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Philosophical Quarterly

Ap. 1947



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QM-2, N25
N47-21.1
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233

THE
PHILOSOPHICAL QUARTERLY

Vol. XXI, No. 1]

[April, 1947

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AN ORGAN

OF

434

THE INDIAN INSTITUTE OF PHILOSOPHY

AND

THE INDIAN PHILOSOPHICAL CONGRESS

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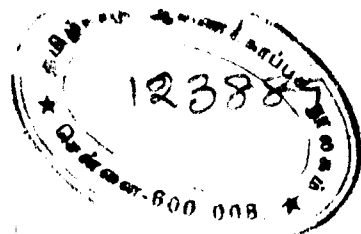
Yearly Subscription Rs. 4

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PRINTED BY V. M. PHILIP AT THE DIOCESAN PRESS
18 CHURCH ROAD, VEPERY, MADRAS (P.I.C. NO. Q.H. MS. 5)
AND PUBLISHED BY THE INDIAN INSTITUTE OF PHILOSOPHY AT AMALNER, E. KHANDESH.
(PAPER SUPPLIED BY CUSTOMER)
4-2-1948. 100 COPIES. C4705

THE PHILOSOPHICAL QUARTERLY

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[April, 1947

An Argument for the Unknown

BY

PROF. D. M. DATTA

Whatever else human knowledge may be it is certain that, to be worth the name, it must be awareness of something which is new in some respect or other. Because human knowledge which comes into existence at a particular time must be non-existent previously, and the object (in the particular aspect) revealed by knowledge must, therefore, be unknown during that previous period of non-existence of knowledge. Calling this object or its particular aspect, which was not known previously, the unknown, we can ask the question: What is the nature of the unknown? How can this question be answered?

Some would suggest that the unknown is the cause of the known, and as the cause must somehow contain the effect, the unknown must be *like* the known. But even if this argument is granted, a further question may be asked to ascertain the exact meaning of the answer. Does it mean that the cause, the unknown, is wholly identical with its effect, the known, or that it is *not* wholly so? The first meaning is not acceptable because it would imply that the process of causation does not make *any* change and this would make the idea of causation inconceivable and, therefore, nullify the above causal argument. The second meaning, which alone remains, would imply *some* difference at least between the cause and the effect, and therefore, between the unknown and the known. It has to be admitted, therefore, that to the extent, or in the aspect, that the cause is different, the unknown must be wholly unknown. The conclusion that is forced on us is that some element *must remain unknown*. Its nature is not at all ascertainable by this causal argument and if no other method of ascertainment is available, this unknown has to be accepted as unknowable as well.

But we can anticipate here an objection against this conclusion. One can point out that in so far as the unknown is at least regarded as the cause of the knowledge of an object, it is so far known, and is not wholly unknown nor unknowable. But this objection is not insuperable. Our notion of causality is derived from the observation

of a certain relation among two *known* objects and it is applicable primarily to the realm of the known. It is only by force of analogy that we come to think of the unknown as the *cause* of the known. Such thought is, therefore, hypothetical. That is to say, if we are to think of the unknown on the analogy of the known, the former could be regarded as the cause. Causality is therefore, only a symbolic description of the unknown, based purely on an analogy. That there must be something before knowledge arises, that it must be connected and continuous with the arising of knowledge all these are ultimately based upon the notion of causal relation observed in the realm of objects known. And even if the idea of causality be *a priori* and necessary, as Kant holds, it would only mean that we cannot *experience or know* objects without applying this idea; it would not follow that what is *not known* must also be a cause.

From this causal line of inquiry into the nature of the unknown we can turn to an epistemological one. One can suggest that to be an object of knowledge, something, say a table, must obey the laws of thought and the conditions which make knowledge possible. So even while the table is unknown it must possess these characteristics with the help of which we can describe it. It is not, therefore, unknowable. But here, as before, it is possible to object that to describe the object before it has entered knowledge in terms of the forms it assumes when it enters knowledge is only a retrospective description, and we can never feel certain that it does really apply, any more than we can be sure that since the water which enters a tube is circular it must be circular even before it enters the tube, or that because a table looks red when it is seen through red glasses it must be red in itself. The whole point at issue is whether from the fact that something expresses itself in a particular form we can say that it must always be of that form. At best we can say that it is capable of expressing itself in that form. But this amounts to saying little more than that it assumes that form when it enters knowledge. How can we then ascertain the nature of an object before it enters knowledge? Does not this seem to be unknowable?

This scepticism does not affect our practical life. For practical purpose, we can describe an object retrospectively, and call the unknown state of the thing also a table. But such convenient fiction does not remove our theoretical doubt. Of course if one is pragmatic enough to identify truth with practical utility the difficulty would not arise. But one who does not do so fails to get rid of this doubt.

Some acute thinkers would point out that such scepticism is based on an undue assumption. The question regarding the nature of the unknown can arise only if one assumes the existence of the unknown.

But if the unknown is really so, you cannot even know that it exists, or that it is the previous state of the known. Unfortunately, this very legitimate contention, far from removing doubt, deepens scepticism. For, whereas there is no proof for the existence of the unknown, neither is there any proof for its non-existence. Idealism proves too much when it denies the existence of the unknown simply because its existence cannot be proved. Realism also proves too much when it affirms the existence of something whose non-existence cannot be proved. The only rational attitude of the mind in such a circumstance is to suspend judgement. So ultimately the doubt about the nature of the unknown envelopes even its existence. The unknown thus turns out to be absolutely indefinite, and nothing can be predicated of it since its existence itself is doubted, though not disproved.

We cannot, therefore, avoid the indefinite. It is like the shadow lying in the background of whatever emerges in our knowledge in a definite form. Practical life is interested only in the definite, and our attention, therefore, turns towards it, turning its back on the indefinite. When, for example, we are asked to imagine something, and we imagine a golden mountain we feel that this definite object emerges out of an indefinite background. It was possible for us to imagine any other object, and it is by rejecting all other possible alternatives that we entertain this particular image. Imagination of a definite object involves, therefore, withdrawal of attention from the rest and selection out of what is not previously of any definite character, that is out of the indefinite. In a similar way, perception also involves selection of an undefined background out of which the perceived emerges in a definite form. So also do we find when we speak really *ex tempore*. Ideas and words spring into existence and assume definite forms out of what was previously formless. In fact, round about every sort of definite consciousness there is always the indefinite. That the awareness of the definite involves an awareness of its limit and an awareness of its emerging by concentration and withdrawal of attention from other indefinite possibilities, cannot be ignored.

It is true that we cannot discover the indefinite by turning our positive attention away from the definite, any more than we can discover the darkness at the back of a searchlight by turning it round. Whichever way attention is positively turned there would emerge a definite object, just as wherever the searchlight is focussed some object or other comes to light instead of some speck of darkness. Attention reveals definite objects one after another out of the dark indefinite that lies all round.

A view such as this will be unacceptable to the positivist whose attention is always fixed on the positive objects emerging in experience.

It will be repugnant also to the Hegelian panlogist who equates reality to the logical or the rational, leaving no room for the non-rational, unknown or the indefinite. We shall briefly consider their objections here.

Out of the positivist's arguments we shall select here the most recent and the most radical one, namely that to talk of the unknowable is to talk of the meaningless. Every word, the logical positivist points out, stands for some positive, experienced fact, and so the word unknowable cannot correspond to any such fact, and is, therefore, devoid of meaning. Even if this argument is accepted its effect on the point at issue would be that the unknowable is inexpressible in words. But is there any reason to make us think that the expressible exhausts the whole domain of possibles? On the contrary do we not find that even certain definite facts of experience (e.g. the exact character of a bodily feeling, or of a joy or a sorrow) though clearly felt cannot be expressed in language? The word, unknowable, or indefinite suggests to us something other than the knowable or the definite and it conveys a meaning other than a positive one. In other words it only points to the necessity of recognizing a negative function of meaning, in addition to the ordinary positive one—a meaning obtained by negation of the positive and the definite.

Turning to the panlogist we meet with a host of objections. We may refer the reader for this purpose to an article contributed in the July, 1942, number of the *Review of Philosophy and Religion* by Mr. A. C. Mukherji under the title 'Reality and Rationality', where he will find an account of the usual objections. It will be convenient for us to select some of the basic arguments from this paper and consider their effect on the present thesis. Mr. Mukherji will strongly remind one of the confident Hegelian flourishing a quarter of a century ago and believing that the mystery of the universe has been solved once for all, and that one has only to 'comprehend' and 'propagate' the truth. Blindness to some necessary, transcendental principles, he thinks, 'leads to the unnecessary multiplication of philosophical systems.' (p.8). He tries to show how Plato, Kant, Bradley, Bergson and some others miss the truth owing to the partial or complete 'transcendental blindness.'

One of these transcendental principles is the one Kant brought into prominence, namely that 'concepts which make experience possible are on that very ground necessary'. But Kant did not fully realize the implication of this principle or he would not speak of the unknowable, which, Mr. Mukherji, like so many other critics of Kant, feels sure, is inconsistent with this principle. The inconsistency, which has not been explicitly demonstrated by him, is generally shown thus: you cannot speak of the unknowable unless it is an object of

your knowledge, and if it is an object of knowledge it ceases to be unknowable. Is such an argument really sound? If it were so, you could never say about anything that you do not know it. For at once the objection could be raised, if you did not really know the thing how could you even know and say that you do not know it? And thus finally you would be led to the paradox that you must know what you do not know. A paradox like this can be accepted only if the word 'know' bears two different senses, or it would be an open contradiction. Then surely the sense or respect in which the thing is unknown is not the very sense or respect in which it can be said to be known. For Kant, the thing in itself is unknown and unknowable in the sense that it cannot be expressed in terms of space, time and categories. It cannot be said to be known or knowable in this sense unless we identify it completely with that which has actually entered sense-experience.

Though Mr. Mukherji is not prepared to accept the distinction between the knowable and the unknowable (p. 15), he does believe in the distinction between absolute truth and human truth in certain respects, and that the former is realised in human knowable (p. 20). What could we say of the unrealized aspect of the Absolute truth? If it is also known in the sense in which the realized aspect is, the distinction between the two would be unintelligible. And if it is not so known then the unrealized Absolute is beyond such human knowledge. To apply to it the principles that govern the entering and expression of the absolute in human knowledge would be, as we tried to show in the earlier part of the paper, taking a step the infallibility of which cannot be guaranteed by reasoning. The unrealized will thus remain unascertainable and so unknowable.

But how can we think of the unknowable? Is it not necessary that whatever enters thought must obey the logical laws of thought? But can we not similarly ask the question, how can we speak and think of the contradictory? It is not surely because the contradictory obeys the principles of thought, for then it would be no longer contradictory. This should open our eyes to the fact that thought can be aware, though in two different ways, as much of what accepts the yoke of its laws as of what rebels against it or eludes its grasp. It is the latter sort of experience which makes thought aware of its limit and points to something beyond.

If you confine however the word, 'thought' to logical consciousness, that is consciousness which obeys the laws of consistency, you must admit some other kind of consciousness which presents the illogical, contradictory stuff to thought and which thought fails to reduce into its own form, that is into a consistent system. If the texture of the

human mind were *wholly* logical or rational, the long-drawn moral and intellectual efforts to rationalize life and mind would remain unexplained. The irrational character of the human mind which has gradually to be broken to the reins of reason with great difficulty clearly points to the irrational or the illogical, which *may* accept the laws of logic, but is not rational *ab initio*. The frequent failure of the rationalizing process of thought (e.g. in cases of fallacious thinking) further makes it clear that thought's power of rationalizing our consciousness is not always sufficient. This would also show that even if consciousness be absolute, it is not wholly rational.

But is it not contradictory to think of the irrational? Is not a philosophy which accepts the irrational self-contradictory? It would be so if to think of the irrational could be shown to be an illogical or contradictory process of consciousness. But it is not really so. To think of the irrational is not thinking irrationally, any more than to think of dreams is itself dreaming. In fact Logic does and has to discuss all fallacies of thought, and in discussing them it does not surely become fallacious itself. The charge of inconsistency does not, therefore, apply to a philosophy which recognizes the irrational and, therefore, the limitation of logical thought. Of course the philosophy that discusses the irrational must and does accept the laws of logical thought in discussing it. But the irrational which is discussed in a rational or logical way does not cease to be irrational, even as a dream being discussed does not cease to be a dream, or a philosopher's contradiction does not cease to be so when it is logically discussed by its critics.

From different lines of thought we can then come to the conclusion that human knowledge and logical thought are not absolute or all-inclusive and that, on the contrary, they are limited. The boundary is not, of course fixed. It goes on being shifted as more of the unknown enters knowledge and becomes rationally systematized. The recognition of this limit is not self-contradictory, but is the result of logical processes of thought, and is, therefore, binding on thought if it is not to give up the game at the sight of its defeat or curtailment of its territory. The unknown is known *as the unknown* just as the illogical is thought logically to be illogical. Knowledge or thought cannot say what lies beyond itself except that it is beyond knowledge. No judgment, no description, is, therefore, possible of it. It has to be recognized as the utterly indefinite. To say that it is indefinite or indescribable is simply to state that it transcends the power of description and judgment. And if such a description be called a judgment, it will be nothing more than a judgment about the unjudgeable nature of the indefinite.

Now if 'absolute' be an all-inclusive term including all that we can refer to directly or indirectly, positively or negatively, we do not see how it can be definite, logical or rational through and through. In so far as this absolute enters the logical pale of our systematic thought it surely assumes a logical character. But even the whole of what enters the human mind, we saw, is not logical, nor even wholly definite. Round about our clear consciousness of the definite there is always the fringe of the indefinite, and facing and coming up against the rational there is sometimes the irrational that baffles the rationalizing process of logical thought.

The position defended here is not absolute scepticism. It is only the recognition of the limits of human knowledge and logical thought. Philosophy in so far as it plays the game of reasoning must obey the laws of reasoning. But there is no reason why it should not bear in mind that it is a game after all and has its limits. The moral effect of such an attitude on philosophy would be humility leading to the dissolution of the all-sufficient cock-sureness which more than anything else, is the source of philosophic pugnacity. It counsels patience and prepares the mind for *new* revelations instead of making it legislate in advance that the unrevealed is of a piece with the revealed.

Husserl's Phenomenology

P. S. RAMANATHAN, NAGPUR

Edmund Husserl has expounded what he calls 'Transcendental, Phenomenological Idealism'. That this theory is novel and startling in its character is evident from his remark in his preface to the English Edition of his book entitled 'Ideas—General Introduction to Pure Phenomenology' that 'now as ever I hold every form of current philosophical realism to be in principle absurd, as no less every idealism to which in its own arguments that realism stands contrasted, and which in fact it refutes.' (Page 19.) With the limits of this short paper, we propose to examine some of the salient points of this original theory.

Phenomenology claims to be the basic critical science for all sciences including Metaphysics, Psychology, Geometry and Logic. By an analysis of the realm of pure consciousness, which Husserl reaches by a process of 'suspending' or 'bracketing' all reference to physical facts or existences, he seeks to find out the origins and fundamentals of every kind. This method of analysis is developed by first of all distinguishing between facts and essences.

In our ordinary experience or perception we become aware of facts or physical things and through the inner or self-perception we get to know ourselves and states of our consciousness. We get to know others and their experiences through what Husserl calls 'empathy', i.e. through the interpretation of our perception of their bodily behaviour. While our ordinary perception is a 'primordial dator act' we have no 'primordial' knowledge of others' experience.

The 'primordial dator act' posits the real in individual forms. They are facts having spatio-temporal existence. Husserl says that facts are 'accidental' in the sense that they could be other than what they are. Even if we know the laws according to which they exist, the contingent character still remains inasmuch as the laws are just 'orderings that do in fact obtain'. But Husserl further points that this contingency or matter-of-factness is correlative to a necessity which is derived from its essence or Eidos. This eidos or essence has 'being as it is in itself' and can belong to other individuals.

Though 'at first' the essence of an individual comes to us only as a revelation of the nature or the 'what' of the individual it can be 'set out as idea'. By means of 'essential insight' or 'ideation', as different from 'empirical insight' or ordinary perception, we come to know essence or eidos. While ordinary perception gives us only a

one-sided or piecemeal understanding of the individual objects which needs to be supplemented by an infinite number of such perceptions, 'Essential insight' gives an object of a new type—a 'pure essence'; 'just as the datum of individual or empirical intuition is an individual object, so the datum of essential intuition is a pure essence.' (Page 55, 'Ideas'). Essential Intuition is still intuition and the essence is still an object though not real. It has being in itself. The two kinds of intuition differ in principle and the differences correspond to the relations between 'existence' and 'essence'.

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Having thus distinguished fact and essence and conceded to both 'being' or the status of 'object', Husserl admits that no essential intuition is possible 'without the free possibility of directing one's fancy to an individual counterpart and of shaping an illustration . . . just as no individual intuition is possible without the free possibility of carrying out an ideation and therein directing one's glance upon the corresponding essence which exemplifies itself in something individually visible, but that does not alter the fact that the two intuitions differ in principle.' (P. 56 Ibid). Here it is legitimate to ask—if the two are thus bound up can we not sum up the difference as resting merely in the fact that while in the case of the individual intuition we are in contact with an existent reality, in the other case we are concerned with the revival of a meaning in the psychical series? Husserl himself has stated that 'at first' 'essence indicated what the individual discloses to us as a part of its nature'. If that is so when does the essence cease to be a 'what' and becomes a 'that' unless it be in virtue of the fact that it is being thought of afterwards by a real existent self. In the latter case it is just a case of revival of meaning, a product of a psychical process. Husserl anticipating this objection has stated that what is engendered in the act of abstracting is not the 'essence' but the consciousness of the essence (Page 91). But how is this related to the individual objects of which it is an essence if it is regarded as having being-in-itself. The very term essence implies that it is an abstraction. Besides, however much we may understand the 'that' there is something in it which cannot be reduced to mere 'what' and a science of the mere 'whats' cannot determine the existence of the 'that' unless the 'whats' are taken in their reference to the spatio-temporal reality. We have in empirical intuition an apprehension of a real object while in essential intuition we have a revival of meaning which is a derivative of the original experience.

Husserl brings forward another consideration. He says we have intuition of essence not only through perception of empirical intuitions but also from non-empirical intuitions of a merely imaginative order. He can by play of fancy or imagination bring before consciousness fictitious objects or acts and also through ideation secure primordial

and even on occasions adequate insight into 'pure essences in manifold variety'. But these essences given by fancy or ideation have to depend 'at first' upon empirical intuition and therefore to set up fact and essence as belonging to different orders of being is to overlook the dependent character of the latter upon the former. This explains Husserl's difficulty to explain the essence of such expressions as are dependent upon subjective conditions or circumstances. Such 'occasional' expressions as he calls them, expressions like 'here' 'now' 'I' etc., refuse to be abstracted and seem rivetted to the existential reality. If a priori sciences like geometry, Pure Logic, Pure Mathematics, pure time-theory, etc. are able to get on without direct reference to existential reality it is only because they deal with concepts which are avowedly abstract. But they cannot be regarded as essences of existing things, but only as conceptual relations or forms in which things may be understood.

It is one thing to say that the predicables of an object can be thought of in themselves, but it is different to say that the predicables when thus considered in themselves belong to another order of being. Dr. Boyce Gibson who has translated Husserl's work 'Ideas' remarks as follows:—'Husserl's contention is that the main orders of real fact and ideal essence are intrinsically separate, and that the ultimate science of all is an a priori science of pure experience which has no concern with existing realities but deals solely with essences.' mind—(Vol. 34 Page 83). An a priori science deals with abstract relations or categories of thought, but any derivation of the content of empirical experience from such a science is impossible. No eidetic science would enable us to determine fully the contents of the factual world.

Following the same line of distinction as between fact and essence Husserl proceeds to derive what he calls the transcendental ego or pure consciousness and claims that by an analysis of the same, phenomenology a basic science could be established. 'Transcendental Phenomenology is in itself universal idealism worked out as a science'. (Page 20 Ibid). He arrives at the notion of 'Pure consciousness' in the following manner:

'Turning inwards in pure reflexion, following exclusively 'inner experience' (self-experience or 'empathy' to be more precise), and setting aside all the psycho-physical questions which relate to man as a corporeal being, I obtain an original and pure descriptive knowledge of the psychical as it is in itself'. (Page 13-14). As a result of this transformation to the phenomenological standpoint, 'I am no longer a human Ego in the universal, existentially posited world, but exclusively a subject *for* which this world has being and purely indeed, as that which appears to me, is presented to me' (Ibid). The consciousness of the Ego left over after suspending every judgment concerning

the world that exists in space and time and the Ego as a psycho-physical being yields 'the transcendental Ego which exists (*ist*) absolutely in and for itself prior to all cosmic being (which first wins in and through it existential validity.)' (Ibid). Thus that which we are conscious of through 'suspension' or bracketing' of everything else becomes the presupposition of the world. The outcome of his process of reduction becomes the ultimate basis of everything else.

But if pure consciousness or experience in itself is the primary reality and everything else follows from it, then Husserl's position is open to the charge of being solipsistic. Husserl, aware of this as an objection against his theory replies that 'given a proper understanding of my exposition, the solipsistic objection shall never have been raised against phenomenological idealism but only as an objection to the incompleteness of my exposition'. (Page 19). According to him the existence of the world is indubitable. 'That it exists—given as it is, as a universe out there in an experience that is continuous, and held persistently together through a thread of wide-spread unanimity,—that is quite indubitable'. (Page 21). But according to him the continuance of such an experience in the future is only a presumption and hence the non-existence of the world is 'thinkable'. It must be noted that what he means by 'exist' is existence in, and so long as there is, experience. If that be so his position is in no way different from Idealism. What is left over by a process of psychological abstraction attains ontological priority.

The pure preconceptual consciousness which yields the transcendental Ego is nevertheless experience through which we become aware of the Ego. "Immediate 'seeing' (sehen), not merely the sensory seeing of experience, but seeing in general as a primordial dator consciousness of any kind whatsoever, is the ultimate source of justification for all rational statements". (Page 84). But 'seeing' has no meaning unless something is seen, and that which is seen is an object. If the pure consciousness does not involve intuiting or seeing the Ego there is no ultimate Ego and if the Ego is intuited it is not transcendental. The Claim of 'transcendental subjectivity' can be made out only at the cost of the entity to which this grandiose epithet is attributed.

If the Ego is perceived, however pure the consciousness may be, the recognition of it conflicts with his earlier distinction between fact and essence. Experience hereof of all empirical reference can be only intuition of essence and not existence. If the ego is regarded as existing, though transcendental, Husserl's attempt to save his theory from the reproach of Platonic Realism is of no avail.

Pure consciousness must be self-consciousness and self-consciousness is consciousness of the self as object. Inner reflexion or 'empathy'

is as much seeing or perception of objects as ordinary sensory perception of material objects which have spatio-temporal existence. The self of self-consciousness too is not devoid of temporal reference even if spatial relation is excluded by conceiving it as disembodied. Self-consciousness is not outside the province of Psychology and is object-giving. By the process of reduction, or labelling it as pure we cannot preserve its subjectivity devoid of all objective reference. If the self is not an existing entity then Husserl cannot speak of an Ego except in the sense of unity of experience.

If Husserl's contention is merely that the words 'facts' and 'experience' should be restricted to 'facts relating to the physical world' and 'sensory experience' then there is no fundamental difference between his position and the position of Critical Realists. It is when he is making a radical distinction between the being of fact and the being of essence and talks of a transcendental Ego that the trouble arises. But he does not adhere to this distinction when he says that self-consciousness posits the Ego as real and that it exists.

To conclude Husserl's position wavers between Critical Realism and certain forms of Idealism and his attempt to found an *a priori* critical science which will be a foundation for future Metaphysics seems to have ended unsuccessfully.

The Growth of the General Will

BY

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I

From the time of Rousseau to the present day the problem of the general will is one of the central topics of both political philosophy and social psychology. And the idealist school has added to it the problem of the real will. Connected with these problems again is that of the group mind, whether there is an over-individual mind, not merely in heaven, but on earth, which is distinct from the individual minds. If there is really such a mind, it is further asked, whether it has a distinct organic basis, whether there is an over-individual or social organism, of which the individual organisms are only parts. In any case, whether or not there is such an organism and mind, the question is raised how the individual acquires social consciousness, becomes a social self or personality and comes to will what is good for society as a whole. It is the last question that is discussed in this paper.

That, if the individual, untutored by society, is left to himself from his childhood, he cannot become a social being is tacitly or overtly supposed by all writers. But what generally happens is that when the individual is separated from a society natural to him, he is adopted into another society, if not into the human at least into the animal. The famous instance of wolf-children is to the point.¹ These children developed the habits of wolf-life and after discovery it was with great difficulty that they could be trained to be at least human. Their socialisation by the wolves took such a strong hold on them that even expert training could not bring them to the level of civilised society. If undiscovered, they would have been lost completely to humanity.

The child at birth is not a social animal. He is not even an individual in the sense that he distinguishes his own self from the selves of others. It is we who make that distinction and treat the child as an individual. In the words of William James, the world for the child is at first a 'booming buzzing confusion'. It is all

¹ Krueger and Reckless: *Social Psychology*, p. 98.

sound, all colour, in short all sensations so interfused that distinctions are not drawn between them. Karl Pearson says that the child cannot distinguish its own body from other objects. There is no difference for it between external and internal: sensation does not end at the periphery of the body. It is common observation that the baby's hands while clutching the bed cloths grasp each other and each tries to pull the other and force it into the little mouth. That is, each hand does not know that the owner of the other is the same as its owner. It also happens that the baby with both its hands seizes its foot, tries to drag it into its mouth, begins to cry on account of consequent pain, but does not release its foot. Somebody has to go and separate the hands and the foot. This fact also shows that the child at first is not conscious of its being the common owner of both hands and feet. The child will cry when pinched both at hands and feet; but its life is a life of pure sensation, so diffuse and vague that it not only does not draw the distinction between self and other but also does not know the common ownership of the different parts of its own body.

The human child at birth is a plastic substance which allows a variety of forms to be given. A few weeks after birth the child reacts differently to animate and inanimate objects. By about the end of the second month the child's interest in human adults is quite recognisable.¹ The child is at first interested in the mother or in the nurse. No distinction between a threatening and a friendly voice is made till about the fifth month; and only in the seventh is the discrimination made between strangers and familiar persons.² In the twelfth month it understands commands and inhibits simple acts.³ From this time onwards more and more intense socialisation begins.

Whether at the prehuman stages of evolution the environment moulds the nature of the species or only selects the fittest species, at the human level, it is accepted by almost all recent writers that the environment exercises great influence in shaping the nature of men. Even long ago Buckle in his *History of Civilization* maintained that the geographical conditions determine culture. Lamarck held that the environment acts on human beings. Not only Montequie but also Bodin in the 16th century recognised the influence of physical conditions on the mentality of people. Similar ideas can be traced in Plato and Aristotle.

While race and society have, to speak roughly, only one kind of environment, namely, the natural, the individual has two kinds, the natural and the social. Both influence the formation of his

¹ Goodenough: *Developmental Psychology*, p. 211 sqq.

² Gessell: *Infancy and Human Growth*, p. 181.

³ *Ibid*, p. 138.

personality. It is difficult to draw a hard and fast distinction between the two environments. Natural and social objects pass and re-pass into each other. What are only natural objects to one society are social objects to another. Stones and hills worshipped by some, which thereby get a social meaning, are only inanimate objects to others. And the same society which worshipped inanimate objects once may give up the worship and treat the objects as merely natural. Even after superstitions cease social significance may continue to be attached to some of the objects. Hills and riversides may become fashionable resorts, and sentiments built up around them may be strengthened instead of being resolved.

One of the best classifications of environment so far given is that by Professor Bernard.¹ He divides it into four kinds, the physical, the biological, the social and the institutionalised derivative control environments. The physical environment is climate, soil etc.; the biological is the physiological equipment of the individual as well as his relations to other organic beings like germs and insects; the social environment consists of physico-social objects like tools, toys and furniture, bio-social environment like plants, domesticated animals and servants, and psycho-social environment like traditions, customs and folk-lore and language; and the last comprises the economic, political and racial environments.

The individual is influenced by all these factors. From the embryonic stage to manhood he is shaped both directly and indirectly by all of them. From the moment he comes out of his mother's womb socialisation begins. His food is a social product. He is taught which toys to play with and how to play with them, how to behave towards inferiors, equals and superiors, how to treat persons younger, equal in age and older, what dress to wear and how to wear it, what manners and etiquette to adopt: in short he is indoctrinated with the ethos of the group. Society always tries to make him a useful member, a member who is best suited to itself. When the child of three laughs at the child of two for the latter's eating with its left hand and says 'He is a bad boy', he is thinking in terms of the general will, however narrow it may be. The act is bad not because the child knows what is by nature and in itself bad, but because society, so far as his knowledge goes, thinks that it is bad. Here he is thinking with the society: his will is identical with the social will.

II

MacDougall, in his *Introduction to Social Psychology*, distinguishes four stages in the growth of conduct. He writes: 'We may roughly distinguish four levels of conduct, successive stages, each

¹ *Introduction to Social Psychology*, pp. 75-8.

of which must be traversed by every individual before he can attain the next higher stage. These are (1) the stage of instinctive behaviour modified only by the influence of the pains and the pleasures that are incidentally experienced in the course of instinctive activities; (2) the stage in which the operations of the instinctive impulses is modified by the influence of rewards and punishments administered more or less systematically by the social environment; (3) the stage in which conduct is controlled in the main by the anticipations of social praise and blame; (4) the higher stage, in which conduct is regulated by an ideal of conduct that enables a man to act in the way that seems to him right regardless of the praise and blame of his immediate social environment'. One can easily see that these stages are successive only roughly. Chronologically the stages overlap and are simultaneous to some extent. Even when the child is learning how to control his conduct from nature which awards pains and pleasures he looks often for the approval of his parents and elders with regard to at least a part of his behaviour. For instance, he might be learning which things are injurious and which not from nature herself, yet he would be looking at the faces of his elders while ill-treating another child. Hence these stages cannot be clear-cut divisions, but only mark differences of degree. Further, the language of McDougall suggests that he is inclined towards the view that self-consciousness is prior to the consciousness of other selves. He is more interested in tracing the growth and modification of individual behaviour rather than in tracing the growth of both self-consciousness and other-consciousness in the same individual.

In his *Group Mind* McDougall disagrees with writers who regard group-consciousness as prior to self-consciousness. He writes: 'It has even been maintained with some plausibility that group-consciousness preceded individual self-consciousness in the course of the evolution of the human mind. That again is, it seems to me, a proposition which cannot be substantiated. But it is, I think, true to say that the two kinds of self-consciousness must have been achieved by parallel processes which constantly reacted upon one another in reciprocal promotion'.¹ Here he is saying that self-consciousness and group-consciousness take shape and grow simultaneously. Accordingly must the growth of self-consciousness be presented. But McDougall's position that group-spirit is the expansion of the self-regarding sentiment makes us think that for him self-consciousness is prior to group-consciousness. McDougall thinks that group-spirit is to be found wherever the self-regarding sentiment of the individual expands and comprehends the whole group. Self here

¹ *Ibid.*, p. 156.

² p. 66.

includes both the 'I' and the 'mine'. Every individual feels an attachment to himself, his body, and persons and things which he calls his own. He feels angry not only when he is hurt but also when the members of his family are hurt, when his animals are hurt and when his property is destroyed; he feels fear not only for his own safety but also for the safety of his family, animals and things; his idea of self now covers not only his own body but also a number of other entities which he calls his own. As the number of these entities becomes larger and larger, his feeling of self expands more and more. Around the idea of his present self gather a number of emotions which together press into their service many instincts. This whole complex of instincts and emotions that organize themselves round the idea of one's self is called by McDougall the self-regarding sentiment. Collective consciousness or group-spirit can be found only when the individual's idea of self includes the group as well. The self-regarding sentiment is an expanding circle, which is at first limited to the individual and later becomes wider and wider till it includes the whole group.

It is quite possible that McDougall means that with the expansion of the self-regarding sentiment the self also goes on changing, that even when the circle is narrow there is a small group with which the self is identified and that there is a distinction at every stage in the individual consciousness between self-consciousness and group-consciousness. But the method of his treatment does not warrant such an interpretation, and it is not explained, how if at every stage there is the distinction between self-consciousness and group-consciousness, the one passes over to the other by expanding itself. If at any time we accept a stage when self-consciousness is not accompanied by group-consciousness, we shall have to face the problem how 'the individual knows other selves and the old old question of our knowledge of other minds rises up in its most insoluble aspects. Unless we are able to demonstrate how we are conscious of other minds or of other selves as selves, not merely as material things, our group-consciousness, which is an expansion of the self-regarding sentiment, can never be explained.

III

The missing link in the chain of argument is supplied in Mead's treatment of the subject. That self-consciousness and the consciousness of other selves develop simultaneously is a fundamental proposition for both social philosophy and social psychology. Otherwise these subjects will not have the necessary basis, for how we come to possess knowledge of other selves and thereby social consciousness cannot be explained. If we begin with knowledge only

of our selves, then what we know of entities outside ourselves would be knowledge of only material objects. We cannot know other minds through our senses, which reveal only material bodies. Some writers say that we infer the existence of other minds by analogy. We see movements in and of our own bodies and we know that we are minds; when we see similar movements in and of other bodies we infer the existence of minds in them. But this is an inference for which the ground is too weak. No lover loves his beloved by inferring a mind in her body. That from a single instance of one's own mind we infer innumerable minds is too sweeping an assumption to be easily accepted. It means that we build the whole superstructure of our social sciences upon a precarious foundation like inference from analogy. To overcome these difficulties some writers postulate a distinct kind of cognition called empathy. But this is a form of knowledge for which there is no substantial evidence.

From the very fact that we have social consciousness we have to conclude, therefore, that we have knowledge of other selves, and that this knowledge must be direct. That we have knowledge of other selves gives rise to the knowledge that we are one of the many selves that constitute society. This knowledge again will lead to the feeling that just as we know that other selves are objects of our consciousness we are objects of other consciousnesses. That is, each of us knows that he is not only an 'I' that knows the others but also a 'me' which others know. The real merit of Mead lies in the discovery of the importance of the 'me' and in the successful working out of its implications. In our self-consciousness there emerges the factor, namely, our knowledge of ourselves as we think we are reflected in the minds of others. Mead says that 'the self appears in experience essentially as a 'me' with the organization of the community to which it belongs'.¹ The two poles of social differentiation are the individual or physiological pole and the social or institutional pole.² That is, each unit of social experience has two aspects, self and society, just as for the idealist philosophers every experience involves subject and object. In another place Mead writes: 'What I want particularly to emphasize is the temporal and logical pre-existence of the social process to the self-conscious individual that arises in it'.³ He does not mean perhaps that group-consciousness is prior to self-consciousness but that the social forces which are always active and are prior to the birth of any individual produce his self-consciousness while at the same time socialising him. Both the formation of the self and its socialisation run together.

¹ *Mind, Self and Society*, p. 200.

² *Ibid.*, p. 230.

³ *Ibid.*, p. 186.

The idea of the 'me' is important for understanding the socialisation of the individual, and in Mead's psychology, for understanding the formation itself of the self, which is always and at every stage a social self. In his somewhat modified behaviouristic terminology¹ Mead writes: "The 'I' is the response of the organism to the attitudes of the others; and the 'me' is the organised set of attitudes of others which one himself assumes. The attitudes of the others constitute the organised 'me' and then one reacts towards that as an 'I'."² C. W. Morris says that in Mead's theory mind and self are without residue social emergents.³ Now, how does this 'me' take form and develop? Mead says. Through language in particular and also through play and game. The biological individual is transformed into a minded organism especially through the agency of language.

That language consists of symbols does not need discussion. These symbols are significant symbols, that is, they have a meaning. Where spoken language is not developed as in the case of animals, we have significant gestures. Two dogs which are strangers to each other understand each other by the showing of teeth or the wagging of tail; and each adopts a conduct in response to the other's prospective behaviour. Each is able to know what the bodily movement in the other means. This understanding means that each dog when it sees the other's gesture identifies itself with the other or takes its role, imagines what it is going to do—which is equivalent to understanding the meaning of the gesture—and then acts accordingly. The ability to act in response to such significant symbols marks, according to Mead, the presence of mind. Mind is the presence of significant symbols. These symbols presuppose communication, and communication as a social process implies society. Hence Mead argues that mind is the result of social process which necessarily internalises the biological individual and makes him mental.

Each dog in the above example objectifies itself just as the other regards it. If the other dog is about to attack it, it regards itself as an object of attack. Hence when Mead speaks of the 'I' as making the 'me' an object, he is not referring to self-consciousness in the Hegelian sense, according to which the nature of self is to know itself. The 'me' for Mead is the 'I' as known by the 'you' and the 'he'. It is a social entity which is brought into existence through the medium of language and significant gesture. If supposing the first dog is the stronger one and the other crouches or bends down

¹ Mead's psychology is called social behaviourism to distinguish it from the behaviourism of Watson.

² *Ibid.*, p. 175.

³ *Ibid.*, p. xiv.

its tail between its hind legs, the 'me' of the former would be a dog of superior strength. Similarly, the 'me' of a man is what he thinks others take him to be.

Not only language but also play, game and all other social activities build up a 'me' for every man. In play the child may be occupied with one object or individual. But in game he is one of a group more or less organised. In play the 'other' is the attitude of a single object or person but in game it is the organisation of the attitudes of all the other members. The organised community, Mead says, is the 'generalised other'.¹ And correspondingly appears the widened 'me'. The wider the society and the social process the more generalised do the 'other' and the 'me' become.

"If we use a Freudian expression", says Mead, "the 'me' is in a certain sense the censor".² It is the 'me' that tells every individual what is morally right and wrong or what is socially approved and disapproved. For every individual the 'me' is what he thinks the 'generalised other' takes him to be. And he always thinks that he ought to behave as his 'me'. Whenever he finds divergence between conduct that is likely to issue or actually issues from him and that which ought to issue from the 'me', there is a moral conflict. But when the 'I' and the 'me' become identical in conduct, the conduct is moral. When thus identified even impulsive acts would be moral: the moral will is the impulse of the 'me'.

IV

We may understand that it is through the medium of the 'me' that what McDougall calls the expansion of the self-regarding sentiment takes place. He gives five conditions for group-consciousness: (1) The group must have material and formal continuity. That is, both the members of the group as well as the structure of its organisation must have continued existence. (2) Each member should have an adequate idea of the group. This idea builds up in the mind of each a sentiment for the group and will be the motive force in all group activity. (3) There should be interaction between similar groups. For either conflict or friendly rivalry reinforces group spirit. (4) The group must have a body of its own traditions and customs, which like those of a standing army mark out one group from another and enhance group consciousness. (5) The group must have some definite organisation. This condition differentiates and specialises the functions of the constituents of the group. When these conditions are fulfilled, the group comes to have what Rousseau calls a

¹ Ibid, p. 154.

² The Group Mind, pp. 49 foll.

general will and what McDougall calls collective volition.¹ But collective volition implies a collective self, which, according to McDougall, is not a mystic entity but "the extension of the self-regarding sentiment of each member of the group to the group as a whole".²

But McDougall does not explain the psychological process by which each individual is turned into a group-conscious member of society. It may be accepted that the conditions which McDougall lays down must be satisfied. But he does not trace out the psychological fashioning of the social self. Moreover, extension of the self-regarding sentiment is itself not socialisation. I may extend my self-regarding sentiment to my household furniture, my books and my bank account; but I do not thereby treat myself as one of them, and this extension will not be the same as group-consciousness. I may extend the sentiment farther to servants whom I may treat as my domestic animals, as mere means to my ends; even then my consciousness is not group spirit. Only when I treat the others to whom my sentiment is extended as selves like myself, as personalities which are ends in themselves, only when I am conscious of the fact that others regard me as I regard them and when I treat them as I wish them to treat me, do I feel that I am a member of a society of selves. Then only can I have collective consciousness and my volition will be collective volition. Mere extension of the self-regarding sentiment of each member need not necessarily lead to collective volition. When each member regards the others as he regards his property, the result will not be a collective volition but a conflict of volitions.

Therefore the mediation of the 'me' is necessary for group-consciousness, which means that I should know myself to be a member of a society of selves. The idea of the 'me' lessens the mystery about the concept of social consciousness more than McDougall's concept of the extension of the self-regarding sentiment. But Mead's view that the 'me' is the moral censor or conscience needs some modification. Otherwise, it would imply that the criminal at all stages of his history obeys the dictates of his 'me' and is therefore morally pure. He knows that the 'generalised other' regards him as a criminal: his 'me' is a criminal. In committing crimes he is obeying his censor, which must mean he will never have scruples of conscience after he is regarded as a criminal by society and that he is morally unimpeachable. The hardened criminal or a member of a criminal tribe, we can see, does not feel the prick of his 'me' in accordance with which he acts. But ordinarily in the early stages of his history the criminal knows that society knows him to be a

¹ Ibid, pp. 53 & 57.

² Ibid, p. 56.

criminal and yet feels sorry for his gradual drifting towards a life of vice. So long as a person continues to be what society is moulding him into, his actions are at least socially virtuous; in him the collective volition or general will works smoothly; his 'I' and his 'me' are at one. When they diverge he feels the censorship of the 'me'. Later he becomes something other than what society intends him to be; and when society recognises the criminal in him and he himself becomes aware of society's new attitude towards him, his 'me' changes. Yet in spite of this change he does not immediately begin to feel that his actions are moral though they issue from his changed 'me'. He can still picture to himself what a virtuous social member would be, though that picture is not identical with his new 'me'. After a time he may completely lose sight of this picture and become a hardened criminal and beast. Till then his new 'me' will be different from his moral censor.

C. W. Morris says that Mead is eminently a psychologist and philosopher of democracy and that his psychology will stand or fall with it.¹ His concept of the 'me' is not only indispensable for understanding the psychology of democracy but also for understanding the psychology of social consciousness itself. But what Mead fails to explain is that though the self is a product of social process, it can yet rise above social process. Society is more than the individual in one sense, but the individual is more than society in another. This truth is recognised by McDougall when he says that at a certain stage the individual's conduct is not influenced by social approval and disapproval.² In terms of Mead's psychology, the individual knows the 'me' but yet does not identify himself with it. The saint and the reformer lift themselves above it and the criminal falls below it. Mead's social behaviourism, according to which the self is without residue a social emergent, cannot adequately explain the split between the 'I' and the 'me'. The 'me' is a social product, but it always presupposes the 'I'. The 'I' must have been in existence before it can imagine what the 'you' and the 'he' think of it. And the priority of the 'I' to the 'me' need not involve epistemological egocentrism. For we can still maintain that the I-consciousness of the child appears along with the Thou-consciousness; and later through the instrumentality of language, play and other activities the Me-consciousness may develop. The 'I' in the beginning does not face the 'me' but only the 'you'. To the individual the split into the 'I' and the 'you' is the beginning of the formation of society itself; and the social process of forming the 'me' might not have begun.

¹ *Mind, Self and Society*, p. xxxv.

² *Introduction to Social Psychology*, p. 76.

It may perhaps be said that the division into the 'I' and the 'you' is also the result of social process. Even if the objection is conceded, it cannot invalidate the transcendence by the 'I' of the 'me' in the higher stages of self-consciousness. But the evidence of child psychology goes to prove that the first division in the child's consciousness is that between the 'I' and the 'you'. At first no distinction is drawn in its mind between animate and inanimate objects, not even between its mind and its own body. When the child's sense of the 'I' is so completely fused with its bodily sensation, the object or *gegenstand* of the 'I' cannot be a material object unlike itself. Not only boys but also we are *angry* with inanimate objects that hurt us, which means that we treat them as selves like us. In adults this behaviour is due to the persistence of a consciousness that was proper to their childhood. Hence this first division may or may not be the result of a social process. It cannot be demonstrated that without the 'me' the 'I' cannot appear; the 'you' is sufficient for the emergence of the 'I'. By social process we understand socialisation and not the split in experience into subject and object.

The 'me' informs what is *socially* right; but the 'I' can rise above the 'me' and formulate for itself what is *morally* right. That is why the saint and the reformer can disregard society without compunction. That is why the criminal, even when he follows his 'me' (the criminal), can yet feel that he is normally wrong. He performs what the 'other' anticipates from him, namely, criminal acts, and yet can know not only what society *expects* at any stage from its lawful citizen but also what society *ought to expect* from a lawful citizen. Hence Mead's view that when the 'I' and the 'me' fuse there arises a sense of exaltation which belongs to religious and patriotic attitudes overlooks the fact that the 'I' in many cases of religious ecstasy and of social and political reform lifts itself deliberately above the 'me'. It may be said that the reformer identifies himself with the 'me' as the reformed society regards it. But the reformed society is yet an idea, and it is very doubtful whether the causality of the ideal can be consistent with social behaviourism.

The above discussion necessitates the recognition that awareness of other selves does not necessarily mean group-consciousness, which again involves that we should not unreservedly accept Mead's identification of mind with the presence of significant symbols. Otherwise, we shall have to say that animals that live a life of mere sensation and react only to non-significant symbols have no mind. Mere sensation will have to be treated as non-mental. When the child with-

¹ *Mind, Self and Society*, p. 273.

draws its hand from fire and cries, we have to say that it is performing a non-mental act. Nay, the baby for the first three or four weeks will have to be treated as without a mind, for it cannot then have significant symbols. True, the 'me' mediates the general will; yet we have to acknowledge the potentiality in the individual to rise, both for good and evil, above the 'me'.

McDougall and Freud: A Synthesis

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Even to a casual observer outside the ranks of professional psychologists it will be plain that an acute state of rivalry exists between the flourishing contemporary psychological schools. The Purposivistic, Mechanistic and Gestaltic schools are contending for supremacy in the field of psychology, and the Factor school has also entered the fray as a combatant in its own rights. This state of affairs in a young and progressive science is unseemly, and it certainly is bound to act as a great barrier to the healthy progress of psychology. The need of the hour, therefore, is unity, and this need has been felt by the leaders of our science. Attempts at reconciling the conflicting schools have been made, but they have been superficial and feeble, and hence unsuccessful. We must go down to the very roots of the problem, and seek the cause of divergence in the theoretical foundations of the schools. Unity can be achieved only through the synthesis of the rival psychological theories, and through the evolution of a single theory comprising the elements of lasting value in them. We shall indicate in this paper, as a first step in the direction of unity, how the theories of Freud and McDougall may be synthesised.

It is very encouraging to find that suggestions for synthesis are contained in McDougall's *Psycho-analysis and Social Psychology*, *Abnormal Psychology* and *An Outline of Psychology*, as well as in Freud's *Civilisation and Its Discontents*, and *Group Psychology*. In his earlier works McDougall was inclined to ignore Freud, but later in his scientific career he realised the correct significance of psycho-analysis. He discovered the points of affinity between Freud and himself, and expressed the hope that soon there will come about a fusion of 'these two closely allied and complementary systems, a fusion or synthesis which while rejecting the errors of both systems, shall combine the best features of both.'

Before undertaking the task of synthesising hormic psychology and psycho-analysis, let us note the points wherein they agree, and wherein they differ. In the first place McDougall's and Freud's systems are dynamic in the true sense of the word. It is not the pseudo-dynamism of the Woodworthian type that we find in them, but the real dynamism pertaining to mental structure and mental

function. Freud and McDougall have located the dynamic functions of the living organism not in neural structures, but in the innately organised mental structures. In the second place, both hormic psychology and psycho-analysis are teleological in their outlook. Mind is goal-seeking, and all mental striving is directed towards the fulfilment of desires. In the third place, Freud and McDougall are agreed in viewing the mind of living organisms as non-spatial. They do not locate the mind in the nervous system, and it is noteworthy that hormic psychology and psycho-analysis may be studied and understood by one who is completely ignorant of the intricate workings of the neural structures of living bodies. Fourthly, both systems postulate an instinctual, innate, inherited, mental structure as the foundation for behaviour. This structure does, no doubt, develop through interaction with the environment, giving rise to sentiments and complexes; but the foundation for these is native and inborn. Lastly, mental energy and physical energy are looked upon by both systems as being different, and to some extent mutually exclusive. Thus a kind of dualism coupled with interactionism is believed in by McDougall and Freud.

While the points of agreement between Freud and McDougall are significant, there are equally significant points of difference between them. Hormic psychology is uncompromisingly teleological. Not that it rules out mechanism altogether, but it makes 'purpose' the goal of all explanation of animal behaviour. In psycho-analysis on the other hand there is over-emphasis on determinism. Freud, it is claimed, has the credit of having carried determinism over into the realm of the unconscious. The clue to the unravelling of the mysteries of human behaviour is to be found in some remote past antecedent, in fact, in some form of infantility. Each act of behaviour is wish-fulfilling, but the wish is unconscious and has its roots in some infantile sex experience. Here we have a combination of determinism with purposivism which cuts against the grain of McDougallian hormism. Moreover, psycho-analysis is hedonistic, while hormic psychology is non-hedonistic. Again while the latter holds to a pluralistic conception of instincts, the former is uncompromisingly monistic and pan-sexualistic. Finally McDougall rejects the concept of the Unconscious, while Freud looks upon the Unconscious as the key-stone of his whole system.

While the points of disagreement mentioned above mark out psycho-analysis as a system which, to a certain extent, is in opposition to hormic psychology, yet it must be remarked that in its later stages Freud's theory underwent changes which tended to bring it closer to McDougall's hormism. In two important respects Freud has

altered his original psycho-analytic theory. He has gone beyond the 'pleasure principle' to the 'reality principle', and he has recognised the existence of certain non-erotic instincts, such as the instincts of death, aggression and fear. 'I can no longer understand' says Freud in his *'Civilisation and Its Discontents'* 'how we could have overlooked the universality of non-erotic aggression and destruction and could have omitted to give it its due significance in our interpretation of life.'

That Freud was willing and ready to change his views on fundamentals when facts demanded such a change merely betokens his greatness as a scientist. Theory must give place to fact in science, and he is not a true scientist who for the sake of personal prestige clings to his original theory in the face of challenging facts. And Freud towards the end of his scientific career was magnanimous enough to see the meaning of facts which were in conflict with his original view-point, and generously welcomed these into his fold. This attitude of willingness on the part of Freud to change in fundamentals was misconstrued by McDougall as a sign of weakness. The latter claimed that psycho-analysis was moving steadily towards hormic psychology, and that the time was not far distant when Freud would abandon the 'unconscious' and the dogma of 'pan-sexualism' and join the ranks of hormic psychologists.

We have now to examine the relation in which Freud's psycho-analysis and McDougallian hormism stand to each other in order to discover a formula for synthesising the two theories. McDougall's attitude is rigid and dogmatic. His claim implies that hormic psychology has nothing to gain from psycho-analysis, while the latter has everything to gain by affiliation with the former. We cannot, however, admit such an unbalanced claim. Each has to learn something from the other, and stands in need of the support of the other. In regard to hedonism the position of McDougall is correct, and Freudian psycho-analysis did well in going beyond the 'pleasure principle' to the 'reality principle'. But, in regard to the 'unconscious', McDougall's position is utterly untenable. The 'unconscious' is real. It exists as truly and challengingly as the conscious and the sub-conscious level of the mind. There is no point in denying, ostrich-like, the reality of the 'unconscious'.

McDougallian hormism, then, needs supplementation by psycho-analysis in two respects; firstly in respect of the recognition of the 'unconscious', and secondly in respect of an evolutionary theory of instincts. We have indicated already that McDougall and Freud are agreed in postulating an innate, instinctual mental structure, while they are not agreed on the exact nature of these innate mental ele-

ments, and on the way in which these elements develop through individual experience. It is here that we must look for the point of vital contact between McDougall and Freud, and it is through the clarification and elaboration of their respective theories of instincts that we can hope to synthesise hormic psychology and psycho-analysis.

McDougall starts with a pluralistic scheme of instincts. According to him the human being inherits at birth about twenty instinctive dispositions, and these undergo a process of progressive developmental organisation as the result of the living individual's contact with the environment. As a first step in this process, concrete sentiments are formed, and then abstract sentiments come into existence. Thereafter these sentiments are organised into a scale of sentiment values, with a master sentiment at the top, reigning supreme over all the other sentiments and conferring value on them in terms of their exact relationship to itself. This sentiment-engram is a most striking contribution of McDougall to psychology. It has thrown light on several problems of human behaviour and human nature, hitherto obscure and unintelligible. But, there is an assumption of far-reaching significance in McDougall's scheme of sentiments that should be examined by us. Unlike the faded out structuralists of the xix century who had little knowledge of the psychological make-up of the human mind, and unlike the functionalists who merely confused issues by their unscientific attitude, McDougall has drawn a clear picture of mental structure and mental function. He has assumed, however, a straightforward relation between structure and function. From function or behaviour we may infer the nature of structure or motive which activates behaviour. We take no objection to this principle in its broad outlines, because psychology must necessarily proceed on this fundamental assumption. But the question is this: Is the connection between structure and function so simple and straightforward that we can infer the former from the latter directly and without effort. McDougall seems to think that we can. He is, no doubt, prepared to admit the existence of the sub-conscious, but beyond that he is not prepared to go. This, however, is an untenable position. Recent developments in psychiatry, the occurrence of shell-shock during the last world war, and the recent advances in anthropological studies have served to indicate the exceedingly tortuous, maze-like, nay almost mysterious connection between function and structure. And it is here that the Unconscious comes in. The entire scheme of sentiment-engram is believed by McDougall to proceed on a perfectly clear and conscious basis. This is not true. The forces that operate in organising the primitive instincts and emotions, are in many cases, mysterious and completely hidden from the individual.

When they lead to the formation of anti-social engrams, we have Complexes, and these complexes are the secret springs of behaviour in the case of neurotic individuals. Sentiments and complexes exhaust between them all possibilities of structuring which lead finally to specific acts of behaviour. We hold, therefore, that in the first instance the McDougallian sentiments require to be supplemented by Freudian complexes. By such supplementation not only do we achieve a synthesis of hormism and psycho-analysis, but we also secure a complete and unified picture of the structure and function of the human mind.

We may turn now to the question of the evolution of instincts. McDougall starts with a plurality of instincts—about 20 of them according to his 'Energies of Men'—, and then traces the evolution of sentiments from these instincts. But the question naturally arises in our mind, What is the evolutionary history of these instincts? They should have evolved from simple and common origins. Evidence has been accumulating to press on our attention the ontogeny and phylogeny of instincts. But McDougall has turned a deaf ear to this evidence. He seems to cling dogmatically to his pluralistic scheme, and it is here that psycho-analysis comes in to help us towards an understanding of the evolution of instincts. Not that Freud presents to us a clear picture of the way in which the plurality of human instincts have evolved from some simple instinctual matrix; but his treatment of the sex instinct and of its regression gives us a hint as to the way in which a conception of the progressive differentiation of instincts from a common origin may be evolved. Let us take this hint, and see how Freud may be reconciled with McDougall in this field.

It is a matter for surprise that McDougall did not make any attempt to trace the evolution of his numerous instincts from a common origin. He is no doubt wedded to his pluralistic scheme of instincts, yet he has realised in his brilliant essay on 'Mental Evolution' contributed to 'Evolution in the Light of Modern Knowledge' (M/S Black and Sons, London, 1925) the need for studying the progressive development of mental structure. In this essay McDougall is pre-occupied with the evolution of Mind as a whole, yet he comes very near to the concept of a successive differentiation followed by integration of the simple undifferentiated instinctual matrix of the mind. But, unfortunately, at the critical point McDougall breaks off and misses the main point of mental evolution.

I have discussed in one of my recent papers how McDougall throws out significant suggestions as to the possible manner in which some of the fundamental dispositions may be conceived as

having grown out of others. McDougall himself throws out significant suggestions in his 'An Outline of Psychology' as to the possible manner in which some of the fundamental dispositions may be conceived as having grown out of others. He points out that the acquisitive instinct is in the 'process of differentiation from the feeding instinct, and that various species illustrate stages of this differentiation.' In the same way the constructive instinct is dependent on home-making, and this in its turn is just one aspect of the parental instinct. Repulsion functions primarily in the service of food-seeking and sex, and so it may be considered to have arisen out of a partial differentiation of both fundamental instincts. Appeal arises when anger fails; and of assertion and submission McDougall says, 'that for the maintenance of social order without waste of energy these two instincts must operate in gregarious animals'. Evidently they have differentiated from the gregarious instinct. On McDougall's own showing, then, acquisitiveness, repulsion, construction, appeal, submission and assertion may be looked upon as rooted in food-seeking, parental instinct, combativeness, and gregariousness. Alongside these we have to place escape, curiosity, and sympathy. Among those instincts which McDougall considers to be fundamental there are two which serve merely as preliminaries to other instincts, namely, curiosity and combativeness. They have no specific objects of their own, but they function in connection with other instincts. And sympathy is not an independent instinct at all. It is merely a common feature of the functioning of all instinctive structures. Hence we are left with five fundamental instincts—food-seeking, escape, the parental instinct, sex and gregariousness. These must have an evolutionary history behind them. How then are we to conceive of the stages through which these five instincts have passed? Once again we get the clue for the further expansion of our main conception from McDougall's own writings. Our author remarks in the course of his analysis of the food-seeking instinct that this impulse is probably the first tendency to be differentiated from the *elan vital*. That is exactly the point that I have been emphasising in this paper. The *elan vital* or the instinctual matrix is the primordial impetus from which all instincts have evolved. We may assume as a first differentiation of this original impetus into a positive and a negative impulse, the former tending towards the maintenance and continuation of the individuation of the living organism, and the latter tending to subordinate, and sometimes even to sacrifice the individual to the group. The positive impulse may now be looked upon as having differentiated into, food-seeking and escape, and the negative into parental, sex and gregarious instincts. Thus the whole scheme of the evolution of mental structure from the primordial *elan*

vital to the highest and the most complicated sentiment has been reconstructed by us.

We have indicated how the whole battery of instincts may be viewed as having evolved from the primeval life urge or the *elan vital*. We have by this evolutionary conception bridged the gulf between Freud and McDougall. McDougall's hormic theory begins not at the first or the earliest stage of evolution, but in the middle of the course of evolution. We should trace the plurality of the instincts down to their origin, and when we so trace them to their beginnings, we come upon Freud's conception of sex, and tracing this to its origins we land finally in the *elan vital*. Thus we see that when Freud's depth analysis is added to the sentiment-engram of McDougall we get a complete psychological theory of the human mind covering the small conscious layer as well as the large and numerous unconscious mental strata completely hidden from the eyes of the incompetent psychologists of the nineteenth century.

Psychology and Literary Criticism

By

PROF. S. N. ROY, M.A.

Literature is an art because it is creative and literary criticism so far as it involves reconstruction is also creative. The will to form expresses itself in every kind of art and particularly in literature because the latter aims at building up in our mind a synthetic whole of thoughts and feelings which are expressed through language. Literary criticism is creative in the sense that it gives form to different pieces of literature. Criticism does not really create but re-creates, although it is not a kind of recreation in which an arm-chair critic may indulge. It re-creates what the author has already created, i.e., it is the art of an art. It implies appreciation and consists in the reconstruction of a literary work on the basis of such appreciation.

Let us see how we can have an appreciation of a work of art. If we take the Taj Mahal as our example, we will see that an appreciation of it cannot be an analysis of its structure nor a calculation of the relation of its parts. We appreciate it as a synthetic whole which determines its parts, i.e., as a meaningful or significant synthesis of parts. Similarly, an appreciation of Shakespeare's *Othello* does not mean an analysis of separate characters, or a judgment of the scenic effect or a tracing of the course of dramatic events, but it means the reconstruction of the whole play in terms of a unitary plan; as Raleigh points out, in *Othello* Shakespeare gives tragic dignity to a squalid story of crime by heightening the characters and making all the events inevitable; or, as John Masefield says, *Othello* shows how life seeks to preserve a balance, and that obsessions which upset the balance betray life to evil.

We shall now proceed to examine a few theories of literature. The aesthetic school asserts that literature is the expression of the aesthetic sense of man. It deals with the beautiful. But what is this beauty or the beautiful? No one has ever been able to say what is this beauty or the beautiful except that it implies harmony or proportion. This harmony or proportion is not really a matter of sensuous perception but a creation—it is formed in the process of understanding the parts in relation to the whole. That is why we can see beauty in an ugly thing, a unity in the midst of diversity. Harmony which is the soul of beauty is not something given but is an expression of the will to form. The will to form is manifest in the tendency to complete itself, to figure itself as a whole.

The aesthetic standpoint has led to the development of formalism and symbolism in literature. The former is a theory of literary forms or genre, the latter is a theory of suggestiveness in literature. The distinction between literary form and literary content has been stressed as the distinction between the beautiful in art and a beautiful work of art. Against formalism realism asserts itself and defines the business of the artist as a microscopic examination of the world or at least as copying of actual facts as in a mirror.

The other view to which attention may be called is one which regards every kind of literary activity as an expression of joy or *anandam*. The *lila* or play which we see in the outer world is itself manifest in the mind of man as *anandam*, and this is the fountain-head of all literary impulses. The Indian litterateur has from very ancient times cherished the idea that art is a form of play, and that the essence of a piece of literature is *rasa* or ecstasy. This *rasa* arises from the permanent dispositions of the mind, called *bhava*. A *bhava* is a latent disposition of the mind, e.g., *rati bhava*, *krodha* etc. It is excited by *bibhava* and expressed by *anubhava* and continues to function in *sancharibhava* as *rasa*, e.g., in Kalidas's *Abhijnana-Sakuntalam*, Dusyanta, Shakuntala, Priyamvada etc., constitute a situation that calls forth the emotions associated with our permanent dispositions. Shakuntala's beauty, her movements and conversations with her friends, Dusyanta's attempts to enjoy her beauty incognito, and such other phenomena are favourable to the manifestation of the emotion of love. *Bhava* and *anubhava* together constitute the outward expression of the latent *rati bhava*, engender in the mind of the reader a sense of appreciation of the whole situation as a *rasa* or *ananda*. *Rasa* is truly indefinable. It has been said to be the same as a taste of the Absolute (*brahmasvada sahodarah*). But it takes a concrete shape in the mind of man when its appropriate *bhava* is excited and brought into play.

This theory seems to be extremely metaphysical, but in spite of that it presents to us a very accurate analysis of emotion. It points out that for the excitement of an emotion there must be a situation with which the mind is confronted, a number of impulses ready to be called into action to meet the situation and a widespread emotional experience which is appropriate to the situation in question. Apart from this the Indian litterateur calls attention to the fact that behind all literary activities the fundamental motive at work is the wish to create and to enjoy.

This wish to create is manifest in every work of art. The art of literature fulfils this wish in its own way. It utilises a number of word symbols to stand for our innermost experiences. What

the author does is to create a world out of his own experiences of life. Such a world may be far removed from the world of our daily life, or it may be a concrete representation of the facts of our everyday experience. The former will be an ideal world from which we may look at this world of ours (romanticism), or a world to which we may take recourse in order to escape from the buzzing and booming confusion of this world (escapism), while the latter will be an expansion of our workaday world, in which our life will find its larger meaning and value (realism).

Let me now turn to literary criticism. One simple truth often escapes our attention namely that criticism is not the science of fault-finding. 'Denigration', says Lord Asquith, 'whether it springs from baffled rivalry, or from a morose and cynical temper or from shortsightedness amuses us but is not criticism.' A critic should study a piece of literature with profound sympathy and open-mindedness. Sympathy is essential for the correct understanding of a writer, and absence of bias will be conducive to the viewing of a work in its real perspective. Matthew Arnold does not merely emphasise the sympathetic appreciation of art but he holds that the business of criticism is 'to know the best that is known and thought in the world, and by, in its turn, making this known to create a current of true and fresh ideas.' This means that criticism has to play an important part in vitalising and stimulating social and intellectual progress. In other words the business of a critic lies in grasping the meaning and value of life and deciphering the forces at work in a social environment with a view to bring home to the public what will be conducive to their well being. The critic must have enough of social consciousness and must be able to see how far a piece of literature affects the vital interests of a group or society. As a matter of fact every critic proceeds from a certain angle of vision to judge the merits of a piece of art. He is influenced by the group ideas as well as by the standard which he deliberately seeks to apply. Those who adopt the objective standpoint pay attention to objective facts and try to discover how far these facts have been communicated to us by the author. T. S. Elliot strikes a new note in the criticism of literature. He draws our attention to the importance of 'objective-correlative.' A piece of literature evokes or brings into play a number of impulses and emotions and it is the business of the critic to see if there is an objective situation appropriate to them, whether there is correspondence between the objective situation and the experiences related to them. It seems to me that this is exactly what the Indian litterateur asserts.

L. Cazamian says that a literary critic is an analyst. A book is an organization of psychological elements which it is the business

of the critic to analyse. But he does not accept the view that criticism has to do with the sub-conscious or sublimation. Criticism deals with a new order of being which the literary mind has evolved. On the other hand, Herbert Read points out that the work of art has correspondences with each region of the mind. It derives its energy, its irrationality and its mysterious power from the Id, which is to be regarded as the source of what we usually call inspiration. It is given a formal synthesis and unity by the Ego, and finally it may be assimilated to those ideologies, spiritual aspirations which are the peculiar creations of the Super-ego.

I shall now call attention to the views of two noble critics. I mean, L. Abercrombie and I.A. Richards. Abercrombie tells us that we find the play of three distinct powers in the realm of literature, namely the power to create, the power to enjoy and the power to criticise. The powers to create and to enjoy are native to our mental constitution, but the power to criticise is acquired. To criticise a literary work is to enquire into its nature, to expound it and to assess its value. Criticism as distinct from creation and enjoyment, consists in asking and answering rational questions about literature. He calls attention to the fact that literature is an art by which *expression* is achieved in language. Language is only the medium of the art. It serves two purposes namely expression and communication. It expresses the author's experiences and communicates them to the reader. Communication is a three-term relation: it implies the existence of the author, the reader, and language in between the two. *Literature communicates* experience, that is, the experience which lived in the author's mind must again live in the reader's mind. The experience must be transplanted from one mind to another. No communication, no literature.

Abercrombie has thus presented to us a theory of literature and acquainted us with the principles of literary criticism. There is nothing very illuminating in his observations except the fact that he emphasises the importance of communicability of experience in literature. But the question arises: what is communicated? Is it 'experience,' as Abercrombie suggests, or 'an emotion' as Tolstoy holds, or 'an intuition' as Croce points out? Middleton Murry says that an 'entire experience' is communicated. He asserts that the poet has the word. The word in the poet's mind partly arises out of the emotional field, partly is deliberately fitted to convey it. This mating of the word to the entire mental experience of thought and emotional field experienced as a whole is the specific poetic art.

Prof. S. Alexander agrees to accept the theory that art is communicative. He says that a poet is not a poet until he has ~~spoken~~ communicated.

or a painter until he has painted and produced something outside himself. A poet's words are his reactions to a particular subject matter, say a woman he loves. A poem is wrung from a poet in the same way as a blow is wrung from me by a man that injures me. A blow which is a reaction to a situation terminates upon the object which provokes it, but the creative reactions of art instead of affecting the provoking object produce a new one, a statue, a poem or a song. So far as it is productive of a new object art is creative. Alexander's analysis of art is purely psychological, and he has presented to us an objective interpretation of our reactions to a work of art. But the question still remains: what is it that is communicated by a poet? Is it the poem or an experience as a whole expressed through language? Abercrombie makes a distinction between language as expression and language as communication, and believes that the latter makes another man's experience occur as our own experience. He calls Croce to his aid when he points out that a landscape painter does not put on canvas the landscape he sees but his *intuition* of it. The painting he produces is the intuition (expression) he intends to communicate to others.

Mr. I. A. Richards disagrees in this view of the matter of communication. He says communication does not mean transference of experience nor does it signify participation in identical experiences. All that it means is that one mind so acts upon its environment that another mind is influenced, and in that other mind an experience occurs which is like the experience in the first mind, and is caused in part by that experience. It is the experience that is communicated but not the same identical experience. 'For successful communication a number of impulses with their effective stimuli must be common to the communicators, and further the general ways in which impulses modify one another must be shared.' The supposition is that a normal mind having usual impulses which are brought into play by appropriate stimuli can influence another mind which is similarly constituted.

Richards tells us that criticism is 'the endeavour to discriminate between experiences and to evaluate them, and points out that no criticism is possible unless we have some understanding of the nature of experience, or without theories of valuation and communication.' All principles of criticism mainly arise from the study of those fundamental questions. He proceeds to examine these problems psychologically.

What I intend to suggest here is that literary criticism is not mainly evaluation, and that it is essentially re-construction. There is nothing vague or mysterious in this word 're-construction.' I use

it to mean a building up of an entire system of thoughts, feelings, emotions and wishes by reference to the wholeness or unity of experience which has been expressed in a literary piece. What the critic is required to do is to envisage this unity of experience and to see how it determines the constituent impulses, feelings, etc. which it encompasses. The questions of value will naturally arise as the experience which literature expresses in language will involve elements which will either satisfy or fail to satisfy our social and moral needs. Further in a piece of literature language as the medium of expression must be analysed to see how far rhythm, metre, diction, composition etc. have been successfully used in expressing the experience which it is the aim of the author to express. But the main and fundamental problem of literary criticism is to enquire into the author's wholeness of experience as revealed in a literary work and to reconstruct or re-interpret the parts of that experience in terms of the whole.

Space will not permit me to show how this can be done. I shall now briefly indicate the uses of psychology in literary criticism. It is only obvious that an individual writer functions under two sets of influences—his own interests, motives, feelings, etc., and the milieu to which he has accommodated himself. A psychological enquiry into these forces will prove very useful in the correct estimation of an author's work. Further, emotions, sentiments, ideas, etc. which are expressed in literary work should be psychologically studied in order to trace their origin and function. The author's reactions to different life situations demand a psychological enquiry for the purpose of understanding their nature and value.

Mr. F. R. Leavis in his *Revaluation* ridicules the idea of a psychological discussion of literary art, for in his opinion criticism is a discipline of sensibility and a labour of intelligence, and it must consider not only literary tradition but also currents of thought outside literature—of the intellectual and moral climate generally. True, but this does not dismiss the claim of psychological interpretation of literature. A literary work is a personal achievement and arouses in the mind of the reader a current of ideas and feelings which, we believe, should be analysed psychologically.

The One and the Many

VI. The Absolutist View.

BY

G. R. MALKANI.

(c) We have so far considered two forms of the relationship of the one and the many,—(1) a loose unity of the many souls or monads, and (2) a more organic unity of consciousness common to several individuals. We now come to a third form of this relationship which may be roughly associated with Bradley. The unity of the pure subject or of a 'universal consciousness without any content' common to all individuals may be doubted. The subject, as we know it, has a necessary reference to the object. The unity of the subject and the object accordingly appears more natural and concrete. We find it in actual experience. This experience then is the primary reality. But our experience is partial; and it is dominated by categories of thought, which are found on analysis to involve self-contradiction. There is no category of thought which is free from this self-contradiction. Our present experience therefore needs to be transcended in a higher form of experience in which these defects have been completely eliminated. It will be the experience of the whole at a level above discursive thought.

All our present knowledge is judgmental. Judgment involves a division of the real and the ideal. We judge the real. But we judge it in terms of the ideal. We know reality only in so far as it is determined by the idea. We get a view of things which is both partial and subjective. The idea can never coincide with reality. It breaks it up into what is in itself and what is to us. As a result, we never know reality in all its integrity and wholeness. We ought to go beyond this judgmental form of knowledge. This means a higher form of experience above the level of thought, in which thought itself is transcended and included. Our knowledge then will coincide with reality, and there will no longer be any distinction between reality and truth. This higher knowledge may be called the Absolute experience. It will contain everything that we know at the thought-level, but without divisions. It will be an integral experience. Every thing will be known in its relation to the whole. Indeed, the concept of relation is self-contradictory. But that is so, when we relate things externally at the thought-level. There may however be a higher form of relatedness which is not open to the criticism of thought. It is possible that the content of the real is diversified and

united in one organic whole. At least that would be the ideal for thought, although thought itself cannot reach it. In such a whole, each part is real, and implies every other part. This whole is the whole of experience, which alone can be a true principle of unification between diversified parts.

This experience is not a present fact. It is yet to be. We can only conceive it on the analogy of feeling. Feeling can contain, as no other form of our experience does, a multiplicity integrated into a unity. In feeling, we do not contemplate the object. The object is not distinguished from the subject. It constitutes a real unity with it. The moment we distinguish the object and contemplate it, feeling has disappeared. We only genuinely feel, when we do not distinguish. The object is so thoroughly integrated with the subject that it does not have even the *appearance* of independent being. It is what it is only *as felt*. The higher experience will in this way contain all the differences in a real internal unity. It is the Absolute.

We do not accept this view for the following reasons. (1) A distinction is made between experience below the level of thought and experience above the level of thought. It is understandable that experience below the level of thought contains no distinction of the subject and the object explicitly, but that this distinction is implicit in it and can be detected on reflection. But if it is admitted that the experience above the level of thought also contains the same distinction, where is the difference? Does the difference consist merely in the high-sounding description of the latter?, which is still a description in terms of reflective thought; for it is only in terms of thought that we can speak of a differentiated whole, or a unity in difference. The only experience that is genuinely above the level of thought is the experience that is literally indescribable, and about which nothing can be said that is literally true. All distinctions will have been transcended, both of the subject and the object as well as of the object *per se*. We can no longer speak of a *manifold made one*, or of an *organic unity* or a *system*, etc. All these images are thinking images, and the experience which they describe is a thinking experience. In fact, if we could abolish the standpoint of thought even with respect to our present humble experience, all our experience would be just the same qualitatively, equally elevating and equally inclusive. The distinctions are thought-made and artificial. May it not be that the Absolute Experience is here and now,—or in the words, every Experience; Absolute Experience,—but that thought has perverted it by making all sorts of distinctions within it? We are having the Absolute Experience, and none other; and yet we believe otherwise, the moment we objectify it or think about it. Every

character that we give to an experience either in the form of the scope of the content or in the form of the internal integration of the content will transform it into a *finite* experience, and so detract from its wholeness and immediacy. It is a wild-goose chase to combine real differences with real unity, or mediacy with immediacy. He who sees the many does not see the one, and *vice-versa*. It is a self-contradiction to suppose that the Absolute Experience is a unity of differences. It is an ideal of knowledge contrary to reason itself.

(2) A unity that contains a multiplicity is external to the elements which it contains and unifies, and is spurious. It can do nothing more than *relate* these elements, which will be self-existing in their own right. If they are not self-existing, they are constituted by the relation, and are therefore illusory. We must distinguish between the unity of *purpose* and the unity of *being*. The latter unity is incompatible with real differences. The former unity demands differences; but it is for that very reason external, limited and subjective. All ends are subjective. There can be no end *in itself*. A teleological unity supervenes upon real differences, and is in that sense subordinate to the latter in respect of being. It cannot be as real as the differences. Its reality is a matter of subjective valuation, with no being in itself.

(3) 'What is an empty unity worth even if it were possible?', it may be asked. A concrete unity must include differences. It is the only unity warranted by our present experience. That may be so. But can we speak of such a unity as the Absolute Experience? A unity which combines certain parts will have a character derived from its parts and the way the parts are related. Such a unity will have the character of actuality. It will be this particular unity of parts. But no single actuality, however great or inclusive, can be anything but finite and relative. An actuality implies several other possibilities which could have become actual. It is only one possibility in an almost infinite number of possibilities. We can go beyond it and ask for its reason. Why this possibility rather than any other? The only reason for its actuality can be in some other actual entity. Mere possibility can contain no *decision* within it one way or another, and it could not account for actuality. It is only one actual entity that can account for another, or cause it to exist. Thus no actual entity can be self-sufficient or contain within itself the reason of its own existence. It cannot be self-caused or self-existent. Any *determinate*, and so finite, whole can only be interpreted in this way. If all determination is negation, the Absolute cannot be determinate. But then how else are we to understand a unity that is the unity of parts? It will have to be an accomplished unity, and an accomplished

unity must be determinate. It is wholly arbitrary to call it all-inclusive, infinite and absolute. Any possibility actualised cannot be timeless and eternal; and a *determinate whole of parts is necessarily of the nature of a possibility actualised*. It is one possibility among others. The ideal of a differentiated unity as the Ultimate or the Absolute is fundamentally erroneous. We are obliged to transcend it and so objectify it; and once it is objectified, it cannot include the subject within it. This subject may be only a super-ject (as in the philosophy of Whitehead), but it nevertheless falls outside the concretised whole which is objectified.

(4) The unity of the subject and the object is the character of all experience from the lowest to the highest. We have no idea of a pure object standing by itself, or of a pure subject. The two are necessarily present in every experience. Nevertheless, they do not together constitute any kind of neutral being, different both from the subject and the object. A neutral kind of being is really unthinkable and unmeaning. There are philosophers who believe in a neutral stuff which is neither mental nor material. Matter and mind are conceived by them as two different kinds of entities distinguished by certain characters; and it may not always be possible to draw the line between them. But the *subject* and the *object* are not so conceived on the analogy of matter and mind. Their distinction is based upon experience; and here we find that they are absolutely opposed to each other. Their difference is like the difference of light and darkness. We can therefore draw the line with absolute certainty. There can be no error about it, and there can be no neutral entity that does not fall either under the one or the other category. Applying this criterion, we find that any experience which is *qualified* by a certain objective content, however inclusive, is itself objective. We can speak of it as *that* experience. The subject and the object exhaust between them *all possible forms of being*, and they allow of no intermediate or neutral forms. They are also absolutely opposed and incompatible forms of being, so that nothing can partake of both and be a subject *and* an object, or the self and the not-self, at the same time. The Absolute Experience must either be a pure and contentless experience which can never be objectified, or it will be of the nature of the not-self. We do not save it by calling it a unity of both.

Are the subject and the object absolutely opposed to each other? If they were, we should never find them in relation. But they *are* related in every experience whatsoever. We contend that this relation is not a *real* relation, and that it only proves the incompatibility of the two kinds of being. A real relation can only subsist between

two real entities. It relates in the sense that it brings together or unifies the entities into a single whole. The subject and the object however are not two such entities which can be conceived in their isolation, and which can later be brought into a unity. The object in isolation is simply nothing at all. However it is conceived, and whenever it is conceived, it is only conceived in relation to the subject. This relation is not *accidental* to it and *external* to it. It is *constitutive* of it. Can we say that it is a real thing brought into relation to the subject? So far again as the subject is concerned, it is never presentable at all. It can never be treated as an entity, or as a term in a relation. The moment we so distinguish it or try to isolate it, it ceases to be subject proper. It has become another object. The only relation into which it can enter, while keeping its own proper nature, is that of 'false identity'. The relation of false identity is the relation of the real and the illusory. It is not a real relation at all. If we see the real, we do not see the illusory, and *vice-versa*. We do not *see* two things in relation. We only *speak* of it. Similarly, we can never hold the object and the subject in one act of awareness and refer them to each other. When we do so, the real subject has already slipped us, and we are simply dealing with a pseudo-subject.

The relation of false identity is a well-known and established relation. It subsists between two terms, belonging to two different orders or levels of being, which are mutually antagonistic and incompatible, e.g. the real and the illusory. Since one of the terms is illusory, the relation too is illusory. I have *conceived* the snake in the place of the rope. I have also therefore *conceived*, the identity of the snake with the rope. Or as we say, I have *super-imposed* the snake upon the rope. This super-imposition is not any kind of objective relation between the snake and the rope. It is wholly subjective, and partakes of the nature of the conceptual snake. Or in other words, all the relations of the illusory snake are themselves illusory. The same is true of the subject-object relation if we probe it deeper.

(5) The Absolute Experience is compared to a feeling. This is a wrong retention of the proper meaning and function of feeling. Feeling is a value-function. It is not a form of knowledge. The Absolute Experience may be a great satisfaction. But a great satisfaction cannot by itself constitute knowledge, and it cannot be an answer to the demand of thought for cognitive certainty. For achieving this, thought cannot be ruled out, although it may be present in a new and non-discursive role appropriate to reality.

The natural function of thought is to ideate, and to relate the idea to the real in any attempt to know the latter. It stands outside the real, and seeks to catch it within the net of its own concepts. The resulting knowledge has the character of ideality. It can never do justice to the real as such. But it is also possible that thought may be able to reverse its procedure, guided by a certain self-revealing intuition of reality. Thought will then not *impose* its own forms upon reality, but it will *receive* the form of reality itself. It is thus that thought can be cognitively satisfied. It recognises the truth, and the truth has made it whole. It has ended all its internal discrepancies and questions. We go astray and confuse issues, if we seek the solution of the problems of thought in feeling or allied experience. We must go by the way of thought to the end of thought; for thought has the potentiality of the truth, and the whole truth, within it.

VII The Vedantic solution of the Problem.

If the unity is real, multiplicity simply cannot be. If it still appears, it is just illusory. It can neither be included within the unity, nor can it be excluded from it. In the former case, it would disrupt the unity from within. In the latter case, it would disrupt it from without. The only unity that can be real is the unity that is pure, simple and without differences.

We reject the conception of an organic unity. For if the different parts of such a unity are endowed with real power and function, the unity becomes a secondary product of the parts. Reality resides in the parts, not in the whole which they produce. The cause is always more real than the effects. The best analogy of this would be that of the social organism. Here, it is the individual who is the foundation of society. Society is made by the individuals, and it exists for their good. There is no such thing as the life of the society as a whole, which is not the life of the individuals constituting it. The very end or purpose of the society is the life of the individual. But it may well be argued that the whole is primary, and that the parts derive what reality they have from it. In that case, the whole is indeed real, but not so the parts. The parts contribute nothing to it. The whole hangs in the air, without any basis in the parts. So far as the parts are concerned, the whole is a kind of super-imposition upon them, not really related to them, and lends to them a false value which they do not really possess. An aesthetic object, like a picture, provides the best analogy of such a whole. We can agree that the whole is aesthetically primary, and that it lends a certain value to the parts. But then this aesthetic value, which does not exist in the parts, is a super-imposition upon

them. Is it anything more than a subjective effect? If it is not such an effect, if it has a basis in reality, what is that reality? The parts certainly can contribute nothing to it; for they cannot contribute what they do not themselves possess. Their value is derived from the value of the whole. This value must be supposed to be self-subsistent, not *rooted* in the parts or *derived* from them. If such is the nature of the unity, can there be a *real relation* between the whole and the parts? The parts have a being independent of the value, and the value is a mere super-imposition upon them from the outside. The value is not part of being which is known. It is a matter of feeling only. There is no sense of reality, in which both the unity and the differences can be seen to be equally real. Once we admit a relation of sub-ordination between them (*Visham-sattā*), the organic character of the unity disappears. It is either the differences that dominate the unity and reduce it to impotence, or it is just the other way. In no case can we hold that both the differences and the unity are real in the same sense.

We contend that the unity is real and the differences illusory. The unity is no doubt behind the differences which we apprehend. But it is behind them not in any physical sense, but only in an epistemological sense. The string is physically behind the heads, but it is no more real than the heads. It is simply an addition to them, and reinforces their multiplicity. The substance however is not physically behind its various qualities. It is not a kind of pin-cushion in which the qualities inhere like pins. The qualities have *no being in themselves*. They are what they are only as related to the substance. The substance however must exist *in itself*. Otherwise, there will be the fallacy of mutual relatedness, and neither the substance nor the qualities could even appear to be real. The substance is one and real in itself. The qualities are many and dependent upon the substance. The same is the relation between the one and the many.

We do not know substance *by itself*. We only know it as the *substratum* of qualities. But do we really *know* it in this? Is it real knowledge of substances? Is there no other knowledge of it possible? If that were so, substance would really be a fiction for us as it is a fiction for most modern philosophers. What we do not seem to doubt are the data of sense, or what we may call in our present language, *sensible qualities*. The substance behind these qualities is literally unknown to us. Perhaps we cannot do without it. But that is only a question of habit with us. Since we do not know substance, and we believe that we cannot know it just as we do the qualities, we easily suppose that it is simply not there. If it were

there, why could we not isolate it and know it for what it is, even as we know the sensible qualities for what they are. We forget that if we could so isolate it, it would cease to have any distinguishing mark from the qualities and would cease to be their *ground*. The truth is that we could not know the qualities and *also* know the substance which is their ground. If the qualities are real to us, the substance simply is not, and vice-versa. It is the relation of the real and the illusory. We cannot know both of them simultaneously. If we know the illusory, we simply do not know the real. But if we know the real, we have already negated the illusory. It is through such negation that we rise to a knowledge of the real. The same holds about the knowledge of the substance, and *pari passu* about our knowledge of the one. We can only rise to its knowledge through the negation of the many.

The many constitute the realm of objectivity. We cannot have manyness except among objects which can be distinguished one from another. The one which is the ground of the many cannot therefore be objective. Western thought identifies reality with objectivity. This is quite understandable. The concept of reality is correlative to the concept of knowledge. Reality is what is known; and what is known in any form of knowledge whatsoever can only be some kind of object. And yet it is possible that there are levels in knowledge, and grades of objectivity. It is also possible that the highest grade is a form of knowledge in which the dualism of knowledge is completely transcended. The object cannot be kept apart from the subject as distinct from it. The object does not require to be formulated or informed by thought. It is the self-revealing truth which imposes its own form upon thought. The function of thought is completely reversed. Instead of giving form to the object and thereafter distinguishing itself from the object, it receives its form from the object and coincides with the object. To *know* here is to *become*. The dualism of knowledge is superseded. It is the unrelated, the thing-in-itself, that is known. This is the very ideal of knowledge. But if it is to be realised, we can no longer think of the object of this knowledge as one among many. It can only be one without a second. In other words, it cannot belong to the realm of the many, which is the realm of objectivity in the literal sense. The simple character of objectivity covers different meanings. The world is objective in one sense. It is sensible. God may also be spoken of as objective, but in quite a different sense. It is not sensible. It is essentially spirit, conceived objectively. The Absolute may also be spoken of as objective. The sense here is that the Absolute is not thought-informed. It is not 'other' to thought, and correlative to

it. It is in-itself, and unrelated, so that when we know it, we know what is free from any implication to thought. It is in this last sense that we accept objectivity as the character of ultimate reality which is the ground of the many.

The One underlies the many and is the ground of the many. It is behind the many in the sense in which the real is behind the illusory. But it is not 'out there' like an object behind objects. Its essential character is non-objectivity. The only reality that has this character in our experience is what is called the 'I'. The self is never given to us as 'this'. No one can consciously assert 'I am this'. A person may, no doubt, identify his self with some kind of object, such as the physical body. But when he is made aware of this identification, he would regard it as false and attribute it to an error on his part. This is the fundamental intuition of the self which requires to be purified of all erroneous associations; and when this goal is achieved in all its completeness, we are face to face with something which cannot brook any differences. The self is behind all objects, whether these are taken as known or even as unknown. The known objects are to a self. But even the unknown objects, in so far as they are part of the ignorance of which a self is conscious, are really to a self. We rise to a knowledge of the self through the negation of all forms of objectivity, which are falsely identified with it, and through the resolution of the relation of implication which all objects have to it. The way of negation is the only way to the knowledge of the Self, and this knowledge is at the same time the knowledge of the Absolute One.

Is there a soul in the body? We cannot prove its existence. We can only prove the existence of certain *forms of mental function* which are associated with the body. It may also be possible to show, or at least to surmise, that there is another, non-physical, and subtler body which is the true vehicle of their expression, and which survives the physical body. Whether we call it soul or not is a different matter. But this substance or soul, enclosed within the body and functioning through it, can only be some kind of material stuff which is in principle not distinct from the body. We have the analogy of a thing in a box, although in the present case the mental stuff (*antahkarana*) enlivens the body which encloses it and is therefore a superior kind of matter. But beyond the states and the acts of the mind is the real principle of intelligence, which is essentially non-mental. This is the transcendent 'I'. We have an immediate intuition of it. Nobody can deny that he is, and that he is essentially intelligent. He would also distinguish his self from every act of the mind, including the ego-form (*ahamākāra*) which is mental. It is

our reflection that misleads us. For when we reflect, we objectify. The self comes to us in reflection associated with some kind of object or other. It is this error which misleads some philosophers into thinking that our only intuition of the self is that of a finite and discrete entity called the 'I' or the ego. But further reflection ought to correct the error. And when this is done, the self is no longer seen to be a finite entity. More than that. It is not enclosed in the body like a prisoner. It is not inside the body. The infinite is not inside anything. It is the most open secret. It is the body which we have super-imposed upon the self, and which can therefore be spoken of as being inside the self. It is not the body that sustains a self, but the self that sustains a body. The self is in this sense essentially disembodied. It is never in the body. The body is only falsely identified with it through our ignorance and error. It is this conception of the Self that will be found to be the real unity behind all forms of multiplicity.

The self is ever self-effulgent and self-revealing. We are never in doubt as to what we should call our real self. But this character of it is partly submerged when we erroneously identify it with some kind of object or other, or when we seek to know it in the objective attitude. As we begin to negate every form of the object from it, the self becomes more and more evident, more and more immediate and inward. In the end, it is known as the self-evident truth. But since every kind of knowledge involves some kind of objectification, however diluted and refined, we have to transcend knowledge itself. The limit of negation is reached in the pure Self itself. The enlightened intellect ceases to *look for* the Self, and ceases even to *know* it. It ends with the recognition that knowledge itself is a kind of falsification. 'Those who claim that they know the Self do not know. But those who recognise that it is truly beyond knowledge alone really know.'

But is this not a kind of extreme subjectivism? Is there no reality behind things? Are they nothing? Let us suppose that there is a reality of which all things are particularisations. It was Spinoza who recognised one universal Substance behind all particular modes, both physical and mental. But how shall we understand this substance? What is our intuition of it? We contend that it is the intuition of being, which is the common ground of all things. All things have the same being. They exist in the same sense as we say. Being is universal and pervasive, while things are particular and discrete. We can negate all things. We can say, *A* is not, *B* is not, etc. We can never negate being. It remains in one form or another the substratum of the negation. When I say, '*A* is not',

I mean that something else is there where *A* might have been. Something is always there where the negation is apprehended. But what is this being? Is it a reality? Is it anything more than an empty idea? It would be a mere idea, if we conceived it objectively. For objectively, there are only particulars of sense, there is no being as such. As a matter of fact, we could negate being itself, if it were something objective. The only thing that we cannot negate when we have negated everything is the *consciousness* of negation. Being in the form of this consciousness can never be negated. It is the only ultimate form of being. It is not an idea. It is not a particular of sense or thought. It is truly universal and pervasive, for nothing can be what it is if it were unrelated to consciousness. This consciousness, which underlies all objects, and which underlies the very correlativity of the subject and the object, is a kind of pure subject, free, unrelated and absolute. This being is not an abstraction, but the most concrete reality. It is where a thorough-going negation finally leads us.

The method of negation has been advocated by many thinkers outside Vedanta. They have argued that every entity that is determinate is necessarily finite. The infinite and the absolute cannot be determinate. But if that is so, we must negate every determination of it. This may be true. But how does the method of negation proceed? Can it lead to knowledge if there is no original intuition of the reality we want to know through it? Is there a limit to negation beyond which it cannot be carried further? It is evident that if we negate one entity only to posit another, there can be no limit to negation. We shall never reach the end. On the other hand, if we merely negate and posit nothing, we have a pure negation. There is no reality which we can be said to know through such negation. Negation can be a legitimate method of knowledge only on condition that there is an original intuition of the reality which we want to know, but that we are prevented from knowing it by error and misunderstanding. What negation does is to eliminate the error, and to allow the original intuition of reality to reveal itself for what it is to the intellect. This is what we understand by the intellectual intuition of the real. The intellect here has no positive function. It does not know reality through any of its forms. Its function is purely negative. It is reality that reveals itself. What the intellect does is to receive this revelation. It merely recognises without error what was known before in a mixed form.

All relations may be said to prove a multiplicity. Things are naturally many, for they are naturally related. But there is one ultimate relation which proves just the contrary. It is the relation

of the self to the not-self. The reality of the former is *opposed to* the reality of the latter. The reality of the objects is a *related* reality. The objects imply other objects, and they imply the self to which they are objects. The reality of the Self on the other hand is absolutely opposed to this kind of related reality. The Self cannot be real unless it is understood as unrelated. Reduce it to a term in a relation, and it is degraded, and it demands to be transcended. Here is an absolute opposition. There is no sense in which both the Self and the not-Self can be real. If that is the logical situation, then one of them must be real, and the other non-real and illusory. It is an ultimate dualism which cannot stay as a dualism. It has to be reduced either to the reality of the Self or of the not-Self. The latter clearly cannot be real; for then the Self would be unreal, and the Self is what is necessarily implied by it. The Self on the other hand has no implication of any kind of otherness to it. It is essentially unrelated. It is accordingly the only ultimate reality. Thus we find that the absolute distinction of the Self and the not-Self itself works, through its own essential logical character, to reduce the distinction to nullity.

The problem of the one and the many can only be resolved in this way. The one is a real One. It is without internal or external differences. It is pure, undifferentiated, and without a second. At the same time, it is the ground of all the differences. The differences arise from it, stay in it and disappear into it, just as any illusory appearance does with respect to its ground. When therefore we know the unity, we cannot know the differences, and *vice-versa*. At the same time, the two are given together in knowledge. We do not know the differences by themselves, but only as they are grounded in the unity. We do not know the unity in and by itself. Error and truth are mixed up together in our present experience. We want to know the truth. The only way to it is negation. This is possible, because the truth is by its very nature absolutely immediate. It is of the nature of the Self (*prityakātman*). We know the Self truly, when we know it as the all, the absolute, or the One without a second. This is the saving knowledge. He who has this knowledge enjoys immortality. He has attained to God-head.

Causality and Statistical Physics

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5. We will here discuss a type of defence of causality. Some say that the statistical laws of quantum mechanics which apply in the case of large number of particles (whose individual behaviour shows some indeterminacy) are deterministic and so determinism is not jeopardized by the new quantum mechanics with its uncertainty principle. Here these defenders confuse determinism with regard to events of nature with determinism of a law. In case of events which are not occurrences of an individual ultimate particle (electron or quanta) but which involve a large collection of these particles, determinism may be said to operate as the law of probability ruling such events, and giving such high probabilities that they are practical certainties. But even in these cases we should not say that determinism strictly holds, as the fundamental law is statistical.

L. Susan Stebbing thinks that in case of undetermined occurrences predictions can be made if large collections of them are involved in a process. 'In such a case, statistical laws will be the *basis* from which the predictions will be made in accordance with a deterministic procedure'.¹ Again, 'It is clear that predictions can be made (i.e. inferences concerning what will happen) on the basis of statistical laws. Such predictions can never be *known* to be certainly true. But no predictions concerning the physical world can be known to be certainly true, since we have no logical ground for assuming that our extrapolations are correct'.²

Now Stebbing does distinguish between a probable event and a probable conclusion, but she holds that determinism may be regarded as valid if there are laws (such as statistical laws) by means of which we can infer subsequent states from previous ones within precisely determined limits. Obviously, she holds that if in the case of statistical laws the logical ground for passing from an initial state to a subsequent state is as sound as in the case of causal inferences, which ground is what the logic of induction can offer for both kinds of laws, then determinism must be admitted as untouched by modern quantum physics. We admit that so far as the logical ground of predicting on the basis of a scientific law is concerned, no change has

been brought about by quantum physics, the passing from ground to conclusion in an inductive syllogism in case of a statistical method of enquiry suffers from the same uncertainty as a similar passing in case of a causal method.¹ The conclusion in each case is a probable conclusion. Stebbing, observing this equality in claim of certainty by the two kinds of laws, jumps to the conclusion that if causal laws are called determinate statistical ones are equally so. But here we are not convinced, and it must be pointed out that we are not concerned with the probability of a conclusion but with that of an event. Laws which claim to apply to single events are causal, laws which do not so claim but only apply in case of large collections of events, are statistical. The latter, as a scientific law, has the same kind of logical status as the former, and, when used in a particular case, will allow us to infer a subsequent state from a previous one with the same degree of logical certainty, but this point of similarity should not mask the difference between them which is that, while the statistical laws rule only large numbers of events (i.e. occurrences of electrons and quanta) in a group, causal laws rule individual events. And as it is now found in quantum physics that minute individual events in the sub-atomic regions cannot, even in principle, be followed accurately, causal laws must be discarded in these regions. For bodies of average size, causal laws are found valid, but then we can regard these single events in the macro-world as made up of large groups of events in the micro-world as such a body of average size is made up of millions and millions of electrons. So we can say that statistical laws, which are more pervasive and more fundamental, are indeterministic, as they do not apply to single events. If we cannot predict with accuracy single events we cannot say that determinism still rules.

Stebbing's interpretation of quantum mechanical statistical laws is open to grave criticism and on the basis of this faulty interpretation her defence of determinism cannot stand. Friend and Fiebleman² also attempt to prove that determinism is not disturbed by the new statistical laws of quantum mechanics, and their argument follows almost the same line as that adopted by Stebbing. They show that the syllogistic nature of statistical method and of causal method is the same, that in each case there results a probable conclusion, and that the method of discovering laws, both statistical and causal, is the same. Probability and cause are both logical functions, and 'the statistical method is only roundabout, but perfectly valid, way of following the

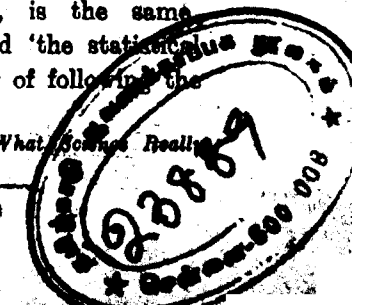
¹ *Philosophy and the Physicists*, p. 204.

² *Ibid.*, p. 209.

¹ Friend and Fiebleman have shown this in detail in *What Science Really Means*, p. 187.

² *Ibid.*, p. 185-89.

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causal method.¹ As we said before, this kind of interpretation overlooks the fact that the new quantum mechanical statistical laws are invented precisely to replace the original causal laws which were found not to apply in case of individual particles where a certain amount of indeterminacy was found as a part of data. We cannot call these laws deterministic, because they do not apply to the case of single events in the micro-physical world and only claim validity in the case of processes which involve big collections of these events; Determinism, if it is to mean anything, must operate in the field of events; logical determinism, that which rules a syllogism, is not our concern here.

Stebbing, though she defends determinism in her own way and does not agree with the idealists who derive drastic philosophical consequences from the new quantum physics, yet feels that this new physical theory must somehow change 'our attitude to determinism'.² This is a correct feeling.

Max Planck³ defends determinism in a way which is not essentially different from that of Stebbing and Friend and Fiebleman. He says that the waves of probability follow strict causal laws and so determinism holds even in the new physics. Indeterminacy arises only with regard to the connection between the wave picture and the world of senses. But Planck himself sees the difficulties of such a view. For, the indeterminists may object that a wave in quantum physics is not a physical process but denotes just a probability that a certain state exists. The answer which the determinists may give, following Planck, is that in giving a physical significance to the wave we have to measure it and in measuring it we will change it; so that, the event in itself cannot be measured. But this clearly (we feel) is a dodge. To save causality, wave picture is brought in, and the indeterminacy in predictions is ascribed to translating the wave picture into the sense world. But the question precisely is, what is the justification of such a wave picture if it can never be measured and if its only function is to save determinism? Earnst Zimmer rightly comments on Planck's attempt thus: 'The strict course of natural law still does not appear to be guaranteed, for the waves only rule the probability of natural events. Single events do not take place with strict causality, but only with statistical regularity; hence the position has not been cleared up entirely'.⁴ Einstein and Infeld write about these waves—'The only physical significance of the probability wave is that it enables us to answer sensible statistical questions in

¹ Ibid, p. 188.

² *Philosophy and the Physicists* p. 184.

³ See *Philosophy of physics*, p. 60-63.

⁴ See Earnst Zimmer's *Revolution in Physics*, p. 226.

the case of many particles as well as of one'.¹ So that it is clear that on the basis of these waves we cannot establish determinism which has failed in the case of single micro-physical events.

Some positivists² also mean by causal laws some sort of simple laws and they include quantum physical statistical laws under causal laws. Rules, when they are exact, as probability rules are in quantum mechanics, are deterministic in the philosophical sense, and there is no contradiction between causal and statistical laws. As pointed out before, this way of thinking stresses only the logical determinism involved in any kind of law and overlooks the difference between a law that applies to individual events or particles and a law that does so only to a crowd.

6. Another kind of argument for retaining determinism is founded on a view of the nature of statistical laws. It is said that statistical laws are based on causal laws, so the new quantum mechanics cannot but assume strict causality operating in the individual events. It is only because, we, at this stage of our knowledge and physical technique, cannot deal with the individual particles in the sub-atomic regions that we have to consider the behaviour of large groups of particles and take recourse to statistical laws instead of causal ones.

Thus Planck writes, 'In point of fact, statistical laws are dependent upon the assumption of strict law of causality functioning in each particular case. . . . If it were possible for us to follow the movements of each individual molecule in this very intricate labyrinth of processes, then we should find in each case an exact fulfilment of the dynamical law'.³ Planck thinks that physical science 'strives to refine its treatment towards the microscopic degree of delicacy and always to reduce statistical laws to a dynamic and strictly causal system'.⁴

Russell also asserts that statistical laws assume strict causality as the basic law.⁵ Friend and Fiebleman argue for the same view. They say, 'without the assumption of some logical connection, known or unknown, no one could make a prediction of probability'.⁶ And they conclude, 'Thus causality is always implied in any meaningful prediction of probability'.⁷ Their argument runs on these lines:

¹ See their *Evolution of Physics*, p. 306.

² e.g. Mach, Cassirer, Philip Frank. See Frank's book *Between Physics and philosophy* Chap. IX. Also see R. Von Mises' book *Probability, Statistics, and Truth*, p. 294.

³ *Where is Science going*, p. 145.

⁴ Ibid, p. 146.

⁵ See his *Determinism and Physics*, (p. 16.)

⁶ *What Science Really Means*, p. 179.

⁷ Ibid, p. 179.

There is always a causal relation between two states, but due to incidental factors the cause is not isolated, and so the dominating function is modified in a number of ways. In quantum mechanics where it is impossible to study the path of sub-atomic entities whose continued identities are, moreover, in question, the statistical method has been found practical. This applies to large groups of entities for 'to exhaust all the modifying factors of the actual environment absolutely, an infinite iteration of the experiment would be required'.¹ So that to reach certainty an infinite number of events is necessary; no single event can be shown to fulfil strictly the causal law. Though this is not practicable at this stage of knowledge, it is the ideal of statistical laws which are but interim laws.²

All these writers do not appreciate the new philosophical implication of statistical laws of quantum mechanics. These are not like the statistical laws of classical physics which certainly assumed strict dynamical laws to be operating in the individual molecules. Thus the statistical method used in deducing gas pressure from Kinetic theory of gases presupposed classical dynamics, and it was only because of the impracticability of following each individual molecule that the behaviour of a crowd was considered as a whole. In classical physics the negation of determinism involved in the adoption of many statistical laws in place of causal laws was merely a practical negation, in new quantum physics it is a theoretical one. Quantum mechanics of Heisenberg, Schroedinger etc, definitely deny the existence of a material point with a definite position and velocity. It admits a material point as 'a large scale approximation'.³ Exact location and velocity of a sub-atomic entity are not given together in nature itself, the limit of accuracy is objective, so statistical laws are the only ones that can be used there. Einstein and Infeld point to this difference clearly: 'In the Kinetic theory of matter, we have statistical laws governing the aggregation, gained on the basis of individual laws. But in quantum physics the state of affairs is entirely different. The individual laws are discarded'.⁴ If it is asserted that even quantum mechanical statistical laws are but interim laws and like classical ones presuppose strict causality in the individual entities, it is but an assertion and a hope, and it goes against the established truth of modern physics. Pure reason, which some philosophers apply to solve the problem, cannot lead us anywhere. Planck⁵ also feels this, and as shown by Schroedinger,⁶ it will allow us to derive chance

¹ Ibid, p. 153.

² Ibid, p. 180.

³ See Schroedinger's *Science and Human Temperament*, Chapt. III.

⁴ Einstein and Infeld's *Evolution in Physics*, p. 301.

⁵ See Planck's *Where is Science Going*, p. 181.

⁶ See his *Science and Human Temperament*, Chap. II.

from law and law from chance. Pure experiment will also fail us. It is only by a judicious blending of thought and observation, that is, by thinking on the facts of the case honestly and minutely that we can ever arrive at a true decision.

To those, who fondly believe that the new quantum mechanical statistical laws are not different from those of classical mechanics and like the latter assume causal laws, Schroedinger's thesis¹ may be shocking and it may shake their old notions violently. For Schroedinger tries to show that classical mechanics itself is indeterminate, its statistical laws could not assume strict causal laws. Even in case of a molecule (of classical kinetic theory) we could not know exactly and jointly the velocity and position, and so its initial conditions remain inexactly known with the result that predictions would become inaccurate. He shows that to measure velocity we must have two moments however close together, and so velocity at one moment is an impossibility. This is not different from the argument given by Zeno for proving that motion is a self-contradictory concept. However, Schroedinger's theory may not be accepted by all, but it shows the determinists that it is useless by means of pure reason to solve the problem of causality and to assert that statistical laws are based on the causal laws which are more fundamental. Rather, the opposite view seems to be more consistent with new facts of quantum physics.

¹ Ibid, Chap. III.

