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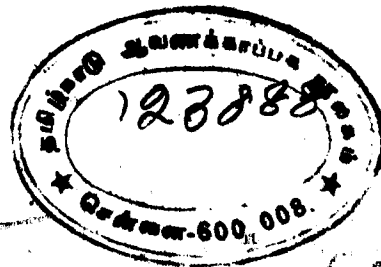
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THE PHILOSOPHICAL QUARTERLY

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[January, 1947

The Environment of Thought

(Presidential Address to the Logic and Metaphysics Section of the
Indian Philosophical Congress, Lucknow, December 1944)

By

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I am deeply grateful to the Executive Committee of the Philosophical Congress for the honour they have done me in asking me to preside at the Logic and Metaphysics Section of the Congress this year. It was not an easy choice selecting a subject for my address as I had to bear in mind the claims of both Logic and Metaphysics. 'The Environment of Thought' struck me as a problem worth studying in this dual capacity and I shall now enter into it without further preamble.

It is a truism that the environment in which one lives and moves and has one's being has a large share in determining the texture, the course and the final shape of that 'being'. I propose to consider here very briefly the nature of that environment itself in so far as it is essential for the proper development of that part of our being which we call 'thought'. Our problem is: What sort of an environment is indispensable for thought, so that in its absence thought, as we know it, would not be possible. This general question will also include some little consideration of the minor but equally important question: Granting that an environment is essential for the awakening and development of thought, is it also the case that the texture of the environment itself is to some extent determined by the thought which develops in its midst?

I think it is obvious that whatever the answer to the first question may be, the second must be answered in the affirmative, and in what follows some little evidence will be forthcoming in support of this belief. To begin with, however, I accept as a datum

the fact of interaction between thought and the environment in which it finds itself. I believe that in the absence of this interaction thought would only remain a 'hope' and a potentiality and would, of course, never be what we know it to be as the result of this interaction. The environment awakens thought into life and a consciousness of its own being and thought returns the compliment by leaving its own impress on it. One feels as if the kingdom of thought is not 'pure thought' but an environment saturated with thought.

Let us now turn to our question: What sort of environment is indispensable for thought? What are those qualities which must be present in the environment if thought is to awaken and flourish therein and in the absence of which thought would neither awaken nor grow?

(1) Now the first quality which strikes one is this: the environment should not be a 'one-object' affair. It should have at least two objects. If the environment consisted, for instance of one object, say a patch of green light, thought would be at its dimmest, being merely 'awareness of greenness'. 'Thought' and 'awareness of greenness' would be interchangeable terms. But if the environment had another object also—a patch of red light—then thought would have at least three states, 'awareness of greenness', 'awareness of redness' and 'awareness of the distinction between the two', and hence it would stand differentiated from the objects it apprehends. A plurality of objects, therefore, enables thought to discover itself, i.e., to become more or less aware of its own distinction from the environment in which it finds itself. This plurality is useful in another way also: it opens the way for the exercise of thought's creative function. We assumed that the texture of the environment is itself to a considerable extent determined by thought. How does this process start? A plurality of objects and qualities forces thought to devise signs or 'names' for each, to group similars under 'group names', to devise names for the 'order' or 'relation' observed between them and so forth. And this is not all. The different objects—and qualities evoke different emotional and conative reactions in the thinking self. These subjective states also are captured in the network of 'names' and thought thereby becomes conscious of a 'multiplicity within' corresponding to the 'multiplicity without'. This vast network of names, itself, becomes a part of the environment in which the future development of thought has to take place.

The position, then, is this. Have a one-object environment, and thought is at its dimmest level. Have a multiple-object environment, and thought immediately actualizes its rich potentialities of growth and creativity.

(2) The next indispensable quality of an appropriate environment is that of 'change in time' or 'change in the framework of a before and after'. It is not possible to think of time except in terms of change, and change implies a transition from 'what has been' to 'what is going to be'. This transition is, of course, felt by us, but thought requires something more than this subjective feeling if it is to cope and interact successfully with its environment. There should be a more or less clear awareness of change from one pattern of the environment to a somewhat different pattern which has followed it. The indispensability of change in the environment for the evolution of thought can best be appreciated if we try to imagine our existing world brought suddenly to a standstill. Let everything stop at a certain moment—the Sun, stars and planets, the earth and the Moon, winds, waves and tides, streams and rivers, the water in the tap, smoke in the chimney and fire in the grate, the growth and decay of living bodies, the breath in the nostrils, the moving mass of humanity in bazaars, the worker in the house, shop or factory—in short, let this vast choir of heaven and earth suddenly stand still; would it then make the slightest difference if this halt be momentary or eternal? It will not be felt. Hence no experience of duration or subjective awareness of time would be there. Further, no change would be observable in ourselves or in others and therefore no objective discernment of time would be there either. Awareness of time is not possible without awareness of change either in ourselves or in objects external to us, i.e., in the environment. Change in time is vital to the growth of thought and an environment which simply did not change or could not change would only smother it.

It is not my purpose to discuss the nature of thought itself, but we can admit without argument that thought at its higher levels at least is a creative response to the situation with which its immediate environment confronts it. Now creativity, whatever it be in its essence, is intimately connected with 'change' and 'time'. It is the imposition of 'the new', which must at least be a new quality, on an existing situation, and this imposition must find a recognized place in the time-sequence of events. Thus whether we consider thought in its humblest or its highest functions, its well-being depends on 'change in time'. Thought could not grow in a static environment.

(3) The environment should also be 'spatial', i.e., it should possess the quality of extension or spread-out-ness. We have already noticed the inadequacy of a one-object world. Now a two-object world—and I mean physical objects, because the earliest objects for the growing mind are probably physical—is necessarily a spatial

world. The two objects occupy positions relative to each other and to the observer. And perhaps this is all that we need mean by space in so far as it is indispensable for thought. Space, as thus understood, is 'the system of the positions of different objects with reference to the position of the observer'. This system has the quality of spread-out-ness so that any object in that system is either to the front of the observer or behind him, either to the right of him or to his left, and either above him or below him. And since the two objects which form the 'minimum universe' of the observer are distinguished as such—for otherwise there would only be a one-object world—thought has the time-experience of 'before and after' also when determining the position of any one of them in the spatial system. Time and space, therefore, work in unison in helping thought comprehend its environment. It is possible for thought of a sort to develop in a world made of two distinguishable mental or spiritual objects appearing to the observer in a time-sequence, but thought, as we know it, could not have developed in such a world. Our peculiar brand of thought must have a world of space to develop in. Our time-experience is no doubt, vital to our being in a way that the space-experience is not, but this experience of ours gets the greatest share of its concreteness from thought's manipulation of the world of space. As a matter of fact, the influence of the space-factor of the environment is so great that thought finds it difficult to shed it even when the shedding is necessary, e.g., when the object is a purely mental or spiritual one.

It so happens that thought as we know is one of the functions of a psycho-physiological organism and that for thought as thus circumstanced, contact and interaction with space-occupying objects is both easy and inevitable. This is true enough, but what deserves to be emphasized is something more than this. Thought is nothing if not discriminative, and discrimination takes place most easily in a world of space. This 'world of space' might conceivably be vastly different from the one we are familiar with, but it should be one in which one and the same object does not occupy two different positions in the same moment—of time in the experience of and with reference to the same observer, nor should two different objects occupy the same position in the same moment of time in the experience of and with reference to the same observer. Granting this minimum condition for a 'world of space'; we can say that even the most 'bodiless' variety of thought must have a world of space to function in. And a space with this minimum qualification is perhaps essential no less for 'divine thought' than it is for human thought. Thought thus needs a world of space of some sort and in some sense to develop its potentialities in. It feeds on objects which

are in space though, of course, it apprehends them in a time-sequence.

(4) We have noted thus far three qualities which must be present in the environment if it is to be appropriate for thought, viz., that it should be a multiple-object world of or in space and time. A few other qualities follow necessarily from such a view of the world. The objects which form the world—let us take the irreducible minimum of two—exist in some sort of a space and are apprehended in time. Now they either change or not. If they do not change, then the time-factor is practically lost, for change is our only evidence and measure of time; but if they do change, then the change is either so gradual that the changing objects preserve their identity in the midst of change, or it is so fast that this identity is lost, i.e., that the objects become different. In the latter case there would be no link between the two-object world of this moment and the two-object world of the next and the last moments. Now such a world of utterly disjointed sequences would certainly not kill thought, but it would not let it grow out of its earliest rudimentary stages. If, however, the objects change gradually from moment to moment, the sequences are noted as such and the varying phases of the gradually changing objects compel thought to compare and contrast the object of this moment with the same but still slightly different object of other moments.

A world of *gradually changing objects* is then immensely superior for purposes of thought to a world of fast-changing objects. The former provokes reflection while the latter would only bewilder and throttle it. The superiority of such a world is even more manifest when we pass from a two-object world to a multiple-object world, because whereas in the former we can only have the preservation of the identity of each in the midst of the change it is undergoing, in the latter case we can also have various groupings of objects on the basis of closer resemblance between some objects rather than others. Thus thought comes across objects of a kind or class, each object being itself subject to gradual change. Such a world confronts thought with the two-fold phenomenon of identity in the midst of change and change in the midst of identity. The ancient puzzle of the mutual relation between the One and the Many, between Unity and Diversity or between Identity and Change, turns out to be not an exhibition of an inherent dualism or contradiction in Thought, but a fruitful source of its well-being and guarantee of its continued development.

When thought is confronted with changing similars and discerns similarity in the midst of change, it is forced to evolve an elaborate

apparatus of signs to capture the various shades of similarity and difference and the kaleidoscopic variety of the relations discerned between the objects suffering change. The object is 'familiar' (even though changing) if it is continuously or off and on thought of; but it becomes 'strange' if it is not thought of for any length of time, because continued change gets the better of the original identity. Thought gains life and strength in this ceaseless warfare of the 'familiar' and the 'strange'. But there is no sharp dividing line between the two. One passes into the other according as thought detaches itself from it or directs itself towards it.

The environment of thought thus turns out to be both stable and changing, both uniform and diverse. These terms are, of course, relative to each other, and the measure of each is really in the other. Only in such a world can thought flourish. An unchanging world would not stir it into activity; on the contrary, it would become quiescent after its initial impact on the environment. A fast-changing world would bewilder thought, and leave it dumbfounded. Only in a world of relative stability and change can thought feel at home. Only such a world can save it from both sleep and vertigo. The fourth prerequisite of the environment of thought may, therefore, be described as 'a multiple-object-world in gradual change'.

(5) If the environment of thought be called Nature, then the Uniformity of Nature is the next thing necessary if thought is not only to find a suitable home for itself but is also to reduce it to system and order. We have just seen the part played in our environment by the stability of changing things and the change in stable things. We have also seen that there is nothing absolute in either stability or change. This is not, of course, what Uniformity of Nature signifies. Uniformity is more connected with kinds and classes of objects than with single objects taken out of context and considered in their individual nature. Taken in the mass—groups, kinds and classes that is to say—Nature reveals a peculiar stability to thought and it does so in three ways. *First* there is the constancy of attributes in things of a kind, a constancy which enables thought to group them in a kind. Now thought soon discovers that this constancy is something objective. It is only discovered by it and not invented and imposed by it on the world of things outside, for had that been the case, the domain of its application should have known neither external constraint nor limit. But thought soon becomes aware of the constraint and the limit. Hence the objectivity. *Next* there is the coexistence of certain attributes in things of a kind and similarly a parallelism of (gradual and serial) change in the attributes of objects of one kind or of different kinds. This parallelism of graduated change is one very important way in which the stability

in the midst of change is manifested. The coexistence of certain attributes observed repeatedly in one gradually changing object; the coexistence of certain attributes in two otherwise different objects observed at this moment and again later on in spite of and in the midst of the gradual change which both the objects are undergoing; the coexistence of parallel change at any observable moment in objects of different kinds—all tend to confirm thought in its faith in the stability of its environment. And *lastly*, there is the observed fact of the regular sequence of certain events, the fact namely that any pattern of items in this moment's experience will not be followed by *any other* pattern of items in the next, but rather by *some determinate* pattern, and that the *nature* of this sequence can *only* be determined; and it *can* be determined by repeated experience of more or less uniform recurrence of such patterns. The repeated sequence is observed, but the causality which is inferred from it is not observed. But its necessity and objectivity, its inevitableness in short, gives thought a true measure of the constraint and 'otherness' which it has felt and shall continue to feel in its environment. The environment which awakens and nourishes thought also obstructs it and this obstruction constitutes a new impetus and a new life for thought.

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The environment of thought, then, is both stable and changing, both uniform and diverse. Reflection on individual things at different moments of time, especially when these moments are separated by long intervals, brings into prominence the elements of change and diversity and 'becoming' in their respective natures. But reflection on things in the mass, i.e., on objects as members of a class or kind, always impresses thought with the stability and uniformity or identity that is the essence of their class nature. The relation between the individual and the class to which it belongs is the relation between the relatively changing and the relatively uniform, or between the dynamic and the static aspects of the environment. Thought immersed in reflection on the purely dynamic would be in vertigo, while thought absorbed in contemplation of the static would soon go to sleep. But uniformity in the midst of change prepares the ground for discovery and invention, i.e., for the fruitful exercise of thought's creative function. The changing object is a continuous challenge to thought, a tantalizing riddle which must be faced and solved. It keeps thought on tenterhooks. Only when thought has in a measure succeeded in resolving the riddle (and such resolution generally means analysis in terms of concepts already evolved) can it withdraw from the contest and direct itself to some other challenge. The discovery of uniformity in such a case is the discovery of the class-nature of the changing individual. Herein lies perhaps the

key to the riddle. *That* which changes must be some *thing* that changes. We have already agreed that the environment should be at least a two-object world. Each of these objects may (for all we know) suffer change at each moment of its existence, but there must also be at every moment a *that* which changes, a substratum which sustains the change. Thus do we obtain a guarantee of the continued existence of our universe and a justification of our faith that the observed uniformity is not exhausted by the moment in which it is apprehended but extends beyond it as an abiding feature of that universe. A 'universe without uniformity' is a contradiction in terms. But too much of emphasis on the uniformity would itself be fatal for thought. We know that thought is at its best when it grapples with a strange and puzzling situation. Victory over the situation deprives it of its tension and sends it to sleep; the puzzle and the strangeness keep it alive and kicking. Now just as the substratum that sustains the change in the object gives some sort of a stability in the midst of the change and at the same time gives a degree of confidence to the thought which comprehends it, similarly the change which the object undergoes not only unfolds the wealth which inheres in the being of the object, but also goads thought on to fresh efforts to comprehend the strangeness to which it is continually giving rise. Stability and change, uniformity and diversity, the static and the dynamic, the concept and the individual, the One and the Many,—*together* form the substance, the texture and the warp and woof of the environment of thought.

The discovery of the uniformity in the environment has two very important consequences for thought. The first is the realisation by thought of its power to generalise on the basis of its interaction with the environment. The second is the conceptualization of what is commonly called the causal relation. A word about each is now in place.

(6) Generalization is the symbol of thought's conquest of the environment. Its basis is the observed uniformity (or to be more accurate, uniformities) in that environment. Each observed uniformity calls for a conceptual manipulation of the material thus far experienced. Each represents a department of experience which has somehow become a department. In each we have 'the many' calling for 'the one' which is to give them form, unity and symbol. Thus is every generalization a trophy of past labours. But it also extends vision and widens the horizon. The formula which represents the generalization does not merely gather in its embrace 'the many' hitherto observed, but also the unborn 'many' which are yet to be experienced. The act of generalization is the symbol of wed-lock between thought and environment. Thought generalizes and the

environment is such that it can be generalized about. It is not meant, of course, that we can generalise in one department of experience on the basis of what we have observed in another. If things have not the same nature, we cannot expect them to behave in the same way.

(7) We have already observed that the two-object world of this moment should have a link with the two-object world of the last and next moments, because a world of utterly disjointed sequences would not be a congenial place for thought to develop in. Now it so happens that the world we find ourselves in is not a world of disjointed sequences. The patterns of qualities and events of successive moments of experience reveal certain similarities and certain regularities which arrest attention and compel thought to abstract them. One pattern is not followed by *any* other pattern, but by some determinate pattern. Thus are objectively necessary connections and sequences between events and qualities discovered. Thought meets with evidence of a constraint which is not the result of its own labours.* As this external constraint is felt very early in the development of an individual's experience, a sober estimate of the limitations of one's thought begins to take shape much earlier than one would feel inclined to believe. But the concept of causation would never have been evolved by man if he had been incapable of reflexion on his own consciousness. His interaction with his environment enables him to determine what changes he can initiate in it, and in what directions he is incapable of initiating any change. Now since changes do occur of which he is not the originator, the inference of other causal agencies is but natural. Hence when repetitions of such sequences take place, thought is led to postulate some sort of Universal Causation which pervades the universe. Whether this postulate is justified of the ultimate being of the universe we are not called upon to decide. But that it is one very convenient and appropriate way of apprehending the universe cannot be denied. Thought at its acutest is thought struggling with disorder and complexity, and the discovery of objectively necessary and orderly connexions is perhaps the first evidence of victory in the context. Now the discovery of orderly connexions is in the first instance mainly the apprehension of orderly *sequences* and of similarities in the patterns of successive moments. We soon learn to interpret as *causal* all that is not casual. Thus the notion of causation which owes its origin and significance to our experience of our own causation, and is projected by us into our environment, soon comes to pervade it and becomes an instrument of successful interaction with it. In short, whatever the ontological status of the concept of causation

may be, its epistemological value and significance is great. It is a potent instrument of thought to deal with the environment.

(8) The Uniformity of Nature, the existence, side by side, with this uniformity, of great complexity and diversity, and lastly, the fact that many sequences in the course of nature are so regular and blatantly objective that they are felt as necessary, combine to make it possible and easy for thought to *predict* what the pattern of events shall be at some future moment. The environment of thought *in fact* is such that it admits of predictions which (in so far as they are well thought out) are invariably verified later on. Now what *in fact* is so, *should* also be so. The environment should be such that it admits of predictions. Thought could not have flourished in an environment where the reasoned apprehension of one moment could not furnish ground and substance for a reasoned expectation of the pattern and texture of experience at the next. It is of the essence of thought to soar beyond the immediate present and to find foothold and lodgement for itself in the future even before the present has exhausted itself. This is successfully done because the environment admits of predictions, i.e., because it displays the characters of uniformity, diversity and necessity in the sequence of certain events. It is to be noted, of course, that prediction could not be possible in the absence of 'diversity', for then there would be 'recurrence' and nothing else.

The environment of thought, then, should admit of prediction. This quality is however not essential for the very *being* of thought. Thought can be without it, but it is very doubtful if it could reach its full stature in a world in which predictions are unwarranted. Science, for instance, could never arise in such a world and only a very rudimentary kind of culture would be possible. The part played by prediction can be very easily underestimated. Prediction verified is proof of a very high degree of successful cooperation and interaction between our thought, things and the things we think of. It is proof that in a certain department of being, at least, a 'perfect syllogism' obtains between thought and environment. That such 'perfect syllogisms' obtain in every department of experience and endeavour is proof that our actual environment is in a very high degree congenial. Here at least there is no divorce between the 'is' and the 'ought'.

(9) Let us now turn to the last important character of a congenial environment for thought; I mean, the *social* factor. We may express it like this: "A congenial environment for thought should have a plurality of 'centres of thought' like me. Each of these centres should be, like myself, incomplete and capable of growth

as the result of interaction with others." It is difficult to assess the limits and profundity of this influence of mind on mind, but that there is such influence, is obvious. The impact of one stone on another results in a spark of fire. Is it any wonder, if the mutual impact of two blockheads also result in a spark of intelligence which is neither the one's nor the other's, but is the result of the interaction between the two?

In four ways is this influence of mind on mind clearly and usefully felt. (i) First, there is the apprehension of the respective distinctions between veridical perception and illusion, percept and image, the real and its copy, fact and fiction, the true and the false. The child's imagery is so vivid that it is doubtful if, but for the articulate or inarticulate criticism of his social environment, he would ever have shaken himself free of many illusions which he actually does manage to shed before he passes out of his childhood. This process of education in the discrimination of 'the real' from 'the unreal' continues throughout life and is in great measure due to the criticism of his fellows. (ii) Successful discrimination between the real and the unreal results among other things in the confidence of the individual thinker in the power of his own thought. He learns to believe that what is true in thought is true in actual fact, that if from certain true premisses he has reached a certain conclusion by the exercise of his thought, a reference to the Reality outside him would only verify and confirm that conclusion. This confidence is of the greatest importance because it permits thought to strike out on its own and toprehend and anticipate the pattern of Reality before it has even come into being. In the absence of this confidence thought would be condemned to merely following the footsteps of Reality as it gradually unfolds itself, and to keeping a faithful record of what transpires. Thought could never be ahead of Reality as it so often is. Thought filled with confidence apprehends a part of Reality at a certain moment and (assuming that this apprehension was according to the norms of thought) then retires more or less into itself to cogitate on that apprehension. On its return to Reality, it discovers that the results of its cogitation are verified, i.e., that the pattern of Reality at that moment is exactly what had been anticipated. It cannot be said that this confidence is solely the result of social interaction. Actually it is latent in the nature of thought itself. But it is very doubtful if in the absence of social interaction thought could have discovered its latent strength. (iii) Social interaction leads to an expansion of effort and a richness of results out of all proportion to the number of thinkers participating in the cooperative exercise of thought. Social Psychology has only confirmed in this respect what the common sense of mankind has

invariably maintained, viz., that a group or community is greatly superior to the individuals composing it. This point is too obvious to need any labouring over it. And we can even say: a world composed of one wise man and his dog has greater potentialities for the evolution of thought than a world composed of that one wise man by himself. (iv) Just as social interaction helps the individual thinker to shed illusions and to distinguish between the real and the unreal, similarly it enables him to delimit, disengage and interrelate his concepts and ideas. Only in the later stages of one's development is it possible for thought to purify and coordinate its concepts in some detachment from the social environment. But this detachment is never complete. What happens is that a judicious selection is made of the environment. In the early stages thought just finds itself in an environment; in the later stages it makes for itself a more actively responsive environment. Purification of thought, in the earlier stages, is the result in great measure of the more or less hostile criticism of others. In the later stages, it takes place in the light of the norms which the judiciously selected environment has enabled thought to discover in its own nature. But whether it is judiciously selected or not, some sort of a social environment is essential for the proper growth of thought.

To sum up.—We have now considered very briefly the characters which should be present in the environment if thought is to develop in the midst of it. To begin with, the environment should not be a single-object affair (however desirable such a world should appear to a particular type of religious thinker.) It should preferably be a multiple-object world. This world should be a world of space and time, i.e., it should enable thought to distinguish between the objects which compose the world on the basis of the place which each occupies with reference to other objects and with reference to the thinker who apprehends them; and also on the basis of or with reference to the time at which the thinker apprehends a particular object in distinction from his apprehension of other objects. Then this world should admit of verifiable predictions in regard to its course and conduct. Thought of a sort would still be possible in the absence of this quality of predictability, but it would not be thought as we know it. Thought could not develop into Science and Culture, for instance, in such a world. And lastly, just as the environment should not be a single-object affair, similarly the thinker, the locus of thought, should not be solitary. The world should be a multiple-object and a multiple-thinker world, because the interaction of these different thought-loci leads to a far richer crop of results than could be possible otherwise.

Sensibility and Understanding

By

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In this paper I shall try to discuss whether we actually possess two really different faculties of knowledge like sensibility and understanding, as Kant seemed to hold.

At the very beginning of Transcendental Aesthetic Kant makes it clear that objects must be given to us in order to be known. But what exactly is meant by an object being given? It seems that for Kant to be given means to be intuited, as he says, 'intuition takes place in so far as the object is given to us', and by intuition he means only a mode of knowledge in which we are in immediate relation with the object. This merely means that an object is immediately known when it is given. But how is an object ever given? Whatever may be the case with beings superior or inferior to man, for man, at least, an object is given in so far as the mind is affected in a certain way. But a mere affection of the mind would not serve the purpose of knowledge if it did not result in, or amount to, any representation or idea. Kant therefore credits the human mind with a capacity for receiving representations through the mode in which we are affected by objects, and calls it sensibility. 'Objects are given to us by means of sensibility and it alone yields us intuitions'. In knowledge objects are not merely given, but they are thought also, and Kant says that 'they are thought through the understanding and from the understanding arise concepts. The particular power of the mind to which we owe our intuitions—and intuitions in our case are always sensible—is sensibility, and the particular power to which we owe all our thoughts or concepts is the understanding. Kant later on contrasts these powers as receptivity and spontaneity.

The distinction between these two powers of the mind seems clear enough. When I sense or intuit a green sensum, my mind is not, or at least need not be, thinkingly active. I need not think of it as a green leaf. And whenever I think of anything, it does not automatically happen to be given. I may very well think of a green leaf, when there is no such thing given to me. In apprehending a mere sensum we are more or less passively receptive, but in comparing or classifying it we have to be more or less spontaneously

active. Nobody can miss the difference in mental states when, e.g. we feel heat or cold and when we try to follow a mathematical argument. In one case our mind is passive in a way it is not so in the other.

But Kant does not seem to have in his mind the kind of distinction that is just indicated here. For here we seem to have two different cases of knowledge; in one case a *sensum* is known and in the other some mathematical truth, each case being sufficient by itself, whereas in Kant's view in one and the same case of knowledge, the mind must be active as well as passive, both sensibility and understanding must co-operate in order to give us a complete case of knowledge. And it may be argued on behalf of Kant that the above instances are not instances of knowledge in the real, or at least Kant's, sense of the term. We commonly speak no doubt of knowing a mathematical truth, but our apprehension of a truth of this kind can constitute a case of real knowledge only when it is understood in relation to facts of actual or possible experience, i.e. in relation to objects that can be given ultimately only through sensibility. Our apprehension of a *sensum* also gives no knowledge of an object in Kant's sense, because after all in such apprehension we may be aware of a subjective state only, which is no object. How are we then to distinguish sensibility and understanding as two faculties of knowledge?

Kant's meaning seems to be somewhat clear. He thinks that our sensations are affections produced on our mind by outside objects. These sensations give us what may be called representations of sense which enter into our knowledge of an object, but which by themselves cannot be regarded as objective and cannot constitute an object. Our mind confers objectivity on these representations by combining them into a unity. In fact the object which is known emerges only when the representations are united in some characteristic way by the mind. The mind clearly shows its receptive sensibility in getting sensations from outside objects, and also its active spontaneity in combining the representations of sense into an object of knowledge. The latter function of combining the different representations into a unity is the function of thought or understanding. Without sensibility we should get no materials to combine, and without understanding no unity, i.e. no proper object of knowledge.

What Kant appears to have in his mind is that sensations are given by sensibility and they are turned into objects by understanding which combines them in certain characteristic ways. Our first difficulty is to understand what exactly is meant by sensation

and by object being given in it. One might understand sensation as a mode of subjective affection which would involve the idea of a given object as its cause. But sensation is neither discoverable nor intelligible as an affection of the epistemological subject; and the so-called given object is not the cause but a kind of effect, of sense-experience. We have therefore to understand sensibility in terms of givenness. That is, sensibility is that capacity of the mind by which we are made aware of a given object. If we are to make room for understanding by the side of sensibility, we must suppose that the object as known is not, and cannot be, wholly given. There are certain elements in the known object which are not given. For these ungiven elements in the object of knowledge our thought or understanding is responsible. The so-called sense-materials are of course accepted as given, but the particular modes of unity in which they appear in the object are not, it is supposed, given at all. These synthetic elements in the object of knowledge are contributed by our understanding. Since these modes of combination are as essential to the object of knowledge as the sense-material, we can well understand why both these faculties are necessary for knowledge and how they are distinct from each other.

But do we really understand that we have two such distinct faculties of knowledge? If we are referred to our sense of givenness, in relation to the object of knowledge, for understanding and appreciating the meaning of sensibility, we should be provided with similar clear evidence in regard to understanding also. We seem to have the sense of givenness in respect of the total object, and if this sense can be relied on, we cannot but admit that the so-called sense-materials are given along with their modes of combination. We can never catch our understanding performing acts of synthesis on any unrelated materials of sense. Even Kant does not say that we ever do. If therefore we have no experience of contributing anything to the object by any act of our mind, we should take the whole object as given in one indivisible act of knowledge, and if by sensibility we mean the capacity of the mind to apprehend something as given, this seems to be the sole capacity of knowledge we possess.

It may be argued that Kant did not regard sensibility and understanding as two really distinct and independent faculties. He speaks of them as two stems having probably a common root, and he makes it abundantly clear that neither sensibility nor understanding can by itself yield us a case of real knowledge. 'Thoughts without intuitions are empty, intuitions without concepts are blind'. We must accept them both as belonging together and not as being separately available. However in analysing an object of knowledge

Kant discovers two different kinds of element which may be respectively called material and formal, just as one may discover terms and relations in propositions. The formal and material elements in a fact or object of knowledge cannot be separated from each other and neither is available by itself. Still we can make a distinction between them which is sufficiently clear. In order to explain these two distinct kinds of element in an object of knowledge Kant merely presupposes, so one may argue, two different faculties of knowledge, like sensibility and understanding which mean no more than our capacities of being aware of these distinct elements in knowledge. The formal or synthetic elements are grasped by the understanding, and the material elements are apprehended by sensibility. What we actually have is a knowledge of some object but since this object shows itself in philosophical analysis to be constituted by two different kinds of elements, we have to accept, corresponding to these, two different sides or aspects of our knowing capacity like sensibility and understanding. Therefore we say that we know neither by sensibility nor by understanding but by both.

I am not sure if we can accept this account of Kant's position. When Kant speaks of sensibility and understanding as two stems, he certainly implies that they have separate existence. He no doubt speaks of their having a common root, but that is a doubtful matter as is evidenced by his use of the word 'perhaps'. This is made still clearer by his admission that this possible common root is not known to us. When he says that one is blind and the other is empty, he certainly does not mean that they are nothing in separation from each other. The different adjectives blind and empty suggest what sort of supplementation each requires and gets from the other, but they also imply that each by itself is and does something.

Having understood sensibility and understanding as being different and separate, we raise the question whether in actual fact we find two such divergent faculties co-operating in knowledge. Knowledge, even that of a physical object, seems to us to be a simple and unitary thing. We never seem to realise it actually to be a mixed product of two very different and divergent faculties. We do not think that it is really such, not only because it is not possible for the mind to be active and passive at the same time, but also because if it acted in two such different ways, the simplicity and unity of the act of knowledge would not be maintained.

The contradiction involved in the idea of the mind being active and passive at the same time would of course be removed if we supposed that the mind first receives the sense-materials by way of sensation and then works them up into a phenomenal object by

combining them in certain characteristic ways. But we can hardly suppose that this is the state of facts obtaining in actuality. First, there is no evidence that unrelated sense-materials are ever presented in our consciousness. Secondly, even if they were so presented, we do not understand why they should be or how they could be combined in those particular ways. We may take these ways as being inherent in the nature of the human understanding, but we cannot be blind to the fact that in respect of the materials themselves, they are quite arbitrary. Thirdly if the materials of sense, as they are given to us, are in themselves unrelated, and if they must always be combined in the object by the understanding, the object of knowledge would appear to be a construction of the mind. This goes directly against our notion of knowledge and of object. By 'knowing' we never mean 'making an object' and the object of knowledge is never taken to be a mental construction. Moreover we never find the object in the process of being constructed nor can we ever catch ourselves in the process of constructing it. By knowing an object we seem to mean contemplating it in a unique fashion—it is in a sense being favoured with a revelation of the object. The object in knowledge must show itself to be what it is. That is the straightforward sense in which we usually take the word knowledge. In this changing world things no doubt come into being and are subject to all kinds of changes, physical and other, but it appears utterly absurd to suppose that they come into being or are changed in and through being known. As we have already said, knowledge is a revelation of the object. And we regard knowledge not so much as an achievement as a gift, and we should be untrue to our sense of knowledge if we claimed to have made any contribution of our own.

We have been trying to deny that we have two different faculties of knowledge like sensibility and understanding. And it may be objected that in doing so, we are in effect denying the patent distinction between sensation and thought, or, if we retain the distinction, claiming that they make no contribution to knowledge. It is universally accepted that both sensation and thought make their own contribution to knowledge, and it is also accepted universally that they are very different from each other. Have we any answer to this objection?

One cannot always be sure what exactly is meant by sensation or thought. But if they are taken for acts of knowing, I am afraid, we cannot find anything which will distinguish either of them as a knowing act from the other. As knowing in every context must

mean the same thing, it cannot mean one thing in sensation and another in thought. Still we can distinguish between sensation and thought by means of their contents. The kind of entity we are made aware of in sensation is not the sort of thing we come to know in thought. It may be that a relation or a universal is grasped in thought whereas in sensation we apprehend a unique particular. This seems enough to distinguish sensation from thought.

It does not seem possible however to distinguish between sensation and thought by supposing that we know passively in one case and actively in another. For even in sensation some activity, at least in the form of attention, seems to be involved, and our thought is also passive, in so far as it is determined by the nature of the object. The conclusion of a closely reasoned argument is not less coercive than a red or loud sensum.

When we speak of sensation and thought as making their own contribution to our knowledge, it is clear that we do not take them as acts of knowledge as such, but as psychical processes which may condition our knowledge but are not themselves acts of knowledge. Sometime we think furiously to find a way out of a difficult impasse. Sometime a violent sensation obscures our view of a thing. But although a thought may be furious or a sensation violent, our knowledge is never furious or violent. This shows clearly that in these cases thought or sensation is not taken as an equivalent of knowledge. When thus understood, i.e. as mere psychical processes not amounting to knowledge, we should be able to distinguish them by marks which a competent psychologist would find in them.

An Analysis of Implication¹

By

CHANDRODAYA BHATTACHARYA.

Implication is a relation between two such propositions as (i) 'Socrates is a man and man is mortal' and (ii) 'Socrates is mortal'. But what is a proposition? The view that it is only the verbal expression of an act of judging would hardly be accepted now-a-days. The verbal expression should better be called a sentence. Is a proposition, then, the same as an act of judging? This would seem to be the opinion of some. But the more commonly accepted view of modern logicians is that a proposition is a something which is the object of a judging act rather than the act itself. We need not determine, here, which of these two views is the more reasonable. For our present purpose, we may suppose that a propositional sentence expresses either an act of judging or its object. Different views may be held about the ontological status of the 'object' which is judged. Is it merely the 'what' of the judging act? Or has it a 'being' which is independent of the being of the act? If it has, does it exist or merely subsist? But it would appear in the sequel that, for ascertaining the nature of implication, it is not necessary that these questions must first be answered. It would be enough if it be granted that the object of a judgment is a something, a fact of some sort or other, whatever its precise nature. The sentence 'This is a rose' may stand either for somebody's act of knowing or for the fact designated by the words 'This rose' or 'The existence of this rose'.

A proposition is thus either a judgmental act or its object; and implication is a relation between two propositions. Hence by the word implication, one may understand either (i) a relation between two cognitive acts or (ii) a relation between their objects. In what precise relation, then, does the cognition 'Socrates is a man and man is mortal' stand to the cognition 'Socrates is mortal'? These may indeed be a large variety of relations which obtain between them. Thus they may be cognitions belonging to the same cognizing subject or to different cognizing subjects. One may be prior to the other; or they may be simultaneous. We, however, are not concerned, here, with any such relation between them. We want to know that specific relation between them, on account of which alone, one cognition is the premiss of the other. Now inference is a sort of

¹ This paper, although complete in itself, may, with advantage, be regarded as a complement to another paper, by the present writer, entitled 'On Implication'.

mediate knowledge which is derived from some previous knowledge. So the relation between premiss and conclusion is one of causality. The cognition expressed by the premiss produces the cognition expressed by the conclusion.¹ But is it a fact that the cognition 'Socrates is a man and man is mortal' always gives rise to the cognition 'Socrates is mortal'? Surely when a person thinks the first proposition, it cannot be said that he invariably thinks, immediately afterwards, also the second proposition. That a logician almost always happens to have the second cognition immediately after the first, is, more or less, a matter of habit. Moreover, one may come to know that Socrates is mortal by actually seeing his death, instead of inferring it from some other knowledge.² It must, however, be admitted that when the cognition is inferential, it feels different from a cognition which is immediate. This is the point to which certain Vedantic writers draw attention when they say that mediate knowledge removes the ignorance in respect only of the existence of the object and not in respect of the object itself.³ In terms of Indian logic, self-conscious perception⁴ takes the form 'I am perceiving', while self-conscious inferential cognition takes the form 'I am inferring';⁵ i.e. by simple reflection on a piece of actual knowledge, we can ascertain whether it is perceptual or inferential. Perceptual knowledge is intrinsically different in nature from inferential knowledge, though their outward forms may be the same. Hence the view that the relation between premiss and conclusion is one of causality can be stated thus:— When a certain cognition (e.g. Socrates is mortal) is inferential, it cannot come into existence, unless there be, in the same cognizing subject, a previous cognition (e.g. Socrates is a man and man is mortal). No doubt, the latter cognition, by itself, may not be a sufficient precondition for the generation of the first. But the fact still remains that it, or some other cognition like it, is one of the essential preconditions of such an inferential cognition. One meaning, therefore, of the statement that one proposition implies another is that a certain cognition is the cause of another.

Here a difficulty suggests itself. A cognition is always an occurrent of a very limited duration, which happens, stays and dies

¹ This is how the relation between premiss and conclusion is generally conceived in Indian logic.

² So it would not be true to say that the cognition 'Socrates is mortal' is always the product of a previous cognition.

असत्तापादकाज्ञाननिवर्त्तकम् परोक्षज्ञानम्.

अनुव्यवसायः.

प्रत्यक्षीकरोमि; अनुमिनोमि.

at a particular time in a particular mind, and may, at best, be considered to cause one and only one cognition which immediately succeeds it. For, once it is gone, it never comes back. But when we say that the proposition 'Churchill is a man, and man is fallible' implies the proposition 'Churchill is fallible', we do not mean to assert a relation between one and only one particular pair of occurrents, happening only once in a particular cognizing subject. We mean to assert a more general relation, namely that the first proposition always implies the second. If so, how can propositional implication be the same as cognitional causality? To this our answer is the following:—

All statements about causality are statements of a general relation. When we say that fire causes smoke, we do not assert that only a particular instance of smoke has been brought about by a particular instance of fire; we also assert that every instance of fire, under certain conditions, gives rise to an instance of smoke. Similarly a statement of cognitional causality is a statement of general rule; it asserts that, under certain conditions, an instance of a certain cognition having a certain form (e.g. 'This is red') invariably brings about an instance of another cognition which has a certain other form (e.g. 'This is coloured'). The point which we are labouring here will become clearer by reference to a distinction (analogous to that which Johnson draws) between implication and inference. It would appear that, when we speak of inference, both premiss and conclusion are actual cognitions—particular occurrents—having the relation of causality between them; while the word 'implication' denotes merely that if an instance of a cognition having the form of the premiss occurs, then it would produce an instance of another cognition which has the form of the conclusion. The distinction between implication and inference is similar to the distinction between a universal and an actual instance of that universal. When we say that glass breaks, we do not mean that a piece of glass is actually breaking just now, but only that it is the nature of glass to break, when, for example, there is on it the impact of some hard substance like a piece of stone. Similarly when we say that the cognition 'This is a parallelogram and a parallelogram is a quadrilateral' causes the cognition 'This is a quadrilateral', we do not intend to assert that just now in some cognizing subject an instance of the first cognition has been followed by an instance of the second cognition. This latter assertion is made only by a sentence expressing an actual instance of inference. In short, implication is a uniform relation between a pair of cognitions

of a general type, while inference is an actual illustration of that uniform relation.

To the objection that the essence of inference is logical, while our account of it, as given above, is purely psychological, the answer is that inference is a mental process, and hence a psychological account of it is not out of place. It cannot be denied that in inference, a thinker passes from the apprehension of something to the apprehension of something else. It is, therefore, quite proper to say that the relation between premiss and conclusion is one of cognitional causality. Of course, there are instances of cognitional causality which cannot strictly be called 'inference'. Thus it is doubtful whether the process of intellectual interpretation of a sensum, which is probably involved in all perceptions, should be considered inferential. Recollection, recognition, suggestion and such other processes, too, exhibit some sort of cognitional causality, and yet are not usually regarded as processes of inference. It would appear, however, that these instances of cognitional causality are no disproof of our contention that inference is a psychological process exhibiting cognitional causality. They only point to the necessity of distinguishing between those instances of cognitional causality which are inferential from those which are not. Ordinarily when we state a process of inference explicitly, we express its distinguishing characteristic by the use of such pairs of words as 'Because—therefore' or 'Since—therefore'. These words signify that the objects of the two cognitions that enter into the total inferential process, namely its premiss and conclusion, are apprehended as being connected with each other in a specific manner. This leads us to the consideration of implication as a direct relation not between two cognitions, as such, but between their objects.

We have already said that the relation of implication can be regarded as holding either between two cognitions or between two facts which are their objects. We have considered 'implication' in the first aspect. To consider it now in the second aspect. It is clear that when we say that a certain fact implies another fact, the verb 'implies' signifies neither action nor passion. Activity and passivity are relevant only in the context of causality. But it is awkward to think that the Athenian gentleman Socrates who possesses the attribute of humanity which is universally concomitant with mortality, produces another Athenian gentleman also named Socrates, who possesses the attribute of mortality, in addition to that of humanity. Nor is it good sense to say that his humanity causes his mortality. For, the humanity and the mortality of Socrates are wholly contemporaneous facts, neither preceding the other; so that

neither can be active or passive in respect of the other. The verb 'implies', therefore, when it is employed in connection with two such facts as are indicated by the premiss and the conclusion of an argument signifies a non-causal relation. The fact which is the premiss does nothing to the fact which is the conclusion. And we suggest that the relation of implication between two facts is the relation of either (i) inclusion or (ii) identity. 'X includes y' means 'x is a plus y'.¹ The fact expressed by 'Socrates is possessed of humanity which is universally concomitant with mortality' includes the fact stated by 'Socrates is possessed of mortality'. To explain what we mean, the first fact can be analysed into the following facts²:—(i) There is humanity in Socrates. (ii) There is a relation of universal concomitance between humanity and mortality in general. Now the latter of these two constituents is a universal which, because it is a universal, includes all its particular instances: The universal fact of the invariable concomitance of humanity and mortality includes also its particular application in Socrates. Thus the fact signified by 'Socrates is a man and man is mortal' includes also the fact signified by 'Socrates is mortal'. A more simple illustration of factual inclusion is available in the following:—The fact that 'the table is red and round' includes the fact that 'the table is round'. One may object that this is not an instance of implication. For, nobody ever talks of inferring that 'the table is round' from the proposition that it is red and round'. But this would appear not only to be a matter of terminology. Certainly by granting that 'the table is red and round', we are logically constrained to grant that it is round. Hence it may not be quite improper to say that the second fact can be deduced from the first. Of course, we usually restrict the use of the words 'implication' and 'inference' only to those cases where the premiss includes the conclusion, not directly, but by way of including a fact of universal concomitance which includes the conclusion as a particular instance of it; i.e. in ordinary usage, these words are employed only in instances like 'If Socrates is a man and man is mortal, then Socrates is mortal' and not in instances like 'If Socrates is honest and intelligent, then he is intelligent'. But this, as we have already remarked, is a matter of scientific terminology. Even if we thus restrict the use of 'inference' and 'implication', it would still be true that the fact indicated by the premiss includes the fact indicated by the conclusion.

Over and above 'inclusion', we have also mentioned 'identity' as what may constitute factual implication. We have done so,

¹ i.e. $x = a + y$.

² Whether these are further analysable into simpler facts is a question which does not affect the correctness of our analysis, so far as it goes.

simply to make our view compatible with the theory, held in mathematical logic, that every proposition implies itself. This is nothing but a technical way of saying that a fact is what it is. Even the relation of 'inclusion' includes that of 'identity'. When x includes y , there is in x something which is identical with y and there are also certain other elements. The relation of inclusion, therefore, can be defined in terms of 'identity' and 'and'. These two, we believe, are very fundamental notions, and if we have succeeded in defining factual implication in terms of such fundamental notions, we have probably done all that it may be feasible to do in explaining it.

Are we then to understand that factual 'implication' is a mere synonym for factual 'inclusion'? That would be going too far. It would be more correct to say that the relation of inclusion can serve as the ground of deductive validity rather than that 'inclusion' in itself connotes 'implication'. When a certain cognition is true and its object includes the object of another cognition, then this relation of inclusion together with the truth of the first cognition can jointly be regarded as the ground of the truth of the second cognition. And to the extent the relation of inclusion can serve as such a partial ground for the truth of a mediate cognition, it is called implication.¹ When we say 'This room is the lecture-hall', what we mean is not that "this room" is a synonym for 'the lecture-hall', but that this room, in so far as it subserves a certain purpose, is the lecture-hall. Similarly the relation of inclusion in itself is not implication. But in as much as, and in so far as, it can serve as a ground of the truth of a cognition, it is implication. Further, when there is the relation of such implication between the objects of two cognitions, the cognitions themselves may be said, in a derivative sense, to have that relation. The object of the cognition 'Socrates is a man and man is mortal' includes the object of the cognition 'Socrates is mortal'. This relation of inclusion can serve as a partial ground of the truth of the second cognition.² So far as this is the case, the object of the first cognition is said to imply the object of the second. And in a secondary sense, the first cognition may be said to imply the second cognition. If, however, it be held (as sometimes it is) that implication is not primarily a relation between facts³, we may amend our definition thus:—When the object of one cognition (mediate or immediate), by including within itself a fact of universal concomitance, also includes the object of another cognition which is mediate,

¹ The other ground being the truth of the first cognition.

² Thus McTaggart is of opinion that implication primarily refers to 'propositions' or 'truths' rather than to 'events'.—See his 'Philosophical Studies' edited by Keeling, p 157.

then in so far as this relation of inclusion may serve as a ground for the truth of the second cognition, the first cognition is said to imply the second cognition. But the fundamental relation in terms of which the relation of implication is to be defined would still remain what we have called the relation of inclusion between two facts.

It may be urged against the above view that, in accordance with it, a false cognition cannot imply anything. For in the first place, the object of a false cognition is not a fact, so that there is no sense in saying that, here, one fact includes another fact; and in the second place, the cognition not being true, it cannot be rightly asserted that the truth of the cognition and the above-mentioned relation of inclusion are the joint grounds for the truth of the conclusion. Yet we find that a false cognition does imply another. The proposition 'Socrates is a crow and crows are immortal' does imply the proposition 'Socrates is immortal'. To this our reply is that, unless a proposition is taken to be true (at least for argument's sake), it does not imply any other cognition. Though a cognition may really be false, still one may assume its truth either voluntarily or through mistake. Similarly the object of a false cognition may be interpreted to be a no-fact; none-the-less, it may be assumed to be a fact. And there may be the relation of inclusion between such an assumed fact and a fact (real or assumed) which is the object of a different cognition (true or false).¹ Such a relation of inclusion together with the assumed truth of the first cognition may serve as a ground for the assumed truth of the second cognition. A false cognition as such does not imply any other cognition. No doubt, even a false cognition may be a cause of another, whether true or false. But just now we are considering that meaning of implication in which it is the ground of deductive validity. In this sense, a false proposition, we contend, does not imply any other proposition. It is true that sometimes we know a proposition to be false and still we make the experiment of deducing other propositions from it. But it must be admitted that we do so, only after supposing it to be true. Really speaking, all types of cognitive act, whether 'believing', 'supposing' or 'knowing' have explicitly a reference to truth and reality. Without such reference, they are not cognitive acts at all; and hence the question of implication cannot be significantly raised in respect of them. A cognition which is or was never believed, supposed or known to be true, explicitly or implicitly, is no cognition at all. So soon as a false cognition is known to be false, it loses this objective reference and thus ceases to be a cognition, unless

¹ An assumed compound fact may be constituted by simpler facts, of which some may be real and not merely assumed.

this reference is purposely conferred on it by us. What, therefore, is really meant by saying that a false proposition, too, implies some other proposition is that it does so when it is taken to be true. Or, if we admit that there are degrees of truth, we may hold that there are facts of different degrees of reality, and that there may be the relation of inclusion between two facts of the same degree of reality and thus the relation of implication between two cognitions of the same degree of truth. Sometimes again facts are conceptual, and one conceptual fact may include another, so that the cognition of the first may imply the cognition of the second. This is the explanation of such true statements as the following:—
 'The proposition "This is an isosceles triangle" implies the proposition "This is a triangle", irrespective of the question whether this is, as a matter of fact, an isosceles triangle or not.'

Another objection that may be raised against our interpretation of implication is that, because we hold that the premiss of an argument already includes or contains the conclusion, we are bound to admit that all deductive arguments are subject to the fallacy of *petitio principii*. We have, of course, shown that it is the relation of implication which constitutes the condition of inferential validity. We have also reduced this implication to the relation of 'inclusion'. Hence, if by *petitio principii* one intends to point to the fact that we hold that the premiss of an argument implies or includes its conclusion, we would urge that such a *petitio principii* is no fallacy, but an essential condition of deductive validity. But if one would say that, according to our interpretation of 'implication', a syllogism involves *petitio principii*, in the sense that its conclusion is somehow identical with its premiss or premisses, one would be wrong. For we do not hold that the conclusion is identical with the premiss. The process of inference, as it normally takes place in our mind, very often assumes a form like the following:—

Socrates is a man.

Man is mortal.

Therefore, Socrates is mortal.

Now in such actual instances of inference, it goes without saying that the third cognition is wholly different from the first two. Moreover, the object of the third cognition is not only not identical with the respective objects of the first two cognitions, it is also not included by them. Hence epistemically, the conclusion is a product, altogether new, both in respect of its form and in respect of its object. It is, of course, true that the above syllogism would be invalid, if the first two propositions could not be synthesised

to a compound proposition like 'Socrates is a man and man is mortal', which includes the conclusion. A *prima facie* reply to this objection would be. Though the logical validity of the inference depends upon there being such a compound fact as would include the conclusion, still the said validity does not depend upon the cognition of that compound fact; hence judged by the form in which an inferential process usually takes place in our minds, the fact known in the final step cannot be said to have been known in the preceding steps; and in this straightforward sense, the process of inference involves no *petitio principii*, even if it be held that the validity of the process demands that the fact known in the conclusion must be included in a compound fact of which the elements are applied by the objects of the two premisses. But this answer is not flawless. For, the word 'therefore' which precedes the conclusion, so far as it is used significantly, certainly indicates a more or less explicit awareness of also the compound fact which includes the conclusion. It has nonetheless to be conceded that the fact known in the final step is completely new in respect of the facts separately known in the two premisses. Even when the inference assumes its perfectly valid form as in 'Socrates is a man and man is mortal; therefore, Socrates is mortal', it is still true that the two cognitions, namely the premiss and the conclusion, are different not only numerically, but also in their objects—as individual cognitions, they are not identical with each other, nor are their objects the same. Where, then, is the *petitio principii*? Those who think that the major premiss cannot be known without knowing the conclusion need not be controverted by us. For according to them, inference can never give us new knowledge and it essentially involves a *petitio principii*, irrespective of the way in which the constitutive condition of validity be interpreted. If, however, it be possible to know that man is mortal without knowing that a particular instance of man, e.g. Socrates, is mortal, then we believe we have been able to show that the inference 'Socrates is a man and man is mortal, hence Socrates is mortal' involves no *petitio principii*, though the relation of implication be interpreted in terms of inclusion.

To sum up: The specific relation between two propositions, which enables us validly to deduce one of them from the other, may be considered to hold either between two cognitions or between two facts which are their objects. In the first case, it is a relation of causality. In the second, it is what we have described as the relation of inclusion. This latter relation is definable in terms of 'identity' and 'and'; and it is the condition of deductive validity.

Presidential Address of the Psychology Section

By

D. G. LONDHA

I am grateful to the Executive Committee of the Indian Philosophical Congress for having done me the honour of presiding over the Psychology Section of the 19th session of the Indian Philosophical Congress.

One naturally reflects at the outset about the position of Psychology section in the Philosophical Congress which appears to be somewhat precarious. Since Psychology is asserting its status as a natural science, psychologists have become impatient of the company of philosophers. The association of Psychology with Philosophy dates back to twenty-five hundred years. Aristotle after writing a *Metaphysics* did not forget to write a *De anima*. The reason why a philosopher should keep company with a psychologist is that philosophy cannot afford to neglect the finding of any science. It is especially the case with psychology because, for philosophical reflection the science of psychology is most indispensable in as much as philosophy is concerned with existence and psychology beyond any other science reveals the resources of nature in extraordinary richness and complexity. If philosophy is an attempt to understand what it means to be, then psychology beyond any other science indicates the depths of the sea of being that philosophical thought must sound. This is the reason why a philosopher should keep company with a psychologist. But why should a psychologist keep company of a philosopher? Balz has answered this question in a very clear and convincing manner thus: 'If it be granted that philosophy should contribute to scientific activity by its criticisms and scientific ideas by the suggestion of unexplored possibilities; and if it be further granted that the undertaking of psychology has been acceptably indicated; then psychology, it seems reasonable to infer, should be in especial need of the services of philosophy. The richness of psychology's matter of fact, one conjectures, would require for exploration richness of idea and hypothesis. If nature's intelligibility is maximal in such matter of fact, but at the same time its accessibility to us is minimal, then an extraordinary array of tools and devices, intellectual and material, may be necessary in order to cope with the situation. In such conditions philosophical criticism may be exceptionally valuable. If

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the task of philosophical thought be to attain a global view of things then all the more such thought should prove illuminating to psychology with its matter of fact at once so restricted, so internally rich, and so many-sided in its relationships. If we admit that every science rests upon a metaphysical foundation, whether acknowledged or unacknowledged, then we should expect psychology to be an especially tangled science. If metaphysics be an unusually stubborn effort to think clearly as James said, psychologists could scarcely afford to neglect it. No one can question the fact that psychologists like other scientists, feel compelled to return after many and prolonged investigations of detail to that accumulated fund of ideas which is preeminently his science. Re-examination, revision and reorganisation must ensue. Here the tasks of psychologists and philosophers might happily converge. The association of psychologist and philosopher may prove to be not unfruitful for the one as for the other (*Psychological Review*. 41. p. 551).

Psychologists seem to be in no mood to listen to this piece of sound advice, because they are intent on making psychology an exact science and free it from the airy speculations of philosophers. Psychology appears to be in a process of progressive disaffiliation from philosophy. But the proper question, according to some psychologists, is not whether psychology is to be appropriately affiliated to philosophy or natural science, but whether it is to be affiliated to natural science or social science. After taking a survey of psychology for the last fifty years, Woodworth observes: 'Some of our number are working in close co-operation with physiologists and some with the sociologists and anthropologists. The techniques, concepts and necessary acquaintance with related sciences differ greatly for physiological and social psychology—so much so that the splitting of psychology along that line appears to some of our members a distinct possibility. Other observers from outside have predicted that psychology eventually would cease to exist as a unit, its divergent interests being absorbed by physiology and sociology. In such a division it is difficult to see what would become of those parts of psychology which have been most central for the past fifty years. Would it be physiology or sociology which would take over the topics of learning, perception, motivation individual differences, correlation?' (*Psychological Review* 1943 p. 31) I confess my interest in psychology is philosophical. I am interested in psychology not so much for its own sake as for the light it may throw on the nature of man. Russell has said that he is not interested in Psychology for its own sake as for the light it may throw on the problem of knowledge (*Analysis of Mind*. P. 15). When I say that my interest in psychology is

philosophical, I mean that I turn to psychology with a hope that psychology more than any other science may ultimately enable us to get more adequate knowledge and insight into human nature. 'What is man?' is for me the question of questions, the problem of problems. 'Is it the body that is man?' or 'Is it the mind that makes a man?' 'Is the dualism of body and mind legitimate and ultimate?' Or 'Is man a comprehensive and integral personality constituted both by body and mind?' We philosophers turn to psychology with a definite expectation of getting some enlightenment on these and similar queries.

McDougall has defined Psychology as a 'science of human nature'. He says: 'The aim of psychology is to render our knowledge of human nature more exact and more systematic, in order that we may control ourselves more wisely and influence our fellow men more effectively.' He is aware that though no psychologist would find any serious fault with this definition, it requires clarification on two points viz. exclusion of the science of animal behaviour and overlapping in the field of anthropology. Definition of psychology as a science of human nature may lead to a feeling of disappointment at the achievements of present day psychology. Stanley Hall has given expression to such a feeling of disappointment when he observes 'If we define psychology broadly as the knowledge of human nature, its academic devotees have during the last decade or two added but little of scientific or cultural value and in some sense their work has rather dehumanised it. There is far too often a pedantry of method and technique with paucity of results. The programmes of our meetings contain too many unripe and minor papers by those in the apprentice stage while the leaders have relatively less and less to say. Discussions of fundamentals and wider orientations as to first principles are out of date, and the differences between the sects seem to be accepted as necessary, instead of being regarded, as they really should be, as challenges to rise higher and find some mediating principle.' (Stanley Hall: *Life and confessions of a Psychologist* N. York P. 434).

The Psychology of to-day can be described as an adolescent science. The period of adolescence is known to be marked by the characteristics of instability and resilience of youth. Sometimes adolescence witnesses a crisis in the development of personality. The science of psychology is at present passing through a period of crisis. The crisis in psychology is due to a bewildering variety of schools following their own programme technique axioms and theories independently of each other without there being any co-ordinating influences.

The science of psychology, like modern science in general, suffers from the scandal of sectarianism. Over specialisation and departmentalization lead to scattered bits and pebbles of information which make wider co-ordinations and higher orientations more and more difficult nay almost impossible. What we have today is not one science but a loosely clustering bundle of different sciences ambiguously labelled as psychology. Psychology is everywhere regional, partisan and plural. Psychology finds itself in the throes of a painful renaissance. The present state of affairs in psychology is described in observations and comments such as the following: 'Recent years have witnessed a growing dissatisfaction on the part of psychologists with the systematic analysis of psychological events represented by the traditional categories.' (Hunter: *Psychological study of behavior* Psy. Review 1932). 'There has never been a period in the history of psychology in which the experimental contributions to that science have been so numerous as at the present time or more significant, and yet this productivity is accompanied by an evident uncertainty concerning the subject-matter and the fundamental categories of the science' (Ibid. P.1) In the same strain Bills remarks: 'Any modern psychology text is an eloquent witness to a jumble of loosely related often incompatible concepts which have resulted from a habit of relying on many diverse experimental approaches for their definition (Changing views of psychology as a science. Psy. Rev. 1930.)

There are at present different psychologies like Introspectionism, Existentialism, Behaviorism, Gestaltism, Freudianism, Purposivism. Yet we cannot escape the conviction that Psychology must be one. If psychology studies the nature of man, psychology must be one and universal, as man's nature is one and universal. If there is only one science of physics and one science of astronomy there must be only one science of psychology.

It might be said that variety of schools is no danger to the unity of psychology, as the different schools represent only difference in methodology, procedure and technique. In every science there are different systems embodying different hypotheses. No science can hope to progress without a variety of hypotheses. In physics also there are wide differences. There are physicists who require the ether as an initial and fundamental postulate, there are other physicists who can do without the postulate of ether. There are absolutists as opposed to relativists in physics. In biology there are rival schools of mechanists and vitalists.

Granting that every science needs variety of hypotheses, one cannot help observing that the present variety of schools in psychology

is such that a common and comprehensive science of psychology can hardly be built up out of the divergent schools and rival groups. The divergent schools do not represent varieties of one and the same theme or alternative plans of a common pattern. They mark, on the contrary different themes and plurality of patterns of different sciences of human nature. The fact about the matter is that the different schools have almost developed into different sciences, mutually incompatible. Behaviorism, Freudianism and Purposivism are as different as physiology, biology and medicine. Each of these schools takes a part of a science and claims dogmatically that it is the one and exclusive science, denying others their right to participate in that science. Just as in the parable of the blind men describing an elephant a part was mistaken for the whole, Behaviorism mistakes physiological doctrine for the whole of psychology. Gestaltism raises perception-doctrine to the status of an integrative science of human nature.

Unity of a science is constituted by unity of subject-matter. The present-day psychology hardly possesses any unit of subject-matter. For Behaviorism the subject-matter consists of receptors and effectors, chains of visceral and glandular responses, movements of the larynx and other vocal organs, For Gestalt theory perception patterns constitute the bulk of the subject-matter. For Purposivists instincts occupy the main field. For older psychologists sensations, ideas, images, memory and attention exhausted the subject matter of the science of mind. Murphy writes: 'From colour-theories to defence mechanism, from the functions of a white rat's vibrissae to the mystic's sense of unutterable revelation, from imaginary playmates to partial correlations—wherein lies that unity of subject-matter which leads us to speak of, compactly enough of 'Comparative Psychology'? From Behaviorism to Gestalt Psychology to psycho analysis or to objective measurement of character, the eye wanders over an interminable range of experiment measurements, hypothesis, dogmas, disconnected facts and systematic theories. In a sense it is true to say that through this vast melange the very birth cry of an infant science is still resounding.' (Hist. Introd. to Modern Psychology. 1)

Hans Driesch writing in 1925 analysed the then situation in the science of psychology, and said that psychology had reached a crisis. Crisis literally means decision. Crisis in psychology signifies a stage in which psychology stands at the cross-roads. What were the problems that were being decided? Driesch found that there were four problems that had reached a decisive stage. The first critical problem refers to the theory of

elements. The elements of objects have meaning in various forms viz, accents of order, accents of truth, accents of the sphere of existence etc. Many people have thought that there are elements of meaning but associationist psychology held the field and this was still left in a critical stage. The second critical problem refers to the association psychology itself and not merely to its material. It was recognised that enrichment in meaning and truth was a characteristic feature of mental life but associationist psychology failed to explain it. The third critical point concerned the existence and meaning of the unconscious. von Hartmann clearly recognized this concept but new formulations are coming in in the form of sub-conscious, hypnosis, dissociation complexes etc. Though the facts were known before they were regarded as swindle and superstition, we now realise that these phenomena are not abnormalities, but normal, though little known, aspects of human mind so far. The fourth point which has reached a critical stage is the psychophysical problem, that is the mind-body problem. Psychomechanical parallelism was once dominant but now it is dead. Besides these four critical problems Driesch also mentioned a fifth problem viz, that of psychical research. Here we have new phenomena such as materialisations.

Driesch clearly recognises that there are yet some problems that have not yet reached even the critical stage. Even when the psychomechanical parallelism is rejected we do not as yet know anything positively about the part played by the brain. He writes: 'In particular it is the part played by the brain that is still very far from clear and very much disputed. There is no strict localisation in the brain in the sense of the older theory. But what is there in its place?

The first and foremost problem that has brought about a crisis in modern psychology concerns consciousness itself. Psychology as its very name implies was to begin with, a science of the psyche. The Greek word psyche means soul or spirit. Psyche is a vital principal inhabiting and animating human body. Psyche was regarded as the ground of each individual experience. Now psyche was associated with metaphysical assumptions of immortality and substantiality. In ancient times psychology was concerned with the task of describing the functions of the soul. To pass from the functions of the soul to the faculties of the soul was but an easy step. The tendency to reify was availed of to complete the work of establishing a faculty psychology. Psychology without a soul was the slogan of the new psychology. 'Psychology without a soul' sounds like Hamlet without the Prince of Denmark. Even though the soul was banished from the field of psychology, self was still retained to explain the unity, continuity

and coherence of individual experience. Then came the formulation—psychology as the science of consciousness. James defined psychology as 'the science of mental life—both of its phenomena and their conditions'. According to Wundt 'Psychology has to investigate that which we call inward experience—that is our sensation and feeling, our thought and volition—in contrast-distinction to the objects of external experience which form the subject-matter of natural science.' (Lectures on human and Animal Psychology. P. 1)

Psychology of consciousness came under the hammer of criticism from different quarters and for different reasons. Watson and other behaviorists and objective psychologists severely criticised the concept of psychology as the science of consciousness, as advocated by James and Wundt, because they were bent upon giving up psychology or making it a natural science. Natural science requires that its data must be capable of being observed and experimented upon. Consciousness or inner experience can neither be observed nor experimented upon. The objective psychologists therefore condemn psychology of consciousness as mentalistic.

Watson charges James, Wundt and other psychologists of the older school with having committed the logical fallacy of begging the question. He contends that they assume what they seek to prove, viz. consciousness. If this procedure be cited as an example of *petitio principii*, every one will be guilty of this fallacy because every one who wants to make a statement assumes what he intends to state. When the behaviorist defines psychology as a 'natural science that takes the field of human adjustment as its own' (Behaviorism 1930 P. 11) shall we not say that Watson is begging the question because he assumes that psychology is a natural science and that human adjustment does not imply anything like consciousness?

Watson further tries to make out that James escapes this difficulty by an argumentum ad hominem 'O yes, every body must know what consciousness is. When we have a sensation of red, a perception, thought, when we will to do something, or when we purpose to do something, or when we desire to do something, we are being conscious' (Ibid. p. 4). Watson thinks that all those psychologists who define psychology as the science of consciousness are illogical in that they do not tell us what consciousness is, but merely put things into it by assumption. Introspectionists find sensations, images (ghosts of sensations), affective elements, will. All these are found in consciousness because they are previously put into it, says Watson. By similar logic we can also say that objective psychologists do not find

these in consciousness because they assume that consciousness is not there at all'. The impatience of behaviorists with consciousness psychology is very well expressed by Watson. 'They (behaviorists) decided to give up psychology or to make it a natural science' (Ibid p.5). We are not sure whether they have succeeded in making it a natural science, but we are certain that they have given up psychology. We cannot build out of the subject matter of psychology such a natural science as physics or chemistry.

Finding it difficult to observe events in the brain and impossible to observe states of consciousness, psychologists of the behavioristic group are going to receptors and effectors for explanation. Brain is reduced to the status of a switchboard. Events in the mind which cannot be explained as receptors and their stimuli are referred to motor reactions and their consequences. Such a centrifugal shift is very marked in the attempt to explain thinking as inner speech as Watson has attempted to do. Feeling is explained by Beebe-center by sensory-motor mechanism in his book 'Psychology of pleasantness and unpleasantness' (N. York 1932). Attention is objectively explained by Young in his book 'Motivation of Behaviour' (N.Y. 1936, P. 562). Purpose is behavioristically explained by Hull in his article 'Goal attraction and directing ideas conceived as habit phenomena' (Psy. Rev. 1931). The most interesting of all is the attempt to explain consciousness itself by motor phenomena—by Langfeld 'A response Interpretation of Consciousness' (Psy. Rev. 1931) and in experimental study of the 'Motor Theory of Consciousness' (J. of Gen. Psy. 1934). Even though we may admire the boldness of the behaviorists and objective psychologists in attempting to explain all mental phenomena without mind, we cannot concede that they have succeeded in their attempts.

It will be interesting to consider Langfeld's Response theory of consciousness. This theory is also known as Motor theory of consciousness but Langfeld thinks it more desirable to use the term 'response' than 'motor'. By response Langfeld understands response of the whole organism including the entire afferent-efferent system, the receptors effectors and central connecting paths. The motor theory fills in the gap between the stimulus and the response left by the behavioristic doctrine. The stimulus response behaviorism has no interest in consciousness. The motor theory aims at interpreting consciousness. The response theory identifies consciousness with physiological processes. The response psychologist is a monist and determinist. Response theory identifies consciousness with the entire

afferent-efferent arc and believes that consciousness does not occur until and unless there is a discharge into the efferent paths and then into the muscles. A change in either path may effect a change in the conscious content. The researches of Franz and Lashley have disproved the old theory of the localisation of the brain functions and substituted in its place the principle of equipotentiality and the integrative theory of the working of the brain.

It may be objected against the response theory that motor response remains motor response and perception for its content must have movement of the muscles, or merely kinesthesia. Perception of kinesthesia is not the perception of form.

Goldstein has stated that 'On the basis of histological structure we conclude that the nervous system is a network. This net work offers a unified mechanism, a system in which every stimulus produces a change in the total system. This change is represented internally by the conscious processes, externally by the movements of the effectors.' Titchner has said 'There is no organ of mind, that phrase is an echo of the mannikin-mind. . . . The scientific fact is that whenever we come upon mental phenomena, we also find a functional nervous system . . . Size of brain and complexity of the nervous system are matched by range and complexity of mental phenomena.' (Beginner's Psychology, pp. 10-11). Even if we discard the doctrine of the localisation of the brain functions and accept the modern view of the integrative action of the nervous system, it by no means follows that consciousness is nothing but an efferent response as the responsivists suppose. Neurologists like Herring admit consciousness as a causative factor. 'Consciousness, then, is a factor in behaviour, a real cause of human conduct . . .', and further 'if consciousness, when present is a real factor in the causative complex resulting in behaviour as I believe it to be, obviously this factor cannot be ignored in a scientific analysis of the field of behaviour as a whole.' (Neurological foundations of animal Behaviour, pp. 304-5) Herrick describes the cortical equilibrium thus 'When the equilibrium of the resting cortex is thus disturbed and nervous excitations irradiate from the focus of the initial excitation the process will continue—until a new equilibrium is established—it may be by motor discharge, it may be by fatigue with no practical outcome, it may be by the fabrication of a new pattern of cortical activity or a new enduring 'set' of the reacting system which modifies all subsequent activity of this system and may appear in consciousness as an idea, a judgment, a decision, a purpose or an ideal' (ibid, pp. 246-47). The view of the neurologists

that is clearly expressed in these passages is that consciousness is different from the motor discharge.

Responsivists themselves admit that they have failed to explain or solve two problems viz. 1. that of the secondary qualities and 2. that of the determination of what final common path the afferent impulses are to take in the special cases of audition and vision. As to the explanation of secondary qualities, behaviorists' verbal response is not adequate to meet the situation. It is well said that 'Blueness is neither in the stimulus nor in the response, for these are movements and blueness is not.'

Behaviorism of the Watson variety occupying itself exclusively with a neuro-mechanistic explanation of human behaviour would leave consciousness completely out of the field of psychology.

I for one think that those who would build the structure of the human nature out of the bits of stimulus-responses are attempting an impossible task. They are becoming deliberately blind to consciousness. They do not see the wood for the trees. If they are conscious of stimulus-responses and conditioned reflexes, it is mere dogmatism to deny consciousness. Surely Watson was conscious when he was pushing consciousness out of the field of psychology. Writing on Behaviorism implies consciousness and purpose on the part of Watson. Woodworth rightly remarked 'Behaviorism, as an ism appears to be a sort of rationalization of certain research projects that lie (or lay) outside of the conventional field of psychological work. It appears as a theoretical justification of certain lines of work, which were really entered upon because, taken for themselves, and quite apart from any philosophical justification, they promised to bear good scientific fruit. In reality, the behaviourists as individual investigators require no such theoretical justification. They are amply justified by their works. Animal psychology is justified apart from behaviorism; physiological psychology is justified apart from behaviorism; the behaviour study of infants is justified by its works apart from any behavioristic theory. One would be proud to be the author of any one of the numerous investigations made by behaviorists. One need not be a behaviorist to admire them. One need not have been a behaviorist to have them.' (Psychological Issues pp. 134-35).

I would wholeheartedly endorse the following opinion of Woodworth. In short if I am asked whether I am a behaviorist, I have to reply that I do not know, and do not much care if I am, it is because I believe in the several projects put forward by

behaviorists. If I am not, it is partly because I also believe in other projects, which behaviorists seem to avoid, and partly because I do not see any one big thing to be called behaviorism—any one inclusive enterprise binding together the various projects of the behaviorists into any more intimate union than they enjoy from being, each and severally, promising lines of work in psychology.' (Ibid)

Another critical problem in contemporary psychology refers to instincts. The problem of instincts vitally affects the decision of psychology as regards human nature. James and other psychologists have taught us that man is endowed with certain inherited modes of response to stimuli arising out of the forces of environment acting upon the organism. James and McDougall have given long lists of such inherited modes of responses. Behaviorists and social psychologists have waged a ruthless war against the concept of instincts. One of the arguments for eliminating instinct from the inventory of psychological concepts raises the contention that all that is inherited refers to structure. Watson's favourite example of the behaviour of boomerang in returning to the thrower shows that this peculiarity of the boomerang is simply due to its structure. Instincts are sought to be explained as chains of reflexes. It is rightly pointed out by Woodworth that it will force us to discard the concept of reflex itself, as also that of habit along with it. We cannot stop half way with the rejection of instinct. Logically we shall be compelled to throw overboard reflex itself as well as habit. The truth of the matter is that the consideration that behaviour depends on structure need not compel us to reject the concept based upon the facts of behaviour.

Dunlap in his article 'Are there any instincts?' (J. of Ab. Psych. 1919-20) made a vigorous attack on the doctrine of instincts. He pointed out that the concept of pure or isolated instinct is of no real value. The behaviour of a human being is extraordinarily complex and therefore we should not put much value on descriptions of catalogues of instincts as given by James, McDougall and Thorndike. This argument generally refers to the impossibility of separating inherited from acquired behaviour. All development from fertilization onwards is the resultant of factors residing in the organism as well as environment. Granting the importance of this contention it can still be made out that this consideration, if true, would require a much more radical revision of our concepts, because in that case we shall not be able to speak significantly both of acquired as well as native behaviour. Kantor maintains, in his

article on 'Functional Interpretation of human Instincts' (Psy. Rev. 1920) that organism reacts as a whole and we should not isolate instincts into separate factors.

A third argument advanced by Perrina and Klein (Psychology: Its Method and Principles' 1926) raises the issue of the components of instinct such as reflexes and physiological processes into which instinct is analysable. Such an argument would prevent a chemist from speaking of acids and salts, but would only permit him to speak of elementary chemical substances. Psychologists on this contention would not speak of habit meaning an acquired complex performance. Anthropologists and Sociologists urge that uniformity even if amounting to universality is no sure proof that a trait is inherited.

A very important objection against the concept of instinct is raised by Allport (Social Psychology P. 43) to the effect that the serial integration of reflexes into any complex performance is the result of learning and that therefore the concept of instinct does not express any fact of behaviour. In man at least all complex behaviour patterns are habit complexes so that instincts simply are fictions of psychologists. They are mythological entities. Instincts, according to these sociologists, simply do not exist.

Kuo suggests 'behaviour-set' of internal adjustment beyond simple reflex to do the work of so-called instincts. Behaviour-set lowers the threshold for certain stimuli and raises it for some others. The behaviour-set, according to Kuo, is not innate; it is only learned or conditioned. The organisation of a behaviour-set through separate reflexes is done by trial and error. The behaviour set varies with experience. (Giving up of Instincts in Psychology. J. of Phil. 1921) Allport substitutes for instincts the term "Pre-potent reflexes" six in number which are the basis of all socially significant human activities.

Lashley in his article on 'Experimental analysis of Instinctive Behaviour' (Psy. Rev. 1938 P. 471 ff.) has shown that the current tendency in psychology to elevate the drive to the position formerly occupied by instinct as a general motivating force apart from specific sensori-motor systems is unsatisfactory. There is not sufficient evidence for its hypostatization as a real force. Lashley urges that for a complete understanding of the mechanism of instinct we must analyse the properties of the stimulus-situation.

Behaviorists consider instincts as constellations of reflexes clustering round external stimuli but the explanation in terms of

reflexes cannot explain the variability in motor activity. Lashley therefore suggests that any explanation of instinct should make room for a clear perception and recognition of visual patterns in the stimuli. Nests and webs are inexplicable without a clear perception of the pattern. The Gestaltists here seem to be right in their conviction that the fundamental visual organization is innate and this organization has a definite preference for definite arrangements of the physical elements in the stimuli. Motor action therefore is based upon perceptual organization as is seen by the example of the behaviour of the primiparous mother rat in retrieving the eggs. Lashley's conclusion is that the problem of motivation is also closely identified with the problem of the specific patterns of the instinctive response.

McDougall has advocated a purposive theory of instincts. Instincts according to McDougall are primary motives, native springs of action. They are not chains of reflexes as behaviorists suppose, nor are they unlearned connections between certain stimuli and certain movements, or mere mechanical sensori-motor performances. In the goal-seeking behaviour of animals instincts play a very important part. His list of instincts enumerates all the primary motives, original springs of action necessary for self-preservation of the individual family life, social grouping, war, religion and all social activities. Instinct is inherited and also acquired.

No one can read McDougall without being struck by the fact that he reads purpose in the actions of even the lowest animals. McDougall has been accused by Morgan of mentalising the whole life of the living organisms by looking upon mind not only as a cause but as 'the cause in all that pertains to living organisms, since it is mind which animates the body.' (Mind at the Crossways. P. 96). According to Morgan, McDougall regards instinct as 'an agent the expression of whose activity betokens purpose' (Ibid P. 250-51) 'The point of emphasis is that the food-seeking instinct is itself purposive . . . it seems then that this instinct and sundry others are agents that act with purpose.' (Ibid 250) But this interpretation is unfair to McDougall. "Instinct is purposive" means man is purposive. Conduct is goal-seeking means man is goal-seeking. McDougall in his "Energies of Men" substitutes the word propensity for instinct. 'A propensity is a disposition, a functional unit of the mind's total organisation and it is one which, when it is excited, generates an active tendency, a striving, an impulse or drive towards some goal.' (P. 118) We define man's purpose as a goal towards which he is set, yet we have to add that it implies that it is his goal, and this in turn implies the subjective fact that the man has consciously adopted

that goal. (Energies. P. 138). It is necessary to note that while McDougall considers emergence implying memory, plasticity, elasticity and organization as characteristic of the organic and the mental realms, Morgan regards emergent evolution as a property of the whole universe.

If psychology can establish the presence of purpose in man and the higher animals and purposive behaviour in lower animals, it will strengthen the teleological view of the world against the mechanistic view. But psychologists should not prejudge purposiveness as non-existent in the animal world because it supports philosophy.

The problem of instincts makes the position of modern psychology really critical. Either there are instincts or there are no such phenomena as instincts. Dashiell has remarked that there are no instincts but only instinctive behaviour. Can instinctive behaviour be explained simply by chemical stimulation of the secretions of the endocrine glands? The behaviour of the mother-bird expressed in the picking out feathers from her breast and making a soft bed for the eggs she is about to lay is attempted to be explained in terms of some irritation felt by the bird, but this chemical irritation will explain only the tearing out of the feathers but not systematic laying down in some definite pattern as the bed for the forthcoming eggs. This problem will have to be ultimately referred to the issue between mechanism and vitalism, in biology. Contemporary psychology leaves it still an open question. Biology is yet undecided about the ways in which the hormones may act. The hormones may either stimulate the growth or formations of new nervous connections, as the organizers of Spemann; or they may increase the general excitability of the organism, or the hormones may produce changes in the different organs, as lactation in mammary glands; or finally the hormones may act upon the central nervous system, to increase the excitability of the sensory-motor mechanism especially involved in the instinctive behaviour. My view is that mere physico-chemical action is inadequate to explain the complex instinctive behaviour as expressed in the maternal instinct.

The third critical problem in contemporary psychology concerns the structure of the mind. Freud, in my view has discovered the unconscious but has failed to give us any satisfactory account of its nature and contents. Freud conceived the Unconscious as exclusively constituted by repressed sex wishes. Jung seceded from Freud because he did not agree with Freud as regards the doctrine of the libido. Jung understood libido in a broad and comprehensive sense

on the model of Schaupenauer's will-to-believe or Bergson's *Elan vital*. Jung attempts to bring the notion of the libido in line with the concept of energy in physics. Jung maintains that psychical energy like physical energy, is one and the same, whether it is expressed in sex-desire or self-assertion. Jung differs from Freud as regards the origin and content of the Unconscious. He has developed the doctrine of the collective and the racial unconscious. He says: 'In every individual in addition to the personal memories . . . there are also the great primordial images, the inherited potentialities of human imagination. They have always been potentially latent in the brain structure. (Jung's *Collected Papers on Analytical Psychology* 2nd. ed. p. 410.) Thus there is a racial part in the Unconscious over and above the individual part.

Rivers thinks that we get a physiological basis in the unconscious in the protopathic sensibility (i.e. primitive indiscrimination) of the nervous system. In the lowly organisms we get the protopathic sensibility. In man and the other higher species this protopathic is submerged by the epicritic (discriminative sensibility). Protopathic sensibility only makes possible crude and vague sensation, while epicritic sensibility enables the organism to get clear and discriminated sensation.

In estimating Freud's contribution there have been such overstatements as 'Freud has done more for the advancement of psychology than any student since Aristotle' (McDougall's *Outline of Abn. Psy.* p. viii). 'Freud is two hundred percent true'. Woodworth says 'I cannot believe his system to be true in any absolute sense, or even to rank with the great scientific theories which coordinate existing knowledge and to serve as guides to further discovery. With its entities and its dualism it is retrograde rather than forward-looking. (Woodworth *Contemporary Psych.* p. 271)

My own view is that much of what goes in the name of Freudian Psychology is nothing but pseudo-science masquerading as psychology. The most valuable contribution of Freud consists in his insistence that conscious contents do not exhaust the totality of man's personality. Man's mind is wider and deeper than consciousness. His depth-psychology has opened avenues of investigation into the so far unexplored parts and departments of human personality. Like all metaphors the spatial metaphor of strata or layers of the mind or consciousness, or psyche are inadequate and unhappy, and slightly misleading, but for the convenience of discourse and facility of understanding we have to make use of a metaphor which suggests a third

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dimension when as a matter of fact mind does not possess even two dimensions.

Burridge starting with his researches in connection with cardiac study, has suggested the following divisions of the mind.

There is a central region termed the cognoscible which merges imperceptibly on either side into two other regions, infra and ultra-cognoscible mind, respectively . . . The cognoscible part is again further divided into (a) hypo-phasic, (b) eucritical, (c) paracritical and ultra-critical. These different parts, regions or phases of the mind can be illustrated by reference to perception of an object due to different degrees of clearness of light. (A new physiology of Sensation.) Burridge has also arrived at the conception of the finiteness of human minds due to having different capacities.

Personality study has become a rich source of fields of psychological investigations. Phenomena of alternate personalities as studied by Morton Prince and others have brought to light facts about the structure of mind which are inadequately explained by the present physiological or psychological theories. More strikingly is this the case about the phenomena in hypnosis. The ordinary logical and ratiocinative processes of the mind are held in abeyance and a great extension of field of simple memory is experienced. How is time accurately kept with measured accuracy in post-hypnotic suggestion is still an unsolved problem. Hypnotic state is not a sleep state. It is a waking state but the hypnotic variety of the waking state is marked by hyperaesthesias.

Wingfeld's recent work (*Introduction to the study of Hypnotism* 20) has changed the whole notion of hypnotic sleep. All the hypnotic phenomena such as anaesthesia, amnesia, dissociation, paralysis and post hypnotic suggestion are produced by suggestion in the waking state. W. R. Wells has employed methods similar to those of Wingfeld and pointed out that the procedure of waking hypnosis is specially advantageous as the subject can remember and report much that goes on in his mind. (*Experiments in Waking Hypnosis for instructional purposes J. of Abn. and Social Psy.* xviii 23-24.)

We have surveyed some of the critical problems in modern and contemporary psychology such as that of Consciousness, Instincts, and the Unconscious. For want of space and time we cannot go on with the survey of such problems any further. I only make a strong plea that as the existing schools and theories of psychology have failed to give a consistent and coherent view of the structure and organization of human nature, a new system of psychology with a broader outlook and a fresh orientation must be evolved. study of Yoga for

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some years in the past is strengthening my conviction that a new system of psychology can be built on the foundations of the view of mind contained in the Yoga Sutras. Yoga supplies the Gestalt of the human Psyche. In Gestalt theory we are familiar with the formula of filling the gap, the metaphor of 'closing the figure'. I visualise that the present theories in psychology like the Behaviorism, Gestaltism, Freudianism, purposivism etc. mark only the stray lines and angles leaving large gaps which still remain to be filled, the figure yet requires to be 'closed'. The psychology implied in the yoga gives the 'insight' that is necessary and indispensable for the perception of the form and organization of human mind.

Yoga has conceived the structure of the human mind on a comprehensive plan. The five-fold division of the vrittis is specious enough to include all the states of mind. The Unconscious according to Yoga is not filled with the repressed sex-wishes. There is no distinction between normal and abnormal psychology. Abnormal here only means unusual extraordinary but not necessarily diseased. Yoga is dynamic theory of the mind in that it speaks of developing mental powers and tapping superpersonal sources of energy. Experimental laboratory methods can be applied to the techniques of Yoga. The methods employed by Marbe, Ach and Watt and other workers of Marburg School can be profitably tried for investigating the effects of concentration and other yogic practices.

Behanan has carried out certain experiments with himself as the subject in breathing and concentration. Though the results have not been very conclusive, these experiments have made it abundantly clear that the problem treated in Yoga can be investigated under strictly scientific conditions, pre-arranged in the laboratory and observations can be made with accurate measurements. The questions proposed to be answered by these experiments were. What were the effects on the mind as revealed by the results of (a) a breathing exercise called Ujjayi and (b) breathing exercise in Ujjayi followed by concentration. The mental tests administered were (1) the adding test (2) code test (3) co-ordination test and the (5) Chinese puzzle test. Normal time and experimental time taken were recorded in seconds.

It was discovered as the result of these tests and experiments that breathing and concentration tend to decrease the mental function. This apparently negative and disappointing result is nevertheless significant if we remember that the ultimate object of Yoga is still the modes of the mind. Retardation in one dimension may lead to acceleration in another dimension of the mind. At any rate the

direction along which further investigations should be carried out is clearly pointed out by these experiments.

I wish to make a strong plea that Yoga must be brought from the cave to the Laboratory. The Indian Universities with Experimental Laboratory departments should take up some of the problems suggested in Yoga for investigation. If experiments in Telepathy and Clairvoyance are being conducted in the laboratories in American Universities the intellectual and cultural atmosphere here in this country will be more favourable for such experiments. Just as Behaviorism is the dominant programme in the American Universities, and Gestalt-psychology in the German Universities, Indian Universities should have a programme of their own for investigations and experiments. I express the hope that the Lucknow University with its Experimental Psychology Department will give the lead in this project.

The Problem of the One and the Many

BY

G. R. MAIKANI, AMALNER

(Continued from Vol. xx, No. 3, p. 208)

IV. The different forms and grades of relationship of the two

(A) There are thinkers who have relegated the epistemological problem to the background. They take their main stand on a purely speculative or metaphysical view of things. They argue that mere matter, incapable of real action or even of passion, unintelligent and inefficient, is not real at all. All reality must be conceived on the analogy of the individual soul or self which is the prototype of all reality. It is a kind of panpsychism. Mind is the only reality. It is the reality of matter itself. There are souls of a lower grade and souls of a higher grade,—that is all. The laws of nature have something of the habitual intelligent beings. There is no necessity in nature. There is only contingency. The souls advance. They become more and more self-integrated, and more and more integrated with other souls in a harmonious social system. Thus each soul is a unity; and there is a growing unity of social harmony. The well-being of each soul is an end in itself. This is however achieved only in a society, for the growth and the well-being of each individual is bound up with the growth and the well-being of other individuals. The ideal society is the society of articulate individuals, because language treasures the past and makes further advance possible through inter-subjective intercourse. We need not have a god. But if we want to have one, he will take away nothing from the reality of other individuals. He will only be a more advanced soul or as Leibnitz said '*primus inter pares*',—the first among equals.

This view may be said to have a good deal of support from common-sense. Each individual has a unity, but a growing unity, not a static unity. And there is another unity which these ultimate elements of reality aim at—the social unity. But plurality is ontologically ultimate and irreducible. The individual is a real individual not to be confused with any other individual. Any kind of Pantheism, Monism or Absolutism would be quite contrary to this view. But it fails to answer our question satisfactorily,—what is the nature of the unity between one individual and another? There is nothing that is really the same or identical between the different individuals. Their absolute discreteness is only tempered by two factors: (1) Intelligence or mentality seems to be a common factor; although even here we

cannot speak of a *mind* which is common to them all. Each has his own mind; but mentality, involving mutual understanding, is common to them. (2) Language, with its fixed objective significance, is a uniting tie. Language has a social function, and brings the different individuals together on the plane of mutual communication and mutual understanding.

This, however, does not take us very far. It does not help us to fix the nature of the unity between the different individuals. Is there anything of which the different individuals literally partake? If there is not, what prevents a complete and thorough-going solipsism, in which the individual is the only reality, and what he perceives is just part of his own universe? Even language, which is supposed to put us into relation with other individuals, has significance only in the individual consciousness, which in this way constructs its own world of individuals and objects in an intercommunicating society. That we are introduced to the secrets of a language through the agency of other individuals is a fact which is capable of a different interpretation,—my consciousness makes those other individuals unconsciously, and puts the language in their mouth which they seem to teach. Why can we not argue that the confines of our individual consciousness are the confines of our universe? This view appears to us to be quite unassailable on purely logical grounds; and we have no quarrel with it. But it is inconsistent with the present thesis of ultimate pluralism. The individual needs to be an over-individual, if he is to contact an *outside* reality or to posit such reality. But then evidently the individual will be divided within himself,—an element which goes beyond the individual and in which all individuality is terminated, and an element of real separateness in which he is different from every other individual. The question arises afresh,—what is the true individual? If he has a dual nature, a universal being wherein he contacts the universe and a particular kind of being, how are these two aspects related? Either the universal element is the ground of the particular, or they are two distinct elements externally brought together. In the latter case, we have two individuals in the place of one, and the original unity of the individual is completely broken up. In the former case, the universal is the true individual. His separateness cannot exist in itself. It can only exist within the universal, and as a qualifying adjunct of it. It is accordingly less real. The separate mentality thrives and functions only on the basis of the universal consciousness which is the true individual. A real ultimate pluralism is thus replaced by a real ultimate unity.

(B) There are thinkers who have developed this notion of a universal consciousness. They think of the unity as at least equally important with the multiplicity. Epistemologically, it is presupposed by all objects. All objects of knowledge necessarily refer to a knowing subject. They arise in relation to it. Their empirical content is relative to the sense activity of the subject, and their intelligent or rational form is derived from the rational activity of that subject. The object as known (constituting the world of our experience) has in fact no being of its own, and is entirely relative to the unity of the subject and the different forms in which this unity functions. The unity is in this way essential to the diversity of the objects. We can also reverse this argument. The unity by itself is empty. It has no content. It cannot be proved to exist. What being it has is wholly relative to the content supplied by sensation. The unity, no less than the multiplicity, does not exist in itself. They are correlative; so that neither can appear to exist without the other. Still the subject may be said to be active, unlike the purely given element; and to that extent, the subject constructs the object, and is more real than the object. The mind makes nature. It is only in so far as the object presupposes a transcendent reality, the things-in-themselves, that it can rank as co-ordinate with the subject in an ultimate analysis of knowledge.

This view may be slightly amended to make it more self-consistent. A dualistic standpoint is logically untenable. If there are things-in-themselves which cannot be known, they may be dropped. What is beyond all experience is, for all purposes, as good as nothing. There remains the unity of self-consciousness. This is not nothing. Whatever we happen to know, whatever has any being for us, has a necessary reference to this unity and is what it is only within this unity. Thus the dual base in knowledge, things-in-themselves on the one hand and a knowing subject on the other, is replaced by the single base of self-consciousness. All things have meaning and reality only in it. Thus unity becomes the basis of multiplicity and the reality behind it.

This unity is not a pure and contentless unity, the pure unity of consciousness. Such a unity we do not know, and it is just as unreal as things-in-themselves. It is a concrete unity, the unity of the most concrete idea, the Absolute Idea. It is concrete, because it contains and also supersedes all forms of rational thought involved in experience. Moreover, the unity is not static. It is dynamic. It expresses itself in various forms in experience, and functions whenever we know anything whatsoever. It employs certain forms of thought in this process. These forms are quite real. They are

expressions of the unity itself. They constitute a grade of reality higher than the sense-ridden object. They are the rational or the intelligent structure of the latter, the architectonic of reason. But they had, in their variety and multiplicity, do not constitute ultimate reality. Reflection upon them reveals their inadequacy, and their inner movement towards completeness and wholeness. A further logical step becomes necessary. They need criticism, and they need to be made inherently stable and adequate to the whole of reality. Since being is the most general and the most indeterminate category employed by thought, it should naturally be the starting point for this new logical analysis and reflection. This will reveal gradually, and through intermediate stages of adequacy and rational stability, the unity that is immanent in the categories and that is pressing for fuller expression through them. In this way, we arrive at the last stage and the most rational form of truth. It sums up all the truth in itself. Nothing that is real can be alien to it or stand outside of it; for nothing can be real, and deny reason. We have in this higher or transcendental logic the dynamics of reason itself. We get at a unity which is fully complete and fully comprehensive. Our search for ultimate truth ought to stop here. Reason is the reality of all empirical objects; and the Absolute Idea is the ideal of reason itself.

We have in this way got at an ultimate unity. It is not an empty unity. It is fully concrete and fully alive. We can say that the world, in so far as it is known, is an expression of it, although an inadequate expression, governed by less adequate forms of thought. The fully adequate expression of the Idea will be the Idea as object to itself. The Idea knows Itself as object. This form of consciousness of itself or self-consciousness, in which the Idea is the subject and the Idea is the object, is the highest form of knowledge. Truth here coincides with reality. What is known is not sensible matter or alien matter, but matter supplied by reason itself. The Idea has become its own object. There is no longer any foreign-ness or strangeness between reality and the knowledge of reality. The object that is known is the self-reflection of the subject. At the same time, this object is not a pure and undifferentiated unity of the type 'I am I'. It is inclusive of all those differences which are involved in the most concrete and the most rational idea.

We conclude that there is an ultimate unity of things which is not repulsive of differences. It may be true to say that the unity is more important than the multiplicity which it includes, holds together and systematises. It may be equally true to say that the unity is correlative to the multiplicity, and is nothing without the latter

and taken merely by itself. It is a question of emphasis and the way we take it. But what is quite undeniable is that the unity is pregnant with multiplicity, and is not a pure and simple unity. We have worked up to it from our present experience in which what we know as real is certainly differentiated. All our concepts of reason presuppose this differentiation. We cannot wholly abolish these differences. We can only seek to assimilate them to some higher form of unity which is present in our experience from the very beginning.

The unity as above conceived has its origin in an epistemological consideration of things. What is the unity implied by all objects of knowledge which constitute our world? It is the unity of self-consciousness in the above sense. For, after all, our self is no other than the self of reason. Man as a rational being, is the embodiment of the Idea. He is the Idea personified. The same reason functions in all of us. It is the Universal Consciousness. It is the unity that is common to all the individuals. The life of pure reason is the same in all of us. It may be the logical unity of the ego functioning in all knowledge or it may be the dynamic unity of the Idea. The individual is nothing but this universal consciousness *plus* a psychical body which individualises this consciousness. The individual knows and functions as a separate entity, but he expresses the life of reason, which is common to all the individuals, in all that he does. In this way, we have a unity which is metaphysically common to all individuals, and which is *epistemologically* common to all objects.

V. Criticism of Kantian and Hegelian views on the problem of the one and the many

The view above indicated does not appear to us to be correct. Kant rightly starts with experience and analyses this experience. But the analysis is not correct. The unity of the subject is admitted in all the acts of knowledge, but this unity is wrongly interpreted as the unity of function only, and as involving no being or existence as such. Our thesis is that there is a unity of being here, and that this unity is free from the correlation of the subject and the object. It is the unity of the *pure subject*, which is in the end the ground of the duality of the subject and the object, and so of all multiplicity derivable from this.

The epistemological subject which functions in knowledge is relative to its objects. We are able to know it through analysis. It is an object of a kind which reflection lays bare for us. It is a more questionable proposition whether we know this unity of the subject as functioning through a *fixed set of categories which are the necessary*

forms of its working. We certainly do not find these through any analysing of the unity itself. We should prefer to regard the categories as having *no necessary connection* with the unity, and as simply the *de facto* categories of thought employed in experience, and arrived at through an analysis of this experience. There is no logical necessity about them. Another set of categories might have done equally well, although the experience dominated by them would have been a different experience in its rational structure and form. Also, the intelligibility which they give to experience is problematic. When we know things under the form of substance and attribute, the relation of substance and attribute is a problem, not a self-evident truth¹. When we know things under the category of cause and effect, the relation of cause and effect is not intelligible. It is only a provisional and apparent kind of intelligibility that they give to sensible matter or sense-data. In this sense, Kant has not answered Hume at all, who has tried to probe the relation further of substance and attribute, cause and effect, found in experience. But the point for our emphasis is that the unity is the undifferentiated unity of the ego, and that it is correlative to the object. The unity is declared to be a logical unity or the unity of thought. But this only means that it functions with thought or the categories of the understanding, or in knowledge in general. The question arises whether we can be satisfied with this formal or logical unity only, and whether there is not a higher awareness which transcends the unity in question, reveals it, and exists in itself, without being really or necessarily related to the object.

We think that a higher awareness in the above sense is a necessity of thoughts. Otherwise, the very analysis of knowledge becomes impossible. We need to contemplate the dualism of knowledge from a higher standpoint. The objection to such a view might be that the awareness in question has an object, although a different kind of object let us say. It must therefore function, and construct an object according to the rules of the understanding in order to know. It is thus reduced once again to a unity of function. There is no place in actual knowledge for any such higher kind of unity, which is *unrelated*, and which *exists in itself*.

There is a fallacy in this argument. If every object needs to be constructed and is real only as it is thus constructed, then what about the unity that constructs? If it is some kind of object that we recognise on analysis, then it has an objective character which

¹ This is the genesis of Hegel's criticism of categories, leading to the dialectical movement of reason.

involves in its turn a further constructive act. Since this series will have no last term which constructs without being constructed, no term of the series can be realised. In order that it should be realised, the unity implied by it should first be constructed, and we are led at once to a *regressus ad infinitum*.

Let us suppose that the unity in question is not objective in character. Can it then be *correlated*? Can it be identified with some *function* having a necessary reference to an object? Such function is nothing if it is not itself objective. The unity must needs be a functionless unity of being, if it is to be *truly non-objective* in character. This unity cannot be correlated. It cannot be known in the objective attitude. It will not be a *factor* in knowledge of objects to be grouped through analysis. In fact it is the only transcendental element that any analysis of knowledge can possibly suggest without making us know it.

It might be thought that we need not interpret the real subject in this radical way. The same entity could be subject and object alternately. It is subject when it knows, and becomes object when it is known. There can thus be a series of acts of knowledge, in which there is no last term called the pure subject. This is a confusion. One and the same thing can never have two such contradictory characters either at the same time or even at different times. What is an object to a later knowledge cannot be *the thing* that was the subject of the earlier. There can be no possible identity between a real subject and a real object. We can indeed relate the two as it is done in *Vedānta*. We recognise the *pramātā* (empirical subject) which is demanded by all knowledge of objects and is correlative to them (*prameya*). But this subject is not the only subject or the whole subject,—it is that part of the subject which *functions* in knowledge and must be conceived as being in false identity (*adhyāsic tādātmya*) with the real intelligent subject which is changeless, transcendental, and non-active (*sākṣi*). In any case, it would be wrong to suppose that we cannot go beyond the logical subject. What reveals it cannot be another logical subject.

But what is this "revealing"? Is it not simply knowing? The subject that knows (whatever the nature of that which it knows) cannot but be relative to its object, and so in principle empirical. We contend that there is in truth no *real subject*, whether we call it empirical or non-empirical, that we can directly know. The so-called empirical subject is not in its turn known at the time it is supposed to know. But then there is no such thing as the empirical subject, and no duality of the subject and the object in knowledge.

All knowledge is non-dualistic at the time it is real knowledge. The dualism of the subject and the object is a later product, the product of reflective thought. This thought has no relation to the original reality of knowledge, and is in fact a falsification of it. Where there is no dualism, a dualism is created and imposed. All knowledge is essentially pure and non-dualistic knowledge. There is no other. What goes by the name of knowledge of objects is a pure conceptual fiction. Knowledge of objects is not knowledge at all.

This view may not be generally acceptable. It may be considered too primitive and crude. We shall therefore suppose that all *prima facie* knowledge is real knowledge, and that reflection does not pervert it. We have in this case to account for the possibility of the revelation in consciousness of this knowledge with its difference of the subject and the object. Without such revelation at the time, reflection becomes impossible. For reflection is not a species of knowledge. It is only analysis undertaken by thought, for the sake of intelligibility, on what is known otherwise, either through direct awareness or through memory. There must therefore be some form of direct awareness of each piece of knowledge as it occurs. That there is no empirical knowledge of the record-grade at the time is quite certain. Otherwise we should have to admit an infinite series of acts of knowledge at a single moment. But there are two other alternatives still open to us.

(1) There is a higher and pure consciousness which knows without any further act of knowledge. It is called *sākṣi-jñāna* in Advaitic literature. This actless awareness of an act of knowledge is later translated into the awareness of reflective thought on the basis of memory. How memory is possible under the circumstances is a question (for an act of knowledge of the record grade has not taken place which can leave a trace or a *samskāra* in the mind); but it must be somehow possible, if the later awareness in terms of thought is to be accounted for. What is certain is that the subject together with its object is known or revealed at the time by a pure consciousness which does not act or function. The admission of this pure actless consciousness which does not function, or know in an empirical way, is thus fundamental.

(2) We can also give a slightly different account. That there is a higher transcendental consciousness that reveals the subject in empirical knowledge together with this knowledge cannot be doubted. But the mode of its revelation may not be just as it is indicated above. We have no awareness whatsoever of empirical knowledge at the time the latter is supposed to occur. We have rather the

awareness of a transition from one state of the mind to another, or from no-knowledge to knowledge. Since an act of knowledge is what occurs, and since we are aware of this act, there must be an actless consciousness which precedes the act as well as continues after it. Otherwise, the act cannot be known. We cannot break up the awareness of an act into separate pieces of awareness. It is one simultaneous awareness. It is not the case that we first know the situation that precedes the act, that next we know the act, and that finally we know the situation after the act. The situation before and after the act is part and parcel of the awareness of the act itself. This awareness we have said is actless or of the nature of pure consciousness. If it were otherwise, we should have three different acts of awareness,—that relating to the situation before knowledge occurs, that relating to actual knowledge, and lastly that relating to the end of knowledge. But introspection reveals no such series of acts of the second grade. Besides, the situation before an act of knowledge occurs represents no content in itself and is a pure negation. How can it be grasped through an act of awareness? The inference is inevitable that there is no act of the second grade, or a higher act of knowledge that grasps a lower act of knowledge. It is the actless consciousness that is aware of an act, and it is aware of it not as something standing by itself and as a single entity, but only as it forms part of a transition of states. It is the *transition* from no act to act that forms the simultaneous object of the higher consciousness. Further, the apparent sequence in the states is apparent only or false, because the consciousness that reveals them does not reveal them "successively" through separate acts of knowledge. It is one indivisible consciousness out of time, and in which there is no succession, that reveals them at the same time. Thus we are forced, in any strict interpretation of facts, to admit the reality of a higher grade of consciousness, a pure consciousness, which is ever the subject and never an object. It is the non-recognition of this, that infects the whole thought that originated in Kant. The ultimate dualism of the subject and the object in our view of ultimate reality is a necessary corollary of this initial error.

If we are driven to the admission of this higher consciousness, can we argue that it is correlative to anything or that it exists in relation to some object? That is true of the empirical subject only which *functions* in order to know. But what reveals it is the pure subject which can never be known in the objective attitude or as a correlative term. It reveals every such correlation. It is the ultimate principle of intelligence or of awareness which cannot be denied. We cannot therefore argue that there is no pure subject, because

we do not *know* any such thing. If we knew it as we know the "subject in empirical knowledge", it would cease to be itself. There is no higher principle of intelligence that can reveal it or objectify it. "Who can know the knower?" Here we are face to face with a reality which is not the reality of *function*, but of *being* pure and simple. It is being that is in itself *unrelated*; and if we must *know* it, we must change radically the mode of our approach. It is only known as the pure self; and so free from any dualism. This unity of the ultimate subject is the only true and ultimate unity, indicated by an analysis of our experience.

Hegel gave up the abstraction of things-in-themselves, and the abstraction of an empty logical unity of the subject. He substituted for them the concrete unity of the concept. Our criticism against him is that he is extremely one-sided, and that while he talks of a concrete reality, he offers us an extreme abstraction himself. Kant may have been an agnostic. But he dealt with real experience, and tried to get at its implications through analysis. He gave a more or less balanced analysis after all. Hegel was carried away, like a doctrinaire, into the shadowland of empty concepts. He minimised the value of actual experience, and in seeking to rationalise it, he merely succeeded in explaining it away. He did not render this experience more intelligible and more profound, in significance or as revelatory of a higher reality; but he substituted for it another experience altogether, which was declared to be a higher kind of experience or experience at the level of pure reason as such, but which was of very doubtful value.

The unity of the Idea is the unity of reason. All its content is the content of reason. But how do we get at this unity? The unity of the subject at least is known in some sense, and we can raise a question whether it represents any real being or merely a logical function in knowledge. Although our analysis and our interpretation of it may differ, we have some intuition of 'I' as a principle of unity and of continuity in mental life. When we want to replace this by something supposedly more concrete in the form of the concept, this new kind of unity is not apparent. It is not given to begin with. We have to devise some method for getting at it. This is the dialectical method. This method consists in the analysis of certain concepts employed by reason in *experience*. Our starting point therefore is not the analysis of pure concepts of reason as such. Reason by itself supplies us neither with any content nor with any unity. We resort to experience in order to get any material for our analysis, some concept of reason which we may analyse. So much is this the

case that if there is no experience, there is no function of reason in evidence, and there is no rational concept to analyse. Even the most general and the widest category, the category of being, has this reference to experience. Being of what? Only something given in experience can be credited with being. We are thus inevitably led, as Kant was led, to the intuitions of sense for any real or actual being. Although therefore reason may be said to be a necessary factor in experience, it has no independent reality of its own. Each and every concept of reason synthesises a multiplicity. This multiplicity is not nothing or mere non-being. If it were, reason itself would have no meaning, and no validity. If reason is real, it is real only in its *function* with regard to sensible matter. But is this sensible matter real? Certainly it is not in itself something rational. It cannot be analysed into any concepts of reason. Either therefore something is real without being rational, or reason itself loses all *reference to reality* and is reduced to empty and meaningless concepts. The much talked of concreteness of the Idea has completely vanished. In fact, in retaining the reality of the concept and in emphasising the dynamical character of reason, the outer world or the world of multiplicity, has to be brought in once again. Otherwise, the very moments and movements of reason lose all sense. We need to have *experience* in order to get at the higher categories, to arrange them, and to study their inner dynamical movement towards greater adequacy or completeness.

For how is the progress of the dialectic achieved? It is possible to show, through analysis, that any particular concept is one-sided, and that when it is taken to apply to the whole of reality, it reveals its inadequacy; so much so, that the antithetic concept becomes equally true of reality. To reconcile this contradiction, a new concept of the nature of synthesis of the two is demanded. But how do we get at this higher concept? Can *mere analysis* bring it out? Can it be logically *deduced* from the concepts analysed? If it could be so deduced, such deduction ought to be absolutely certain and mechanical. This is certainly not the case. It requires a philosopher's insight to make the leap. The concept represents a new insight, and it is drawn from, and suggested by, some higher level of experience. Can we argue that experience is nothing to the dialectical process, and that pure reason supplies all its material and is the only reality? Can we advance from one pure concept to another pure concept without reference to experience? And is there absolute certainty about this advance? A purely formal process of deduction may claim this certainty; but no mere personal insight of an individual philosopher can do so. It is extremely unlikely that the dialectical process could not be conceived in some other way, or that

there is a fool-proof method of progress which any highly trained philosophical mind could automatically take.

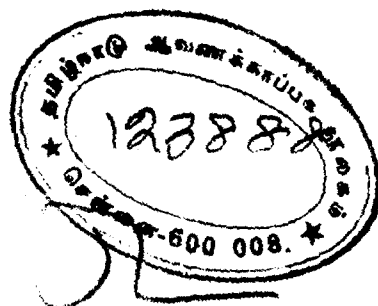
The reality of reason is correlative. It does not stand by itself. It is a factor in experience, the other factor being intuition. Mere concept is empty. It refers to nothing. It has no meaning. Reason as such contains no kind of multiplicity, no differences of concept. It is experience as a whole that contains these differences, which are then abstracted and transferred to the inner world of reason. The varied forms of experience thus become the more attenuated forms of rational content. The empirical bias is in this way incorporated within reason itself; for the origin of the multiplicity is, in the last analysis, nothing but empirical. Leaving experience aside, there is no method by which multiplicity of any kind could be evolved within reason itself. If reality is restricted to the concept *alone*, we have only a pale intellectual shadow of things, less real than those things which were for Kant the only fit objects of knowledge. From things-in-themselves which ought to be most real, we have descended, through phenomenal objects subjectively constructed, to ghostly shadows of reason. This game of reason has *apparently* succeeded, because experience has been widely drawn upon, although unconsciously. But when the purpose of thought is achieved in this suspicious manner (through to a tacit reference to experience), by a kind of legerdemain, experience itself is pushed away, and we are shown, or at least so it is supposed, a movement of pure and naked reason itself; and this is called the higher experience, or experience at the level of reason as such. Is anything left for higher knowledge after this? Has not reason supplied all its content? Those, like us, who are sceptical of this whole intention of thought, demand something more concrete. The dialectical movement of thought has not ended our inquisitiveness for knowledge of ultimate reality or the higher philosophical knowledge.

Hegel himself went beyond his logic, with which all philosophical inquiry ought to have ended according to his own postulates. He had a philosophy of nature, a philosophy of spirit, and a philosophy of history. But if the real task of philosophy is confined to the universal movement of reason, our quest should end there. There can be no departmental philosophy. We have already transcended experience and its different forms. What Hegel really tried to show was the validity of the dialectical process in the realm of nature and in the realm of spirit. But was this very necessary? Could greater certainty be achieved in this way? If we have achieved the most certain knowledge based upon the intuitions of reason, and reached the most concrete reality of the Idea where is the necessity

to study the application of the more concrete to the supposedly less concrete reality of experience in its diversified forms? We have a suspicion that notwithstanding the hosannas about reason, it is actual experience that is unconsciously taken to be more real and more concrete. Reason cannot explain the content of history, of nature and of spirit, or more generally the content of experience as such.

So far as our present problem is concerned, the unity of the Absolute Idea is not a matter of experience. It is not concrete reality. It is a concept which has no meaning in itself and divorced from experience. It does not supply its own content. It demands something that is really other to it, and not evolved out of itself. We have in fact lost the more concrete and the more intelligible unity of the self or the subject and got instead the abstraction of a concept. To identify this with our real self is unwarranted, and any kind of higher self-consciousness in this new sense, in which the Idea is the subject and the Idea is the object, appears to us to be quite doubtful.

(To be continued)



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