moment*. It is something very complicated, in incessant continuous change, never the same at different moments. It is described by James in passages over several hundred pages.

In Whitehead’s presentation the stream of consciousness is nowhere introduced. Accordingly, when he uses the term ‘consciousness’ the result is confusion. This is displayed in a number of places in his text, thus:

P. 15: Philosophy is the self-correction by consciousness of its own initial excess of subjectivity.

P. 17: Its [Philosophy’s] ultimate appeal is to the general consciousness of what in practice we experience.

In the following passage ‘consciousness’ is used 14 times, with a number of different meanings in utter confusion:

P. 161: The general case of conscious perception is the negative perception, namely, 'perceiving this stone as not grey.' The 'grey' then has ingression in its full character of a conceptual novelty, illustrating an alternative. In the positive case, 'perceiving this stone as grey,' the grey has ingression in its character of a possible novelty, but in fact by its conformity emphasizing the dative grey, blindly felt. Consciousness is the feeling of negation: in the perception of 'the stone as grey,' such feeling is in barest germ; in the perception of 'the stone as not grey,' such feeling is in full development. Thus the negative perception is the triumph of consciousness. It finally rises to the peak of free imagination, in which the conceptual novelties search through a universe in which they are not datively exemplified. - Consciousness is the subjective form involved in feeling the contrast between the 'theory' which *may* be erroneous and the fact which is 'given.' Thus consciousness involves the rise into importance of the contrast between the eternal objects designated by the words 'any' and 'just that.' Conscious perception is, therefore, the most primitive form of judgment. The organic philosophy holds that consciousness only arises in a late derivative phase of complex integrations. If an actual occasion be such that phases of this sort are negligible in its concrescence, then in its experience there is no knowledge; owing to the fact that consciousness is a subjective form belonging to the later phases, the prehensions which it directly irradiates are those of an 'impure' type. Consciousness only illuminates the more primitive types of prehension so far as these prehensions are still elements in the products of integration. Thus those elements of our experience which stand out clearly and distinctly in our consciousness are not its basic facts; they are the derivative modifications which arise in the process. For example, consciousness only dimly illuminates the prehensions in the mode of causal efficacy, because these prehensions are primitive elements in our experience. But prehensions in the mode presentational immediacy are among those prehensions which we enjoy with the most vivid consciousness. These prehensions are late derivatives in the concrescence of an experient subject. The consequences of the neglect of this law, that the late derivative elements are more clearly illuminated by consciousness than the primitive elements, have been fatal to the proper analysis of an experient occasion. In fact, most of the difficulties of philosophy are produced by it. Experience has been explained in a thoroughly topsy-turvy fashion, the wrong end first. In particular, emotional and purposeful experience have been made to follow upon Hume's impressions of sensation.

To sum up: (i) *Consciousness* is a subjective form arising in the higher phases of concrescence. (ii) *Consciousness* primarily illuminates the higher phase in which it arises, and only illuminates earlier phases derivatively, as they remain components in the higher phase. (iii) It follows that the order of dawning, clearly and distinctly, in *consciousness* is not the order of metaphysical priority.

This whole passage confirms that philosophical talk about 'consciousness' leads nowhere.

## 6. Knowledge - knowing

Like 'consciousness' 'knowledge' is a prominent source of confusion in philosophical writings, arising from the assumption that it denotes a something of some kind.

The confusion was cleared away by William James. He writes:

THE RELATION OF MINDS TO OTHER OBJECTS ... The mind's relations to other objects than the brain are *cognitive and emotional* relations exclusively, so far as we know. It *knows* them, and it inwardly *welcomes or rejects* them ... [I 216] ... *The psychologist's attitude toward cognition* will be so important in the sequel that we must not leave it until it is made perfectly clear. *It is a thoroughgoing dualism.* It supposes two elements, mind knowing and thing known, and treats them as irreducible. ... [I 218]

This is followed by his explanation of *knowing by acquaintance* and *knowing about*, together with his explanation that "*the mind can always intend, and know when it intends, to think of the Same*".

Another part of the uncertainty depends on the understanding of what it means when James says that “*the mind can ... think*” to be considered below.

The first occurrences of the words ‘knowledge’ and others related to it in Whitehead’s work are as follows:

P. 52 But it accords very ill with the sensationalist theory of knowledge which can be derived from other parts of Locke’s writings.

P. 58 But according to the philosophy of organism there can be consciousness of both types of objectification. There can be such consciousness of both types because, according to this philosophy, the knowable is the complete nature of the knower, at least such phases of it as are antecedent to that operation of knowing.

The issue of knowledge is treated in more detail in the following passage:

P. 160-2 SECTION II - In the philosophy of organism knowledge is relegated to the intermediate phase of process. Cognizance belongs to the genus of subjective forms which are admitted, or not admitted, to the function of absorbing the objective content into the subjectivity of satisfaction. Its ‘importance’ is therefore no necessary element in the concrete actual entity. In the case of any one such entity, it may merely constitute an instance of what Locke terms ‘a capacity.’ If we are considering the society of successive actual occasions in the historic route forming the life of an enduring object, some of the earlier actual occasions may be without knowledge, and some of the later may possess knowledge. In such a case, the unknowing man has become knowing. There is nothing surprising in this conclusion; it happens daily for most of us, when we sleep at night and wake in the morning. Every actual entity has the capacity for knowledge, and there is graduation in the intensity of various items of knowledge; but, in general, knowledge seems to be negligible apart from a peculiar complexity in the constitution of some actual occasion. - We—as enduring objects with personal order—objectify the occasions of our own past with peculiar completeness in our immediate present. *We find in those occasions, as known from our present standpoint, a surprising variation in the range and intensity of our realized knowledge. We sleep; we are half-awake; we are aware of our perceptions, but are devoid of generalities in thought; we are vividly absorbed within a small region of abstract thought while oblivious to the world around; we are attending to our emotions—some torrent of passion—to them and to nothing else; we are morbidly discursive in the width our attention; and finally we sink back into temporary obliviousness, sleeping or stunned. Also we can remember factors experienced in our immediate past, which at the time we failed to notice.*

While clearly related to the mental life of persons, this passage is merely vaguely suggestive as to the meaning of the term *knowledge*. In view of Whitehead’s program of Speculative Philosophy the poverty and crudity of his presentation in this passage is beyond belief. The passage: ‘We find in those occasions ...’, put in italics, without saying so presents a few scattered crude snapshots of a case of what James calls a person’s stream of thought, as it has developed over a period of several hours. Of the way the stream of thought relates to the important issues of *knowing by acquaintance* and *knowing about* the passage gives not the slightest hint. The passage is the only one in Whitehead’s work that mentions *attention*, a core issue of mental life.

## **7. Sensation and perception**

Discussions around ‘sensation’ and ‘perception’ are the most revealing of those that display Whitehead’s dependence on misguided psychology. Unraveling this in detail is a complicated matter, partly because of uncertainty of Whitehead’s use of such phrases as ‘the datum in the act of experience,’ ‘the bare subjective entertainment of the datum,’ ‘the subjective form of reception,’ ‘prehension,’ ‘prehending subject,’ ‘object prehended,’ and others, partly because of the tedious repetitiveness and lack of conciseness of Whitehead’s presentation.

As the background of the following critical analysis of Whitehead’s discussions William James’s presentation of the relevant issues of psychology will first be presented. It is a matter, not

only of sensation and perception, but equally of *the stream of thought, habits, attention, preperception, and knowing by acquaintance*, as already presented above.

William James writes:

*'The words Sensation and Perception do not carry very definitely discriminated meanings in popular speech, and in Psychology also their meanings run into each other. Both of them name processes in which we cognize an objective world; both (under normal conditions) need the stimulation of incoming nerves ere they can occur; Perception always involves Sensation as a portion of itself; and Sensation in turn never takes place in adult life without Perception also being there. They are therefore names for different cognitive functions, not for different sorts of mental fact. [II 1] ... Any quality of a thing which affects our sense-organs does also more than that: it arouses processes in the hemispheres which are due to the organization of that organ by past experiences, and the result of which in consciousness are commonly described as ideas which the sensation suggests. The first of these ideas is that of the thing to which the sensible quality belongs. The consciousness of particular material things present to sense is nowadays called perception. The consciousness of such things may be more or less complete; it may be of the mere name of the thing and its other essential attributes, or it may be of the thing's various remoter relations. It is impossible to draw any sharp line of distinction between the barer and the richer consciousness, because the moment we get beyond the first crude sensation all our consciousness is a matter of suggestion, and the various suggestions shade gradually into each other, being one and all products of the same psychological machinery of association. In the directer consciousness fewer, in the remoter more, associative processes are brought into play. [II 76] ... Perception thus differs from sensation by the consciousness of farther facts associated with the object of the sensation. [II 77-78] ... Sensational and reproductive brain-processes combined, then, are what give us the content of our perceptions. Every concrete particular material thing is a conflux of sensible qualities, with which we have become acquainted at various times. [II 78] ... Reproduced sights and contacts tied together with the present sensation in the unity of a thing with a name, these are the complex objective stuff out of which my actually perceived table is made. Infants must go through a long education of the eye and ear before they can perceive the realities which adults perceive. Every perception is an acquired perception. [II 78-79] ... Cerebrally taken, these words mean no more than this, that the process aroused in the sense-organ has shot into various paths which habit has already organized in the hemispheres, and that instead of our having the sort of consciousness which would be correlated with the simple sensorial process, we have that which is correlated with this more complex process. [II 79-81] ... PERCEPTION IS OF DEFINITE AND PROBABLE THINGS. The chief cerebral conditions of perception are the paths of association irradiating from the sense-impressions, which may have been already formed. If a certain sensation be strongly associated with the attributes of a certain thing, that thing is almost sure to be perceived when we get the sensation. Examples of such things would be familiar people, places, etc., which we recognize and name at a glance. But where the sensation is associated with more than one reality, so that either of two discrepant sets of residual properties may arise, the perception is doubtful and vacillating, and the most that can then be said of it is that it will be of a PROBABLE thing, of the thing which would most usually have given us that sensation. [II 81-2] ... THE INTIMATE NATURE OF THE ATTENTIVE PROCESS - We have now a sufficient number of facts to warrant our considering this more recondite question. And two physiological processes, of which we have got a glimpse, immediately suggest themselves as possibly forming in combination a complete reply. I mean*

1. *The accommodation or adjustment of the sensory organs; and*
2. *The anticipatory preparation from within of the ideational centres concerned with the object to which the attention is paid. [I 434] ...*

This leads us to that second feature in the process, the '*ideational preparation*' of which we spoke. *The effort to attend to the marginal region of the picture consists in nothing more nor less than the effort to form as clear an idea as is possible of what is there portrayed. ...* [I 438]

... Every stir in the wood is for the hunter his game; for the fugitive his pursuers. Every bonnet in the street is momentarily taken by the lover to enshroud the head of his idol. The image in the mind is the attention; the *preperception*, as Mr. Lewes calls it, is half of the perception of the looked-for thing. [I 442]

Although not said by William James, *every perception is of something known by acquaintance*. Whether something is known *about this* is a personal matter. *Knowledge about something is personal and changing, not the same for different persons*.

As the first issue of Whitehead's work related to 'sensation' and 'perception', a prominent theme is 'The Sensationalist Principle.' He writes:

These lectures will be best understood by noting the following list of prevalent habits of thought, which are repudiated, in so far as concerns their influence on philosophy: ... (v) The sensationalist doctrine of perception. [P. xiii]

Hume's doctrine of 'impressions of sensation' is twofold. I will call one part of his doctrine 'The Subjectivist Principle' and the other part 'The Sensationalist Principle.' ... The philosophy of organism denies both of these doctrines ... The subjectivist principle is, that the datum in the act of experience can be adequately analysed purely in terms of universals. - The sensationalist principle is, that the primary activity in the act of experience is the bare subjective entertainment of the datum, devoid of any subjective form of reception. [p. 157]

The crucial issue here is the meaning of phrases 'the act of experience' and 'the bare subjective entertainment of the datum.' This meaning is not clear. Consequently the query related to the sensationalist principle is void.

Other references to 'perception' in Whitehead's work are the following:

P. xii: ...For example, the doctrines of time, of space, of perception, and of causality are recurred to again and again, as the cosmology develops.

P. xiii: PREFACE ... These lectures will be best understood by noting the following list of prevalent habits of thought, which are repudiated, in so far as concerns their influence on philosophy: ... (v) The sensationalist doctrine of perception.

P. 3: By this notion of 'interpretation' I mean that everything of which we are conscious, as enjoyed, perceived, willed, or thought, shall have the character of a particular instance of the general scheme.

P. 36: Finally, in the cosmological scheme here outlined one implicit assumption of the philosophical tradition is repudiated. The assumption is that the basic elements of experience are to be described in terms of one, or all, of the three ingredients, consciousness, thought, sense-perception. The last term is used in the sense of 'conscious perception in the mode of presentational immediacy.' Also in practice sense-perception is narrowed down to visual perception.

P. 44: ... Any additional component is therefore contrary to this integral 'givenness' of the original. This principle may be illustrated by our visual perception of a picture. The pattern of colours is 'given' for us. But an extra patch of red does not constitute a mere addition; it alters the whole balance.

Exceptionally Whitehead's discussion on pages 117-119 includes a concrete example, talking of the perception of 'a grey stone'. This makes the passage highly revealing. Whitehead's writes:

P. 117 SECTION V

The current accounts of perception are the stronghold of modern metaphysical difficulties. They have their origin in the same misunderstanding which led to the incubus of the substance-quality categories. The Greeks looked at a stone, and perceived that it was grey.

The Greeks were ignorant of modern physics; but modern philosophers discuss perception in terms of categories derived from the Greeks. - The Greeks started from perception in its most elaborate and sophisticated form, namely, visual perception. In visual perception, crude perception is most completely made over by the originative phases in experience, phases which are especially prominent in human experience. If we wish to disentangle the two earlier prehensive phases—the receptive phases, namely, the datum and the subjective response—from the more advanced originative phases, we must consider what is common to all modes of perception, amid the bewildering variety of originative amplification. – On this topic I am content to appeal to Hume. He writes: “But my senses convey to me only the impressions of coloured points, disposed in a certain manner. If *the eye is sensible* of any thing further, I desire it may be pointed out to me.” And again: “It is universally allowed by the writers on optics, that the eye at all times sees an equal number of physical points, and that at man on the top of a mountain has no larger an image presented to his senses, than when he is cooped up in the narrowest court or chamber.” - In each of these quotations Hume explicitly asserts that the eye sees. The conventional comment on such a passage is that Hume, for the sake of intelligibility, is using common forms of expression; that he is only really speaking of impressions on the mind; and that in the dim future, some learned scholar will gain reputation by emending ‘eye’ into ‘ego.’ The reason for citing the passages is to enforce the theses that the form of speech is literary and intelligible because it expresses the ultimate truth of animal perception. The ultimate momentary ‘ego’ has as its datum the ‘eye as experiencing such-and-such sights.’ In the second quotation, the reference to the number of physical points is a reference to the excited area on the retina. Thus the ‘eye as experiencing such-and-such sights’ is passed on as a datum, from the cells of the retina, through the train of actual entites forming the relevant nerves, up to the brain. Any direct relation of eye to brain is entirely overshadowed by this intensity of indirect transmission. Of course this statement is merely a pale abstraction from the physiological theory of vision. But the physiological account does not pretend to be anything more than indirect inductive knowledge. The point here to be noticed is the immediate literary obviousness of ‘the eye as experiencing such-and-such sights.’ This is the very reason why Hume uses the expression in spite of his own philosophy. The conclusion, which the philosophy of organism draws, is that in human experience the fundamental fact of perception is the inclusion, in the datum, of the objectification of an antecedent part of the human body with such-and-such experiences. Hume agrees with this conclusion sufficiently well so as to argue from it, when it suits his purpose. He writes:

I would fain ask those philosophers, who found so much of their reasonings on the distinction of substance and accident, and imagine we have clear ideas of each, whether the idea of *substance* be derived from the impressions of sensation or reflection? If it be conveyed to us by our senses, I ask, which of them, and after what manner? If it be perceived by the eyes, it must be a colour; if by the ears, a sound; if by the palate, a taste; and so of the other senses.

We can prolong Hume’s list: the feeling of the stone is *in the hand*, the feeling of the food is the ache *in the stomach*; the compassionate yearning is *in the bowels*, according to biblical writers; the feeling of well-being is in the viscera *passim*; ill temper is the emotional tone derivative from the disordered liver.

In this list, Hume’s and its prolongation, for some cases—as in sight, for example—the supplementary phase in the ultimate subject overbalances in importance the datum inherited from the eye. In other cases, as in touch, the datum of ‘the feeling in the hand’ maintains its importance, however much the intensity, or even the character, of the feeling may be due to supplementation in the ultimate subject: this instance should be contrasted with that of sight. In the instance of the ache the stomach, as datum, is of chief importance, and the food though obscurely felt is secondary—at least, until the intellectual analysis of the situation due to the

doctor, professional or amateur. In the instances of compassion, well-being, and ill temper, the supplementary feelings in the ultimate subject predominate, though there are obscure references to the bodily organs as inherited data.

This survey supports the view that the predominant basis of perception is perception of the various bodily organs, as passing on their experiences by channels of transmission and of enhancement. It is the accepted doctrine in physical science that a living body is to be interpreted according to what is known of other sections of the physical universe. This is a sound axiom, but it is double-edged. For it carries with it the converse deduction that other sections of the universe are to be interpreted in accordance with what we know of the human body.

It is also a sound rule that all interpretation should be based upon a *vera causa*. Now the original reliance upon 'the grey stone' has been shown by modern physics to be due to a misapprehension of a complex situation; but we have direct knowledge of the relationship of our central intelligence to our bodily feelings. According to this interpretation, the human body is to be conceived as a complex 'amplifier'—to use the language of the technology of electromagnetism. The various actual entities, which compose the body, are so coordinated that the experiences of any part of the body are transmitted to one or more central occasions to be inherited with enhancements accruing upon the way, or finally added by reason of the final integration. The enduring personality is the historic route of living occasions which are severally dominant in the body at successive instants. The human body is thus achieving on a scale of concentrated efficiency a type of social organization, which with every gradation of efficiency constitutes the orderliness whereby a cosmic epoch shelters in itself intensity of satisfaction.

The crude aboriginal character of direct perception is inheritance. What is inherited is feeling-tone with evidence of its origin: in other words, vector feeling-tone. In the higher grades of perception vague feeling-tone differentiates itself into various types of *sensa*—those of touch, sight, smell, etc.—each transmuted into a definite prehension of tonal contemporary nexüs by the final percipient.

To this passage the first thing to notice is that it clearly is an attempt to describe a certain aspect of human mental activity, psychologically as well as neurally. This is evident from the passage saying:

“Thus the 'eye as experiencing such-and-such sights' is passed on as a datum, from the cells of the retina, through the train of actual entities forming the relevant nerves, up to the brain.”

The next thing to consider is the passage: 'The Greeks looked at a stone, and perceived that it was grey.' This case of what is called 'crude perception' is clearly assumed to describe a simple, clearly defined, elementary event. This is an entirely misguided notion of perception. In perception there is no datum, there are merely certain sensations. They may be a mixture of sights, of sounds, of tastes, etc. Accounting for a situation in which a person says that he or she perceives a 'grey stone' is a complicated matter. The situation depends both on what the perceiving person is already acquainted with and on the person's habits of speech. It further depends on what is before the person's sense organs at the moment, which typically will include some panorama that somewhere within it shows something that the person habitually is acquainted with and has the speech habits to call 'a grey stone'.

Whitehead's talk of 'the originative phases in experience' and 'the two earlier prehensive phases—the receptive phases, namely, the datum and the subjective response—from the more advanced originative phases' is void. Perception does to proceed in 'phases'.

The quotation from Hume saying that 'the eye at all times sees an equal number of physical points' is a matter of sensation, not of perception. These sensations will be experienced by the person at the same time as the perception of the grey stone happens. Whether in a particular instant the person notices these sensations or the grey stone is a matter of the person's momentary attention. The person may at will change the attention among these items from one second to the

next. But most frequently, as said by William James, who quotes Thomas Reid, the sensations are experienced merely as a sign of the thing perceived.

Whitehead's following story:

that in human experience the fundamental fact of perception is the inclusion, in the datum, of the objectification of an antecedent part of the human body with such-and-such experiences ... the feeling of the stone is in the hand, the feeling of the food is the ache in the stomach; the compassionate yearning is in the bowels, ...

is simply misguided. When a person perceives a stone lying in the grass, or a barking dog, the perception does not depend on the person having particular bodily feelings. It follows that the sequence of Whitehead's story, talking about 'the predominant basis of perception is perception of the various bodily organs,' 'we have direct knowledge of the relationship of our central intelligence to our bodily feelings,' 'The enduring personality is the historic route of living occasions [persons] which are severally dominant in the body at successive instants,' is totally misguided, depending, as it does, on mythical items, such as 'our central intelligence' and 'The enduring personality.' As a whole Whitehead's presentation in this central section of his work is a pretentious, misguided attempt to account for human thinking and personality, matters that have been described with splendid clarity and detail by William James.

## 8. Conclusion

While Whitehead describes his program of Speculative Philosophy as the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted, it has been found that hidden behind an obscure terminology and style the main message of his book is a description of mental life, but a description which is defect in all its main features. It ignores *the stream of thought, habits, personality, and attention*, and presents defect descriptions of *knowing, sensation, and perception*. It further adheres to several so-called 'philosophical doctrines,' such as 'the ontological principle,' that are invalid. Whether on this basis a valid 'Philosophy of Organism' has been established is left as an open question.

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