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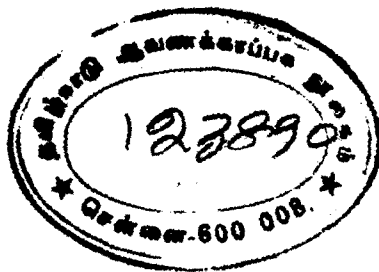
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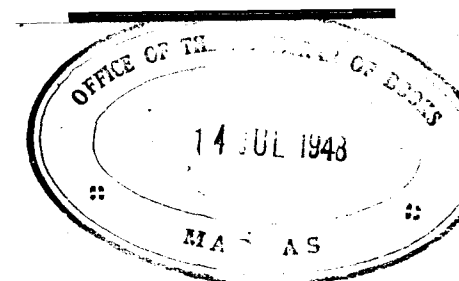


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Physicalism

PROF. HEY BERGMANN

This is the name given to a special trend of "logical positivism" or "logical empiricism", i.e. to that contemporary philosophical school which had its spiritual home in the philosophical faculty of Vienna. A number of currents combined to form this new philosophical trend: There was the influence of physicists like Mach, Poincaré and Duhem, and of mathematicians like Frege and Russell. And of late, especially since the fathers of the school left Vienna and went into exile to the Anglo-Saxon countries, they came into contact with pragmatism, which gave their ideas a new turn.

This new positivism is opposed, in the same way as the classic positivism of Comte, to metaphysics. While metaphysics strives for a comprehensive world-system besides and beyond the different sciences, this positivism aims at one single all-comprehensive science (*scientia universalis*) which would unite in itself, as it is proposed, all the results of the different sciences.¹ This is called by a name coined by Franz Oppenheimer²: "Unified science".

How is this unified science to be constructed? The many and varied sciences use different languages, different terms, and these differences have their reason more in historical circumstances than in methodical necessities. It is, therefore, essential to have a *unified terminology*. This will enable us to formulate the conclusions of science in a uniform manner, although they have emanated from different spheres of research. Neurath has the following example:³ In order to be able to state in a special case: "This

1. Neurath: "Einzelwissenschaften, Einheitswissenschaft, Pseudorationalismus" (*Actes du Congrès internat. de Philosophie scientifique, Paris 1935*).
2. Neurath: *Erkenntnis* II, 1931, p. 395.
3. See above No. 1, p. 58.

forest-fire is going to be extinguished soon" we have to combine judgments of biology (about the trees) with such of chemistry (about the fire) and of sociology (about the fire-brigade) and form one judgment of them. The divergence of terms between the different spheres is here most inconvenient. We need one and the same language for all sciences. Now physicalism claims that the language of *physics* is sufficient to build up the whole of this unified science and demands therefore that all the sciences should express their conclusions in terms of the language of physics. The language of physics is inter-subjective and universal.⁴

What characterizes this language of physics? Physics attributes to the various points of space-time certain qualities and explains them as *quantities*. All difference of quality is for the physicist a difference of quantity. Qualities are usually vague and inexact; they are here replaced by clear and exact quantities (instead of "cold" and "warm"—degrees, instead of colours—wave lengths, etc.).

Sensual qualities (colours, sounds, etc.) find their place within the framework of physics only in so far as we have means and ways to reduce them to the corresponding quantities. This transfer from quality to quantity is facilitated by the fact that the sensations of our various senses are not wholly separated. Sensations derived from one sense are controlled and checked by those of another sense. The outline of a table, e.g. can be seen as well as felt. This fact of the control of one sense by another is by no means a logical necessity; it is a lucky chance facilitating the transfer of qualitative statements into quantitative ones.⁵

The Physicalists claim that it is possible and hence necessary to express the results of all sciences in terms of physics. With regard to its method physicalism is materialistic. Metaphysical materialism once claimed that it was possible to deduce everything from matter and that besides matter in its different combinations there was nothing in the whole world. Physicalism is *not* interested in any metaphysical statement regarding the world. It is concerned with the *language* of science and demands to adjust all scientific language to the language of physics, i.e. to the language by means of which we express the phenomena of matter. It differs, however, from the usual materialism in that it does not concern itself with

4. Carnap: "Erkenntnis" III, 1932.

5. Zilsel: "Bemerkungen zur Wissenschaftslehre," *Erkenntnis* III, p. 148; Carnap; *Die physikalische Sprache als Universalsprache*, *Erkenntnis* II, 1931.

the essence of the world but only with the scientific expression of its phenomena. It is not a metaphysical but rather a linguistic, syntactic⁶ claim. In other words: The language of physics is a sufficient reduction basis for the language of all the other sciences, so that physical terms or concepts should replace the terms or concepts of all the other sciences.

2. The consequences of this claim are far-reaching. Quality is exterminated in all science. All the sciences—or more correctly, the one unified science—deal only with quantities, and their relations and laws in time and space. The language of science admits only external attributes, i.e., such attributes of sensual, inter-subjective observability that can be expressed in terms of quantity. Other attributes and particularly those stated by one individual alone are of no scientific meaning. Statements like "I am angry" or "John is angry" can be scientific and inter-subjective only when exterior attributes can be put forward that will allow for the objective determination of the existence or non-existence of the attribute "angry" in me or in John. The terms of biology, psychology, sociology, etc., will have to be reduced to the terms of physics. There will be no further difference between the language of natural science and humanities, nor between one natural science and the other. Let us take as an example the concept "entelecheia" created by some biologists (or rather taken over from Aristotle). The process of healing or of regeneration in certain animals is effected as if the entire organism turned its scales in favour of the diseased limb, as if the entire organism was bent towards the regeneration of this one part. This peculiar phenomena was termed entelecheia. The physicalists refuse to accept this term as they consider it imaginary and unreal so long as the biologists fail to explain it in terms of physics.⁷

3. The demand of the physicalists is directed to the *terms* of science, not to its laws. All the terms (or all the words, shall we say) of any science are to be reduced to the terms (or words) of the unified science, i.e. physics. This unity of terms, however, does not imply that in some fields of research the *laws* may not be far more complex than in another one. It is possible e.g. that in the world of life the laws are more complex than in inorganic physics. But all the laws of biology refer—according to the claim of the physicists—to the same entities (atoms, electrons, etc.) as dealt with in physics, and this is expressed by the postulate that the

6. Carnap: *Ibid.*

7. Carnap: *Logische Syntax der Sprache*, p. 247.

vocabulary of all the sciences shall be one. The physicalists refuse e.g., acceptance of the term "entelecheia" as a special term of biology which is not found in physics, but they are prepared to admit the possibility of more complex laws in biology than in physics itself, if conceived in *terms taken from physics* which means terms of quantity, space and time.⁸ Rising from the simpler to the more complex sciences, as e.g. from chemistry to the theory of life the laws will naturally become more complicated, but the elements connected by these laws will be exactly the same in all the different fields.

The same distinction of terms and laws holds good also for psychology. Its laws are more complicated, but its terms are those of physics. We shall have no more to deal with the experiences of the individual but with intersubjective data. Any given psychological attribute has to have its physical counterpart. Soul conditions that cannot be expressed in the language of physics have no intersubjective validity. Thus they cannot be verified and are scientifically meaningless. It might be said that soul conditions have an *inner* meaning which we live and which is not identical with its physical equivalent. Anger, as mentioned above, in its *inner* meaning and significance is not identical with the exterior appearance of anger as observed by an onlooker. To this Carnap would reply that the difference is but one of the features accompanying "anger", but not a difference of the logical meaning of the term. The logical meaning of a concept or a statement is fixed by the possibility to deduce from it other concepts or statements and with regard to this there can be no difference between the subjective condition and its physical counterpart. The physicalists demand therefore that for any psychological statement A_1 there should be a physical statement A_2 and that both statements be equivalent regarding their possible consequences. Here the resemblance between physicalism and behaviourism becomes obvious which shows itself today also in the tendency on the part of the physicalists to use the term "behavioristics"⁹ for psychology so as to stress that they are concerned only with the expression of behaviour as regards the psychic life and not with its inner private experience.

"All the statements in psychological language speak about physical events, i.e. about the physical behaviour of man

8. Carnap: *Logische Syntax der Sprache*, p. 251.

9. Carnap: "Logical Foundation of the Unity of Science," 1938, p. 48. *Internat. Encycl. of Unified Science* I, 1.

and other animals" (Carnap). All we need are those definitions with the help of which psychological language becomes a part of the language of physics. The physicalists maintain that these definitions can always be given. If we take as an example the psychological statement "Tom is excited" it is equivalent to another statement regarding the peculiar physical state of Tom's body "excited"; movements of the limbs, sudden shortage of breath, increased beating of the heart etc. The sum total of all these bodily phenomena may pass as the physical "translation" of the statement "Tom is excited" which has now an intersubjective meaning.

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Maybe someone will reply that this behavioristic translation of the occurrences in the soul through expressions of the body is not exact. The soul phenomenon contains more than its bodily expressions. The retort of the physicalist will then be: If there be anything "more" in the soul phenomena than in its bodily expressions, this "more" is not expressed, it is a hidden quality beyond any scientific and intersubjective investigation. And what cannot be intersubjectively investigated,—the private experience of the excited Tom which is nowhere externally expressed—does not exist for the scientist. Scientifically we may always exchange the statement "Tom is excited" for the other "Tom's body shows the following symptoms" (symptoms which are to be fixed by psychology) and according to Leibnitz, two statements that can be exchanged for each other without affecting the truth are identical.¹⁰

4. Carnap who has examined the physicalist attitude to psychology very closely has himself brought forward a number of contrary arguments and then tried to refute them one by one (a) *The argument based on analogy*: I myself know the experience of excitement from my own soul. Observing a parallel bodily behaviour with Tom I conclude by force of analogy that Tom—apart from the particular bodily behaviour—is really excited. What excitement means besides and beyond those bodily phenomena I know from my own experience. Why should I not be allowed to attribute this same soul experience to Tom? Carnap's reply is: The two statements "I am excited" and "Tom is excited" are not equal in their logical and epistemological value. Thus the analogy is unfounded. The statement "I am excited" is (for me) meaningful and I need no physical translation for its interpretation. The statement, "Tom is excited", on the other hand,

10. Carnap: *Logischer Aufbau der Welt*, p. 51.

without its bodily explanation, has no sense at all for it wishes to state an intersubjective fact without admitting at the same time the only possible inter-subjective interpretation, namely the bodily. For only then can the statement be verified in an objective sense. —(b) *The argument based on the evidence brought forward by the second person*: Tom states about himself that he is inwardly excited. Why should we not believe him? The answer is: In order to believe his words we must first understand them; we cannot understand them unless we translate them into the language of our own experience, i.e. what would I see, hear, etc., when Tom is excited? How can I verify his words? Only through the external, bodily expressions of his experiences. —(c) *The telepathic argument*: If telepathic phenomena are reliable—and science today is no more prepared to deny them categorically—I may under certain conditions favourable to telepathy become aware of something of Tom's inner life without being near him and therefore without the evidence of his bodily appearance. Getting up one morning, for instance, I know for certain that my friend at a distant place is just at that moment experiencing fear and anguish. I do not refer to his bodily condition which I know nothing of at the time but directly and solely to his psychic condition. Thereupon Carnap replies: Though I was unaware of my friend's physical condition, the meaning of the statement "my friend is just now experiencing fear and anguish" as an inter-subjective statement is not different from what it would have been under normal conditions: A certain bodily behaviour. It is impossible to describe in an inter-subjective way the state of anguish without falling back on this bodily behaviour—(d) *The argument of the understanding of signs*: The bodily behaviour serves only as a sign which I have to interpret. This interpretation is one spontaneous and intuitive act. Somebody signals to me from a distance by a movement of his arms. I understand his movements and this act of understanding is simultaneous to the act of observing them. There is neither need nor even a means for a detailed analysis. I interpret at once: Be careful! or Escape! If I began to analyse the various parts of the movements I would get nowhere. The intuition grasps at one stroke what no punctilious explanation of the movements from the physical angle could ever hope to render. Here we see, contrary to the theory of the physicalists, that the interpretation of a sign is something different from and something more than the sum total of the physical movements which have caused it. Carnap replies: The fact that I understand the sign shows in itself that the understood movement has certain qualities. Its meaning must be a one-valued function of its physical qualities, otherwise I could never have understood it. No doubt the understanding is intuitive

and takes place without any detailed physical analysis, yet this analysis is very well possible and we can afterwards find out exactly which movement meant "Take care!" and which "Escape!" If generally there is no need for such an analysis the intuitive apprehension being sufficient, this does not impair the value of such an exact physical description when it is needed. Certain movements have called forth a certain understanding; we are therefore entitled to put these movements *instead* of the non-physicalist meaning.

5. So the conclusion of the physicalist is as follows: All science becomes through physical language physica. All scientific facts can be explained and expressed as physical facts, i.e. attributes in space and time, fixed in a quantitative way. To carry out the physicalist's program science has to replace the fundamental entities of biology, psychology, sociology, history, etc. by systems of relations between entities which will be eventually but quantities in space and time. Entities like cell, soul, will-power, justice, state will through the physicalist's analysis appear as a complicated system of various relations built upon contents which will be of one kind only; physical quantities.

Philosophy has since long known the methodic principle called "Occam's razor", forbidding to multiply the number of entities without necessity. In the philosophical construction of the world we have to content ourselves with the smallest number of words just as in the world we also have to content ourselves with the smallest number of assumed entities. Bertrand Russell gave it a new expression: The medium which inspires all scientific philosophising is this: Wherever possible logical constructions must take the place of entities. We have to avoid the assumption of new entities whenever we can in their place maintain the previously assumed terms. Physicalism wishes to follow this to the extreme: Any entity which is not in itself quantity in space and time has by analysis to be shown as a logical construction built of physical quantities. Thus physicalism is a kind of *methodical monism*.

6. This is not the only methodical monism. The history of science in the last generation has already shown another monism which strove to interpret everything as compounds of sensations. Mach in his book, *Analysis of sensations* followed Berkeley in this type of Monism. Mach showed that it was possible to explain all being as lawful compounds of sensations (colours, sounds, tastes, etc.). These sensations combine to form different systems which enable us to discriminate "external bodies", "my own body", and "soul-experiences"; between these systems, however,

there is no absolute differentiation; they exist only for practical use, for our orientation in the world, and fundamentally they are made of the same material, namely of sensations. Exactly as I might construct various mosaics with the same stones, so I can build with the same "material", sensations, once the construct "body" and once "psychic event". There is, according to Mach, no substantial difference between these two concepts as supposed by the adherents of the theory of the body-soul contrast. There is but the relative contrast as between two combinations built up of the same elements. The general view is that the external objects call forth sensations in us. Mach reversed it: The objects are nothing but combinations of our sensations. He wished thus to do away with the absolute contrast between body and soul as maintained by traditional philosophy: "The world is not composed of external objects which—by a reciprocal relation with another entity mysterious as they themselves, the ego—create the sensations which alone are known to us. From now on colours, sounds, time and space are for us the ultimate elements; their combinations we have to investigate. That is research of reality."¹¹

We are not interested here in the details of Mach's theory. There is, however, great significance in his methodical monism, common to him and to the physicalists and in his way of execution in which he differs from them, for he builds up all objects from soul-elements, from the experience of sensations. Carnap who is today considered as one of the founders of physicalism followed in his first book *Der logische Aufbau der Welt* (1928) in the footsteps of Mach. The bricks for his logical construction of the world he found in the conditions of consciousness. The basis is thus one's own world (*Eigenpsychische Basis*). There Carnap distinguishes three different groups of objects: spiritual, physical and psychical objects. A spiritual object as e.g. "the gothic style of art" is explained as the sum total of physical objects, edifices, paintings, etc., or as the sum total of certain psychic experiences expressed in that style. Another spiritual object, "the Christian faith" is explained as the system of physical objects (churches, books, church-paraphernalia) or that of certain psychical experiences (religious thoughts, feelings, etc.). In this manner Carnap reduces all spiritual objects to physical and psychic ones and later he reduces all physical objects to soul experiences of the ego. Statements regarding physical objects become statements about sensations. Instead of saying "the table is black" we shall say "Under certain conditions I perceive a black surface." This trans-

11. Mach: *Die Analyse der Empfindungen*, 9th ed. p. 24.

lation will always be possible for if there were physical qualities which are not revealed by sensations we could possess no knowledge of them. Such qualities or any statements regarding them would be meaningless for they could never be verified; they would have no place in science. It is therefore possible to reduce all spiritual and physical objects to psychic ones.¹²

The details of Carnap's construction—which is of course rather involved—do not concern us here either. It is the conclusion we are interested in: All scientific statements become statements regarding my own experiences, the objects are only systems of combinations of my experiences. The assumption of physical objects and psychic personalities outside myself as also the assumption of spiritual objects is but an abbreviated expression for the set of my experiences. When I talk of the "Christian religion" or the "Gothic style" I am really talking of my own experiences. When speaking of the second person, I am speaking of myself. "Christianity", "Gothic style", "my friend" are but abbreviations for certain combinations of my own experiences. By all this Carnap does not wish to deny the existence of objects or men outside me. He is no metaphysical solipsist, but only a methodical one: He argues that for me all those objects are logically made up of my own experiences. Exactly as we can combine the stars into various constellations and groups—all made up of the same individual stars—so I can combine my psychic experiences into various systems. The different objects, my own body, other bodies, the psychic life of others, spiritual bodies as "Christianity" are for me but different constructions whereby I arrange my experiences into systems of different grades of logical combination and complexity. The conclusion is therefore: My world contains an enormous number of objects i.e. of forms of arrangement, but the material arranged in all those forms is one and the same: My psychic experiences. Also the language for the expression of all the objects is the same: psychological language. This method could conveniently be called: Psychism.

7. Physicalism and Psychism are united in their demand that instead of many sciences we are to have one unified science, with one language. The objects of the various sciences (or the unified science) are all of one and the same stuff though of different combination and degree of complexity. But the two methods differ in the supposition of the objects which are to be the basis of the unified

12. Carnap: *Logischer Aufbau*, p. 78.

science: for physicalism quantities in space and time, for psychism psychic experiences.

This difference does not imply a contrast. Quite the contrary. Many scientists¹³ maintain that "a double language-view" could be accepted: it is possible to transfer any statement regarding a physical object into the more complicated system of psychic experiences, e.g. the observations of the physicist who states the existence of a physical object by means of his senses aided by his instruments; and *vice versa*: any statement about a psychic experience can be translated into a statement regarding physical objects. Any such psychic experience, for instance, may be expressed through its corresponding process in the brain. Since our psychological knowledge of the brain today is not yet perfect enough to enable us to perform this translation an easier way may be chosen: instead of the psychic experience we put its external expression, i.e. those movements of the body through which we express our experiences and inform others about its occurrence: the occasional distortion of the face, movements of the hands, the altered voice indicating the emotion of the speaker, etc.¹⁴ All these are physical facts that can be looked upon as translations of soul-experiences into the language of the physicalist and the psychist language correspond perfectly and the question which of the two is the correct language has become meaningless. That is the attitude of Russell.¹⁵ So far the change of position on the part of Carnap who at first was a psychist and then turned physicalist cannot be understood as a cancellation of his first system, but only as the choice of a new way more convenient and at the present state of physics more promising than the former.

Not all scientists, however, agree that there exists a correspondence between the two systems. The physicist Planck for instance in his famous lectures on "The unity of the physical conception of the world"¹⁶ opposed Mach who had maintained that physics ought to be reduced to sensations. He sees the aim of physics in the "complete separation of the physical concept of the world from the individualism of the mind" and calls upon the physicist to free himself from "all anthropomorphic elements".

13. Feigl: "The Psycho-physical Problem", "Philosophy of Science" I, 1934; p. 439.

14. Carnap: *Log. Aufbau*, p. 24, 78.

15. Russell: On the Importance of Logical Form (Internat. Enc. of Un. Sc. I, 1, p. 41).

16. Planck: "Die Einheit des physikal. Weltbildes" (*Physik. Rundblicke*, 1922).

Perhaps I may be permitted to mention here a paradoxical formulation which was pointed out to me by the late psychologist Dr. Moshe Brill. In his opening lecture on the congress of American psychologists Clark L. Hull,¹⁷ himself an American psychologist, compared and contrasted the respective views of a famous psychologist and a famous physicist. The psychologist Albert P. Weiss held that human behaviour is to be comprehended as a more complex form of the behaviour of the basic entities of physics, such as electrons or protons. Eddington, the physicist, on the other hand, believed that it was impossible to understand the behaviour of man in terms of physics alone,¹⁸ but that we shall need the help of psychology as well. It might be worthwhile to mention this paradox of a psychologist who relies on physics and *vice versa* though it does not bear directly upon the problem under discussion.

8. We are interested in this article in the question of a "unified science" as such; thus we need not decide here, who is right, those who like Russell say that a perfect correspondence exists between physical and psychical language or those who deny it. The formulas provided by supporters of the unified science in recent years were all based on psysicalism. The method of Mach has been abandoned. Also Carnap has not stuck to the ideas of his book *Der logische Aufbau der Welt*. He has pointed out the obstacles that stand in the way of anyone who wishes to exchange physical terms for "perception-terms" and thus express science with the help of psychological concepts. In his article "Testability and Meaning"¹⁹ he enumerates the following difficulties: The statement of physics: "On the 6th May 1935 at 4 o'clock in the afternoon a round, black table stands in my room"—would have to be translated into psychological language by a number of statements expressing perceptions, i.e. psychic events corresponding to the physical fact: If someone is in my room on such and such day and stretches his hand out in a given direction he will have touch perceptions of such and such a kind etc. That would be the statement in psychological language. This series of statements about possible perceptions is to be more and more perfected and completed till it fits the physical fact of the existence of the table in my room. Statements about various kinds of aspects from

17. Hull: "Mind, Mechanism and Adaptive Behaviour" (*Psychol. Review*, 1937).

18. Eddington: *The Nature of Physical World*.

19. Carnap: *Philos. of Science*, III, 1935, p. 464. There C. adds a number of more technical difficulties.

different angles have to be added as well as such regarding various kinds of touch according to the shape of the table when approached from different directions, furthermore we have to add perception-statements related to other senses: the table may give forth a certain sound when knocked upon (acoustic sense), may have a certain smell, etc. One of the above statements alone or even several of them together cannot replace the physical statement; that can be done only by the *complete series* of statements representing all possible modes of perception of the existence of the table. And it is here that Carnap sees the peculiar difficulty: We cannot be sure that the *one* physical fact is completely expressed by a *finite* number of psychological facts. One physical fact may correspond to an *infinite* number of perception statements and we would then be unable really to exhaust the physical fact by means of such sentences. Its reduction to perception sentences and its expression in psychological language would thus become impossible of achievement. (By the way, Carnap's example of a simple physical fact "A round, black table is standing in my room" shows that its reduction to psychological facts would perhaps require an infinite number of perception-sentences. Yet it would be a fallacy to deduce from it that the physical description must always be simpler. If we were to express in terms of *physics* a very simple *psychological* statement such as "I get the smell of burning" we would again require a very large number of physical facts, perhaps again an infinite number of them. Carnap does not use this argument *against* physicalism, though he should have used it here as much as he used it in favour of physicalism.)

Moreover, psychism brings about other difficulties besides those mentioned above. The following seem to me even more essential: Its basics are my own soul experience. Psychism speaks, and necessarily so, about perceptions as the basic facts of the world. These perceptions are the terms which finally make up the dictionary of all scientific language. Thus, however, *my own* perceptions gain preference over those of the others and this preference brings about a lack of conformity in this method between me and other human beings. The other man's perceptions are not directly known to me, they are for me only results of an inference, while I know my *own* perceptions without any medium. The second person's experiences appear in this system as a most complicated super-construction of my own experience. In the above mentioned simile, for instance, they appear as a "group of stars" while my own experiences are the stars forming and making up the "constellation." My perceptions are therefore much more primary than those of the second person. They need no construc-

tion, they are given directly. Thus a deep and basic lack of conformity is introduced into the system which it will be impossible to remove again.

Psychism, like physicalism, strives to obtain a unified language of science; this language, however, is here closely bound up with the "ego", is a private language, a monological idiom. There is no common tongue, no intersubjective language and thus no intersubjective verification.²⁰ Every single scientist speaks about his own experience.²¹ As the monads of Leibnitz had no "windows", for everyone of them was closed up within itself, so is everyone of us closed up with his own experiences. We have here no general language of science, but everyone's individual tongue which depends in its terminology on that scientist's special experiences.

Psychism is unable to overcome this difficulty for it follows from its individual-psychic basis. That seems to be the main reason for the abandonment of the way Mach had shown in his book *Analysis of sensation*, a way which had then been followed also by Carnap in his first book *Der logische Aufbau der Welt*. Thus the attempts towards a unified science were concentrated round *psychicalism*. It is this system which we have to analyse critically if we wish fully to comprehend the significance of those attempts to establish a unified science.

IX

The trend towards the unified science is one of the fundamental tendencies of the new philosophy. The ideal of Descartes, the father of modern philosophy, was the one science—the comprehensive mathematics which was to embrace all the science.²² Hence the philosophical importance of the discovery of analytic geometry by Descartes; he wanted to abolish the division between geometry and algebra. The same striving brought him to the abolition of the division between geometry and physics by means of the identification of physical bodies with space and the explanation of their qualities only as mere geometric-mechanical extension. This is why Descartes wanted to explain even the problems of life as mechanical problems. In his eyes animals were merely

20. Juhos: "Kritische Bemerkungen zur Wissenschaftslehre des Physikalismus," *Erkenntnis* IV, 1934, p. 403.

21. Carnap: "Die physikalische Sprache als Universalsprache," *Erkenntnis* II, 1931.

22. Compare the book of Cassirer on Descartes.

machines. In this way he desired to reduce biology to mechanics, mechanics to geometry and geometry to algebra. All the sciences are nothing but the human intellect which is always the same despite the change of subjects in relation to which it is used, in the same way as one sun shines on a multitude of objects. The differentiation of the sciences is merely an artificial device and the scientist who moves away from this device beholds the one science.

The demand of Descartes for the one science is in one way more far-reaching than that of the physicalist and in one way asks for less: he required a single law embracing the whole of science: while contemporary physicalists admit that in the different spheres of science it is possible for different laws to prevail, it is possible that laws of biology would be more complicated than the laws of mechanics. They content themselves with the demand for the unity of concepts and for a single set of terms—i.e. for a single subject-matter which is subjected to more or less complicated laws. This subject-matter consists of quantities in space and time. Descartes wished to understand the animal as subservient to mechanical laws only like the falling stone. The physicalists of today do not demand this. So far as they are concerned it is possible that the laws of life should be different from the laws of mechanics. But the subject-matter that is subservient to laws will be the same both here and there—namely the electron or some other physical unity. On the other hand, Descartes did not demand that mechanism should explain even the phenomena of man's soul and placed a final limit between the animal which is a machine and man who possesses a soul. Physicalism does not, however, recognise such a boundary. A single science must embrace all the phenomena of the universe. Psychological laws are more complicated than the laws of other natural science. But here too, the subject of the law is a physical unit. In other words, we must understand the soul as a complex of physical units—of quantities in space and time.

X

In various quarters it has been attempted to criticize this modern physicalism on account of its concept of science. It has been said:²³ "The physicalists' arguments form a closed circle and one cannot fight him with the same instruments which he uses himself. All these attempts—to refute physicalism from within—

23. Beno Rottenberg: On the spiritual crisis, "Gilyonoth", Vol. VIII, (Hebrew); see also Horkheimer: *Der neueste Angriff auf die Metaphysik*, Zeitschr. f. Sozialforschung, VI, 1937.

cannot succeed since the theory of Physicalism is one whole beyond all possibility of attack. The source of this self-sufficiency is based on the fact that the whole of this theory is *agreed upon* entirely between those who are engaged in the positive sciences. These scientists have decided to define the concept "Science" in the manner we have seen above and all their theory is based on this decision and definition. There is no way of making a logical attack on this agreement. You must either take it or leave it." You can attack Physicalism only from without by showing: This conception of science is too narrow; it has no place for the humanities. Physicalism is the "treachery of the intellect committed against its elder sister," the spirit.

This frontal attack against physicalism from without is certainly justified. Physicalism is obliged to erase from the book of sciences a large portion of the humanities, particularly those which are concerned with what *ought* to be rather than with the actual being. The concept of the "ought" and every concept that is linked somehow with valuation and demand—more particularly the demand for morals or beauty—these have no place in the system of physical sciences which is occupied only with the *actual being*. Physicalism accordingly, unduly narrows the sphere of science. The above criticism is undoubtedly justified in this. But it is not enough to state that we are confronted here with two opposed agreements, two opposed conceptions of science which have not and cannot have a common language. It is necessary to try and argue with physicalism within its own sphere. The *advantages* of physicalism are obvious. If it is possible to achieve it, we shall have the possibility of expressing all scientific statements regarding reality in one inter-subject language. All the formulae of science will be objective, independent of the individual and will be formulated in one language from whatever source they are derived and it will be easy to pass from one sphere to another. However, the chances of achieving this unified science are dependent *on the facts themselves*; and it is here, as I see it, that we meet those difficulties of physicalism which can not be overcome.

Among the physicalists themselves there are differences of opinion or differences of formulae in regard to the foundation of physicalism. There are some—like Schlick²⁴—who see in it—if it succeeds!—an *experimental fact*, a happy accident that enables us to unify all the sciences. Schlick warns that we should not

24. Schlick: *Gesammelte Aufsätze*, 1938; p. 276, 286.

exaggerate the importance of such an accident, that we should not regard this fact differently from any other *experimental fact*. According to this, physicalism like every other fact would be dependent on experiment i.e. on the practical realisation of its plan: the formulation of all the sciences in one physical language. No one can say today that this has been achieved. It is still in the nature of an advice or a hope—and nothing more. Others consider that there is no necessity for the realization of the plan in order to see its practical possibility (and therefore even its necessity). For it is obvious—they say—that men do not contact each other except with physical expressions such as their language, their movements, etc. There is no communication between men except through body and matter. There is therefore no channel leading to joint inter-subjective action—except for the common physical objective world. Hence their certainty that it is the language of physics which is the all-embracing language of science and that the language of every sphere of science can be translated into this one. This predominance of Physics appears to the holders of this opinion so obvious that they do not see it (like Schlick) as a fact (which may be corrected by few facts), but make it the basis of the language of science and thus lend it *absolute a priori* validity in relation to all the sciences.

XI

Nevertheless, it may very well be asked: Is the fact that all contact between human beings (and rational beings generally) is made through the physical world alone—is this fact so certain that it can be raised to the status of an *a priori* certainty?

The argument of telepathy which is mentioned by Carnap (see above, para 4) receives great fundamental importance at this point. Is there any way to ascertain in a direct manner and without any physical channel that my companion who is somewhere else, is in distress? Carnap answered as we have seen; there is no reference to what is happening *within* my friend, for the fact "my friend in distress" can have for me no significance save for his known physical behaviour. However, it is just this interpretation given by Carnap that is problematic and in need of factual confirmation. The biologist and philosopher Driesch who did a great deal of work with parapsychological phenomena, arrived at the conclusion that "the medium has *direct* knowledge of the spiritual life of the second person."²⁵ If such facts exist as have

25. Driesch: *Forschungswege*, 1930, p. 43.

been established by Bergson and Driesch, they cannot possibly find expression in the language of physics. And science must not from the outset narrow the possibility of establishing facts, by means of the *language* chosen by it, language is only the means of expression of the facts and it must not dominate or prejudice them.

However, we need not rely on telepathy. There are closer and more frequent facts. Epistemology has for a long time been familiar with the following problem: from where does man acquire the concepts of "thou" and "we" if he is enclosed within himself? Various explanations have been advanced (I have dealt with them in my Hebrew book *Introduction to Epistemology*, p. 248/49) but they were not successful. An analysis of the problem leads to the conclusion that there must be a direct path to the second person by which we learn of his existence. There is no absolute physical division between one man and his neighbour. Nor is the existence of a second person comparable to a mere "supposition" like the existence of the stars, etc. There is no less certainty of the existence of the second person in my world than of my own existence. This directness of relationship of the "ego" and the "thou" is a fundamental fact of sociology and it explains also facts of the spiritual life of the infant which would otherwise be difficult to explain. (See my above-mentioned book, p. 257).

The American philosopher Hartshorne was right when he remarked²⁶ in this connection that *psysicalism* is based on the view that every person is a self-contained and closed unit, without any path to other units except by means of *physical* actions and interactions. But this, he says, is metaphysics and "subtly false metaphysics," erected on the view that personality is something absolute. But there is also a "conception of individuality as compound and relative." The pain which I feel in my finger is my pain. Yet I can have varying degrees of identification with the pain, can contrast it as content 'there' in the finger with myself as spectator 'here'. "The pain is not mine absolutely and simpliciter, but to a certain degree". Everybody knows this relativity from his own memory of his past. My past is my own past and yet I am somewhat of a stranger to it. At what point in my past does "my" personality begin with which I might identify myself? This boundary is not definite and prominent. Nor are the boundaries

26. Hartshorne: *Metaphysics for Positivists*, "Philosophy of Science" II, 1935. p. 296—298.

between myself and the second person so definite that there cannot be some mutual penetration, a sort of "osmosis" between me and him. Here in personality there are no fixed and defined spheres. We need a flexibility for the concepts that want to comprehend the facts here properly. And this flexibility is absent in physicalism.

XII

Physicalism comprehends the psychic life only from the behaviouristic point of view as a certain structure of quantitative elements in space and time. The question as to whether there is more in the second person than I can comprehend from a behaviouristic point of view and whether he has an internal psychic life is, in regard to the physicalist, an *imaginary* question. To the question—"How can I be sure that my brother and my sister and other people are more than mechanical automats and that they are conscious beings like me?"—Schlick answers²⁷: This question is meaningless. The problem whether other persons or animals are conscious beings can mean only this: does their *behaviour* show a known pattern? In this formulation—Schlick says the problem is a true one while the question whether they have a conscious outside their behaviour is meaningless. In other words: The question as to whether a Robot or the Golem (artificial man) created by Rabbi Judah Löw ben Bezaleel has a consciousness receives an answer to the effect that it *behaved* in a way as if it did have a consciousness; more than this you cannot ask nor can you get an answer to a pointless question.

This reply does not appear to me satisfactory and is frustrated by the fact of the consciousness of the *ego* which is not an *automat*. Such a Golem had to behave in such a manner as would be absolutely and exactly like that of other human beings and like my own. It must answer when spoken to and answer properly. It must laugh at the proper time and likewise cry, etc. Such an automat which conforms in its behaviour to me were only possible—if I were also an automat. It were then possible to suit one automat to the other. It is indeed impossible to assume that I have an internal life, to say that I am more than an automat, while my neighbour is merely an automat. Whatever is true of the second person is true for me and *vice versa*. Either we are all automats or the behaviouristic explanation is insufficient.

27. Schlick: *Gesammelte Aufsätze*, 1938, p. 243.

XIII

A language which is meant to express a certain set of facts must be as rich as is required by the facts themselves: It is essential that its store of terms should not be less in comparison with the number of the facts so that the language may be able to express them. If we come to an examination of physicalism from this point of view, we must compare the number of *possibilities* of physics (in other words, quantities in space and time) with a number of possibilities of the psychic sphere. This was done by Driesch in great detail.²⁸ The objections of Driesch were put forward as arguments against parallelism of the body and soul but they are also in place in an argument about physicalism. Driesch examined the degree of manifoldness of the psychic element as compared with the degree of manifoldness of the physical element and showed that examples of increase in the psychic sphere have not and cannot have any equivalent in the physical sphere. The psychic, he says, is related to the ego—i.e. to the "centre", while the physical elements are always side by side; the structure of the psyche is therefore entirely different. It knits up and combines its elements into one unit, into a unity of consciousness while the physical elements lie indifferently side by side.

Further: in physics component forces are brought together by the force of the resultant in such a way that the component forces are *not* preserved in the resultant. It does not appear from the result from what facts it proceeds, you cannot go back from the result to the components. When you see the motion of a stone, you are unable thereby to distinguish the forces it is composed of; yet a *psychic* act which is the result of other psychic acts combines together these component forces in such a way that they do *not* disappear within it. These examples—and many others are given by Driesch—show that the structure of the physical sphere is entirely different from that of the psychic and that it is much poorer too.

The meagreness of opportunities in the sphere of physics in relation to the psychic sphere is also set out by Driesch in the following manner: We may easily adjust the physical multitude to the spiritual thus: Every physical element may correspond to the representation (idea) of this element, the triangle will correspond to the representation (idea) of the triangle and the rectangle to the representation of the triangle. In this way every

28. Driesch: *Leib und Seele*, 1923, p. 53 sq., 67 sq., 76.

section of the physical multitude will correspond to the psychic multitude. By this means the sphere of physics may be exhausted, but the psychic sphere may not, for it has a larger number of possibilities of differentiation (apart from those already referred to) which the physical has not. The physical manifoldness can differentiate itself in space, time, and quantity, but it has not that richness of interlacement of relation which is so characteristic of the psychic. For instance, time, in the sphere of physics is nothing but an additional dimension of space. The contents which make up time follow each other externally and indifferently, while within the psychic sphere the past lives within the present and within the future; there exists a real development which preserves the past within the present. The past is not passed; while in nature the past is past and done with, it is hidden in its consequences in the present and we cannot return to the factors that created the result, for each individual result is indifferent to the factors that created it. The same mutual *inter-penetration* of the past and the future which is so characteristic of the consciousness that Bergson could define consciousness as the memory of the past and an anticipation of the future—has no parallel on the physical side. "The *body* is essentially matter and matter is of the present, if it is correct that the past has left its imprints on it then these imprints are nothing but imprints of the past in relation to the consciousness that comprehends them and *interprets* what has been comprehended in the light of what has been remembered" (Bergson, *Spiritual Energy*).

XIV

But the physicalists argue: You have been *speaking* and *writing* about all these advantages of the psychical sphere and you have therefore created by the very words or writing physical signs—(movements of air in speech and in writing, lines of ink on paper, etc.) which correspond to the psychical occurrences about which you have been writing or speaking. This is in itself a proof of physicalism. We may, from time to time look on those very lines of ink (we should call them rather ridges of ink in order to make it clear that we see them as something physical and not as writing) by means of which you write about the experiences of the psyche; let us understand these ridges of ink as physical representations of those very experiences. We thereby obtain a solution of the problem of physicalism. We have found the physical equivalent of the sphere of the psyche. Every thought is represented by corresponding ridges of ink on paper.

Is it possible to say this? This is the crucial question for the criticism of Physicalism.

This were possible only if those ridges of ink (that is to say the letters, but we must forget that they are letters and must regard them merely as matter; paper and ink in certain definite forms, etc.) were entities with a certain structure which would correspond with the structure of the thought that had taken form in these ridges of ink. The correspondence would have to be so exact that we should be able to pass in a one-valued manner from the material sphere to the psychic one and vice versa. This, however, is impossible, language being a unity of psychic and material facts and not merely a mutual correspondence of two spheres which are strange and remain strange to each other. You cannot separate these two components in language without the material that is in language losing the functions which it has received only by means of its blending with the psychic. The physical facts that come into language (ink, chalk, sounds, etc.) receive their arrangement and unity from its spiritual foundation (the meaning of the words, etc.). If we remove this formative element, then the material element is broken up into its component parts which have then no connection whatsoever between themselves. This is obvious when we compare the same word printed now in one type and now in another, now in black ink and now in red and so on.²⁹ If we see the letters only as ridges of ink then every group of letters will be entirely different from the other—different in its form, its colour and its material. Whence do we know then that this is the "same" word, its "psyche" i.e. its meaning having been separated from the corporal? However, the physicalist argues that ultimately the material basis (i.e. ridges of ink) and it alone fixes the "meaning" which we give it when we read the letters and that all the understanding of language is nothing but the interpretation of ink-shapes, expressive movements, sounds and the like and this material basis is therefore to include within it whatever may be necessary, in order to interpret it (see above, para 4, argument No. 4). It follows, says the physicalist, that if we omit the meaning and investigate its material basis alone, we shall be able to find in it what we find afterwards from it by the help of the meaning. However, here lies the error of Physicalism. It describes the process of conversation between people in such a way as if the speaker impresses upon the material intervening between himself and his

29. Russell: On Verification, *Proceed. Aristotelian Soc.* 1937. In these critical remarks I am indebted to Mr. L. Leibman and the talks we had on the matter.

partner in conversation the whole structure of his thought so that his partner would *find* everything in it and extract everything from the material alone. Therefore, the act of hearing and of understanding were entirely *passive* and would *receive* everything out of the material element that was transferred to the hearer. But this is not the case. The partner of my conversation (be the conversation oral or in writing) is not passive in conversation; he takes part in it and I take into consideration his *active* participation. The words that I utter, the letters that I write, are only the necessary means that require completion on the part of the hearer who takes an active *creative* part in the conversation. It is therefore not the material alone that reflects the thought of the speaker nor is the conversation completely engraved in the material used by the intermediary. The conception of the material *interpreted* as the medium of conversation is thus entirely different from the physical conception. It gives it life, completes it and breathes into it the spirit of life. We may explain the difference between the two conceptions by an example given by Carnap.³⁰ If an inscription were to appear in the sky, says Carnap, scientific explanation would have to avert its attention from the fact that there is here an understandable script and it would have to explain the "script" as a physical fact alone. But this is just it. This explanation which was enough from the point of view of physics would not have explained the *whole* fact, for the meaning of the writing from which physics averts its attention is also part of the fact. This aspect is neglected by the physical conception. Anyone who saw the writing in the sky only from the aspect of physics—as a group of stars, for example—and did not notice that there is also a *word* that can be *understood* would not be true to the fact itself. It has been rightly said: The act of understanding—the understanding of the listener who listens to the speaker, the understanding of the reader who reads the writing,—is creative activity. It adds additional elements to the physical mediators (sounds, letters, etc.) which are presented to it. Thus the assumption of physicalism which sets up an exactly corresponding relation between the physical and the psychic side and which assumes that it is possible to change one sphere for the other fails. This has been proved even by psychological experiments to which Bergson has drawn our attention (see *Spiritual Energy*). "When you glance over your newspaper or look through the pages of a book do you think that you are actually looking at every letter in every word or every word in every sentence? If it were so, then you had not been able to read many pages in the course of a day. Actually you do

30. Carnap: *Psychologie in Physikalischer Sprache*, "Erkenntnis" III.

not catch every word and every sentence but only a few signs and characteristic strokes—just enough to enable you to *guess* the rest. We catch only the impression of the thing. This calls forth the *memory* to the whole object, and the complete memory which was hidden within as a mere thought takes this opportunity to burst out. The sight and hearing alone supply merely *points to grasp* at or show us the outlines which *we* fill in with our memories—the *meaning being our guide* in it."

Bergson relies on the experiments of scientists who have analysed the process of reading in its simplest form in order to show the lack of correspondence between the mental process of understanding and the physical basis underlying it. It is worthwhile adding, here, another example which explains this distance in the field of the highest spiritual activity of understanding and interpretation. A good example is given by A. S. Eddington in his lecture "science and the unseen world": Let us suppose that on November 11th a visitor from another planet comes to the Earth in order to observe scientifically the phenomena occurring here. He is especially interested in the phenomena of sound, and is occupied in observing the rise and fall of the roar of traffic in a great city. Suddenly the noise ceases, and for the space of two minutes there is the utmost stillness; then the roar begins again. Our visitor, seeking a scientific explanation of this, would soon find that the cessation of sound was a much complicated phenomenon. But there is nothing to suggest that it was outside the operation of natural forces. The noise ceased because the traffic stopped; each car stopped because a brake applied the necessary friction; the brake was worked mechanically by a pedal; the pedal by a foot; the foot by a muscle... The stranger may well believe that each motion has its physical antecedent cause which can be carried back as far as we please... What then? Shall we let our visitor go away convinced that he has got to the bottom of the phenomenon of the Armistice Day? He understands perfectly why there is a two-minute silence; it is a natural and calculable result of the motion of a number of atoms and electrons following Maxwell's equations and the laws of conservation. Our visitor has apprehended the reality underlying the silence, so far as reality is a matter of atoms and electrons. But he is unaware that the silence has also a *significance*.³¹

31. Eddington's story is only a new version of Socrates' explanation of his sitting in the prison (Plato, *Phaedon* 98 c), "not because my body is made of bones and muscles, but because the Athenians have thought fit to condemn me and accordingly I have thought it better and more right to remain here and undergo my sentence."

XV

The physical explanation cannot comprehend and explain the meaning, for all concepts which design a symbol as symbol and the relation between the symbolized, concepts such as "language", "significance," "symbol," "understanding," "meaning" are outside the limits of physics. Even if we could overcome the difficulties we referred to above regarding the correspondence between the psychic and material spheres; if we could reduce a given sphere of psychic experience A, B, C, D, to physical events M, N, O, P—the fact that this is so—the fact that one sphere symbolizes another—this fact could not be expressed in the language of physics.

It is possible to teach the parrot to imitate the language of human beings but it cannot, nevertheless, be said that the parrot speaks. Here, in the conception of physicalism, every language is the language of the parrot, the physical-psychological event, the ridges of ink, etc. And just as the parrot cannot say about itself that it is speaking, in the same way physics cannot in its own language, say that it is language.³² The physical events which serve as the material subject of language—waves of ether or air, drops of ink on paper, etc., do not work as if they are themselves the subjects of expression but by means of agreement between the speakers who attach meaning to them. But the expression of this agreement as an agreement surpasses the sphere of physics. Even if we could succeed—in contradiction to what was said above—in translating our whole spiritual life to the physical sphere and if all the spiritual events were before us in their translation in the shape of "ridges of ink" written on paper, the work would yet not be complete, but only then would it be complete when we were told that these ridges of ink have a special significance, stand for something else, in other words, that they are not merely ridges of ink but language; that this strange confusion of ridges of ink is not merely a confusion of dots of ink; but that it is possible to read and understand it. It is this very thing, however, that the ridges of ink themselves cannot tell us. The relation of language or of a series of symbols to the material basis which serves as its instrument is of itself of a different dimension from these material instruments.

32. Th. Vogel: *Philosophie und Sprache* (Die Bedeutung der modernen Physik für die Theorie der Erkenntnis, 1937, p. 159, f; Schlick: *Ges. Aufsätze*, p. 174, 180; Weinberg: *Examination of Logical Positivism*, 1936, p. 196; Juhos: *Bemerkungen zur Wissenschaftslehre des Physikalismus* ("Erkenntnis" IV, p. 400).

Physicalism itself in wanting to explain its method, must rise above the physical sphere. Minchhausen himself as a physicalist would not pull himself out of the physical sphere by his plaits.

We may use physical facts as symbols, but we cannot say with the help of symbols alone that they are symbols. With the help of those means that physicalism puts at our disposal we cannot say that these symbols serve as a language.

Physicalism cannot therefore achieve its purpose.

Note:—The arguments advanced here against physicalism are fundamental and philosophical arguments. We have assumed that from the physical aspect everything is in order. However, we must remark that even from this aspect Physicalism must encounter difficulties. It is based on the determination by physics of quantities in space and time in an objective manner. However, the recent development of the theory of Quanta introduces serious doubt into the matter as to whether it is possible to understand the aim of physics in this way. In his last book³³ Eddington has insisted that it is possible to solve the difficulties in the theory of Quanta only by means of the assumption that it does not measure objective quantities but determines relationships between subjective experiences—in other words between one observation and another of the scientist, and that the transition from one observation to the objective occurrence is not permissible. He writes: "According to the classical conception of physics our task was to discover a system of equations which connects the positions, motions etc. of the particles. This problem has proved altogether baffling, we have no reason to believe that any determinate solution exists, and the search has been frankly abandoned. Modern quantum theory has substituted another task, namely to discover the equations which connect knowledge of the positions, motions etc. at one instant with knowledge of the positions, motions etc. at a later instant. The solution of this problem appears to be well within our power. The mathematical symbolism describes our knowledge and the mathematical equations trace the change of this knowledge with time."

This conception of physics would destroy the very conception of physics which has given rise to Physicalism.

33. Eddington: *The Philosophy of Physical Science*, 1939; p. 50.

Philosophical Explanation

BY

G. R. MALKANI

It has been said that there is no wholly rational explanation of the actual. The occurrence of anything at all is the basic source of obscurity and paradoxes in metaphysics. We shall attempt an explanation here which will terminate this state of things.

We generally seek to explain the actual by the actual. We go back from the actual effect to the actual cause. This transition is not intelligible to us. How one situation can be the sole cause of another situation different from it, is fundamentally unintelligible. But we may accept it as an empirical fact. An empirical fact has no *necessity* about it. We can therefore never claim that an actual situation is ever explained in this way.

Can the knowledge of a necessary connection explain? That is quite possible. We seem to have explained a thing when we have shown that it follows necessarily from another thing. But no factual connection is a necessary connection. It is only a logical connection that can be so. Nothing however is really *explained* in logic. We simply see in logic the application of a self-evident principle of thought. "Things that are equal to the same thing are equal to one another," "whatever is true of the class is true of each member of the class," etc. Here the principles are seen to be self-evidently true, and all deductive processes are simply applications in thought of these principles. What explanation is forthcoming is simply the seeing of the necessity of the principles. The brute fact does not admit of any such explanation; and it may well be thought that all explanation of the actual must *start* with the actual in some form or other. The actual as such is ultimately inexplicable.

The question however cannot be put aside, why 'this' rather than 'not—this'? Why anything at all? We naturally seek to go beyond the actual, and are not satisfied with merely accepting it for what it is. The actual can be thought away. There is no necessity about it. This then is the only explanation that the actual is capable of. If the actual is, it is because it has a *free kind* of existence. It may not be, yet is.

But what sort of existence is this free existence? Free existence to us is unthinkable. Whenever we are seeking the cause of things, we are seeking to know their necessity. If this necessity is unavailable on the empirical level, we have faith that it will be available when a complete explanation is forthcoming. When we know the ultimate reality, we shall know why everything is what it is and not otherwise. Contingency means to us irrationality, and so ultimate unreality. What is, we should be able to show in a final and complete explanation, "must be". We now find that this ideal is incapable of being satisfied where the actual is concerned. Contingency or free existence is of the very essence of actuality. Where we accept a whole that explains the part, the whole itself is contingent and unexplained.

It may now be argued that this problem of the explanation of the actual is vitiated by a false postulate. That postulate is that the real is rational, and that what is irrational is unreal. That need not be the case. The actual is simply to be recognised as a brute fact not to be further explained. There is no question of its being either necessary or even non-necessary. We simply cannot go beyond it. It is first in the field. It is the very limit of explanation. No explanation is demanded of it. It just is. The possible is one thing, the necessary another, and the actual is different from both.

But what are the philosophical implications of actuality? The actual is certainly possible, and includes it. The possible alone can become actual, the impossible cannot. As a matter of fact, if the possible has got any limitation of meaning, so that something is possible and something is not (and it is this limitation that makes the term significant to us), then that limitation is derived from the actual. We read the actual backwards. We say, that alone is possible which *can become actual*. The necessary conditions of actuality, if any, limit the meaning of the possible. The possible then, while certainly wider in scope or in unrealised potentialities, derives the limitation of its meaning from the actual. It is less than the actual in this sense, and presupposes it.

Can we say that necessity is a more inclusive philosophical concept than the other two? The necessary must certainly include the possible. The impossible cannot be necessary. Can we also say that it includes the actual? The necessary is the actual and something more. Something may merely exist, but not necessarily exist. Such mere existence is irrational. It is only when existence is raised to a necessary existence that it becomes fully

real, because more intelligible. Necessity then is a higher and more inclusive category.

We do not subscribe to this view. What is necessary is less than the actual. The actual is. It has being or existence. The necessary never is. What necessarily is, is simply the logical implication of a proposition. Necessity is a purely logical concept. It has no relation to what is actual. The actual is more concrete and therefore more real than the necessary. It cannot be explained in terms of a necessary connection. *What alone can explain it is free creativity.* There is no necessity anywhere in the realm of the actual.

We cannot stop with the actual, and accept it for what it is. It poses a problem; why the non-necessary is? Thought is not satisfied unless it goes beyond the actual to its spiritual basis in experience which will explain the nature of its existence as free, or existence which need not be yet is. What explains free existence is a free creative act. It is an explanation which contrasts with the causal explanation that seeks in the cause the *necessary* ground of the effect. If the concept of causality is unavoidable for the knowledge and the understanding of the phenomena as Kant held the concept of freedom is even more fundamental and necessary for the explanation of what may be called *phenomenal existence*—as such or the world of actuality. The concept of causality is imposed on things by our understanding and is not grounded in things themselves, but the concept of freedom is revealed by the nature of things themselves. Things happen and are what they are not because they are *necessitated*, but because they are freely made or created. Thus, beyond the physical causes, we have to admit a non-physical, non-empirical and free cause which we may call God or the unmoved mover on the analogy of our own freedom to act and to create. God is in this sense the only efficient and the ultimate cause of the world. He brings the world into being out of his own freedom, and not through the necessity of a pre-existing cause. Every such pre-existing cause forms a part of the actual world, and can only be explained through the freedom that is God, who is therefore the sole cause of the world.

This explanation is quite valid as far as it goes. But it has to be carried a step further. If the ultimate cause itself moves, it cannot be ultimate and it cannot be free. The movement will form part of the actual world and will require itself to be explained,—it will have spatial and temporal characters. The ultimate cause can only be sought in an *unmoved mover*. That alone can be a free cause, or a cause which has no cause. But then a new pro-

blem arises. The unmoved mover, remaining himself unchanged and immutable, cannot act. How can *he* be said to create or to put forth? God as the unmoved mover, cannot be an actor or a doer. Still, if something appears to have a free kind of existence or to be created, that appearance cannot be really grounded in the nature of God who does nothing. It can only be a false appearance grounded in that power of illusion called *maya*. Reality is free from all creativity, and yet there is the appearance of this creativity in it. It appears as though God really did something, while as a matter of fact he does nothing. The free existence then which we attribute to the actual can only be ultimately traced to this power of illusion, not to God as such. The illusory has a free existence. It is never necessitated. It is in this sense inexplicable. Or what is the same thing, its existence as illusory, as what does not exist and yet appears,—is all the explanation that is capable of. To know the illusory as illusory is the very best possible explanation of it. No other explanation is even demanded. We cannot set out any logical reasons for the product of an error. It is something essentially irrational which has simply to be recognised; and no problem of explanation is really left. The explanation of the actual here achieves its completion.

Is this extreme form of explanation unavoidable? The world may be traced to God as the first actuality, and then we may declare God as unexplained. All explanation of the actual can carry us only as far as God and no further. God is the reason of the world. But this does not satisfy thought. Thought is simply mystified, not enlightened. It is up against an ignorance which requires to be dissipated. The problem is shifted from the world to God without making any advance in explanation. If we must admit our ignorance about the ways of God, why should we not admit our ignorance at the very beginning when we are confronted with the ways of the world? For an *actual God* is not in principle different from the world. It requires to be explained, and no explanation is forth-coming.

It may now be said that we can find a middle course. God does not create the world out of any necessity of His nature. That is an extreme view to be rejected. The world is also not illusory, having no real relation to God. God has made the world with His power of *maya*. This power does not affect God. God could have made a different world or no world at all, without being affected thereby in any way. This world is what it is because God has made it so. But the making of the world leaves God unaffected. Thus the world is explained, without taking away anything from the reality of God.

This view also does not take us very far. It sets us another problem, the problem of the relation of God to his mysterious power of *māyā*. Does the power form a part of the essential nature of God? If it does, any movement of power will not leave God unaffected. God will come within the ambit of the world. He cannot stand outside it as an explanation of it. If however the power is not thus related to God, in what sense is it the power of God? It cannot be a real power belonging to him. It can only be a power that can do its creative work by taking God as its immutable ground and support. In other words, it is a power of illusion which does not affect the intelligent ground that it takes for its support. The intelligent self or the pure intelligence; not affected by the illusions which it reveals. God will be this intelligent self, and *māyā* the power of illusion that makes the illusion of the world possible.

This will naturally raise the question of the reality of *māyā*, the power of illusion, and of the illusion of the world which it has created. But this question can be resolved by an analysis of subjective error or misperception through which alone any illusion appears. The power of illusion is in its essence nothing else but this subjective error, which is a willing confused with a knowing. In this sense, the creative power of God or the *māyā* of God is what it is traditionally supposed to be, namely the will of God. God has willed the world. Only what is willed cannot *appear as real*, unless the willing is confused with a knowing. If I have willed something (and I can will only an act and never a thing), I am not deluded by the reality of that which I have willed. What I put forth, I can withdraw. I can make and unmake. There is no power in will which can give the appearance of reality to what is willed. Even God cannot give an appearance of reality to what he wills. In order that this appearance should emerge, the willing must be confused with a knowing. While I really will a content I believe I am knowing. This is the form of subjective error. It alone accounts for every illusory appearance. The cancellation of the latter cancels the former also. When the object of a perception is cancelled, the perception itself is cancelled. The perception cannot stand by itself and apart from the object. When therefore I know something to be illusory, I also know that I did not really perceive it, but merely believed that I did so. The power of illusion then, in the form of subjective error, is as illusory and unreal as the illusory appearances which it creates and which it accounts for. There is no real problem left about *māyā* when its nature is understood. The illusory is to be known for what it is, and not further explained.

This is illustrated in the case of the illusory snake. I believe that I perceive the snake, and therefore also believe that the snake determines my perception of it, as in all cases of genuine knowledge. When however the snake is cancelled by the perception of the rope, the whole previous evaluation undergoes a radical change. Instead of the snake determining my perception of it, I now know that my perception determined the snake. In other words, I did not really *perceive* the snake, but merely imagined it or willed it, and confounded this willing with knowing. It is the subjective confusion and subjective error that accounts for the illusory appearance of the snake, and when this confusion is set right, the power of *māyā* is gone. This argument is to be extended to the cosmic plane. If the world is really willed, does it appear as willed or as known? If it is the former, it should not delude us with its reality, and we should know it directly to be a matter of imagination and nothing more. If it is the latter, it is really an illusory appearance. The power which creates this appearance is also illusory. It has no greater claim to reality than its known illusory effects. In other words, the illusory is only to be explained by the illusory, and the question of the reality of the illusory becomes non-sensical.

Gaudapāda Ādi Śeṣa and Vasīṣṭha

BY

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While attempting to fix the date of Gaudapāda, the present writer was led to compare the *Gaudapādakārikā* with two other works on Vedānta, viz., the *Paramārthasāra* of Ādi Śeṣa and the *Yogavāsiṣṭha* of sage Vasīṣṭha. Much the same thoughts are found in the three texts; and there is a great identity in the terminology used. We shall examine the points of resemblance and see if anything could be deduced regarding the sequence of the three works.

The *Paramārthasāra* is attributed to the authorship of Bhagavān Ādi Śeṣa. But who the author was and when he lived are questions which have not been finally settled. What can be asserted beyond doubt is that he must have lived before Abhinavagupta (11th century A.D.) who adapted and expanded Ādi Śeṣa's work to form a handbook of the Pratyabhijñā system, and gave it the same name. Between the *Paramārthasāra* and the *Māndūkya-kārikā* there are some significant points of resemblance. Neither quotes *verbatim* from the other. This is probably because of the difference in metre. But the similarity in doctrines between the two works is unmistakable. The following doctrinal identities may be noted: (1) The three forms of self, Viśva, Taijasa and Prājña, belonging to the three stages, waking, dream and sleep, are but phenomenal. The fourth which transcends them, viz., Turiya, is alone the real.¹ (2) Māyā is the power (śakti) or energy (vibhūti) of the Lord. It constitutes his nature (svabhāva). By Māyā the Lord appears to delude himself as it were. The endless diverse forms such as prāṇa are illusorily posited.² (3) In truth, however, there is neither origination nor destruction, neither bondage nor release.³ (4) The one who has realised the truth is free to live as he wills. The ethical standards do not apply to him, because he has transcended the realm of morals. In this respect he is comparable to non-conscious beings or ignoramus.⁴ (5) With no

1. Gk, I, 11; PS, 31.

2. Gk, I, 9; II, 12, 19; PS, 30, 32, 33, 56.

3. Gk, II, 32; PS, 69.

4. Gk, II, 36-37; PS, 76-79.

system of thought is Advaita in conflict. The different schools contradict one another. But they are not inconsistent with Advaita, since all of them proclaim the self of all.⁵ Besides these doctrinal similarities, one who reads the two works closely will notice that many of the key terms and phrases are the same in both and that both make use of rope-snake, shell-silver and the other analogies.

On the ground of the points of resemblances set forth above, can any suggestion be made regarding the sequence of the two works? Professor S. S. Suryanarayana Sastri has suggested that the *Paramārthasāra* may well be considered to be the original which was drawn upon by Gaudapāda.⁶ The reasons given by Professor Sastri for his suggestion are as follows: (1) Ādi Śeṣa seems undecided as to the unity or plurality of *jīvas*, whereas Gaudapāda seems more definitely against plurality. Hence it is that the latter characterises analogies like those of clay and its products, fire and its sparks, as being purportful only as introducing the doctrine of non-difference, not as teaching difference.⁷ Since Gaudapāda is more definitely inclined towards *eka-jīva-vāda*, the probability is that he came after Ādi Śeṣa. (2) In Kārikā III, 15, Gaudapāda juxtaposes the illustrations of clay and fire. The first illustration occurs in the *Chāndogya*, and the second in the *Bṛhadāraṇyaka* and the *Muṇḍaka*. The juxtaposition of these two illustrations in one kārikā is not by itself unintelligible. But it would be more plausible if conceived as referring to and rejecting a similar juxtaposition elsewhere. This is just what we find in the *Paramārthasāra*, where in one verse (46) there is reference to the clay analogy, and in the very next (47) there is the illustration of the sparks issuing from the fire in a piece of heated metal. Probably Gaudapāda had these two verses before him, when he juxtaposed the two illustrations only to refute them.

These reasons by themselves, we submit, cannot make plausible the suggestion that Gaudapāda borrowed from Śeṣa's work. (1) In the first place, Gaudapāda does not seem to uphold *eka-jīva-vāda*. As Professor Sastri himself admits Gaudapāda does offer an explanation for the empirical plurality of *jīvas* on the analogy of defilement of a single pot of ether not affecting the ether in the other pots; and this is identical with the explanation given

5. Gk, III, 17; IV, 5; PS, 65.

6. *The Paramārthasāra of Ādi Śeṣa*, Karnataka Publishing House, Bombay (1941), p. ix. See also JORM, Vol. xiii, pp. 99-100, *Some observations on the Māndūkya kārikās*.

7. Gk, III, 15.

by Śeṣa.⁸ What Gauḍapāda is concerned to maintain is *ekā-atma-vāda*; and this is the backbone of all forms of Advaita. In Kārikā III, 3, for instance, the plural *jīvaḥ* is used, and it is said that the Atman appears in the forms of the jīvas. (2) In Kārikā III, 15, there is a reference not only to two illustrations but to three which are explicitly mentioned and to all other such illustrations which are implied by the words *et cetera*. The examples of clay (*mṛt*) and metal (*lōha*) appear in the *Chāndogya* (VI, i, 4-5); and the illustrations of sparks issuing from five occurs in the *Bṛhadāraṇyaka* (II, i, 20), the *Muṇḍaka* (II, i, 1) and the *Maitrī* (vi, 26) Upaniṣads. Taking these illustrations as specimens, Gauḍapāda observes that Scripture has non-difference for purport even when it teaches creation. It is but natural that he should have chosen his examples from different Upaniṣads in order to show that all of them have the same support. There is no refutation of the illustrations, as Professor Sastri suggests. What Gauḍapāda does is only to bring out the implication of the illustrations. And it is possible for one who would like to place Ādi Śeṣa after Gauḍapāda to argue as follows: Śeṣa cites the analogy of clay and its products along with another (the body and its limbs) in verse 46, and says in the spirit of the *Chāndogya* and the *Kārikā* that the non-dual self appears as if different in the phenomenal manifold (*advaitam dvaitavad bhāti*). In the next verse (47) there is a jumble of the two analogies into one, and the sparks are pictured as issuing out of a heated metal. In none of the three Upaniṣads (*Bṛhadāraṇyaka*, *Muṇḍaka* and *Maitrī*) where the fire sparks illustration is found is there a mention of metal.⁹ Probably, Śeṣa had before him the kārīkā of Gauḍapāda and understood the words *lōha-visphuliṅga* to mean *lōha-gatād dahanāt visphuliṅga-gaṇāḥ iva*. The interpretation though not unintelligible, is a little ingenious. Abhinavagupta has only one verse in his *Paramārthasāra* corresponding to the two of Śeṣa's work, and he omits the analogy of clay, and instead of heated metal and sparks, gives the illustration of a radiant thing and its modes.¹⁰ (3) The view that Gauḍapāda was earlier than Śeṣa may be sought to be strength-

8. Op. cit., p. ix; Gk: III, 5; PS, 36.

9. Bṛh: agneh; Muṇḍ: sudiptāt pāvakāt; Maitrī: vahneh.

10. v. 49.

aham eva viśvarūpaḥ kara-carāṇādi-svabhāva iva dehāḥ,
sarvasmīn aham eva sphurāmi bhāveṣu bhāsvarūpam iva.
It is I who take form as the universe, like a single body composed of hands, feet, etc., In the whole it is I who am revealed as a radiant thing in its modes.

(L. D. Barnett's translation). See JRAS, 1910, p. 734.

ened by comparing the verses in the two works that deal with the three forms of the self. In verse 31 Śeṣa refers to Viśva, Taijasa and Prāṇa and says that they veil the fourth, viz., Turiya. If we look at the verses that precede and succeed verse 31, we will notice that there is some casualness about the verse. Verse 30 speaks of Vāsudeva who, as if desiring to sport, spreads himself out in endless diverse forms. Verse 32 says that the *dēva* deludes himself, as it were, through his own Māyā, and again realises the self, as it were. There is thus a natural connection between these two verses. The interposition of verse 31, referring as it does to the Turiya in the neuter gender, appears rather out of place. The discussion of the three states of waking dream and sleep and of the three forms of self, Viśva, Taijasa and Prāṇa and the exposition of the nature of the Turiya as the reality underlying them are all in place in the *Gauḍapādakārikā*. The kārīkā of the first *prakaraṇa* constitute, in fact, an explanation of the *Māṇḍūkya Upaniṣad*, and so could not have been modelled after a single verse of the *Paramārthasāra*. It would appear, therefore, that Śeṣa or whoever was the author of the verse in question should be considered the borrower in this case. Either on his own authority or on the ground of some tradition, Śeṣa adds the phrase *ādi-madhya-nidhana* (beginning, middle and end) in apposition with *viśva-taijasa-prāṇa*. And Abhinavagupta paraphrases it as *srṣṭi-sthiti-samhārāḥ* (origination, sustentation and destruction).¹¹ (4) Professor V. Bhattacharya thinks that Śeṣa must be dated even later than Bhāskara (9th century A.D.), one of the post-Śāṅkara commentators of the *Vedāntasūtra*, for he seems to be acquainted with the theory of creation held by Bhāskara.¹² Śeṣa effects a synthesis of the Śāṅkhya and the Vedānta doctrines of creation and finds a place also for the theory of *andā* or cosmic germ which is found, for instance, in the *Manusmṛiti* (I, 8 ff) and the *Viṣṇu Purāṇa* (I, 2, 58 ff). In his commentary on *Manu* I, 8, Kullūka-bhaṭṭa observes that the view of the Śāṅkhyas as regards the evolution of the non-intelligent Prakṛti is not acceptable to Manu, and that in his view is reflected the doctrine of *tridāṇḍi-vedānta*, viz., that Brahmin itself is the cause of the world through *avyakta* which is its power.¹³ That the world is a transformation of Brahman through *avyakta* is the view of Bhāskara.¹⁴ Śeṣa seems to be aware

11. Op. cit., v. 34.

12. The School of Bhāskara.

13. See *Manusmṛiti* with Kullūkabhaṭṭa's *Manvārtha-muktāvalī* (Kasi Sanskrit Series), p. 6.

14. See Udayana's *Nyāyakusumāñjali* (Bibliotheca Indica, Part I) p. 332. *brahma paripater iti bhāskara-gotre yujyate*.

The reasons given by Dr. Atreya do not appear to prove his case or even make it probable. (1) The *Kārikā* is not a commentary on the *Māṇḍūkya Upaniṣad* in the literal sense of the word, thought in the first prakaraṇa it seeks to explain the mantras of the *Māṇḍūkya*. It is a prakaraṇa treatise and not a bhāṣya. Even granting that it is a commentary, it does not follow that it must be dated later than the independent work on Advaita of another author. Gauḍapāda's reference to earlier Vedāntins does not mean that among them should necessarily be included Vasiṣṭha. The *Vāsiṣṭha* cannot be credited with originality for all its views, for the seeds of most of them could be traced in the Upaniṣads. Surely, there was not a philosophical vacuum between the age of the Upaniṣads and the times of Gauḍapāda and Vasiṣṭha: There must have passed several generations of Upaniṣadic scholars. It is to some of these that Gauḍapāda refers. Vasiṣṭha also cites the views of earlier Vedāntins.²¹ There is a possibility, therefore, of both Gauḍapāda and Vasiṣṭha having drawn from a common source. (2) That Vasiṣṭha claims to have received his doctrines directly from Brahmā is no proof to establish the priority of the *Vāsiṣṭha* to the *Kārikā*. It must be remembered that, like Plato who makes Socrates his spokesman in the Dialogues, the author of the *Vāsiṣṭha* puts his views into the mouth of the sage Vasiṣṭha. The sage having learnt his philosophy from Brahmā is but a philosophical fiction; and it is true only in the sense that all truth is divinely inspired. In this connection, we may also point out that there is a similar tradition concerning Gauḍapāda, viz., that he received his teaching through the grace of Nārāyaṇa in Badarikāśrama. (3) It is not correct to say that the *Kārikā* has a tendency to become critical, hostile, and polemical towards other schools of thought. There are in his work criticisms of categories like the concept of cause. But there is not any hostility to other systems. On the contrary, Gauḍapāda expressly declares that Advaita is opposed to no school of thought.²² As for the reference to other views which are contradictory to one another and mutually conflicting that is found in the *Yōgavāsiṣṭha* too.²³ Hence the reasons offered by Dr. Atreya are not conclusive to show that the *Vāsiṣṭha* was the earlier work and that it was composed probably before Bhartṛhari and after Kālidāsa. As against his view, it has been pointed out that the

21. E.g., IV, 21, 26; *vedāntināḥ*.

22. III, 17; *tān ayam na virudhyate*.

IV, 5: *vivadāmo na taiḥ sārddham avivādam, nibodhata*.

23. E.g., III, 62, 10-11; 84, 22-27. *Vivadanto hy asambuddhah sivilkalpa vijrmbhitaiḥ* (cited by Prof. V. Bhattacharya: *Op. cit.*, p. xxxvii).

Yogavāsiṣṭha quotes not only from Kālidāsa but also from the works of many other poets and writers who came long after Śaṅkara.²⁴

Another consideration which contributes to placing the *Vāsiṣṭha* after Śaṅkara is that the terms *jīvanmukti* and *jīvanmukta* which are used in that work are not found in the *Kārikā*, nor in Śaṅkara's works. The doctrine of *jīvanmukti* is important for Advaita. Both Gauḍapāda and Śaṅkara explain it as an essential part of their philosophy, but without employing the term. If the *Yogavāsiṣṭha* had been composed before the time of Gauḍapāda and Śaṅkara, the chances are that they would not have ignored the term *jīvanmukti* used in that work, but would have adopted it themselves to make their theory of liberation while being embodied known by that term.²⁵ So considering the evidence that is available, there seems to be no case for assigning to the *Yogavāsiṣṭha* a date earlier than the *Gauḍapādakārikā*.

A comparison of the three works, then, leads us to conclude that, while the *Gauḍapādakārikā* and the *Paramārthasāra* belong probably to the same era before Śaṅkara, the *Yogavāsiṣṭha* is a post-Śaṅkara composition.

24. See the date of the *Yogavāsiṣṭha* by Dr. V. Raghavan (*JORM*, Vol. XIII, pp. 110-128). Dr. Raghavan places the YV between the 11th and the middle of the 13th century. He cites passages of the YV which show that the author had a knowledge of Śaṅkara's works, as e.g., the verse which contains the expression *sāmadhyusmad*. For parallels between the YV and the works of other writers, see the article in *JORM*.

25. Of the Upaniṣads only later *Muktikā Upaniṣad* uses the term *jīvanmukta*. See Das Gupta: *HIP*, Vol. II, pp. 245 f.

of this view when he says that by Upendra (Viṣṇu) the world is created because of his own primal nature (*mūla-prakṛti*). He makes this statement, as it is but proper, under the seal of Advaita, viz., that the world is non-real and appears as if real.¹⁵

Though the view sketched above seems to be attractive, there are difficulties in accepting it as plausible. In the *Paramārthasāra* the terminology of Advaita is not fixed and defined. The work appears to mark a stage in the development of Advaita doctrine earlier than the one effected by Śaṅkara. So far as definiteness and fixity go, the *Paramārthasāra* is not even so advanced as the *Gauḍapāḍakārikā*. It would appear that Śeṣa's aim was to provide Vedānta with a short manual on the model of the *Sāṅkhyakārikā*. The approach to Advaita he makes is also through the *Sāṅkhya*. The style and language he employs bear the stamp of antiquity.¹⁶ Though it cannot be proved from internal evidence, which alone is available to us, that the *Paramārthasāra* was earlier than the *Gauḍapāḍakārikā*, it can be said with a fair measure of certitude that it has come down to us from an age when the Advaita-Vedānta had not attained its character as a well-defined system—a character which it acquired at the deft hands of Śaṅkara.

We may now turn to the other work, viz., the *Yogavāsiṣṭha*. As to the identity of the author of this extensive work consisting of over twenty-three thousand verses¹⁷ we know next to nothing. The mythical Vasiṣṭha is the spokesman of the author and the epic Rāma is made the recipient of the teaching. Whether there was a short poem as the original to which additions were later on made we do not know. But the need for abridgement was felt quite early, and there are now available several summaries of the work.

Between the *Yogavāsiṣṭha* and the *Gauḍapāḍakārikā* there is much in common in thought and terminology, though there are to be found only a few identical lines word for word in the two works.¹⁸ The view that the ultimate reality is non-dual consciousness is common to both Gauḍapāda and Vasiṣṭha. The supreme

15. V. 9 See *Āgamaśāstra*, pp. ii—xxxv.

16. For this suggestion I am indebted to Dr. V. Raghavan.

17. The YV says that it is a composition of thirty-two thousand verses (II, 17, 6); actually there are 23,734 verses to be found in the text.

18. For instance,

(1) *ādāvante ca yan nāstī vartamānepti tat tathā*—Gk, II, 6; IV, 31; YV, IV, 45, 45.

(2) *upadeśād ayam vādo jñāte devaitam na vidyate*—Gk, I, 18; YV, III, 84, 27. The same appears in YV, III, 84, 25, with *avibodhāt* instead of *upadeśāt*.

self is immutable, since it does not suffer modifications. Both the thinkers characterise the world as an appearance, comparable to the imaginary world of dreams or the *fata morgana*. From the standpoint of the supreme truth there is no difference between the dream world and the universe of waking life. For both Gauḍapāda and Vasiṣṭha the world is *māya-mātra*, an illusion, or fabrication. In reality, there is no creation whatever, none in bondage, none released or to-be-released. The very concept of causality is unintelligible. *Ajāti* is the truth. Both the authors believe in release as the nature of the self. When the truth is known non-duality alone remains. The path of *yōga* is sketched in both the works, as the one leading to the goal; only the treatment is elaborate in the *Vāsiṣṭha* and not so extensive in the *Kārikā*. That liberation need not wait for the decease of the body is a view held by both the philosophers. Both appear well-acquainted with the Buddhist views and make use of their terminology.

The close affinity in thought and language between Gauḍapāda and Vasiṣṭha is only natural, since both of them teach Advaita. But, from this affinity can anything definite be said as regards the relation of the two teachers in time? Who was indebted to whom? Or was there a common original from which both of them drew material for their philosophical constructions?

Dr. B. L. Atreya has attempted to show that Vasiṣṭha¹⁹ was the earlier of the two philosophers, and that Gauḍapāda was inspired greatly in his composition of the *Kārikā* by the teachings of the *Vasiṣṭha*. His argument is based on the following grounds: (1) *Gauḍapāḍakārikā* was not written as an independent work, as it was offered only as a sort of commentary on the *Māṇḍūkya Upaniṣad*. Gauḍapāda does not claim originality for his views. He refers to previous thinkers by such terms as 'vedāntēṣu vicakṣaṇāḥ', 'tattva-vidāḥ', 'nāyakāḥ' and 'buddhāḥ'. The views attributed to these thinkers and approved by Gauḍapāda are found in the *Yogavāsiṣṭha*. (2) Unlike Gauḍapāda, Vasiṣṭha claims to have received his doctrines directly from Brahmā and to have realised their truth in his own experience. (3) The *Kārikā* must be taken to represent a later phase of the philosophy of Advaita, for there is found in it a tendency to become critical, hostile and polemical towards other contemporary schools of thought. The *Yogavāsiṣṭha*, on the contrary, is free from polemics and looks at the rival schools from a higher point of view wherein all contradictions are harmonised.²⁰

19. By Vasiṣṭha is meant here the author of the *Yogavāsiṣṭha*.

20. See *The Philosophy of the Yogavāsiṣṭha*, pp. 17-19.

Professor Rudolf Otto's Concept of the 'Numinous' and its Relation to Indian Thought

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One of the most valuable contributions in recent times to philosophy of Religion is Prof. Rudolf Otto's concept of the 'Numinous.' This theory of the numinous is set forth by him in his well known book *The Idea of the Holy*. Otto explains the title of his book as "An inquiry into the non-rational factor in the idea of the Divine and its relation to the rational." In order to avoid being misunderstood, he declares that thereby he does not wish "to promote in any way the tendency of our time towards all extravagant and fantastic 'irrationalism.'" According to him, "the 'irrational' is today a favourite theme of all who are too lazy to think or too ready to evade the arduous duty of clarifying their ideas and grounding their convictions on a basis of coherent thought." This should not, however, prevent any one from "recognizing the profound import of the non-rational for metaphysic," and Otto "makes a serious attempt to analyse all the more exactly the feeling which remains where the concept fails." His object is also "to introduce a terminology which is not any the more loose or indeterminate for having necessarily to make use of symbols."¹ It is his conviction that no one should venture upon this field of inquiry before one has spent many years of study upon the rational aspect of that Supreme Reality we call "God." This echo is the view of Sankara that reasoning must be regarded as "a subordinate auxiliary of intuitional knowledge."²

In embarking on the metaphysical study of the "non-rational" he has ranged over the whole field of human inquiry and has determined its bearing on his specific problem. As Prof. Whitehead has remarked "The rejection of any source of evidence is always treason to that ultimate rationalism, which urges forward science and philosophy alike."³

1. Passages from Otto quoted in this paper are all taken from the authorized English translation by J. W. Harvey.

2. P. 307, S.B.E., Vol. 34.

3. The function of Reason, p. 50.

As the entire thesis of Otto hinges upon his concepts of the 'rational' and the 'non-rational,' they need to be carefully understood. Otto means by the term 'National' an object that can be thought conceptually; and the rational conception of God is the idea we form for ourselves of God as a being of whom we could predicate attributes like reason, purpose, good-will, supreme power, unity, self-hood and so on. He does not deny the validity or usefulness of these concepts, but only points out that these 'rational attributes do not exhaust the idea of the Deity,' but 'in fact imply a non-rational or supra-rational subject of which they are predicates.' But it may be objected here that whilst these 'rational' attributes are at least conceivable, the so called 'non-rational' attributes are inconceivable and consequently inexpressible. They are as good as unknown. Would this not amount either to agnosticism or mysticism? It is not agnosticism, because these attributes are "not unknown, but known in a different way; for he maintains that "it must be in some way or other within our grasp, else absolutely nothing could be asserted of it." And again, mysticism, in speaking of the object of religious consciousness as ineffable, "does not really mean to imply that absolutely nothing can be asserted of the object of the religious consciousness: otherwise, mysticism could exist only in unbroken silence, whereas what has generally been a characteristic of the mystics is their copious eloquence" (P. 2).

Otto draws a contrast between the rational aspect of religion and its profounder aspect, the non-rational. He avers that the bias to rationalization which prevails in theology, the science of comparative religion and the anthropological study of the religion of primitive man does not, while quite useful for other reasons, give us the essence of religious consciousness. He emphatically states that "No mere inquiry into the genesis of a thing can throw any light upon its essential nature," (p. 22) Malinowski, the Anthropologist, remarks, "The comparative science of religions has no warrant to declare the absolute, transcendental truth of any one religion. Since religious revelation is an experience which, as a matter of principle, lies beyond the domain of science, either discipline is sovereign and independent, and neither can testify for or against the other."⁴ This fact is admitted by the psychologists also. For instance, Prof. Cyril Burt says that "Because the psychologist has discovered how the religious consciousness has

4. P. 77. Science and Religion—A symposium.

developed, it does not follow that he has therefore discredited or disposed of religion, and explained it all away."⁵

Otto takes a new line of inquiry and goes in search of the unique quality in the mental attitude and emotional content of the religious life itself. This attempt results in his discovery of the category of the holy or sacred which, he thinks, is a category of interpretation and valuation peculiar to the sphere of religion. Just as the category of the beautiful cannot be compressed without a remainder into certain set concepts, the category of the holy also eludes our attempt to capture it in a few intelligible concepts. It is a category *sui generis* in the same way as that of the good or the beautiful. They are not reducible to one another and remain unique. Otto holds with regard to the *sui generis* character of the idea of the Holy the same view as that of Prof. G. E. Moore regarding the idea of good in his *Principia Ethica*. Moore has adopted as the notice for his work Butler's phrase "Everything is what it is, and not another thing." This may as well serve the purpose of a motto to Otto's work in so far as religious consciousness is concerned. He makes his position quite clear when he says: "This mental state is perfectly *sui generis* and irreducible to any other; and therefore, like every absolutely primary and elementary datum, while it admits of being discussed, it cannot be strictly defined. There is only one way to help another to an understanding of it. He must be guided and led on by consideration and discussion of the matter through the ways of his own mind, until he reach the point at which the 'numinous' in him perforce begins to stir, to start into life and into consciousness. We can co-operate in this process by bringing before his notice all that can be found in other regions of the mind, already known and familiar, to resemble, or again to afford some special contrast to, the particular experience we wish to elucidate. Then we must add: 'This X of ours is not precisely this experience but akin to this one and the opposite of that other. Cannot you now realise for yourself what it is?'. In other words, an X cannot, strictly speaking, be taught; it can only be evoked, awakened in the mind: as everything that comes 'of the spirit' must be awakened." (p. 7).

It is here that Otto finds it necessary to introduce his new word 'numinous' implying the autonomy and uniqueness of his distinctive category of the holy. He states that "in our inquiry into that element which is separate and peculiar to the idea of

5. P. 319. How the Mind works.

the holy it will be useful at least for the temporary purpose of the investigation, to invent a special term to stand for 'the holy' minus its moral factor or 'moment' and as we can now add, minus its 'rational' aspect altogether" (p. 6). It is this 'over plus' of meaning, 'this unnamed something' that he calls the 'numinous'. It forms the very core of religion. It should not be identified with merely 'the morally good' though this may be an element in it. The 'numinous' is employed as "a word to stand for this element in isolation, this 'extra' in the meaning of 'holy' above and beyond the meaning of 'goodness'". The view that religion is morality touched with emotion seems wholly inadequate from this point of view: for, as Otto says of the 'numinous', "There is no religion in which it does not live as the real innermost core, and without it no religion would be worthy of the name." (p. 6).

In asserting the autonomy and uniqueness of the 'numinous' he does not intend extruding altogether the ethical and aesthetic elements out of the complex of religious experience. He only means that the 'numinous' cannot be wholly reduced either to the good or the beautiful but has something which stands above and beyond these as its distinctive characteristic, "something of whose special character we can feel without being able to give it clear conceptual expression." He makes this numinous experience consist in what he calls "unique original feeling-response." But what sort of feeling is this? Schleirmacher had suggested that it was a "feeling of dependence". But Otto points out two defects in this view. In the first place the feeling is restricted to the 'creature feeling' whilst religious feeling is more complex than this, and further no satisfactory distinction is made between the specific religious feeling of dependence from other feelings of dependence. Secondly, Otto points out that Schleirmacher's concept of the 'feeling of dependence' is not original but secondary and derivative in so far as it presupposes a prior feeling of "something bearing the character of 'numen' to which the mind turns simultaneously," and further "these feelings can only arise in the mind as accompanying emotions when the category of 'the numinous' is called into play." He also maintains that the numinous is felt as objective and outside the self or as Mathew Arnold puts it "an other than ourselves that makes for righteousness" or a "something there." The 'Unique original feeling-response' stirred in the individual by the 'something there' reveals on an examination of its texture the "intimate interpretation of the rational and non-rational elements," "like the interweaving of warp and woof in a fabric." Otto makes this idea vivid by referring to analogies and associated feelings in the 'erotic' and 'musical' experience. Of the 'erotic,'

he says, "Whatever falls within the sphere of the erotic is therefore always a composite product, made up of two factors: the one something that occurs also in the general sphere of human behaviour, such as friendship and liking, the feeling of companionship, the mood of poetic inspiration or joyful exaltation, and the like: and the other an infusion of a quite specific kind, which is not to be classed with these, and of which no-one can have any inkling, let alone understand it, who has not learnt from the actual inward experience of 'eros' or love." (pp. 47, 48). This analogy however should not lead anyone to confound 'erotic' with 'numinous' feeling as is often done by those who misread the erotic symbolism which a few mystics employ as a means of expressing their 'numinous' experience. Otto makes the difference clear when he says that "the 'Numinous' infuses the rational from above," while "the sexual" presses up from beneath, quite wholesomely and normally out of the nature which the human being shares with the general animal world, into the higher realm of the specifically 'humane'". (p. 47).

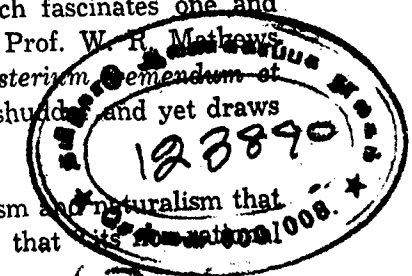
With regard to music the non-rational element is that ineffable something other than the verbal text of a song which "releases a blissful rejoicing in us, and we are conscious of a billowy agitation occupying our minds, without being able to express or explain in concepts what it really is that moves us so deeply" (p. 49); just as the inner content of music is 'something unique and mysterious', the inner content of the 'numinous' is something unique and mysterious. Here with regard to 'erotic' experience Otto cautions us against 'confounding in any way the non-rational of music and the non-rational of the numinous itself, as Schopenhauer, for example, does. Each is something in its own right, independently of the other." (p. 51).

The rational and the non-rational in religious experience are not compatible but complementary. Otto explains how it is when he says: "By the continual living activity of its non-rational elements a religion is guarded from passing into 'rationalism'. By being steeped in and saturated with rational elements it is guarded from sinking into fanaticism or mere mysticity, or at least from persisting in these, and is qualified to become a relation for all civilized humanity. The degree in which both rational and non-rational elements are jointly present in healthy and lovely harmony, affords a criterion to measure the relative rank of religions." (p. 146).

Otto draws our attention to the fact that "It is one thing to believe in a reality beyond the senses and another to have experience of it also: it is one thing to have ideas of 'the holy' and another to become consciously aware of it as an operative reality, intervening actively in the phenomenal world." Numinous experience is just this becoming consciously aware of 'the reality beyond the series' as the 'operative reality, intervening actively in the phenomenal world.' It points out to a hidden depth, inaccessible to our conceptual thought, capable of being felt or experienced but incommunicable through concepts or language. But the 'numinous' is capable of being transmitted from mind to mind by "living fellowship and the inspiration of personal contact." The numinous can be kindled in us by personal contact with one in whom the numinous has already been kindled into a flame. This has been demonstrated time and again in the lives of the saints all the world over.

The religions of the world have in their external aspects revealed certain features which also have served to kindle the 'numinous' in man's mind through their ceremonials like image worship, offering of sacrifices, congregational prayers, pilgrimages to sacred places, bathing in sacred rivers, Bhajans and Kirtans and the like. Otto finds the earliest and cruder manifestations of the numinous in fetishism, totemism, worship of animal and plant, daemonism and poly-daemonism, and worship of the dead. He finds awe and mystery characteristic of 'numinous' termed by him 'Mysterium tremendum, in all these phases of religion. He traces this element in semitic religion and the religion of the Bible at great length. He finds the element of 'Mysterium tremendum' in the Bhagavad Gita in the feeling of 'Adbhuta' and 'Ascarya' kindled in Arjuna by the vision of the 'Visva Rupa'. He even states that "Adbhuta (and Ascharya) would be an accurate rendering in Sanskrit for our 'numinous', were it not that the word like the German 'wunderbar' and the English 'awful' has long ago become trite and shallow from the 'profane'—non-religious uses to which it has been so perpetually put." The awe and mystery involved in 'numinous' experience is not the crude feeling of terror which repels one but something which fascinates one and draws one towards itself. In the words of Prof. W. R. Matthews "The Divine is, in man's consciousness, *Mysterium tremendum et fascinans*, the mystery which causes him to shudder and yet draws him towards itself."

Otto maintains as against all sensationalism and naturalism that 'the holy' is a purely a priori category and that



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content has, no less than its rational, its own independent roots in the hidden depths of the spirit itself." The process of the numinous is, in fact, *felt* as something axiomatic, something whose inner necessity we feel to be self-evident."

The person in whom the 'numinous' consciousness finds its highest activity is the Prophet. Of him Otto says "The prophet corresponds in the religious sphere to the creative artist in that of art."

Having now given a survey of Prof. Otto's concept of the 'numinous' a few words may now be added pointing out its bearing on some aspects of religious thought in India. Otto himself is a keen student of Indian religious thought particularly of the school of Vedantic Theism expounded by Ramanuja. His works on the *Siddhanta of Ramanuja, India's Religion of Grace* and his translation into German of a work on Visistadvaita known as *Yatindra Mata Dipika* reveal his interest in Indian religious thought. He particularly finds his Indian affiliations in the philosophy of Ramanuja and the Religion of Sri Vaishnavism. A few of these affiliations may now be set forth.

According to Ramanuja the study of the rational aspect of that Supreme Reality we call God is to be termed *Dhyāna* or meditation. Meditation on Brahman as characterized by the scriptures contains within it both the rational and the non-rational elements, the rational leading one on to the non-rational. His view is that through meditation the mind is cleared, and that a clear mind gives rise to a direct knowledge of Brahman.⁶ In support of this view he quotes the scriptural texts such as the following: 'He is to be heard, to be reflected on, to be meditated on' (Bri. Up. II, 4, 5). 'He is not apprehended'. 'He is apprehended by the heart, by wisdom, by the mind' (Ka. Up. II, 6, 9). Direct intuitive knowledge of Brahman is thus regarded as the fruit of meditation. When we rise from meditation to intuition, we pass from philosophy to religion. Ramanuja says that "only knowledge in the form of meditation being daily practised, constantly improved by repetition, and continued up to death—is the means of reaching Brahman; hence all the works connected with the different conditions of life are to be performed throughout life only for the purpose of originating such knowledge." In his conception of 'knowledge ripened into love' (*Bhakti rupāpannaganna*) Ramanuja establishes the necessary connection between religious feeling and religious con-

6. P. 188, S. B. E. XLVIII.

viction. As Otto himself remarks, "Religious conviction must be true and must be able to prove its truth, i.e. it must lay claim to be knowledge. Otherwise religion itself is impossible: and at most it could claim to be the loose day dreaming of a sensitive heart." (*Philosophy of Religion*).

The religious conviction ripening into religious feeling creates the 'numinous' experience of the human soul enraptured and fascinated by "something bearing the character of 'numen' to which the mind turns simultaneously." This 'something' evokes the 'numinous' feeling on account of its essence which is *holiness*, paraphrased by Ramanuja as (*Heya pratyānikatva* and *Kalyāṇa guṇakaratva*) 'opposed to all that is evil and as imbued with all that is good'. 'Bhakti' is the 'numinous' feeling which is enkindled by meditating profoundly on God's holy attributes called by Ramanuja 'Kalyāṇa guṇas'. The Latin numen which is the most general Latin word for supernatural divine power is in this original meaning analogous to the term *Bhagavān* which comprises within itself unexcelled wisdom, power, strength, dominion, energy and radiance (*Jñāna, śakti, bala, aiśvarya, vīrya, tapas*). It is the revelation of these qualities in the Divine Being to the vision of Arjuna that evoked in him the 'Mysterium tremendum' according to Otto. Chapter XI of the Gita where the vision of *Viśva Rūpa* is vouchsafed to Arjuna is regarded by Prof. Otto as an example of 'numinous' poetry. He calls it "a theophany of terrific grandeur, which seeks to give a feeling of the unapproachable essence of the Divine before which the creature trembles and falls, by embodying the human and 'natural' means of terror, majesty, and sublimity" (p. 190. *The idea of the Holy*). The element of Awe, overpoweringness ('majestas, *Aiśvarya*) and of energy (*Vīrya* and *tejas*) which constitute the elements of 'Mysterium tremendum' evoke in the pious the 'numinous' feeling which Otto considers translatable by Sanskrit words like *acintya, āścarya* and *adbhuta*. Otto remarks that 'Adbhuta means literally the inapprehensible, the inexpressible.'

The 'Mysterium tremendum' with the 'numinous' feeling it evokes is according to Otto "the deepest and most fundamental element in all strong and sincerely felt religious emotion." It is to be found "in the lives of those around us, in sudden, strong ebullitions of personal piety and the frames of mind such ebullitions evince, in the fixed and ordered solemnities of rites and liturgies, and again in the atmosphere that clings to old religious monuments and buildings, to temples and to churches." (p. 12). The feeling of the 'Mysterium tremendum' finds varied expression in the lives

of men as is evidenced in the several types of religious consciousness which the Bhagavadgita classifies into three, the *Satvic*, the *Rajasic* and the *Tamassic*, the pure, the passionate and the dark. The chapter dealing with these forms of faith is called characteristically *Sraddha Traya vibhaga Yoga*. The Yoga of the Three-fold division of faith. Says the Gita "pure men worship the Gods: the passionate, the gnomes and giants: the others, the dark folk, worship the varied manifestations of the quality of religious emotion which fundamentally retains its unique 'numinous' quality whatever shape it may assume in particular cases. This feeling, according to Otto, "may at times come sweeping like a gentle tide, pervading the mind with a tranquil mood of deepest worship. It may pass over into a more set and lasting attitude of the soul, continuing as it were, thrillingly vibrant and resonant, until at last it dies away and the soul resumes its 'profane', non-religious mood of every-day experience. It may burst in sudden eruption up from the depths of the soul with spasms and convulsions, or lead to the strangest excitements, to intoxicated frenzy, to transport and to ecstasy. It has its wild and demonic forms, and can sink to an almost grisly horror and shuddering. It has its crude, barbaric antecedents and early manifestations, and again it may be developed into something beautiful, pure and glorious. It may become the hushed, trembling, and speechless humility of the creature in the presence of—whom or what? In the presence of that which is a Mystery inexpressible and above all creatures." (p. 13. *Idea of the Holy*). The life of devotion in India reveals the entire gamut of *mysterium tremendum* in man's pilgrimage to God. But beneath the bewildering forms of faith there is always the undertone expressed by the *Bhagavad Gita*. "However men approach me, even so do I welcome them." Ramanuja interprets the statement thus. "By whatever conception they choose to seek Me, I manifest Myself to them in that mode." The several modes of manifestation of Isvara by means of which the incomprehensible becomes partially comprehensible and accessible to the meanest intelligence have been described by the *pancarātrās* or the *Bhagavatās* as of five kinds (*Vyūha*). Brahman who is *acintya* and *adbhuta*, inconceivable and mysterious, becomes easily accessible (*sulabha*) in a series of emanations to the devotee in his meditation. Thus the *sausilya* and the *Saulabhya* aspects of Brahman lead us on to the *acintya* and *adbhuta* aspects. This doctrine is incorporated by Ramanuja into his system which is a confluence of *Jnana* and *Bhakti*, knowledge and devotion, conviction and feeling. Each of the *vyūhas* is regarded as a stadium in the ascent of man from the sensuous and conceptual experience of Brahman to the non-sensuous and the

non-conceptual experience (*Sakshātkara* or *aparokshanubhava*). Referring to this doctrine Ramanuja says: "From the worship of the *Vibhava*—aspect one attains to the *Vyūha*, and from the worship of the *vyūha* one attains to the "subtle" called *Vasudeva* i.e. the highest Brahman—such is their doctrine." The descent of this Brahman is called *Avatara*. One form of *Avatara* is the *Antaryāmi* *avatara*; another form of *Avatara* is the *Archa Avatara* or incarnation for the purposes of ordinary worship. The *Archa Avatara* or the consecrated image of the Divine Being, ("endowed with a certain miraculous power felt by the worshipper") becomes an *Avatara* of Vishnu "as soon as it is duly consecrated according to the *Pāncaratra* rites, it being supposed that Vishnu, owing to his omnipotence, is capable of "descending" into such images with a portion of his *Śakti*, that is, with a subtle ("divine," "non-natural") body." "The miraculous power felt by the worshipper" would be the "numinous" according to Otto.

The concept of the 'numinous' may unravel for the modern mind many a tangled thread of religious life and thought in India. His concept of the '*Mysterium tremendum*' can explain in a more satisfactory fashion than any other why for example, "Durga, 'the great mother' of Bengal is represented in the orthodox tradition with the visage of a fiend," and how her 'worship can appear steeped in an atmosphere of profoundest devotional awe.' Man is unable to escape from the lure of the *Mysterium Tremendum et fascinosum*. To the devout worshipper Durga is both awful and beautiful. She strikes terror and humbles man to dust and when he stoops picks him up as a mother would a child and takes him under her protection. 'The *Maha Kali*' becomes the *Bhava Tarini*, one who helps man to cross the ocean of misery. Otto discerns in such 'Numinous' cults as these a very pronounced element of the '*tremendum*' which he considers is subdued in Christian Mysticism. He remarks: "There has never been in the West a Mysticism of Horror, such as we find in certain forms of Indian Mysticism, both Buddhist and Hindu—in *Bhagavad Gita*, Ch. 11—in some forms of the Shiva and Durga worship, and in the horrible form of Tantrism." A correct understanding of principles of Tantra as expounded in the texts edited, and in the horrible form of Tantrism." A correct understanding of principles of Tantra as expounded in the texts edited by Author Avlon will help to dissipate some of the current views held about Tantrism.

This may have been due to certain environmental conditions which had a large share in the shaping of religious ideas. This apart, there is a deep traditional symbolism, which alone can throw a light on some of the un-understandable 'possible' mani-

festations of the art of religion. Talking of the image of Nataraja, the Dancing Lord, Ananda Coomarasawmy says: "It must be remembered that the element of strangeness in Indian Art is not there for its makers, and those for whom they worked: it speaks, as all great national art must speak in a language of its own, and it is evident that the grammar of this art language must be understood before the message can be appreciated." What this writer says of Indian art is equally true of Indian Religion. If in Christian Mysticism the tremendous element is subdued it is equally subdued in the Bhakti—religion of India of which Prof. Otto shows an intimate acquaintance. He says, "India has not hitherto had the periods of purifying enlightenment and critical sifting which we of the West have had."⁷ This is not true. The sâtvic Bhakti-religious movement in India which swept over the country in wave after wave has made 'purifying enlightenment' and 'critical sifting' possible. "If it shall have them" says Otto, "many of its religious forms are certainly destined to receive criticism and suffer destruction, but the Bhakti religion will have no more to fear in respect to its deepest ideas from such criticism than our own religion when ridding itself of the forms and burdens of antiquity and the Middle ages."⁸

7. P. 45, *Essays in Rational Idealism*.

8. P. 80, *India's Religion of grace*.

The James-Lange Theory of Emotions

A Fresh Attack on an old Psychological Monstrosity

BY

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A student of modern psychology is bound to wonder why this psychological monstrosity is being permitted still to deface the pages of our text-books. James was great as a speculative thinker, but his ability for scientific thinking was of a very poor order. He never performed a single psychological experiment. In fact he was sceptical, and sometimes even cynical of the value of experimental psychology. And one who is not an experimentalist has no place in the realm of modern psychology. It was an evil day for psychology when James entered the field of our science, and it is a tragedy that his ghost is still haunting those who are engaged in the experimental study of the human nature. His ghost must be laid. Let us take an effective step in that direction by exposing the fallacies inherent in the theory of emotions so closely associated with the name of James.

It is well known that though the name of Lange is coupled with that of James so far as the theory of emotions is concerned, there is yet a fundamental difference between the two in their attitude to the objective aspects or manifestations of emotions. Lange was quite consistent as a physiologist and identified the emotions with their bodily manifestations. We may not agree with him, but we see that his position is crisp and clear. He has not clouded the issues by introducing a mysterious element in his theory. Such a mysterious element was introduced by James, and it requires to be carefully studied, because therein lies the clue for completely overthrowing the Jamesian theory of emotions.

Before we launch our final attack on James, let us see what effect the assaults already made on the theory have produced. At the famous Wittenberg symposium on Feelings and Emotions, the James-Lange theory was criticised by several outstanding psychologists.¹ But more than three decades before the symposium was

1. *Feelings and Emotions*, Wittenberg symposium.

held, Professor Irons made an impartial analysis of the James-Lange theory, and tore to pieces every shred of evidence that James was able to bring in support of his own position.² The professor points out that 'there is not a single case which gives evidence in favour of the entire position maintained.' Every example cited by James is analysed by Irons, and is shown to disprove the theory under discussion. The case of fainting at the sight of blood proves particularly damaging to the theory, for 'it raises the very difficult questions why consciousness of organic disturbance can at times remain merely such consciousness, and at times appear in the form of emotion.' And in regard to objectless emotions which James quotes with great gusto, it is pointed out such emotions are utterly impossible in the nature of things, and the emotions of insane people are certainly not objectless. The most important point in the slashing attack of Irons against James, is this: 'If you take away *an* element from a concrete whole, then the total state may disappear. On that account are we justified in arguing that the single element is *the* whole state?' James in his arguments does not refer to concrete states at all, but only to their representation, in thought. It may be admitted that when in thought the bodily elements are abstracted from the concrete emotion, it is impossible to conceive of the emotion. But what does this prove? Nothing at all. 'A purely shapeless apple cannot be thought of. On that ground is it not the height of absurdity to argue that the apple is pure shape and nothing else?' The learned critic of James has given the death blow to the Jamesian theory, and he has conclusively established that there is a mental element interposed between perception and bodily activity in all emotional experience.

Both at Wittenberg and in the critical articles of a high order, that have appeared in the learned journals a very generous interpretation has been put on the tendencies in Jamesian psychology. Some learned psychologists see a leaning towards Gestalttheorie in James, while others are reminded of a spiritual element in his psychology. But the truth is that the psychological writings of our author show unmistakable traces of leaning towards MECHANISTIC BEHAVIOURISM. In spite of his pre-occupation with the stream of consciousness, and the nature of mind, and in spite of his imposing chapter on Philosophy and Psychology in his *Principles*, James is frankly behaviouristic. Now, no one can take any objection to the attitude of a consistent behaviourist. But to subscribe to a spiritualistic doctrine, and to hob-nob with the

2. *Mind*. N.S., 1894.

behaviourist on the sly is highly objectionable. And to this aspect of the Jamesian doctrine we must take strong objection. It is this inconsistent attitude that is responsible for the peculiar theory of sensation and perception which James formulated, and which gave birth to the monstrous theory of emotion which disfigures the pages of our text-books.

It has been remarked already that there is a fundamental difference between James and Lange in the matter of their views on emotion. Lange confines himself to the bodily manifestation of emotion, while James interposes the element of sensation between the objective situation and the subjective experience. 'Every one of the bodily changes (produced in an emotion), whatsoever it be, is felt, acutely or obscurely the moment it occurs.' And the sum total of these felt changes is, according to James, the Emotion. '...each emotion is the resultant of a sum of elements, and each element is caused by a physiological process....The elements are all organic changes, and each of them is reflex effect of the exciting object.' (*Principles*, vol. ii, p. 453). The theory boils down to this: in an emotional experience there is in the first instance an objective excitant, and this induces, almost reflexly if we are to take James seriously, certain bodily reactions; then, at the next stage these bodily reactions generate certain sensory experiences on the sounding board of the brain; and the sum total of these sensory reverberations is the emotion. The first half of the theory is behaviouristic, and the second introspectionistic, and the whole theory is the offspring of an unholy alliance between pseudo-functionalism and incipient behaviourism.

It is clear now that the factor which distinguishes the Jamesian theory from the Langean and checks the development of the former into full-blooded behaviourism is the intrusive element of sensation. Further light on this 'sensation' is thrown by a very interesting point in our author's discussion of the nature of will. (*Principles*, vol. ii, ch. xxxi.) He there speaks of the images of *resident* and *remote* sensations in the moving limbs engaged in executing voluntary actions. This distinction is followed by an elaborate defence against imaged opponents. We cannot help feeling that James is attacking a dummy para-trooper which his sub-conscious mind has dropped into his field. This discussion serves two purposes. It shows in the first instance the utterly unscientific nature of the arguments of James. There is not a single scrap of experimental evidence culled from the author's own investigations. In the second place, it shows how the bogey of remote and resident sensations was haunting the mind of James when he propounded his fantastic theory of emotions.

Let us turn to sensation and perceptions. The Jamesian discussion of these two processes is riddled with innumerable fallacies. James declares himself as a non-elementalist. Yet his definition of perception is built on an elementalistic basis. Of course he declares that the perceptive state is not a compound, but his detailed analysis does not conform to the spirit of his declaration. Now the point is this. Are the sensory elements which interpose between the excitant and the emotion in the theory of James, sensations or perceptions? If they are sensations, then they are non-existent, as no such thing as a pure sensation exists; if they are perceptions, then James has lost his case, for a perception introduces a definite psychic element and that turns the tables against him.

Somewhere James speaks of a feeling of relation as a distinct psychic entity. Incidentally we may remark that the term is a most puzzling one in James. Relations are highly perceptual and when there is a feeling of relation, then there is present without a doubt a psychic element. James denies this in emotions, but as in so many other instances, the borrowed examples that he discusses reveal the operation just of that element which he denies. His very examples go against him.

The theory under review is stated by James in the following words: '...each emotion is the resultant of a sum of elements and each element is caused by a physiological process....The elements are all organic changes, and each of them is the reflex effect of the exciting object.' This is outbidding the behaviourist; and what can gladden the heart of the extreme mechanistic psychologist more than the statement that an emotion is to be causally accounted for, 'as the aroused by an object of a lot of reflex acts which are forthwith felt....' (*Text Book*, ch. xxiv) ?. But what complicates the situation is the introduction of sensation and feeling, two words about the meaning of which James is never clear in his mind. What then is sensation? James admits frankly that a pure sensation as such is a fiction; only perceptions are facts. Sensation, even as an abstraction, is purely cognitive. Besides the sensation, of importance to emotions are the kinaesthetic ones, and of these James says, 'The resident sensations in the parts that move have been called kinaesthetic feelings....' We notice here the confusion between sensation and feeling that we have objected to already. It is this feeling element which seems to cloud the perception of James. He says, 'that every one of the bodily changes, whatsoever it be, is felt, acutely or obscurely the moment it occurs', while about sensations he remarks that

they are 'first things in the way of consciousness.' In this pure form, of course, sensations have no existence in our concrete experience. At first sight all this may seem quite convincing. But in what sense are we to understand feeling as distinct from certain types of sensation described by James? There seems to be no answer to this question.

The whole discussion boils down to this: James postulates the following order of events in an emotional experience, (1) the excitant, (2) the bodily response, (3) organic sensations produced by (2), and (4) emotion. In this series the last item alone is to be understood in the mental sense, the others are to be treated in the physiological sense. Of course no one will agree with the order of events as outlined by James. But even granting that the order is correct we contend that (3) involves mental experience of a very complex type and so does (1). Nowhere do we find just a mere bodily response to a mechanical stimulus. Either the whole process should be viewed as the behaviourist does, purely from the bodily point of view, in which case there is no room for emotion as a mental state, or if we wish to speak of mind at all, it must be admitted that the mental cause precedes the bodily process. James is wrong in mixing up both and giving prominence to the bodily process alone. But there is another fallacy in the theory of James. It is that of temporal sequence which gives a wrong turn to the whole discussion. There is no temporal order, of events to be considered in an emotion. The bodily states and the mental emotion are coexistent. So, all told, the James-Lange theory of emotions is a psychological monstrosity and a logical absurdity.

Property and Justice

BY

DR. E. ASIRVATHAM

The Concept of Economic Justice in History

To the time-old question whether private property is justifiable and, if so, to what extent, there is no ready-made answer. Plato advocated a community of property and a community of wives and children for the first two classes in society. The aim of his communism was to curb selfishness in the rulers and warriors in order that they might give their entire time and devotion to the service of the State. It was, as Dean Inge puts it, "a heroic remedy for a desperate evil—the union of political power and economic temptation in the hands of the same class."

While Plato's communism may be a laudable ideal, it is impracticable. It does violence to some of the deep-rooted instincts of men, especially the instinct of self-realisation through the family and private property. As Aristotle aptly pointed out, men love what is their own and what belongs to everybody belongs, in fact to nobody. Private property, however small it may be, gives the individual a peculiar satisfaction which no amount of common property can.

Aristotle justified private property on the familiar individualistic and idealistic grounds of our day. He was one of the earliest writers to appreciate the fact that private property is necessary for the expression of personality and that the magic of private property can convert sand into gold. His ideal was that one should earn one's property in one's own way, but that society should appeal to one's generous impulses so as to enable one to make the best use of it. He also upheld the doctrine of the mean with regard to possessions.

Questions of "just price" and "fair income" engaged the attention of mediaeval writers, but what they meant by these concepts was that every person should receive a reward appropriate to the social class into which he was born and that nobody should be allowed to transcend that class. They indulged in hair-splitting discussions on what was usury and what was not, and in subtle distinctions between "monopoly" and "polypoly." The

guild system of the Middle Ages rose above these scholastic distinctions and worked out in practice a group theory of social justice. The Guild was in the nature of a social insurance company for its members. It rendered timely aid to them and protected them against unfair competition. Goods produced were carefully supervised and a just wage was awarded to the worker. Members of the guild became a fraternity, bound together by common worship and occasionally by common meals.

With the coming of the industrial revolution in the West, the group idea began to decline and individualism was allowed to run amock. The teaching of the nineteenth century economists was that free and open competition would lead to a fair income for everybody. The State was urged to do nothing except to keep the ring open for every competitor and enforce contracts lawfully made. The result of it was that the law of the jungle came to prevail in man's economic and social life. Unashamed economic exploitation of the weak by the strong went on merrily and writers like Herbert Spencer justified it as being in accordance with the scientific law of the struggle for existence and survival of the fittest.

Since the last quarter of the nineteenth century the pendulum has begun to swing to the other extreme in the direction of socialism and communism. Karl Marx taught the iron law of wages and stressed labour as being the sole creator of value. His teaching has been elaborated in various directions by different schools of socialism and communism. Forms of socialism are many and varied to-day, even the Nazis claiming themselves to be a brand of socialists.

Via Media between Capitalism and Socialism

It is coming to be realised more and more that the controversy between capitalism and socialism is far too theoretical and that a practical solution for our day is a *via media* between the two. From individualism we learn that private property of some sort is the best incentive to labour and that if the family is to be retained as the basis of society, a certain amount of private property is indispensable. From socialism we learn the importance of social justice. We also learn the valuable truth that if property is conducive to the development of personality, the dangers attendant on it are also innumerable. It easily leads to greed and covetousness and deprives a great many of the facilities for a complete life. So what is required to-day is the placing of severe limitations upon private property for the sake of social justice.

The doctrine of 'trusteeship' is altogether inadequate for our day. While it may be a good moral injunction, it is not capable of legal application. The modern world calls for a machinery which will cure the desire to amass wealth and yet provide opportunity for the expression of a person's inventiveness and originality. If this end is to be attained in an orderly and peaceful manner, the State should recognise its responsibility to provide work for everybody, nationalise all key industries, and make large fortunes difficult of acquisition.

A programme of universal employment for India is possible if the State is determined to put into operation a well-worked out scheme of industrial and agricultural development and supplement large-scale industries by cottage industries. It is a sad commentary on our times that war means work for everybody and peace means unemployment on a gigantic scale. In the days of the economic depression of 1929 and after, Great Britain had an unemployment figure of 2 millions and the prosperous U.S.A. touched the unbelievable summit of 10 millions. No accurate figures are available for India. But it is a well-known fact that till the other day, when the war industry drew a great many within its fold, unemployment and under-employment were the order of the day.

Relief of Unemployment

One of the first duties of the State in the relief of unemployment is to separate the unemployable from the unemployed and teach skill of some sort or another to the latter. It is coming to be realised on all hands that a purely literary education is of very little value and that everybody should be taught to use both his head and hands, although it may be in varying proportions in the case of different individuals. A government of the people, by the people, and for the people can and should make unemployment an anachronism, for nothing corrodes the soul more than enforced idleness. Not only should there be universal employment, but everybody should be engaged in doing that kind of work which suits him best and which is at the same time of value to society. Work should provide one not only a living, but also a life. Work should be meaningful. It should bring into play all the hidden gifts and capabilities of the individual.

Reward for Work

When it comes to the question of reward for one's work, skill, difficulty, and unpleasantness may all be taken into account. But

there is no justification for the wide gulf which exists to-day between the rewards reaped by the skilled and the unskilled, the educated and the uneducated. It may be that in course of time we shall insist upon uniform basic wage for everybody, which may be supplemented by special allowances for children, dependents, and the like. While this may take time; nothing should stand in the way of a strict enforcement of a minimum wage for everybody—whether it be in industry, agriculture or any of the professions of the day. A manager or company unable to provide such a minimum should go out of existence. The minimum should not be a subsistence wage, but a civic minimum—a minimum necessary for health and of efficiency and for providing opportunity for education, culture; and leisure. Man should not be treated as a mere beast of burden.

If a civic minimum is eminently justifiable, why not a civic maximum as well? Plato was neither a knave nor a fool when he laid down in his Laws that nobody should be more than five times as rich as his neighbours. The cynic might ask, why not pass a law that nobody should be more than five times as clever as his neighbours? Our answer to it is that justice does not demand that we should add artificial inequality to pre-existing natural inequality. In the case of government services and certain professions, it is possible to enforce a law that the maximum should in no case be more than five times or ten times the average for the community. But what about industry and trade or business in general? Even here strict control is necessary. An Excess Profits Tax should be given a permanent place in the statute book; as also high Death and Estate Duties and steep Inheritance and Income Taxes.

We have conceded that a certain amount of private property is necessary in order to call forth the best in man, but it should not be so very great as to enable him or any of his dependents to become a social parasite. People should be trained to work for the joy of working and for the purpose of rendering service to the community. If this changed ideal is brought about, it is possible to work out a minimum below which no one should be allowed to fall and a maximum above which no one should be permitted to rise.

Our motto should be "Private property small, common property large." In attaining this end, the State should undertake a vast network of social services, rendering a large amount of private property superfluous. One chief reason why many a man wants to amass wealth is the fear for the future—either for himself or for his family. If this fear is removed, a man is enabled

not only to do his best, but also to be happy and manage with a limited amount of material goods. Property is a burden and a grave responsibility

Expansion of Social Services

Without waiting for the dawn of an ideal society, the State should at once undertake large-scale housing, free medical service, social insurance of various kinds, and free education up to the University stage. If a man can have a roof over his head for a nominal sum, have all the health needs of himself and of his family met largely at the expense of the State, and obtain free education for his children until they are sixteen or seventeen, if not twenty or twenty-one, a great burden will be rolled off his back and he can devote his time and energy to the service of the community through his work. In every modern State there is need for a permanent Food Ministry for the procurement and proper distribution of the articles of food. The Bombay Plan is a step in the right direction but the scales are weighted heavily in favour of capital.

The Middle Way

From what we have said above it is clear that old-fashioned capitalism has no future before it. Salter wants "a selective compromise" between capitalism and socialism. Macmillan suggests a "middle way," according to which the State will take over key industries and regulate food supply and prices of food stuffs so that nobody can complain that he is unable to procure wholesome food at a reasonable price. He further suggests the extension of the corporative principle, as a result of which such undertakings as water supply, electric supply, and transport will pass into government-controlled corporations, the profit going into the general coffers. What will be left to private enterprise will be new enterprise and new methods which call for hard and concentrated work and rapid expansion. When these have established themselves, they will pass into the hands of the State.

In practical terms, Macmillan wants for his own country (i) the substitution of co-operation for competition; (ii) provision of a minimum wage for everyman which will enable him and his family to live in health and efficiency according to the highest standards of nutrition; (iii) the setting up of a National Nutrition Board for the regulation of food supply; (iv) the wiping out of unemployment and introduction of various forms of compulsory State insurance to which the person concerned, the employer, and

the State will contribute; and (v) special care of the unemployable, the old and decrepit.

Ramsay Muir holds that limited liability companies should be allowed only limited profits.

The Social Security Scheme of Beveridge

Sir William Beveridge has propounded an elaborate scheme of social insurance embracing even those whose salaries may run into four figures. According to this scheme, benefits are to be paid as a matter of contractual right and not as a matter of charity. All classes will receive something like 1sh. for 3d., partly at the expense of the National Exchequer. The whole population is divided into six classes—four classes of working age, one above it, and one below it. All of them are to receive comprehensive medical treatment and rehabilitation. Funeral expenses are fully covered. Children's allowances are granted as a matter of right. On retirement at 65 (for men) and 60 (for women), men and women are entitled to insurance rates as a matter of right.

The Beveridge scheme for the first time stresses social security as well as social welfare. The assurance it proposes is of right, not charity, but on condition of services and contribution. It seeks to ensure a basic minimum to every one in need, irrespective of the cause of the need, with adequate benefit for employment, sickness, accidents, widowhood or retirement through age.

All this is in accordance with what H. G. Wells says in his Declaration of the Rights of Man "That every man without distinction of race, of colour, or of professed belief or opinion is entitled to the nourishment, covering, medical care, and attention needed to realise his full possibilities of physical and mental development and to keep him in a state of health from birth to death." Inge, the gloomy ex-Dean of St. Paul's, describes the Beveridge scheme as "the most gigantic offer of blackmail ever made by a frightened government."

Without taking this last statement very seriously, we may say that Great Britain is able to plan along the lines suggested by Sir W. Beveridge even in the midst of war, because she has a large empire to fall back upon. But India has no such empire and does not aspire to secure one. Therefore, she will have to depend on her own internal resources.

Communists like Julius Hecker regard planned capitalism as upto plan in character and describes it as a contradiction in terms. Hecker writes: "Planning is impossible so long as an economic system based on private ownership and profit-making remains." According to him the alternatives before the world are Fascism

(which is planning according to the capitalist) and Communism and there is no middle ground between the two. He and others like him say that the world of the future belongs to common ownership and that only under common ownership can we abolish class distinction, unemployment, inequality and strife.

The Bombay Plan

The only important plan before India at present which seeks to improve the economic condition of the country is the Bombay Plan. It is a plan evolved by certain industrialists who are keen on doing something wise to cut unemployment and raise the standard of living of the masses. It is so far from being socialistic that some one has described it as "a blue print of fascism." It is a fifteen year plan in three stages of five years each. The sponsors hope to double the existing per head income in India, i.e. from Rs. 65 to Rs. 130 in 15 years.

Although it is a plan for the development of industry, it is much more than that. Its objectives are (i) the development of industry (including small-scale industries); (ii) the improvement of agriculture; (iii) the expansion of communications; and (iv) the development of education other than primary education.

Industries are classified into (a) basic, (b) consumption goods, and (c) small-scale and cottage industries; and suggestions are made for the development of each of them. In the sphere of agriculture the aim is to raise production by 130 per cent, one of the means recommended being the consolidation of holdings through co-operative farming. It is not yet certain whether the Indian peasant will take to such farming kindly. But that is no reason why in areas where large blocks of land are available, a beginning should not be made in the direction of co-operative farming.

The scheme aims at raising the total mileage of railways from 41,000 miles to 62,000 and is directed towards providing metallic roads for every village. In the sphere of education, stress is laid on adult education, middle school education, and high school education.

Attention is also paid to questions of food, clothing and shelter. The Planners want a dispensary for every village, with a qualified doctor, a midwife, and a nurse; also one hospital with 40 beds for every 10,000 people. The recurring cost on food, clothing, shelter, health and education would be Rs. 74 per head per year.

All this will no doubt provide work for thousands, if not millions. But as a recent writer observes, the plan lays down

targets for production in industry, agriculture and transport; but it does not lay enough emphasis on questions of distribution and consumption. We are left altogether in the dark on such matters as wage policy, interest, and profit. There is no suggestion of steep taxes, with a view to "robbing Peter and paying Paul," which is the least we can do in mitigating gross economic inequalities.

Moral Improvement a pre-requisite to wide State Action

If there is to be an approximation to justice in the matter of property, a large degree of State action is indispensable, although we are sure that there is no single remedy for the whole world. The least which we propose for India partakes of the nature of "a middle way", steadily marching towards complete socialism. If such a line of action is to be successful, we need to develop character of the highest sort, where emphasis will be laid on co-operation, a passion for social justice, work for the joy of work and service, and an attitude of detachment to worldly goods. It is obvious that such improvement in character can be wrought only by proper moral and social training at home, in school and college, as well as at the place of business. Institutional arrangements and laws provided by the State can be an important aid to the attainment of this end.

Suryanarayana Sastri Memorial Prize Essay Competition 1948

Essays for the Suryanarayana Sastri Memorial Essay Competition are invited from *bona fide* students of Philosophy in India. The subject for the essay this year is:

"VEDANTA AND MODERN LIFE"

A prize of the value of Rs. 100/- will be awarded to the competitor whose essay is judged to be the best by the judges appointed for the purpose.

Essays, which should be either typewritten or legibly written and which should not exceed 10,000 words, are to be sent so as to reach the undersigned by the 15th of September, 1948.

Every essay should be accompanied by a certificate from the Head of the Institution or of the Department of Philosophy (in the case of Universities) to the effect that the competitor is a *bona fide* student of Philosophy.

N. V. BANERJEE,
Joint Secretary,

Indian Philosophical Congress,
University of Delhi, Delhi.

15th April, 1948

BOOKS RECEIVED

Logic for the Millions by A. E. Mander, published by Philosophical Library, New York. Price \$3.00.

The Human Race (A study in the Nature of Knowledge) by Emil Froeschels. Published by Philosophical Library, New York. Price \$3.00.

How Our Minds Work by C. E. M. Joad. Published by Philosophical Library, New York. Price \$2.75.

Chaucer's World. Published by Columbia University Press. Price \$6.75.

The Cult of Ahimsa by Shree Chand Rampuria. Published by Sri Jain Swetamber Terapanthi Mahasabha, Calcutta.

Principal Miller Endowment Lectures 1941-42 by D. Gurumurti. Supplement to the Madras University Journal.

Natural Resources and Human Adaptation by A. M. Lorenzo. Published by the Universal Publishers, Ltd., Lucknow. Price Rs. 3-12 as.

Lights on the Veda by T. V. Kapali Sastry. Published by Sri Aurobindo Library, Madras. Price Re. 1-4 as.

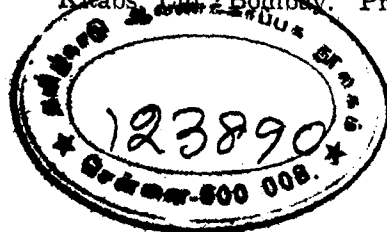
One Truth, One People by His Holiness Rajji Maharaj, New Delhi. Price Rs. 3.

Some Fundamental Aspects of Imam Ghazzali's Thought by M. Umaruddin, Aligarh. Price Rs. 3.

Whither Civilization and other Broadcast Talks by T. M. P. Mahadevan of Madras University. Price Rs. 2.

Ethics for Everyman by D. Y. Deshpande. Published by Hind Kitabs, Ltd., Bombay. Price Re. 1-8 as.

The Truth About God by D. Y. Deshpande. Published by Hind Kitabs, Ltd., Bombay. Price Re. 1-0.



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