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Indian Philosophical Naturalism

BY

DALE RIEPE

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Philosophers recognize two general philosophical tendencies both in eastern and western philosophy: naturalism and transcendentalism. We may say of world philosophy that this dichotomy has existed for at least 2400 years. The division may also be expressed by naturalism and idealism,¹ which today more sharply expresses what is intended by the pair, naturalism and transcendentalism.

It is no simple matter to separate the ovine from the hircine in this frequently nebulous division. There is no difficulty in labelling dialectical materialism as naturalism on the one hand, nor Vedanta as idealism on the other. But difficulty does frequently arise when we attempt to determine whether logical empiricism is idealistic² or whether Nyaya-vaishesika is naturalistic. It will be my endeavour in this paper to determine as explicitly as possible (1), which systems of Indian philosophy are predominantly naturalistic as opposed to idealistic and (2), what are the prospects for revival of naturalism in India in the near future.

1. Although some philosophers prefer to think of this opposition to be between realism and idealism, as for example, H. D. Battacharya in the *Indian Philosophical Congress Silver Jubilee Commemoration Volume*, Madras, Associated Printers, 1950, p. 81.

2. see F. M. Cornforth's *In Defence of Philosophy*, London, Lawrence & Wishart, 1951.

I shall first then, define naturalism so that we may have a clear idea of what criteria are being used to determine the status of any given system of Indian philosophy. In deciding which Indian systems are naturalistic or show marked naturalistic tendencies, I constructed a chart on which a certain number of points were accredited to each system exemplifying the crucial characteristics of naturalism. These characteristics were grouped under the three headings of epistemological naturalism, ethical naturalism and naturalistic metaphysics. Under epistemological naturalism were included the following items: this system:

- (1) Accepts the correspondence theory of truth (4 points)³
- (2) Rejects transcendental knowledge or revelation (4 points)⁴
- (3) Accepts the validity of empirical knowledge (4 points)⁵
- (4) Rejects the infallibility of authoritarian scriptures or verbal utterances transmitted as infallible (4 points)⁶

Under ethical naturalism the following items were included: this system—

- (5) Emphasizes social ethics (2 points)⁷
- (6) Disbelieves in the transcendental moral power or wisdom of⁸ sages (3 points)
- (7) Is atheistic (4 points)⁹

3. That is, it rejects coherence as the only test of truth.

4. If it did not reject these it would admit of non-natural avenues of knowledge.

5. When empirical knowledge is not accepted as reliable, non-naturalism inevitably results, as for example, idealism. Although it is sometimes held that subjective idealism is empirical, on crucial issues empiricism is rejected as in the instance of Berkeley's God who is always watching the quad.

6. Naturalism always attacks the infallibility of books, and wise utterances whether sacred or profane. It was the non-naturalists who turned both the transmitted words of the Buddha and the writings of Aristotle into sacred embalmments.

7. Non-naturalistic ethics is usually so preoccupied with "my salvation" that it has little to say about social ethics. It is natural that revealed and intuited moral laws should grow out of individual wishes and then be imposed on the group under the aegis of superior powers and superior saintliness.

8. Naturalism holds that all men have much the same abilities and potentiality at birth. With superior education one may be superior to another, but in quantity rather than in quality. There are no x-powers possessed by a handful of sages which are absent from the common run of mankind. These x-powers are considered not infrequently to be signs of derangement if not outright fraud.

9. Naturalism is atheistic, if not shamefacedly pantheistic or deistic. There can be no supernatural in a naturalistic scheme; pantheism and deism try to skin the cat and let it live.

- (8) Is optimistic about man's ability to cope with his¹⁰ ethical problems without non-natural aid (4 points)
- (9) Rejects the notion of salvation (3 points)¹¹

The items included under the heading of metaphysical naturalism were as follows: this system:

- (10) Is realistic about the existence of the external world (4 points).¹²
- (11) Denies the existence of non-natural entities like¹³ the immortal soul (2 points).
- (12) Is non-teleological (4 points).¹⁴
- (13) Is nominalistic regarding universals (2 points).¹⁵

It will be noticed that the weighting of points depends upon the writer's evaluation of the cruciality of each item for naturalism. Certainly no system could be naturalistic which denies the existence of the external world or which considers the external world to be mental. Therefore this item should get the maximum number of points, namely four (4).

The total number of points possible for any given system was 44.

Only two systems qualify in being called naturalistic: Carvaka and Theravada Buddhism. Two systems might be said to have

10. Naturalism, since it rejects the supernatural, must be optimistic about the ability of men to solve their own problems of living. When doubt and despair attend the naturalistic attempt there may be a rush back to forms of non-naturalism.

11. Salvation like sin becomes a mere curiosity to naturalism. Man is in nature, living under the laws of nature, so why should he escape? For indeed there is nowhere to escape.

12. The external world is never illusory for naturalism. If anything is likely to be illusory it is rather our thoughts about the external world rather than the external world itself.

13. Non-natural entities, those which cannot be got via the senses with or without the aid of instruments, are rejected as non-existent. Thus the soul, except as it can be redefined, naturalistically, as G. P. Conger has recently done, cannot be believed in.

14. Teleology is considered by naturalism to be explanation that explains nothing. To say that Purusha or Élan Vital explains the "onrush of life" is equivalent to saying hubble gubble or any other nonsense syllables. The removal of teleological explanations from science has been oxlike in its slowness.

15. Belief in real existing universals would be contrary to the naturalistic view of the world. Therefore naturalism is nominalistic. How could there be, ask the naturalists, unchanging eternal essences represented by words such as good, evil and bullockness? Such a belief is contrary to all findings in the natural order.

some naturalistic tendencies: Jainism and Purva-Mimamsa. Two other systems, usually considered to be quite naturalistic by Indian philosophers, show only a slight tendency to naturalism. These were the Nyaya-Vaisesika and the Sankhya-Yoga. The reason for this evaluation is that ethical and epistemological considerations outweighed the usual metaphysical considerations. I refer to their atomism — their supposed naturalistic cosmology. Besides the systems already mentioned, two are clearly non-naturalistic, the Advaita Vedanta and the Visistadvaita Vedanta.

A careful examination of the three Nastika and the five Astika systems regarding such items as: Does this system believe in the existence of the external world? (4 points) led to the following point totals: Carvaka 42, Theravāda Buddhism 37, Jainism 23, Purva-mimāmsa 21, Sankhya-yoga 14, Nyāya-vaīśeṣika 13, Advaita 6 and Visistadvaita 4. Carvaka and Theravāda Buddhism can be seen to be strongly naturalistic; Jainism and Purva-mimāmsa somewhat naturalistic (about half naturalistic and half non-naturalistic); Sankhya-yoga and Nyāya-vaīśeṣika are only slightly naturalistic and predominantly non-naturalistic; and the two Vedanta systems unquestionably non-naturalistic. The criteria, it will be noticed, are adapted to Indian naturalism and not to contemporary western naturalism. If one were to determine the degree of naturalism in western systems of today he would include items which I have not included in evaluating the Indian systems, such as: Does it accept scientific method? Does it differentiate sharply between questions which should be answered by philosophy and questions which should be answered by science? In brief those criteria applicable to western naturalism before the 17th century are used here.

Naturalism in *extremis* would entail belief in the following propositions.

1. There is an independent existing world apart from minds.
2. The totality of the real world is natural, including mind. Whatever is idea or thought is natural in the sense that it is a reflection directly or indirectly of the natural, objective, non-mental world.
3. The "spirit" of man is the complex of biological, artistic, philosophical and scientific products of man or that complex which makes the products possible. "Spirit" as non-natural or transcendent is excluded.
4. The world and its laws are knowable in principle, if not immediately in fact. Naturalism does not look beyond the laws of nature for a satisfactory account of the nature of the universe. These laws can be discovered by the senses and extrapolation from information given by the senses.

Philosophers, as they approach the norm of naturalism (that is by accepting the above-four propositions), will be naturalistic; as they recede from these they will be idealistic, or non-naturalistic. The division drawn between naturalism and non-naturalism will depend largely upon the individual making the evaluation. But the greater number of instances will allow for general agreement as to which system of thought is naturalistic and which is non-naturalistic. If a philosopher were to reject two of the above-four propositions he certainly would be non-naturalistic and if only one, certainly suspect of holding to non-naturalism. No one need spend much time discussing whether Vedānta is naturalistic; everyone would certainly agree that it is not. Nor need anyone seriously question the non-naturalism of neo-Hegelianism or neo-Kantianism or neo-Thomism. Certainly no question will arise as to the naturalism of Carvaka or Epicureanism on the one hand, and of critical realism or pragmatism on the other. We may make sharp judgments about many systems. Things are not so clear-cut when we are to classify the Mimāmsakas or Spinozism. These are somewhat naturalistic, but also have elements of non-naturalism. In dealing with these systems it is necessary to make arbitrary decisions based upon some technique. What this technique is, beyond what I have already stated, is given below. 447

There are certain touchstones in addition to the point system explained, and overlapping it to some extent, determining whether a man is naturalistic or not. The most important of these are:

1. Does he believe in a higher power, or universal spirit above and beyond man?
2. Does he believe in special means of salvation not associated with the natural order?
3. Does he believe in the transcendent authority of certain wise teachers?
4. Does he believe in extra-sensory avenues of knowledge?
5. Does he hesitate to accept the relative finality of natural knowledge and look for a knowledge which is absolute and static?
6. Does he believe he himself has special powers not open to ordinary men, which are mysterious, but powerful?
7. Is he generally sympathetic to religion and religious claims?

Any philosopher accepting two or more of these claims certainly would be disqualified from being considered naturalistic. From a rigorous point of view he would not be allowed to accept any one of them. Carrying these criteria over into the critique of systems, the same would hold. Any system accepting one or more of the above would be unmistakably non-naturalistic.

It will be noticed that little has been said of the role of scientific method in naturalism. Considerations of scientific method have been deliberately left out, because we are dealing with systems which were developed and largely completed before scientific method—as it is thought of today in the west—was separated from its wet nurse, naive empiricism. Granting it, it would be simpler just to say: “Indian philosophy cannot be naturalistic at all, because it has never been confronted with accepting scientific method. Since it has no problem of scientific method (having no scientific method), it cannot be naturalistic. Therefore there is no naturalism in India, and that settles that.” But it is not my wish to discuss this problem, but rather to find out if naturalistic trends existed in Indian philosophy prior to the growth of scientific method in the west. Certainly no westerner is likely to hold that Democritus, Epicurus, Lucretius, Hobbes and Diderot were predominantly non-naturalistic simply because they appeared before scientific method was enthroned as it now is. Today in the west as in India the crux of naturalism is acceptance of scientific method, not only for science, but in cognitive or quasi-cognitive fields like religion. It is therefore unlikely that a man would accept scientific method (although he may say he approves of science in its place) and yet believe in universal spirit, or supernatural powers or in the validity of current religions. The man who declares simultaneously his belief in scientific method, and God, extra-sensory perception, astrology, the existence of angels and demons, the absolute truth of ancient scriptures, cannot possibly know what is entailed by believing in scientific method. What he probably believes in is an electric fan for his office, a refrigerator for his lime squash and an automobile to carry him to the Poona Conference. This is not believing in the scientific method. Believing in scientific method consists in believing that experiment is the quickest and surest avenue of knowledge both about things seen and unseen, and that experiment and data derived from experiment give man powers to control his world, his body and mind. If there be “salvation” it cannot be apart from growth in scientific knowledge.

This cannot be exhaustively treated in the paper at hand. We are interested in determining the amount of naturalism, apart from scientific method, which existed in Indian philosophy.

Let us briefly summarize the two systems of naturalism in India and then attempt to discover any marked similarities and differences between Indian naturalism and Western naturalism.

The Carvaka was and remains India's leading naturalistic system. Using the point system laid down above, it makes 42 out of a possible 44 points, failing only in developing a social ethics. It is unfortunate that we have no available material written by the Carvakas themselves, but must depend upon their opponents and detractors for accounts of their system. It is generally accepted¹⁶ that Carvaka followed the doctrines of Brahaspathi, a god who deliberately taught materialism to demons in order to confuse them concerning the true nature of things. Carvaka is also called Lokayata, meaning “prevalent in the world” (loka + ayata).¹⁷ The literal meaning of the word Carvaka is “sweet tongued.” This is the oldest of naturalistic schools in the history of thought, being at least one hundred years older than Confucianism and Taoism. Its date is perhaps prior to that of Buddhism since it is mentioned in the oldest Buddhist writings.¹⁸ We may say that Carvaka flourished in the 6th century B.C.

It is worthwhile I believe to examine this system of philosophy in terms of our chosen criteria. First, regarding the epistemological naturalism of Carvaka, we may say that it is empirical, or perhaps more accurately, sensationalistic. Whatever exists can be perceived; what cannot be perceived does not exist. There are two kinds of perception, inner and outer, depending upon whether it is produced by the mind or by the external senses. The mind has no power to act independently towards an external object, since it is dependent on the external senses. The test of truth is correspondence. When a proposition can be established as exemplifying the existing state of affairs in the external world it is true. Truth depends solely on perception of the external kind. Memory and inference also depend upon external perception, which belief brought the Carvakas to the first analysis of the problem of induction we have in the history of world philosophy.

According to Carvaka, inference is untrustworthy. To have confidence in inference we must have established universal con-

16. Madhava Acharya, *Sarva-Darsana-Samgraha*, tr. E. B. Cowell, London, Kegan Paul, Trench, Trubner, 1914, p. 2.

17. *Ibid.*

18. S. Radhakrishnan, *Indian Philosophy*, Vol. 1, London, Allen & Unwin 1948, p. 278. Other reasons for believing in the great antiquity of this system are suggestions of the existence of nihilists and heretics in the epics and in the Institutes of Manu.

nexions.¹⁹ But the ground of our knowledge, external perception, gives us no such connexions. Testimony and analogy can also give us no such connexions, as they too depend upon external perception.

Since the criterion of truth is correspondence, it follows that no scriptures are infallible nor the utterances of sages necessarily knowledge. There is reason to believe that not only did Carvaka²⁰ reject the claims of sacred literature, but threw considerable suspicion on those using sacred literature and religious doctrines for personal gain. The priesthood was suspected of using its power to capture material goods from the ignorant people.

The three authors of the Vedas were buffoons, knaves and demons,
All the well-known formulae of the pandits, jarphari, turphari etc.
And all the obscene rites for the queen commanded in the Asvamedha,
These were invented by buffoons, and so all the various presents to the priests,²¹

This is reminiscent of Lucretius' attack on the priesthood in Book I of the *Nature of Things*. Since the priests themselves do not base their knowledge on external perception, they of course have no true knowledge. Having no true knowledge they must be knaves to perpetrate nonsense laid down by the Vedas which themselves were not empirically founded.

The ethics of Carvaka is hedonistic. I cannot agree with Professor Radhakrishnan when he says of this ethical theory that,

With an audacious dogmatism the philosophy swept the world clean of all its values.²²

What Carvaka did was to replace values currently approved by Radhakrishnan by values approved by Carvaka. Pleasure is just as much a value as is saintliness, whether we approve of it or not.

19. By universal connexion is meant invariable concomitance. See Madhava Acharya's examination of the attempt to establish induction, *op. cit.* pp. 6-9.

20. I am using Carvaka to mean the entire system, although originally Carvaka is held to be the name of the founder of the materialist school.

21. See the Rig-Veda, x, 106. For the rites of the Asvadmedha see Wilson's Preface to Rig-Veda, vol. ii, p. xiii.

22. See his *Indian Philosophy*, vol. 1, p. 281.

A good life is possible if men follow what is fitting within the confines of the nature of things. The nature of things entails that man is a subject of pleasure and pain, and as no man chooses pain as the better part, pleasure is the goal of life. Furthermore, not only *is* pleasure the goal of life, but it *should be* the goal of life.

The Carvaka claimed as did the Greek sophists nearly contemporaneous with them, that moral rules are the conventions of men. They failed as did the sophists of Greece²³ to provide an adequate solution to the anarchy superficially implied by morals as conventional.²⁴ In the ethical realm the Carvaka was long in critical analysis—in the surgery of tumescent thinking—and short in solution, particularly in the sphere of social ethics.

Carvaka rejects the transcendental moral power and wisdom of sages as mere humbug; the Vedas are riddled with falsehood, self-contradiction and tautology. There is no God. Nature is neutral to human wishes as anyone can see who uses his senses, that is, used direct perception. Nature respects neither persons nor human wishes. Man must rid himself of wish ontology. The essential note here is optimistic regarding man's ability to cope with his moral and physical situation without supernatural aid. We live and die, but that does not prevent our enjoying what pleasures we can in this, our only life. Carvaka would live intensely, seeking pleasure and so far as possible avoiding pain. But if there be a choice between putting the emphasis on *avoiding* pain or *seeking* pleasure, one should be active in seeking pleasure.

. . . . enjoyment . . . consists in partaking of sweet food here, in enjoying the company of a damsel of sixteen years of age, and also in enjoying the pleasures that are derivable from the use of fine clothes, sweet scents, flower garlands, sandal and such other things (of delicious luxury).²⁵

Another passage states that,

The pleasure which arises to men from contact with sensible objects,
Is to be relinquished as accompanied by pain,—such is the reasoning of fools;

23. I say sophists of Greece because there were also sophists in China at this time.

24. The present ethical crisis in Western Europe is the result of being unable to solve this same problem. Solution-wise it has also been a failure; in terms of sharpening ethical issues it has been a marked success.

25. Sankaracharya, *Sarva-Siddhanta-Sangraha*, Madras, Government Press, 1909, p. 6 of the English translation by M. Rangacharya, P. 2

The berries of paddy, rich with the finest white grains,
What man, seeking his true interest, would fling away because
covered with husk and dust.²⁶

The pessimism frequently associated with supernatural systems and systems which look to salvation in the next world is markedly absent here, just as it is absent from Lucretius.

The metaphysics of Carvaka has already been revealed in its epistemology and ethics. The external world is independent of mind. Mind itself is rooted in nature; it is a development out of matter, the four elements of earth, air, fire and water. This material world is the only world, and since we cannot perceive the spirits or deity, these presumably do not exist except in simple or knavish imaginations. The soul lives and dies with the body; it is an epi-phenomenon. Life results from configurations of matter as in Lucretius where macroscopic bodies developed from the microscopic through combination. As configurations break up, so do their manifestations such as the soul.

Nature works for herself by herself without any intervention of spirit or deity. Adrishta (merit and demerit) in men's actions which produces effects in future births is an unnecessary conception, since it was invented to account for cosmological teleology. Nature requires no such principle, being perfectly capable of producing effects without God or Purusha.

The fire is hot, the water cold, refreshing cool the breeze of
morn;
By whom came this variety? from their own nature was it
born?²⁷

If there be any End we do not know it. Consequently we do not need to act as if our future life depended upon our conforming to anything but nature herself.

Therefore it is not proper on the part of a wise man to take (any) trouble on account of this (final beatitude). It is only a fool that becomes thin and worn out to dryness by performing penances, and by fasting,²⁸

The final admonition is to live in harmony with nature,

" . . . adopting only those means which are seen (to be practical) such as agriculture, the tending of cattle, trade, politics and

26. Madhava Acharya, *op. cit.*, p. 4.

27. Madhava Acharya, *op. cit.*, p. 10.

28. Sankaracharya, *op. cit.*, p. 6 of the English translation.

administration, etc., a wise man should always (endeavour to) enjoy pleasures (here) in this world."²⁹

It is quite obvious that the Carvaka system is naturalistic to the core, although sensitive naturalists might refer to Carvaka as somewhat crude if forceful. It is naturalistic in epistemology, ethics and metaphysics. Its reception by other Indian systems was tinged with the kind of reaction usually accorded naturalism in the west. Shocked horror, highly emotional exhortations, emotive arguments par excellence, dominate the "refutations" of Carvaka. If we consider the approximate date of its inception to be the 6th century B.C. we must stand amazed at its modern flavour as compared with much of Buddhism and most of Jainism, its powerful contemporary rivals. Carvaka shows what may be achieved by the method of naive empiricism; it shows clearly the weakness of a naturalism not fortified by the lessons of social and scientific history, particularly in the realm of ethics. The impact of Carvaka was considerable for some centuries after its introduction, but gradually faded into the backdrop of Indian philosophy. That Carvaka had no recurrent revivals as Greek atomism had in the west may be one of the most instructive facts in the development of Indian philosophical history.³⁰

The second system predominantly naturalistic is Theravāda Buddhism. Out of a possible 45 points it is accredited 35 as compared with 43 for Carvaka.

Theravāda Buddhism believes there is an external world which we know through direct perception.

(The instrument) of cognizing consists in coordination (between the image) and its (real) object . . . coordination is similarity. "Its (instrument)" means the instrument of perception. That sense perception which is a perception of an object representing a distinct image, thus its (coordinated image) is the (real) instrument of cognition.³¹

The Mimāṃsakas raised the question in attacking Buddhist epistemology as to whether cognitions could correspond to external ob-

29. *Ibid.*

30. As yet I am unable to understand why this was the case. A considerable amount of Carvakan criticism was incorporated into Theravāda Buddhism (equivalent to Hīnyāna without the slurring suggestion made by the Mahāyānists that it was somehow inferior by being "Lesser", that is, the Lesser Vehicle of the gospel of the Buddha). But this is not sufficient to account for its demise.

31. Th. Stcherbatsky, *Buddhist Logic*, vol. ii, Leningrad, 1930, p. 351.

jects. They held with the Naiyāyikas that cognition was a pure light of consciousness, that it was imageless, non-conceptual.³² The Buddhist refutes this claim by asking how this knowledge can consist in throwing light on the object? The subject-object relationship is immanent in our knowledge alone according to the Mimāṃsakas. If this be so, then what is the mode of connexion between the consciousness and the external object? If one maintains pure imageless consciousness, we will never know what is meant by an object since there is no image to correspond to object. Therefore,

We must conclude that the external object corresponds to a cognition which includes its image.³³ . . . An object is the cause which produces cognition and corresponds to its image.³⁴

In answering the attacks of Yogacāra³⁵ the Mahayanist, the Theravāda Buddhist says,

. . . in respect to sense-perception, what is immediately seized (in sensation) is only one single moment, but what is distinctly settled (in a perceptual judgment) is a compact chain of moments (the constructed thing), the object of purposive action. If that were not so, cognition could not guide the actions of those who act in pursuit of definite aims. (When we speak of) knowledge guiding our actions and leading to successful attainment of aims, we only mean that knowledge points³⁶ an object of a possible (successful) action.

The Yogacāra then proposes that the images in the mind are images of that very mind that has them. Presumably then, these images are private to the exclusion of external objects. To this the Theravāda Buddhist replies:

The image (which a man feels inwardly present in his mind) in his own. It is not something (artificially) constructed (by combining in thought). On the contrary, it is something intimately and directly felt.³⁷

The passages quoted are from the Sautrāntika sect of Theravāda Buddhism. They indicate belief in the correspondence theory as well as the independent existence of an external world.

32. *Op. cit.*, Appendix IV, iii.

33. *Op. cit.*, p. 358.

34. *Op. cit.*, pp. 359-60.

35. Representatives of "extreme" idealism.

36. My underlining. Note the similarity of this passage to James's epistemology in "The Tigers in India".

37. *Op. cit.* p. 362. Note the suggestion here of Hume's criterion of "liveliness" as applicable to sensations as opposed to ideas.

Theravāda Buddhism rejects transcendental knowledge by revelation and special powers although it recognizes that as a man frees himself from desires he is more competent to act as judge. Also it is obvious that Buddhism rejects the notion that infallibility can be attached to the utterances of even the wisest of men.³⁸

The ethical naturalism of Buddhism consists in its emphasis on social ethics, its atheism, its disbelief in the transcendental moral powers of sages and in its belief that man is able to cope with the ethical problems of this life without non-natural aid. The Carvakas as far as we know had little to say about the social side of ethics, whereas Buddhism from its very inception attempted to gain converts, to form societies of Buddhists, and to set up a priesthood of teachers who might show the uninitiated the path of salvation. This belief in salvation is one of the two most striking non-naturalistic notes in Buddhism. It is not surprising however, when we consider the Buddha's primary aim to be (1) his own salvation from desire and (2) his wish that others also be enlightened as to the actual state of affairs in, and the amelioration of, the world. In another sense it is surprising to find the *raison d'être* of an almost Humian philosophy to be escape from desire, and by escape attain salvation. This note—or if you prefer, chord—of Buddhism is certainly not in keeping with what we ordinarily associate with naturalism. The Greek naturalistic philosophers, and their followers in Europe after the 16th century, were men who revelled in nature, and thought that this life was essentially good if not positively exciting just as it was. Desire was good because it was natural. Life, change, development were bound inextricably with desire. What is wanted is the fulfilment of our desires, not their suppression. Enjoyment of the flesh, acquisition of property, acquisition of knowledge, all these were good because they were part of the nature of things. Nevertheless the Buddha himself saw that extreme mortification of the flesh led to worse evils than other desires, so that in fact he and his Theravāda followers quickly de-emphasized asceticism. A more naturalistic trend followed the unsuccessful attempts at quenching desire through asceticism, so that a natural life was enjoined until a man had passed through various necessary stages of life, such as marriage, parenthood and

38. Although Mahāyāna Buddhism believes in the infallibility of the Buddha, this dogma did not appear until Buddhism had intermingled with the philosophies and religions of Tibet, Siam and China some centuries after the founding of Buddhism in India.

earning a living. Not everyone is encouraged by the Buddhist to live a severe intellectual life aimed at eradicating natural desires.

The metaphysics of Theravāda Buddhism is that there is an external world not dependent on mind for its existence. Buddhism rejects cosmological teleology, although it believes in cause and effect and in the actions of this life having effects in the next. It is nominalistic regarding the status of universals.

The metaphysics of Buddhism is non-naturalistic in this respect: it believes in the doctrine of rebirth. Man instead of inheriting from others inherits from himself.³⁹

On the theory of Dependent Origination it is held that a man is brought into existence twice. The first time he appears through the "agency of ignorance;" the second time through the "agency of desire." The rebirth doctrine has been interpreted in terms of two, three or infinite lives on various interpretations. Dasgupta's account in Vol. 1 of his *History*, p. 86 ff. is instructive in this connexion.

The causeless first principle, the primeval beginning of all things, since an absolute first beginning is unthinkable,

... and that all such like speculations may lead to imbecility; and that one never could imagine a time when there was no Ignorance and no Craving for existence.⁴⁰

There are two forms of existence according to the *Visuddhi-Magga*, ch. xvii: originating existence (ignorance) and karma existence (desire). Karma is existence in the sense that it causes existence. *How* it causes existence, in the sense of explanation open to sensory inspection, is never told. That is, no description of the process of rebirth is ever given in Buddhist literature. At physical death, if a man has attachment, whether to sensual or to non-sensual pleasure, he will be reborn to live another life. If he has attained to non-attachment he will not be reborn, but will cease to exist except in that state known as Nirvana. But it must be understood that Nirvana is a state outside of the originating or the karma existence. How there can be such a state, either in the world or out of it, is also not revealed in all of Buddhist literature. Mere repetition that this state "exists", and explaining

39. H. C. Warren, *Buddhism in Translations*, Cambridge, Harvard, 1915, p. 113.

40. Nyanatilika, *Guide Through the Abhidhamma-Pitaka*, Colombo, Associated Newspapers of Ceylon, 1938, p. 139.

what it is not like (by negative attributes), is not helpful from the naturalistic point of view. Here then is non-naturalism at its "highest" in Buddhism. It is of course closely associated with the other marked note of non-naturalism, salvation, mentioned earlier.

Finally, the Buddhists are nominalistic, holding that realism of universals is absurd. The Buddhist is nominalistic because he believes in universal flux and momentariness, whereas a real universal must be static and eternal.

.... let us admit (with the Realists) that Universals exist (as external realities and that the particulars "possess" them). They are, however, supposed (by the Realists) to be eternal (never changing) entities which cannot be efficiently acted upon (so as to be modified by causes). They therefore cannot be (really) "supported" by the particulars, because a "support" is always a cause. (To be supported means to be modified by a special cause). Apples etc. which naturally would fall down to the ground are transformed (into)⁴¹ falling-down objects when they are supported by a basket. But an external (never changing) Ens cannot be transformed, and therefore cannot be supported (by a substratum).⁴²

That naturalists must be nominalists follows from what realism concerning universals entails. If one believes in real universals he then admits the existence of things which are not subject to natural law, not observable by the senses and presumably forever beyond possible control by man.

Having dealt with the two systems of Indian philosophy I consider to be naturalistic, I wish now to indicate some of the more striking differences between Indian and western philosophy in the development of naturalism.

Atheism is always associated in the west with materialism, yet in India we find only one materialistic system which is atheistic, whereas we find three atheistic systems which are non-materialist, two of the latter three being non-naturalist. The only reason I can assign for this is that whereas in Europe God always was brought in for purposes of teleology, this was not true in India. Aristotle, for example, who is predominantly naturalistic, brings in deity for the sole purpose of accounting for teleology. He does not use deity in his ethics except for analogical purposes.

41. Stcherbatsky has "in".

42. Stcherbatsky, *op. cit.*, pp. 406-7.

Carvaka and Buddhism do not recognize teleology, but Jainism and Sankhya-yoga do. Since neither of these two systems has a God, the role of teleological agent must be played by something else. This something else is Purusha, the spirit-principle in the world, as opposed to Prakriti, the principle of nature. The greater religious tolerance of India is exemplified in the calm acceptance of the fact that philosophers may be non-demons if they do not believe in deity. Western philosophy growing up in an atmosphere of constant battle with the Christian church (not only the institution) found it profitable to invent both pantheism and deism, neither of which exists in India. The fear of religious persecution must have been a dominating factor in the ability of western naturalists to invent new Gods with new functions. Although this is no longer so true in Europe, it still is in America, where philosophers find it convenient (not necessarily consciously) to discover powers beyond.⁴³ For has it not been said that the philosopher is our last bulwark against the materialistic and atheistic Juggernaut of crude science?

The most striking difference between Indian and western naturalism is without doubt the impact of science on the western philosophy and its nearly total absence in India. To receive an impact from science, philosophy must be exposed to science. India has scarcely been so exposed, although recent trends toward realism in India intimate that science is beginning to effect re-examination of metaphysical assumptions. We must admit that the two naturalistic systems of India reached their peak before the second century B.C. Since that time, naturalism has never received a strong enough impetus to develop a third system in two thousand years. Certainly this impetus, which struck decisively at western idealism in the 14th to 20th centuries, and created nearly a solid front of naturalistic philosophy in the west by the end of the 19th century, was science. So long as no new method proves fruitful in prediction and control, the old philosophies will remain enthroned—for there is nothing better to replace them with. Once the explanatory power of science and the superiority of scientific method over other existing methods is seen, the old forms of philosophy must collapse. This is what has happened in the west and I venture to predict that it is happening now in India. The dominant philosophies of India today are philosophies which grew out of feudal and pre-feudal social conditions. As they come into

43. See Wm. James "The Will to Believe."

contact with the new society being built in India, they will be necessarily modified. This trend is already apparent in as conservative a philosopher as Sri Aurobindo, who pays lip service to scientific method, although not quite understanding its implications for epistemology.

The very notion that philosophy is largely a discipline of ethical wisdom founded on intuition still predominates in India. Whereas in the west philosophy has taken on a more analytic, semantical character, leaning heavily for its ethics on the social and biological sciences. I believe Indian philosophers are inclined to believe that this is rather a sign of spiritual degradation than a necessary step for reconciling the new claims of science with the creeds of philosophy based on older science. Only in the past hundred years has western philosophy realized that philosophy is dependent on the world, is a reflexion of the world rather than a legislator in the world. The idealistic dream that philosophy can change the world (outside strict adherence to natural law) by ideas, opinions, propositions got by intuition, unchecked by scientific method has collapsed in the west except for a few non-naturalists and Christian apologists. This idealistic dream still predominates in India today; it will be fascinating to see if it can withstand the impact of science, capitalism and industrialization.

The Influence of Modern Development of Logic on Philosophy

BY

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During the time of Descartes and the succeeding rationalists, mathematics had great influence on philosophy. Later the development of natural sciences had its effect on philosophy. The evolutionary method had its day. In these movements we can distinguish two aspects. One is an attempt to build philosophy deductively. It was an attempt to build up philosophy by use of mere logic. It culminated in absolute idealism of Hegel. Logic was believed to be able to give apriori synthetic propositions. Logic built up a system. Logical truths were considered necessary. Hence they must be true and logic must determine reality. What is rational is real. Philosophy was expected to give apriori necessary truths which are synthetic. It culminated in monistic idealism. The other line of thinking was empirical and is best represented by Hume. To them deduction was confined to relations between ideas. Real knowledge could only be had through experience. Let us now examine how the development of modern symbolic logic culminating in Russel and Whitehead's classical work on the subject, 'Principia Mathematica', and other works of Huntington, Wittgenstein etc. affected the movements of philosophy.

The first visible effect of the new logic was the philosophy of new realism. The old logic was subject-predicate logic which favoured the development of the theory of the internality of relations as well as a substance-attribute philosophy.¹ The outcome of which was idealism and monism. "Ever since Kant, knowledge had been conceived as an inter-action in which the thing known was modified by our knowledge of it, and therefore always had certain characteristics due to our knowledge. It was also held (though not by Kant) to be logically impossible for a thing to exist without being known. Therefore the properties acquired through being known were properties which everything must have. In this way, it was contended, we can discover a great deal about the real world by merely studying the conditions of knowledge". The new logic

showed that the relational proposition is a distinct form which cannot be reduced to the subject-predicate form. This form enables one to maintain that some relations may be quite external in a sense in which realism is made possible.² There are external relations. Then they proceed to show that the knowledge relation is external. Idealism, in maintaining that all relations are internal, maintained that knowledge is creative and constitutive of the object. Hence epistemology became the key to metaphysical knowledge. This view of knowledge results in idealism first, then monism. "The new philosophy maintained on the contrary that knowledge, as a rule, makes no difference to what is known, and there is not the slightest reason why there should not be things which are not known to any mind. Consequently, theory of knowledge ceases to be a magic key to open the door to the mysteries of the universe." Further, "It has been maintained that everything is affected in its intrinsic nature by its relations to everything else, so that a thorough knowledge of one thing would involve a thorough knowledge of the whole universe. The new logic maintained that the intrinsic character of a thing does not logically enable us to deduce its relation to other things". This enables the philosophers to formulate theories of realism and pluralism. One other argument for absolute idealism through the ages has been the construction of antinomies. Modern logic and mathematics have removed these so-called contradictions by the theory of types. This removed another ground for absolute idealism.

Absolute idealism constructs its philosophy through logic. Logic dictates to reality. What is logical must be true. Rationality determines reality. But logic has lost this role. Logic deals with only possibilities. There are alternative possible systems of logic. Logical necessity does not involve actuality. Further we shall later see in connection with logical positivism that logic gives only a priori analytic propositions, which give us rules of transformation of symbols. These rules are part of the symbolism and can say nothing about the real world of facts, as they are mere tautologies. Hence no deductive metaphysics is possible. Absolute idealism builds its metaphysics deductively which is consequently doomed.

The attitude of the new philosophies is very different from that of the old. The old attempt was to arrive at the only metaphysics which every one must accept. The old philosophy claimed on the part of a philosopher a superior indubitable knowledge. Metaphysical propositions are a priori synthetic propositions. These are necessary. While ordinary scientific knowledge gives aposteriori

synthetic propositions which are only probable. The new attitude is that the different philosophic systems are merely different possibilities into which the known facts may be fitted in. They are alternative systems, and human experience in philosophising has shown that there is no universal evidence on the basis of which some of them can be rejected and some one system established. We are not even sure whether all the possible systems have been exhausted in philosophic investigation. In this respect science is in a better condition. The scientist when dealing with a particular problem has a definite number of hypotheses which will explain the facts under consideration, and the evidence rules out in many cases all but one. This view of philosophy is the result of the conclusions of modern logic. Modern logic has specially studied the nature of systems. Every system is not deductive. Every system is not coherent. There are many alternative coherent deductive systems. There are also degrees of coherence. Because a system is coherent, it does not follow that every constituent is determined by every other constituent. When this can be done, the system is completely coherent. But a system may be coherent to some extent only, and some constituent facts may be quite independent of some others. The Hegelian attitude is to assert that the world is a system, from that to conclude that it is a completely coherent deductive system, and finally that there is only one such system. Therefore that system is actual. All systems are hypothetical. There is no necessity for them to be actual. Observation of the actual world alone can tell us whether the world is a system. There are immense numbers of systems. The task of science is to find out empirically which particular system is that in which all the known facts fit in.³ Whitehead calls the old view as committing one of the fallacies of over-statement. This I shall quote here. "The other form of overstatement consists in the false estimate of logical procedure, in respect to certainty, and in respect to premises. Philosophy has been haunted by the unfortunate notion that its method is dogmatically to indicate premises which are severally clear, distinct, and certain; and to erect upon those premises a deductive system of thought". "The verification of a rationalistic scheme is to be sought in its general success, and not in the peculiar certainty, or initial clarity, of its first principles". Postulational logic had this wonderful sobering effect on philosophers. Logical systems, mathematical systems, are all postulational systems. The primitive propositions of any system far from being more acceptable than the propositions in the body on the basis of clarity and certainty are much less so. All systems are hypothetical. Empirical

success in application alone can justify them. This view of system has also another effect. The world being a system does not involve that it must be a coherent system, from which the absolute idealists logically deduce monism. The new logic shows that absolute idealism is not necessary, and realism is possible.

The neo-realism to begin with took on a subsistential form. In the act of knowledge, every object has an independent reality unless the knowledge is of the subject. Objects which were not found to exist were supposed to subsist in an ideal realm. It was a form of Platonic realism. But the full force of the new logic, according to Russell, was first applied to philosophy by Whitehead. Russell followed. This was the application of Occam's razor,—entities are not to be multiplied beyond necessity. This is the result of the theory of incomplete symbols. Words or phrases for entities are not found to exist like descriptive phrases. Classes are found to be incomplete symbols. When propositions containing such phrases or words are logically analyzed, all incomplete symbols disappear giving way to demonstrative symbols which are symbols for constituents of the world of existence. By applying this method of logical construction,⁴ it became unnecessary to postulate any transcendental realm besides the realm of existence. All words in language have only empirical reference. The principle may be stated in the form: "Wherever possible, substitute constructions out of known entities for inferences to unknown entities". Both Russell and Whitehead have fully used this method. Russell by constant application of this principle has come to what he calls "Existential Realism". It is a form of nominalism. I have dealt with Russell in detail in my article, 'The Method Pursued In Russell's Philosophy'. So we shall leave him at this stage and proceed to examine how Whitehead used the new logic with greater force and success.

Whitehead to achieve the purpose of Occam's razor in science uses a special principle called the method of "extensive abstraction". The construction with which the scientist ends (which we sometimes call the physicist's world) has a neatness and orderliness that is quite unlike the untidy multiform world of common sense. Yet, since science grows out of, and returns to, the world of common sense, there must be a precise connexion, between the 'neat, trim, tidy, exact world which is the goal of science' and the untidy fragmentary world of common sense. Professor Whitehead has shown in detail that the principle of convergence to simplicity provides a method of effecting this connexion. He calls it the method of "extensive abstraction"⁵ The problem is to exhibit scientific

concepts as logical functions of what is given in sense. "To do this is to demonstrate the applicability of abstract deductive systems to the world given in sense experience. There is no necessity to be found within the abstract system itself that would guarantee its applicability. The value of the method of extensive abstraction can be gauged by the fact that it shows *how* abstract deductive systems can be applied to the world presented in sense. Hence its importance for the student of scientific method." The elements of the system are 'events.' The special relation is the relation of 'extension' holding between them. In his 'Principles of Natural Knowledge' Part III, chapter VIII, he gives the following about this particular deductive system by which he builds the scientific concepts from what is presented in sense. 27. The Relation of Extension, Fundamental Properties. "27.1. The fact that event *a* extends over event *b* will be expressed by the relation *aKb*. Thus 'K' is to be read 'extends over and is the symbol for the fundamental relation of extension.' "27.2. Some properties of K essential for the method of extensive abstraction are,

- (i) *aKb* implies that *a* is distinct from *b*, namely, 'part' here means 'proper part'.
- (ii) Every event extends over other events and is itself part of other events; the set of events which an event *e* extends over is called the set of parts of *e*.
- (iii) If the parts of *b* also are parts of *a* and *a* and *b* are distinct, then *aKb*.
- (iv) The relation K is transitive, i.e. if *aKb* and *bKc*, then *aKc*.
- (v) If *aKc*, there are events such as *b* where *aKb* and *bKc*.
- (vi) If *a* and *b* are any two events, there are events such as *e* where *eKa* and *eKb*.

It follows from (i) and (iv) that *aKb* and *bKa* are inconsistent. Properties (ii) and (v) and (vi) together postulate something like the existence of ether; but it is not necessary to pursue the analogy".

Events are the elements which we are sensibly aware of in nature. The basic relation among these elements is 'extending over'. The relation of 'extending over' has certain properties. The elements having these properties will give the primitive ideas. The elements having this relation will give the primitive propositions. And a deductive system is built up by mere logical process. The physical concepts are logically constructed out of the elements, namely 'events', presented in sense-awareness. Let us take a concrete example of the working of this method. What is a point? It is a mathematical concept. Is it a part of a line? However infinite-

simally a line may be divided, any part will be a line and not a point. In this connection let us take up the relation of whole to part. This relation is transitive and asymmetrical. Point can be defined in terms of the whole-to-part relation of volumes. We take Chinese boxes (a box being inside another box, still another box inside the first and so on ad infinitum). Let us suppose these to be spherical. Then we have a set of concentric spheres. If we open them we shall find that any one of them is enclosed by one and encloses another. "This relation of enclosure is a whole-to-part relation . . . Now suppose that the set of spheres contains, as we progress further and further to its smaller end, a sphere as small as we please. Then we have a third property of the enclosure relation, viz. (iii) its domain includes the converse domain. If we symbolize enclosure by E , and the spheres by a, b, c etc. respectively, then these three properties can be formally expressed as follows: (i) aEb and bEc always imply aEc . (ii) aEb always implies not (bEa) . (iii) aEb always implies that there is a c , such that bEc ". The relation would be the same for all kinds of volumes, e.g. cubes etc. We may speak of it as "enclosure volumes." "Now, a set of enclosure volumes related by a relation of enclosure having the three properties laid down above is such that (1) of any two of its members one encloses the other, and (2) there is no member enclosed by all the others, and (3) there is no member not a member of the set which is enclosed by every member of the set. As we progress down this set of enclosure volumes we approximate to a volume as small as we please. That is to say, we converge to an ideal simplicity to any degree of approximation we please. Such a set of enclosure volumes is called by Professor Whitehead a "convergent set". In no case do we reach a volume than which no volume could be smaller. In other words, we do not reach an absolute minimum". "If, now, we consider the three properties of the set of enclosure volumes, we see that this set is a route of approximation to a point; it converges to a point . . ." "A point is a class of all the enclosure volumes that converge to a point". The word class is used as there are different kinds of enclosure volumes. "The point thus defined has the properties required by mathematicians. It is important to realize that, although the convergent sets converge to nothing, the quantitative expressions of the enclosure volumes do converge to a limit. Thus the set indicates the ideal simplicity required of a point although this simplicity is not found in any member of the convergent set. The fact that the enclosure relation determines this simple intrinsic character reveals the significance and the precise meaning of the principle of convergence to simplicity by diminution of extent".

"Mathematics appears here in the function of a mediator between the data of perception and the exact concepts of physics, as an ally of that radical empiricism which was represented by Hume with his demand that everything conceptual and abstract should be legitimated by showing its origin in impressions". Whitehead thus shows the utility of a deductive system, namely that of extensive abstraction, for the interpretation of the physical concepts in terms of sense experience. He uses it in physical science.

But such systems or patterns have many other applications. "Mathematics is the most powerful technique for the understanding of pattern, and for the analysis of the relationships of pattern". He further says, "The notion of the importance of pattern is as old as civilization. Every art is founded on the study of pattern. Also the cohesion of social systems depends on the maintenance of patterns of behaviour; and advances on civilization depend on the fortunate modification of such behaviour patterns. Thus the infusion of pattern into natural occurrences and the stability of such patterns, and the modification of such patterns, is the necessary condition of the realization of the Good". Different natural, religious and ethical systems stand for different patterns. He shows the wide application of modern mathematics and logic, which are inseparable.

Russell too has used deductive systems in constructing the external world of science. "We saw that a deductive system can be constructed starting from undefined objects to which we assign purely logical properties. If we can find objects that can be fitted into the system because they are related by similar relations we are said to interpret the system". As the deductive system is completely formal, the same deductive system can have different interpretations. "It sometimes happens that a scientific theory constructed with reference to a certain set of objects is found to be a system having the same structure as a system constructed with reference to another set of objects," e.g. gravitation and electrical attraction. "It is to be observed that the method of interpretation substitutes for the initial undefined objects, objects that have non-formal properties. In this substitution consists the application of deductive systems. Mr. Russell has utilized this method in constructing a philosophical theory of the external world".⁶ "In Logic, however, . . . our formulae are not regarded as 'true' or 'false', but as hypotheses containing variables. A set of values of the variables which makes the hypotheses true is an interpretation". In logic we have deductive systems built up without having any interpretation for the axioms. In science we may find

that in a particular investigation there are situations corresponding to the axioms. Then that deductive system has found application $p > q$ where p stands for axioms and q for the system. p is satisfied by this value. Then q has found application.

We have noticed that the logical result of the application of new logic has been firstly realism, secondly this realism closely associated with development of empiricism. Hume has come back through the door of logic with a greater force. This empiricism has found its full expression in logical positivism. The apparatus of symbolic logic with modification, namely all molecular propositions are truth functions of elementary propositions, has become the basis for a new radical empiricism. There are elementary propositions which are exclusively about empirical reality. It believes in logical simples in the realm of facts. A logically simple object is an object which, according to its nature, makes any further analysis impossible. An elementary proposition is not a truth function. It is a picture of the fact. These elementary propositions are the atoms. This is the well known principle of atomicity. "Every statement about complexes can be analysed into a statement about their constituent parts, and into those propositions which completely describe the complexes" (Tractatus, 2.0201). "In order to demonstrate the exclusive concern of elementary propositions with empirical facts it is necessary to show that there is one and only one complete analysis of any proposition, that this analysis absolutely terminates in the elementary propositions, and finally that the elementary propositions are not capable of analysis save into names which compose them." Then it is shown that this only one analysis of all propositions which are not elementary, namely molecular, is that all such propositions are truth functions of elementary propositions. This is known as the principle of extensionality. This shows that all propositions ultimately have only empirical reference. Because of this theory, general propositions involving infinite number of instances are considered to be not propositions at all. "The sense of the proposition is the possibility of the fact which it represents." "That which the picture represents is its sense". "The truth and the sense are distinct, because the former consists of the actual agreement of sense with reality, while the latter is simply the possibility of agreement". From this we get the principle of verification. The sense of a proposition lies in what will verify it in experience. Real propositions are a posteriori. Science deals with a posteriori synthetic propositions. There is a test for its truth, namely verification by experience. Not

only this, its very sense has reference to experience. Logical and mathematical propositions are a priori analytic propositions. They have shown this very demonstrably. They are tautologies. Universal propositions of logic and mathematics express essential generality. The general propositions of science express accidental generality. "The first meaning is what the older logicians called an intentional meaning; and what Wittgenstein calls intentional meaning. The second is extensional. The former can neither be refuted nor established by empirical tests. The latter is always subject to establishment or refutation by empirical investigations". But logic and mathematics say nothing about the world. They are purely analytic, and hence tautologous. They have devised very sound proofs for this with the help of matrix method. Logic is only part of symbolism. They are rules for transformation of expressions from one mode to another mode. Hence there can be no deductive metaphysics. There is a test for a priori analytic propositions, namely that they are always true. I have also devised a proof which shows that their contradictories are impossible. There are no a priori synthetic propositions, because they have no sense. Sense refers to what the proposition expects to verify in experience. Of course it also has no test of its truth. That has been the tragedy of the whole situation. The philosophers had claimed a superiority for such propositions, namely that they are necessary. No philosopher has produced propositions which have been universally accepted. Science has at least produced such a body of knowledge. It was based on the mistaken notion that logic and mathematics give a priori synthetic propositions. All metaphysical propositions are either tautologies (analysis of concepts) or nonsensical. Even an ethical proposition is no proposition. Logical positivism has identified logic with the study of syntax of language. This linguistic study has already borne much fruit. It has analysed various kinds of meanings and uses of language. Words and sentences may have factual meaning which has informational function, or affective (emotional) or directive (volitional-motivational) function having non-cognitive meanings. Science has the former, and philosophy if not logic has often the latter meaning, if it is not absolutely nonsensical. Positivism gets into certain difficulties because of the principle of atomicity. Radical Physicalism of Carnap abandons it. He has attempted to construct a language of science which will be universal language for inter-subjective communication, avoiding the solipsism which accompanies the earlier form of positivism. But the most important thing is his theory of different levels of language. The latest researches of Tarski,

Lukasiewicz and Carnap have made this possible. "The language of every day usage contains words and sentences the referent of which is the empirical world. Other words and sentences, however, refer to the physical or logical properties of the empirical or object language. No sharp line is drawn between these two kinds of words and sentences in ordinary discourse". Because of this confusion between object language of science and the syntax language of logic antinomies arise. Anything spoken about syntax-language will belong to a higher level of language. This distinction between the different levels of language has solved many philosophical problems.

The new logic has been used for establishing pragmatism by C. I. Lewis in his 'Mind and World Order'. Pragmatists take reality to be indeterminate, and human knowledge and activity as trying with various deductive systems with different postulates to shape this reality to their liking. It is a Kantian position with a flexibility for the categories. There is nothing absolute about the categories. Success alone in applying the particular system to experience is the guiding factor.

So we have seen that the modern development of symbolic logic or mathematical logic or logistic had important effects in modern philosophy. Various aspects of it have been used by different philosophers as their methods of investigation. If this paper can show the necessity of studying modern logic for understanding and critical estimation of modern philosophical movements and modern philosophers, I shall consider my task in writing this paper as a success. It seems clear that certain great advances have taken place through the use of this method. The following are some. No philosophical system is necessary. Realism is possible. Deductive metaphysics is impossible. Logical and mathematical propositions are analytic. But I believe philosophy is possible. This in Russell's sense. There are different schemes to fit in the existing knowledge in different sciences into one single system. But there are many such systems without any empirical test in favour of any one. They are apriori possibilities only. Man shall always explore these possibilities. Further, the world view must include and integrate the factual systems of science and the valuational systems of aesthetics, ethics and religion. Philosophy must both explain the facts of science and satisfy the hopes and aspirations of humanity.

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Revolt Against Metaphysics

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The word Metaphysics was used both for ontology and epistemology by the traditional writers. However, now-a-days it is used for ontology only, to the total exclusion of epistemology.

Metaphysics has been defined variously by different writers at different times. For example, Aristotle defines it as 'a science of being qua being.' Hegel says that Metaphysics is a science of the Absolute. Bradley defines it as 'an effort to comprehend the Universe not simply by piece-meal or by fragments but somehow as a whole'.

In these definitions, there is an assertion of something that is not given to us by the senses. So a perpetual tussle goes on between sense and reason. This could be illustrated from the history of early Greek philosophy. The Metaphysical effort has always been to go behind the appearances of things and grasp their real nature. This task being very difficult, many misconceptions about the science of metaphysics have arisen right from very early times; the general form of the criticism against the science of metaphysics being that metaphysics as a science is not possible, or that the metaphysical questions are meaningless and hence there can be no answers to them. Positivism also finds its origin in the very complexity of the metaphysical problem and has developed into three distinct channels; namely (a) Theological or Popular Positivism of the Sophists, (b) the Scientific Positivism of the critical naturalists and (c) Logical Positivism headed in recent days by Carnap, Schlick, Hilbert, Ayer, Russell and others.

Positivism originally denotes any theory that takes the affirmative side and states its tenets in positive terms. As one of the English Positivists puts it 'our province is to study nature's laws, to trace her processes, and that we can so far penetrate the divine significance of the Universe, be content—as Locke wisely and modestly says—to sit down in quiet ignorance of all *transcendent* subjects. The domain¹ that lies beyond, argues a Positivist, refers

to the things that cannot be known; . . . to go beyond is chimerical, to go not so far is to miss the mark. Thus genuine Positivism finds its sanction in empirical positive descriptive sciences.'

The first revolt against Metaphysics came from the early Sophists, who identified sense perception with knowledge and maintained that 'what is good for me is good for me and what is good for you is good for you,' and so we have no reason to say that one good is better than the other. Here the objectivity of knowledge is destroyed by the total assertion of the subjectivity, and the possibility of any valid knowledge (relativism plus subjectivism being equal to scepticism) is denied. This revolt was not only against the problem of knowledge, but also against the codes of morality, religion, customs, traditions etc. To justify their position the Sophists advocated 'Man is the measure' hypothesis. Thus it was known as popular or theological positivism. In both the attacks, whatever merely *appears* is taken for granted as '*truly existing*' (whatever *appears* is). It appears from Plato's account in his *Theatetus* that the Positivism of the Sophists is essentially an epistemological one (1-Knowledge is not sense perception, 2-Knowledge is not even belief, 3-Knowledge is not judgment), and this view is corroborated from the fact that in Socratic teachings the problem of knowledge becomes a pivotal point. Firstly, all knowledge is through concepts and not through percepts; and secondly, virtue is knowledge. Thus the source of morality is traced to 'true knowledge' by Socrates. Thus in the Sophists we find that the foundations of the theory of knowledge are shaken. To them there is no valid knowledge as such, which leads to utter scepticism; it is again not clear how far the Sophists did actually believe in the relativity of values.

The second revolt against metaphysics comes from the critical Naturalists. Naturalism in its extreme form is equivalent to materialism. But its epistemological difficulties, always more or less in evidence, have sufficed to discredit this extreme form of Naturalism and to foster the growth of a critical and apologetic form of Naturalism known as Positivism or Agnosticism. Such a theory disclaims the knowledge of the ultimately Real. Knowledge, it affirms, can be but of one type, that which comprises the verifiable laws governing Nature. All questions concerning first causes are futile, a stimulus only to excursions of fancy, popularly mistaken for knowledge. The superior certainty and stability which attaches to natural science is to be permanently secured by the savants' steadfast refusal to be led away after the false gods of metaphysics.

Modern Logical Positivism is an off-shoot of Humean Scepticism. Hume reduced self to a series of impressions and ideas connected by associations somehow; thus reducing soul to a stream of consciousness. This leads to a subsequent denial of causation, of substance and of God. As a result, all explanatory aspects of sciences and speculative sciences regarding the first principle of the universe were discarded by him. He asserted quite dogmatically that all books regarding these sciences should be committed to flames as they contain sophistry and delusion. What is verifiable by direct observation can alone be real and true according to him. Thus the positive is the valid.

The modern Logical Positivists' position may be stated as follows. The problem of logical positivism is the problem of precise language. Language, as all admit, is a very precarious vehicle of expression and admits of all kinds of ambiguities, resulting in philosophical problems of the traditional type. It is the purpose of philosophy to dispel confusions. But due to ambiguity of words such as 'is', 'exist', etc. (This is red; there *are* contradictions) the confusion is worse confounded. Therefore, a logical positivist's first task is to analyse the propositions and translate them into sentences about sense contents. As a result of such translation some light is thrown on the problems of traditional philosophy, many of which when exhibited in the light of the logical positivist's method of analysis and translation almost disappear.

The traditional philosophy in the West (as seen in the foregoing account) holds that metaphysics is in part the study of values or of the Absolute or God, which belong to an order of reality other than phenomenal. There is also the empirical trend of thought, which denies the existence of the first principles revealed to us by reason; repudiates metaphysics and holds that all our knowledge comes to us through sense-experience. Therefore, there is no order of reality other than the familiar order which our senses reveal and science explores.

Consequently we can speak of two kinds of propositions, i.e. empirical and apriori. The former have meaning only if they are verifiable or related to possible experience. The latter are analytic propositions and therefore tautologous ($2 + 2 = 4$). All metaphysical assertions are meaningless. Only those empirical propositions have meaning which are theoretically verifiable. And since any experience is inevitably an experience of the sense-world, it cannot be significantly asserted that there is a non-empirical world of values.

Philosophy is said to be a sustained endeavour to understand the universe as a whole. But if Logical Positivism is right, philosophy cannot perform this function. It cannot help us to take a synoptic view of the whole Universe. There is no Universe other than the different departments of natural facts explored by the sciences, and the world has no dark corners to be lighted; and if certain matters are still obscure that is only because science has not pushed forward its researches. The same may be put in other words as follows.

"A set of words purporting to express a factual proposition P is significant only if it is possible to deduce or infer from it in combination if necessary with other premises, some proposition or propositions (at least one) Q1, Q2, Q3.....etc....., the truth or falsity of which it would be logically possible to verify by direct observation. If no such direct verifiable deductions from P are possible, then the set of words purporting to express P is non-significant and P is not really a proposition at all, but a 'Pseudo-Proposition'." This is the positivist's principle. In this sense all metaphysical propositions are meaningless; they are in fact merely pseudo-propositions i.e. sets of words, which although arranged in propositional form, do not actually assert or deny anything, and so are not properly propositions at all. They define "metaphysical" as any type of thought which depends on the distinction between an outer appearance and an inner reality, and which asserts that there is a reality lying behind appearances, which never itself appears. Thus the tenets of many of the most famous philosophers of the world such as Spinoza, Kant, Hegel, Bradley and Sankara remain open to the condemnation of the positivists; for all of them tried to probe behind the veil of appearance, calling the ultimately Real either Substance, or Ding-an-sich, or the Absolute or Brahman. The contradictory of meaningless or pseudo-propositions is itself meaningless; and since only meaningful propositions can be false, the denial of any metaphysical statement is just as much without meaning as its assertion.

As regards Ethics and Aesthetics, the logical positivists hold that they are not fit to be called sciences at all. Value-judgments cannot be argued about. Ethical concepts do not say anything; they merely evince approval or disapproval. And these are simply feelings, facts in the speaker's mind, unrelated to any objective facts or principles. The statement 'X is good' does not even say something about one's own feeling, since it expresses no real proposition. It is merely an emotional response like a cry of

delight. Similarly with religion; we cannot either prove that God exists or show that He is provable. This position cuts deeper by asserting that all talk about God is twaddle, whether pro or anti.

The attack upon metaphysics, religion, ethics and aesthetics, is based upon the famous principle of verifiability, which asserts that 'the meaning of a statement is the method of its verification.' With the help of this criterion we can distinguish meaningful from meaningless propositions. What never appears can never be experienced or verified. If verifiability is the essence of meaning, it follows that the assertion of a reality which never appears has no meaning. Thus not only metaphysics, but all sciences which deal with ideals like "Ought", with consciousness or mind of others, and with continuity of existence of things also are meaningless.

This principle of direct and complete verifiability by direct observation makes universal propositions and propositions pertaining to past events meaningless. To avoid these consequences, the exponents of the principles of verifiability began to admit that indirect and partial verification would be sufficient. Thus past events are verified indirectly either by deducing consequences or by the effects which we see now of the past events; and universal propositions will be significant because some of the facts which they assert are observable. But such a criterion of verifiability is itself conditional (*not unconditional*), and depends upon another assumption viz., the principle of observable kinds. This principle is stated as follows:—

'A sentence in order to be significant must assert or deny facts which are of a kind or class such that it is logically possible directly to observe some facts which are instances of that class or kind. And if a sentence purports to assert or deny facts which are of a class or kind such that it would be logically impossible directly to observe any instance of that class or kind, then the sentence is non-significant (meaningless pseudo-proposition)'; as for example, Maj.-Gen. Thimmayya crossed the Ladakh valley during the Kashmir operation. To observe this fact directly is logically impossible, for, the fact no longer exists. But this fact is a member of the general class of facts of men crossing the Ladakh valley whom it is possible for us to observe. Thus the sentence states a fact which, though not itself observable, is yet of an observable kind. Therefore, according to the principle of observable kinds, this is a significant proposition. So also the universal propositions like water quenches thirst, "water boils at 100° C", etc., can also be shown to be significant.

The logical positivist, armed with the principle of verifiability, attacks the theory of knowledge. He begins by distinguishing, in an orthodox manner, between two kinds of statements or propositions, namely empirical and apriori. Examples of the former are "water flows down hill" and "your behaviour annoys me". Examples of the latter are "twice two is four" and "a man's father is his son's grandfather." The former are statements of observed facts. The latter are the expressions of logical implications. In this sense the former are synthetic, and the latter are analytic. The knowledge of the latter does not involve the activity and the employment of the senses. And the non-sensory knowledge in its turn is divided into two categories, the analytic and the synthetic. Of these the former is tautologous, and the latter is meaningless. Thus all apriori propositions are meaningless.

We do not agree with the logical positivists because of the following reasons: (1) We do not understand whether verifiability is a criterion of meaning or a condition of meaning. (2) the principle of verifiability commits the fallacy of regressus ad infinitum. (3) What is meant by the word 'experience' in the phrase 'relation to possible experience'? If by 'experience' is meant 'empirical' or 'sense experience' only, discarding any non-sensory experience, then in that case mathematical propositions like $(a^2 - b^2) = (a + b)(a - b)$ which involve a datum of introspective sensation are meaningless. (4) There are again non-sensory experiences which cannot be denied, and their objectivity cannot be established by the principle of verifiability, e.g., that murder is bad. (5) The principle of observable kinds is not self-evident. It is arbitrary, and those who have no desire to accept it need not accept it. (6) It is not again a properly framed inductive generalisation. To prove that it is an inductive generalisation results in *petitio principii*. For, the procedure of the positivists is to first manipulate the evidence, so as to make it conform to the conclusions. (7) The principle of observable kinds is not also the development of the general principle of empiricism. (8) The logical basis of the logical positivists consists in their assumption that all alleged propositions or linguistic forms which profess to convey information or to make assertions which could either be true or false are of three kinds viz., (a) factual propositions or empirical hypotheses, (b) tautologies or definitions, and (c) meaningless or metaphysical verbal forms. According to the logical positivist, only the statements in (a) give us propositions which are significant or actually say something of something else. All this is based upon the theory of symbolical logicians about

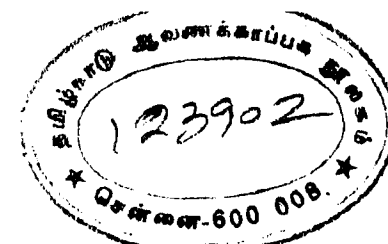
mathematical language. This is probably excellent in its own sphere, but it cannot and should not be extended to all kinds of communications by language, that is by signs. For in all ordinary and non-mathematical scientific language the form and matter cannot be distinguished readily. Even when they are distinguished, the use of language depends both on form and matter, because the assertions are material. They point to what happens to things that exist, and are not purely formal like those of mathematics. The ordinary language has warmth of feeling, and expresses emotions, attitudes, commands, assertions and denials. But the mathematical language is the limiting case where the language symbols are emptied of all contents so as to apply to all things in general and to nothing in particular, e.g. X. Y. Z refer to nothing in particular, though they refer to everything that is symbolised by X. Y. Z. It is only in mathematics that terms can be interchanged absolutely without any error. Hence the Logical Positivists, treating this limiting case as though it were a typical case, fall into the error of condemning all other propositions as non-significant and hence meaningless. (9) The logical positivists assume that all valid propositions asserting matters of fact are logically equivalent to or can be reduced without change of meaning to propositions which assert nothing, e.g. "Scott is the author of *Waverley*". We may ask, what exactly does this proposition assert? Clearly it asserts that some one wrote *Waverley*, and that not more than one person wrote *Waverley*, since "the" indicates uniqueness of reference; it also asserts that no other person than Scott wrote *Waverley*. Hence, Scott is the author of *Waverley* is equivalent to the conjoint assertion of (i) at least one person wrote *Waverley*, (ii) at most one person wrote *Waverley*, (iii) there is nobody who both wrote *Waverley* and is not identical with Scott.

The proposition would, then, be false, if no one had written *Waverley*, or if more than one person had written *Waverley*, or if one person had written *Waverley* but Scott had not. From this it is clear that "Scott is the author of *Waverley*" can be reduced to other propositions which assert or deny nothing, but convey the same meaning. But then certain data of sense can be or are experienced under certain conditions. That is to say positivists are phenomenologists. The chief use the Phenomenologists make of their assumptions is to show that the propositions they dislike are not true or valid. As such no propositions which they dislike (why metaphysical propositions alone!) would come through the ordeal unscathed. (10) Rules of syntax are criteria of significance and not laws of thought, which metaphysically are the laws of things and

hence not criteria of significance. All words are meaningful. If they are connected by means of rules of syntax, then the judgment is significant, otherwise not. Thus all non-significant propositions need not necessarily be meaningless. This follows from the positivists' assumption itself.

In conclusion we may state that Logical Positivism like Radical Empiricism dispenses with apriori knowledge, repudiates the notion of necessary connection, eschews absolutes and denies metaphysics, while presenting factual statements about the empirical world as hypotheses. In the modern world, the craze to find experimental evidence for every piece of knowledge in every branch of study has fostered the growth and appeal of Logical Positivism. The greatest, and by far the most welcome but fatal, effect of the application of logical positivism by a young man whose mind is vigorous, able and enquiring is to induce a thorough-going scepticism. He will conclude that the natural order has no basis in supernatural order from which it derives its meaning and its purpose. Values therefore are without reality, and morals without meaning. Religion and God are thrown down from their pedestals, all resulting in moral scepticism and religious agnosticism. The destruction of the foundations of rational belief in God, in Truth, in Goodness and in Beauty has resulted in sowing the seeds of intolerance and dogmatism. Most men need a creed and there is nothing in the empirical world upon which a creed can be based. Thus Logical Positivism tends to undermine rational belief, and so the belief in all kinds of "Modernisms" springs up in the 'vacuum left by abeyance of concern with fundamental human values'.

Thus we find that metaphysics need not shut up shop and liquidate. The challenge given to metaphysics and its very existence can be met, and has been met, and we may continue to discuss metaphysical questions which are as much significant and meaningful as any of the positivists' propositions. Metaphysics examines what other sciences assume. Metaphysics has come to stay, and shall continue to stay as a science of "Being qua Being".



The Philosophy of the Nath Cult

DR. SHREEMATI KALYANI MALLIK, M.A., B.T., PH.D.

The Nāth Yogis were known throughout India in the mediaeval period as the 'Siddhās', i.e. adepts of Yoga. There is an age-old tradition still current in the northern parts of India, in Nepal and in Tibet, that the nine Nāths and the eighty-four Siddhās were performers of miracles. The eighty-four siddhās were mostly Buddhists of the Sahajia sect and were called 'Siddhācāryas'; they flourished between the tenth and the twelfth centuries A.D. The names of some of the important Nāth Siddhās are found in the list of these eighty-four Siddhācāryas, but no historical authenticity can be given to this list of siddhās numbering 'eighty-four', the number having rather a mystical significance than historical. Yet the general religious outlook of the Nath Siddhās and the Buddhist Sahajia Siddhācāryas has led earlier scholars to believe that the Nāth Siddhās were crypto-Buddhists. This conception is, however, not correct, as has been proved by further researches on the subject of the philosophy of the Nāth Cult.

In the first place, we may point out that the mere finding of some of the names of the Nāth Gurus amongst the Siddhācāryas is not a sufficient proof that they were Buddhists. Neither can the opinion of MM. Haraprasad Shastri that Guru Gorakhnāth, the most influential of the Nāth gurus, was originally a Buddhist of the Vajrayana sect be confirmed with certainty. There is a tradition, however, that Gorakhnath was known as Ramanvajra or Anangavajra before he met Guru Matsyendranath, the preacher of Nathism, and became his disciple. Gorakhnath is supposed to be the only heretic from Buddhism, which is rather doubtful. Because from Nepalese chronicles we know for certain, that Matsyendra went to Nepal to preach Saivism, dressed as a Saiva Yogi, and that Gorakhnath, his disciple, went to meet him there. Moreover, the Nepalese believe that Gorakhnath came from the Punjab and settled near the temple of Pasupatinath in Nepal, to preach Saivism. Grierson, Levi and others record that in the twelfth century Buddhists who did not want to displease their Muslim conquerors, became the disciples of Isvara, i.e. God, and called themselves 'Saiva'. But Gorakhnath belonged to the eleventh century and his guru, Matsyendranath, to the tenth century A.D., and no other Nāth guru's

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name has been connected with Buddhism. That Guru Matsyendranath belonged to Bengal and was a Saiva who called himself 'Kaula' and preached his cult in Assam, has been proved beyond doubt.

There is a tradition in Bengal that Matsyendra received his instructions from 'Siva' the Adinath. While Siva was explaining the theory of Yoga to his consort 'Gauri' on the seashore, Matsyendra disguised in the form of a fish under water, overheard him. Siva, however, found him out, named him Matsyendra, which was significant, but cursed him at the same time for deception. This curse was fulfilled after some years, when Matsyendra was entangled by the snares of the Queens of Kadali in Assam, and forgot Yoga. Goraknath delivered his guru from their clutches, and cursed them to hang for ever like bats from trees. This story of the deliverance of the guru is narrated in Gorakh-Vijaya in Bengali.

While verses by Matsyendranath have been found in old Bengali of a thousand years ago, none have been yet found written by Goraknath. Gorakha's Upadeshas are commonly found in Hindi and Sanskrit in Northern India, and some even claim Goraknath to be the first Hindi verse writer. In Matsyendra's Sanskrit works, Kaula-jyannirnaya etc., there is no mention of 'Buddhism'. These works are preserved in Nepal and have been ably edited by Dr. Probodh Bagchi.

All these facts help us to prove that the Nath Siddhas were not Buddhists. Let us now proceed to find out further details by a short comparison of the two cults.

* The Buddhists believe in 'ahimsa', i.e. non-killing, but Matsyendra belonged to a fisherman caste and caught fish for a living. It is said that Gorakh was also a killer of animals, but his origin is shrouded in mystery. The Buddhists are non-smokers, while the Nath Yogis use 'siddhi', the favourite intoxication of Siva. The Buddhist monks are clean shaven and use no sect-marks, but the Nath Yogis may or may not shave, and they wear the sacred thread of black wool with symbols of Siva and Shakti, put tripundra on their forehead and have the mark of Yogi-linga on their right arm. The 'kundalas' or ear-rings worn by the Nath Yogis are symbols of Siva's kundalas; these are also known as 'mudras' and are supposed to make the Yogis immortal. The Nath Yogis' mantra is 'Siva-Gorakh' and they call themselves 'Siva-gotra', i.e. descendants of Siva. All these facts do not imply the precepts of Buddhism in any form.

In Nepal Gorakhnath is deified as Siva; but strange to say, Matsyendra is honoured as 'Avalokitesvara', the fourth divine Bodhisattva, and the annual car festival of Matsyendranath is one of the most important events of the year in Nepal. The festival is similar to the car festival ceremony of Jagannath in Puri, Orissa. Levi says that an ancient Buddhist image is used to represent Matsyendranath, but different traditions in Nepal on the entry of Matsyendra into their country indicate non-Buddhist origins.

Neither is it true that the esoteric Buddhist cult seceded from Buddhism and became a Saivaite cult to which the Nath gurus belonged. The common elements of Yoga and Tantra as practised by both the sects led to this misconception. But Yoga and Tantra were neither Buddhist nor Brahmanic in origin. They are of a common heritage from earlier times, and traces of similarity may be found in the Jaina Dohas of about the tenth century, called Pahuda-doha of Muni Rama Sinha.

The Buddhist Sahajia cult is essentially an esoteric yogic cult. The Nath cult which seems to be synchronous with the Buddhist Sahajia cult is a psycho-chemical yogic cult, akin to the Rasayan school of Indian thought. While the Rasayan school advocated the use of Rasa or mercury to immortalise the body, the Nath school advocated the practice of Yoga with the use of certain chemicals. The use of chemicals at this period had even found its way to the West.

The common background of Buddhist and Jaina Dohās and 'padas', found in old Bengali by Matsyendra and others, is aversion to scholarship and injunctions of religion as preached by the learned. The 'sahaja' or the easy way of sādhana is advocated, the secret being the destruction of duality and attainment of 'Sahaja-samadhi' or 'Sama-rasa', which is the final state of bliss and non-duality; it is the attainment of the same state or 'Sama-rasa' of the devotee and his object of devotion. While the Sahajia Buddhists advocate the easy way, the Nath Yogis adopt certain difficult postures, but the ultimate aim is the same. The Nath Yogis were strict celibates, and Hathā Yoga helped them to discipline themselves and keep their bodies clean. With such a body the 'Parampada' or the Supreme Reality can be easily realised, and the Supreme Bliss or 'Mahāsukha' attained. Liberation can also be attained when the mind is fixed on the Supreme Reality and one is not hampered by knowledge of the 'sastras'. Such was the sahaja way of the Sahajia Buddhists and the Nath Yogis, of the mediaeval period, who belonged to different sects altogether.

We shall now explain some of the technical terms found in the Nath texts. The chief concern of the Yogis is with Siva and the Saivite faith. This is evident in their symbols, their sacred places their legends and their ceremonies. So the first and the most important concept is that of 'Śiva' and of his consort 'Śhakti'. It is Śiva, the destroyer, the terrible, and at the same time reproducer and the great ascetic, who is worshipped. Yet his shakti is paramount. 'Jiva' is the human being intimately connected with Siva, as Siva is Jiva and vice versa. It is Shakti that creates, but the cause of creation is Siva, the two being distinguishable, yet inseparable like the moon and the moonshine. In the Tantric Saiva school, Siva and Shakti are conceived as the two aspects of the Absolute Reality; they are the primordial male and female. Siva resides as pure consciousness in every human being, in the 'sahasrara chakra', while Shakti resides in the 'muladhara chakra' in the form of nāḍa or sound. 'Jiva' is created as all other visible things in the world, and is necessarily polluted, yet by 'sadhana' or practice Jiva can attain Sivahood and be pure. This sadhana amongst the Tantric school consists in awakening the Shakti, that resides in the human body as a coiled serpent at muladhara chakra and is for ever sleeping, and then uniting her with the Siva in the 'sahasrara chakra', thus producing the absolute non-dual state of bliss.

In the mediaeval period the human body was considered to be the epitome of the universe; thus everything found in the universe, the rivers, the hills, the heavens etc., had a place in the human body. As such, the principles of Siva and Shakti, or male and female aspects of the absolute reality, were contained in every man and woman. The two nerves on the left and the right of the spinal cord were known as Ida and Pingala; and Apāna and Prāna, the courses of the two vital breaths, were connected with these nerves. It only rested with 'Jiva' to bring under his control these vital breaths, connect them together, and make them flow through the middle nerve in the spinal cord, called 'susumna'. This practice is often followed by the Nath Yogis to attain the final state of bliss known as 'mahasukha'. We find references to the nerves, Ida and Pingala, as the Moon and the Sun, or as 'Ganga' and 'Yamuna', in the thousand years' old 'padas' of Matsyendra's time. These padas were known as 'caryapadas', which means 'verses on practices'. This union of the vital breaths produces also the union of the 'Pinḍa' with the 'Bramhaṇḍa', or the union of the microcosm and the macrocosm, and can only be attained with the help of an honest guru or 'sadguru'. Gurunvād is another important feature

of Nath cult. Unless and until a disciple finds and puts his absolute faith in his guru, he can never attain liberation. Success in 'sadhana' can only be vouchsafed under the direction of a sadguru, who has himself attained Sivahood. Such a guru has no caste restrictions, he is without pride or prejudice, and he explains only through silent gestures to an adept pupil, as in the supreme state of bliss the guru becomes speechless, and can be followed only by a worthy disciple.

'Kāyāsādhana' or the practice of Yoga through the human body to attain immortality was advised by the Nath gurus. The Uṭṭasādhana or Regressive Process is inevitable in this culture of the body. This sādhana has been referred to not only in the Sanskrit works, but also in the Bengali ballads relating to the Nath Yogis. Though 'Kāyāsādhana' was an important feature in Nath cult, it was more or less common to all esoteric schools of the period, with variations in form only. The 'supreme bliss' or 'supreme love', as conceived by different schools, presupposes the achievement of a perfect body to withstand the joy of such supreme realisation. Thus the culture of the body with the help of Yoga, purifying and rejuvenating the human body with which human beings are born, is of paramount importance to the Yogis. A Yogi with such a body is called 'Jivanmukta', i.e. he has attained liberation while he is alive and not after his death. Such a Yogi can roam about the three worlds in any form he wishes to assume. Thus has arisen the popular belief that the great Nath gurus are still alive in their subtle super-material bodies somewhere in the Himalayas.

A treatise on Hatha Yoga called 'Hatha-Yoga Pradipika' in Sanskrit mentions that the Mahasiddhas Sree Adinath, Matsyendra, Sabar, Ananda, Vairaba, Gorakh etc. have overcome death by their powers of Hatha Yoga and are wandering about the worlds.

'Mukti' or liberation after death is considered to be of little value to the Nath Yogis, because what happens after death is unknown, and such liberation is only a speculation and not a certainty. The theory of 'Jivanmukti' is prevalent amongst the Nath Siddhas; hence preservation of the human body through 'kāyāsādhana' is of primary importance.

We may come to the final conclusion that the Nath Yogis were not Buddhists, neither was their philosophy based on Buddhism. All the technical terms mentioned above are derived from Saivism.

The influence of the Nath cult, specially of the teachings of the great guru, Sree Gorakhnath, is keenly felt in the literature of various Indian languages. The thoughts as expressed in the ballads which are still sung in certain parts of Bengal refer very often to the Sun and the Moon and to the practices mentioned above. In one ballad, Maynamati, a queen of Bengal and a disciple of Gorakhnath, practically forces her son, Raja Gopichandra, to become a Yogi. This heart-rending episode is narrated in Bengali, "Gopichandrer Gan", and the Nepalese version of the same is preserved in the Cambridge University. We find a Hindi version of the story called Padumavat by Malik Mohammad Jayesi. Other Hindi versions have been found in Bhagalpore and Benares, called "Gopichandka-Pothi". Gujrati, Mahrathi, Punjabi and Oriya versions have also been collected by scholars. In Bengal we find the story repeated by different authors. These stories all attribute great miracles to the Nath Yogis, with occasional glimpses of historical truth. Gopichandra ruled in Bengal in the 12th century; his capital was in the district of Rungpore, but his renunciation created a sensation all over India, which even at this distance of time continues to be echoed in poems and dramas written in various modern Indian languages.

Reason and Revelation—with a Difference

BY

REV. J. F. BUTLER, M.A., A.M., PH.D.

In a paper 'Reason and Revelation' in *The Philosophical Quarterly* (xxiv. 4, Jan. 1952, 239-46) Dr. J. N. Chubb advances a very extreme view of the place of revelation in religion, offering thereby 'a critique not only of natural theology, but of all natural philosophy that deals with the supersensible' (246), and even making his own view of the dependence of theology on revelation to be a truth not of reason but of revelation (242).

In making some remarks on this thesis, I do not wish or intend to make any comparisons as to truth or value between Dr. Chubb's religious tradition and my own, or to enter into any debate as to how far his views will be acceptable within his own tradition—a matter on which he himself has some doubts (239). But in the course of his article Dr. Chubb makes a number of statements and assumptions about Christianity; and these, as a Christian philosopher who has been honoured with much friendship from Dr. Chubb and many other Indian philosophers, I wish to be allowed to correct.

(1) *The Christian doctrine of knowledge.* Dr. Chubb deals with the distinction between 'natural' and 'revealed' theology largely as a Western one, referring to the ontological argument (a scholastic invention) as an example of the one, and the mystery of the Trinity (a purely Christian doctrine) as an example of the other (239). Certainly it is within the Christian tradition that this distinction has been most explicitly drawn, and in these terms. Having thus stated (quite correctly) the traditional Christian dichotomy of theological knowledge, Dr. Chubb goes on to say that he is concerned only with 'knowledge' in the sense of '*jñāna*' (240, n. 1). Now, here we have one of the vital differences between Hinduism and Christianity. I imagine that much of the Hindu system would become unintelligible unless it were realized that the 'knowledge' spoken of in the English translations is indeed '*jñāna*', which, without attempting any exact definition, I take to be intermingled with concepts like union, *darsan*, salvation, in a way in which 'knowledge' in its usual English senses is not. It must indeed be allowed that this Indian sense of 'know-

ledge' is not altogether unknown in Western philosophy, as when Plato distinguishes its cognate 'gnōsis' from 'epistēmē' as well as from 'orthē doxa', or as when 'knowledge of' is explicitly distinguished from 'knowledge about'. But it must also be recognized that 'knowledge' in Western philosophy generally means what Dr. Chubb calls 'lower knowledge' (240, n. 1): and this is certainly so in the case of the knowledge claimed in the 'proofs of God' given by 'natural theology' in the Christian tradition—these have never claimed to give *jñāna*. It is therefore possible (the point is not one for me to try to decide) that Dr. Chubb's argument is relevant to some controversy or misunderstanding within the Hindu tradition; but it is simply irrelevant to that Western distinction of 'natural' and 'revealed' theology to which he appears to relate it.

(2) *The Christian doctrine of revelation.* I have no complaint at all to make of Dr. Chubb's mode of distinguishing 'natural' from 'revealed' theology, when he draws the distinction explicitly (239-40). But then in the rest of his paper Dr. Chubb seems to take 'revelation' to mean any Self-making-known of God to men. I doubt if any Western theological philosophy has ever claimed to be independent of 'revelation' in this sense. Just as values and qualities cannot be talked about meaningfully by people who have not experienced them—'red', for instance, being meaningless to a man born blind—so 'God' is at least partly unintelligible to those who have no experience of God. Of the main theistic arguments, the 'argument from experience' simply deduces God from 'revelation' in this wide sense; and I think that even the more 'rationalistic' *quinque viæ* of Aquinas imply it in their final phrase (which if it be not interpreted thus is certainly open to much criticism)—'et hoc dicimus Deum' (or similar phrases: *S. c. G.*, I. 13; *S. T.*, I. 2. 3): 'and this [the metaphysical entity proved by the argument] is what we call God [i.e., identify with the Object of our religion]'. If then we take 'revelation' in a very wide sense, no one is likely to quarrel with Dr. Chubb's demand that no theology be taken as independent of revelation. But this is not the technical sense of 'revelation' as we have it in Christendom. Christian revelation is of (alleged) 'mighty acts of God for Salvation': only in a secondary sense is it identical with accounts of these, or with teachings and experiences connected with such primary revelation. Thus in Christianity 'truths of revelation' are truths known of or directly through the Divine Mighty Acts: they are not 'the direct experience of the *ṛsis* or

seers of Truth' (242) or 'Śruti as "percept"' (245)—whatever validity these may have in some other context. Dr. Chubb comes fairly near to this when he says: 'The proper distinction to my mind is between certain revealed truths which are intelligible to the intellect and certain truths which cannot be made intelligible to the intellect and so must remain "mysteries"' (242)—except that the essence of the Christian (alleged) revealed truth is not 'mystery' (it may or may not be 'mysterious' in this sense) but *historical givenness*. But then Dr. Chubb goes on to say: 'Whether there are any "mysteries" in this sense is a separate question and need not be discussed here.' Dr. Chubb is, of course, in one sense free to choose what he will and what he will not discuss: but if he does not want to discuss the Christian doctrine of revelation he should not refer to it so misleadingly in a context which he has been at pains to make alien to it: nor has he any right, on the grounds he has given, to draw the conclusion: 'We must hence give up the double standard of truth used by some theologians, e.g. truths known by reason and truths depending on faith' (243): nor ought he on the strength of this to go on to accuse the Christian claim of being 'dogmatic' (243) and showing 'a sad lack of the spirit of humility' (244)—since he has insisted on taking the Christian (alleged) revelation to be what it claims not to be and has not considered it as what it does claim to be. I would suggest that what the Christian claim of revelation is can best be seen in such passages of Christian scripture as Matthew 27: 54, John 20: 26-28, Acts 2: 22-38: it is through and through historical, it is only in secondary senses doctrinal or experiential. I am not here arguing that Dr. Chubb ought to accept this revelation, but only that he should deal with it as it is and not as he supposes it to be by analogy from another tradition. It is because of that historicity that the Christian revelation claims the uniqueness to which Dr. Chubb objects (243), for historical revelation is almost by definition unique: it is not because it claims to have a monopoly of experience of God—for it does not make such a claim.

I do not know how far Dr. Chubb, in framing his doctrine of the self-evidence and sole self-sufficiency of revelation, has been influenced by Christian sources: but in any case it is not without interest that his doctrine, though it differs (as we have seen) from the normal Christian one, seems practically identical with that which has been recently put forward and has become fashionable within Christendom, associated chiefly with the names of Dr. Karl Barth (e.g., *The Knowledge of God and the Service of God*, esp.

chap. i) and Dr. Emil Brunner (e.g., *Revelation and Reason*). But the revelations appealed to differ so widely, both in their nature and in their content! It would seem, then, that the only alternative to what Prof. Leonard Hodgson has so aptly called 'a shouting match between rival prophets' (*The Doctrine of the Trinity*, 27) is to set the rival revelations all under the judgment of reason.

But will reason bear the weight of this task? What is reason? We are thus led to my next topic—

(3) *The Christian doctrine of reason.* Dr. Chubb argues against reason as 'autonomous' in natural theology (242). But does any Western thinker actually hold that 'reason' is autonomous, in the sense of independent of all non-intellectual elements? Western users of the word either define it narrowly, and then admit that it needs supplementation (e.g., Mansel, Balfour), or define it more widely (as notably Plato and Kant). [Incidentally, I am at a loss to understand Dr. Chubb's phrase 'the Platonic or rationalistic tradition in philosophy' (239: cf. 241).] Reason, except in logic itself, is essentially 'about' something else—it is 'about' sense-perception, value-judgements, and so forth. Western thought of any type can thus easily accept Dr. Chubb's dictum that 'Reason shines by a borrowed light' (241), in its essential meaning, though some of us might dispute the wording: but this has no relevance to the question of the distinction of 'natural' from 'revealed' theology; in that distinction 'natural' and 'revealed' are both technical terms, intended for helping in dealing with questions which arise after the 'general revelation', in which reason has a part and only a part to play, has been accepted.

(4) *The Christian doctrine of religious experience.* Religious experience, in the Christian tradition, is quite disparate from that which Dr. Chubb has in mind. He thinks of religious experience as being, or as culminating in, 'God-realizedness' (244: cf. 240 n. 1); and thus is enabled to comment, in connection with his charge against Christians of lack of humility: 'nor if we consider the number of God-realized souls in the world's history can Christianity bear any comparison with the non-Christian faiths' (244). I should indeed hope that this is so: if I may put it this way without intending any criticism of other people's religions by their own criteria, the whole notion of 'God-realizedness', taken in any strict sense, strikes a Christian as being, so far from the religious ideal, something that verges on blasphemy. A few Christians have indeed followed such an ideal: probably the best mind among them was

Meister Eckhart: but they have been eccentric and indeed generally excommunicated, and justly so. Christian orthodoxy, in its opposition to 'ontologism', has even gone so far as to deny, not only that we can be one with God, but even that we can, in this life, see Him as He is in His Essence. Dr. Chubb's *Śruti* apparently announces something quite other from this. How then are we to decide between these conflicting deliverances of authority? If we are not to have a 'shouting match', we have got to decide by reason. (This is, of course, no new point—there is a vast Christian literature about this problem of 'authority', much of which realizes this fact. It is indeed an old story—first men fly to authority to escape the deficiencies of reason, and then when they find authorities conflict they have to submit them to the arbitrament of reason).

To sum up.—Dr. Chubb's argument strikes one brought up in the Christian tradition as a powerful argument for that 'general revelation' which has been a normal part of the Christian tradition, but paradoxically expressed in language much akin to that of the Barthians, who stand aside from the main Christian tradition in their denial of general revelation. It has no relevance whatever to the Christian doctrine of 'natural theology' against which it seems to be largely directed. It is not my place to judge how it stands as regards analogous Hindu doctrines.

I do not intend this to be any argument for the Christian position, but only a plea that the Christian position should be seen to be what it is. If Paul's religion has, or tries or means to have, the same aims and methods as Sankara's, then much of Dr. Chubb's criticisms may apply to it; but if it has not, then they are not relevant.

Perhaps I may be allowed to add that I have replied to Dr. Chubb's position at some length not merely or mainly because I respect Dr. Chubb as an individual, but because I have found his approach to Christianity to be not uncommon in India, and I do not think it is a fair one, or one worthy of the clarity and understanding which we know Indian thought has. If one begins by taking Christianity as practically a form of Hinduism, with the same general aims and methods, then there is quite a plausible argument that it is rather a muddled, eccentric, dogmatic and generally inferior form of Hinduism. But—'everything is what it is, and not another thing.' If one sees—as one should see, since it is simply a fact—that Christianity (within the very general resemblances in virtue of which both it and Hinduism rank as 'religions') is not trying or intending to do the same thing as Hinduism at all, and is

not using entirely the same methods, then the comparison must be conducted on quite other lines. The two aims must be set side by side, and so must the two techniques, and they must be compared in the light of personal experience, historical claims, power of explication of life, inner consistency and the rest of the apparatus of reason widely understood. Only that is the true science of 'comparative religion'—a study which should flourish well in India, with her wide experience and long tradition of tolerance.

Fichte's "Science of Knowledge" and Husserl's Phenomenology

BY

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I

Contemporary analysis has made a mess of the central problem of Epistemology. Too much emphasis on the psychology of perception, and too much preoccupation with the problem of sense-data have diverted the attention of philosophers from the real epistemological standpoint. It is gratifying therefore to find an American Professor raising his voice against the temptation to equate the theory of knowledge and the theory of sense-perception. The contemporary epistemological situation may be compared to the pre-kantian psychologism, which passed for epistemology until Kant appeared on the scene. Kant's reform was to dislodge psychologism from its pretensions to yield epistemological truth. Kantianism championed the cause of epistemology as against psychologism. This does not imply a neglect of psychology. Psychology is one science amongst others; and the science of knowledge is to explore the foundations of psychology as of the other sciences. In Kant, we thus find every psychological law traced to a transcendental basis; Humean associationism is traced to the transcendental principle of objective affinity. The transcendental standpoint was not only a revolt against the psychological, but claimed to provide the foundation for the latter. Kant thus gave epistemology its true standpoint and its central problem.

Now, in his preface to the 2nd Edition of the Critique of Pure Reason, Kant makes a confession which is significant. Of the Critique itself, Kant writes: "It is a treatise on the method, not a system of the science itself. But at the same time it marks out the whole plan of science, both as regards its limits and as regards its entire internal structure." (B xxii). These lines have proved a puzzle to the Kantian scholars. They may be interpreted to mean that whereas Kant has given us an application of the transcendental method to the problems of epistemology, he has not explicitly laid down before us a complete science of knowledge.

Of his own conception of a science of knowledge, Kant has, however, given us certain clear features. The science must be complete and exhaustive in its treatment of its problems; since, "Pure reason is, indeed, so perfect a unity that if its principles were insufficient for the solution of even a single one of all the questions to which it itself gives birth we should have no alternative but to reject the principle. . . ." (A xiii). Further, all its propositions must be certain; since, "any knowledge that professes to hold a priori lays claims to be regarded as absolutely necessary." (A xv). Lastly, the propositions of the science of knowledge must be clear; not only logical clarity, but also clarity of perception is demanded. Transcendental analysis is to leave nothing obscure. Whatever may be the verdict on the other claims of Kant, there ought to be agreement that Kantian criticism, despite difficulties of language, has largely succeeded in giving us an intuitive clarity of its various steps. That is why study of Kant is so engrossing, and so satisfying. Strange though it may sound, this is exactly the point where modern analysis betrays its internal weakness. Lucidity of language and clarity of expression have not brought us that intuitive clarity, which epistemology demands.

If that is Kant's view of the task he has himself performed and the task which he bequeathes to be undertaken after him, it is certainly interesting to examine two post-kantian attempts in the direction of fulfilling the task left undone. Fichte was too near Kant in time and in influence; Edmund Husserl appears late on the scene, when even the movement "back to Kant" was receiving its death-blow. Whereas Fichte was under the living focus of the Kantian sphere of influence, Husserl has been nurtured by the empirical philosophies of Brentano and Meinong. Yet, Fichte's conception of a science of knowledge and Husserl's conception of phenomenology are remarkable attempts to formulate the epistemological problem on true Kantian lines.

II

Fichte's conception of a "Science of knowledge" is only an explicit statement of the Kantian point of view. How are the sciences to be possible? How are the fundamental principles of the sciences to be established? How are the form and content of the sciences to be derived? All these are transcendental questions, raised at the very beginning of the *Wissenschaftlehre*. Instead of immediately attempting to find answers to these questions, as Kant does, Fichte takes the opportunity to develop his conception of what

a 'Science of Knowledge' is to be. He discusses its scope and functions, its form and content, its relation to the other sciences, both as regards their form and content, and to the reflecting mind which produces the science of knowledge itself. The last is important, since "our science of knowledge is not as such something which exists independent of us, but rather something which must first be produced by the freedom of our mind, working in a certain direction." (Fichte, W.L. p. 20).

We can note certain propositions which Fichte seeks to establish regarding the proposed science of knowledge.

1. The science of knowledge is to be a "Science of Sciences", in the sense that it alone is to give them their form, and their fundamental propositions their content.

2. The science of knowledge is to be *absolutely certain*. To be certain means, for Fichte, simply to have an insight into the inseparability of a determined form and a determined content. In the case of no other science is this requirement fulfilled in all strictness. The form and the content of the science of knowledge alone mutually determine each other. This entails absolute certainty.

3. The science of knowledge contains only the *necessary*. This is so, because the science of knowledge lays down propositions about the necessary ways in which the human mind acts. This "manner of acting" of the human reason can only be expressed in a system of necessary propositions.

Now, this proposition assumes that there can only be one system of human reason. The possibility of alternative systems, each with independent principles and yet each valid by itself is rejected by Fichte on the simple ground that such possibility will undermine all certainty and all settled belief in human knowledge. Fichte admits the difficulty, but the search for absolute certainty is a more insistent claim than this logical possibility.

4. Though the science of knowledge itself is necessary, it yet leaves a range of freedom for thought to give further determination to its necessary concepts. *The particular sciences arise from the science of knowledge*, when thought determines this range of freedom in particular directions. For example, space is seen to be necessary in the science of knowledge and a point is seen to be the absolute limit of space. Now imagination is free to locate this point anywhere, or to move it in any direction. From a systematic exercise of this freedom arises the science of geometry. Thus Fichte

exhibits how the different particular sciences arise out of voluntary self-limitation of the science of knowledge. This also leads Fichte to show how the fundamental proposition of every particular science is also a proposition of the science of knowledge, though in a radically different aspect, (i.e. in its transcendental bearing).

5. The science of knowledge, though it contains absolutely necessary propositions in the sense explained above, yet is itself a product of human freedom. The content of this science is the necessary manner of acting of the human reason. But to build up the science itself, a new act is required, an act which would be freely directed towards the content and therefore a free act. This new act is *an act of reflection* (W.L. p. 51). It is an act qualitatively different from all other acts, since what is the form of all other acts is to be the content of this new act. This is Kant's transcendental reflexion, or criticism.

6. Like all other sciences, *the science of logic also is derivative from the science of knowledge*. This derivation is effected by an abstraction of form from content, whereas in the science of knowledge, as we have seen, form and content are involved in mutual determination. Thus, instead of logic being the basis for the science of knowledge, the latter is rather the ground of the former.

The contrast between logic and the science of knowledge is further developed by Fichte (W.L. p. 47). The latter is necessary; whereas the former is an artificial product of the human mind. Logic is not the foundation of all other sciences in the same sense in which the science of knowledge is. The science of knowledge affords the transcendental basis of the very possibility of the sciences; whereas logic is an aid to the clarification and systematic progress of the sciences, though not a condition of their possibility.

These propositions summarise Fichte's conception of the science of knowledge; we can now turn to Husserl, so that we may examine the Kantian tradition in both.

III

Early in his philosophic career, Husserl had accepted the psychologism of his masters Bolzano and Brentano. It was Frege, whose attack on the psychologism of his "Philosophy of Arithmetic", aroused Husserl from his "psychological slumber". But Husserl's genius had to avoid both his own previous psychologism and Frege's antipsychologism. Applied to logic this middle path

meant for Husserl the conception of logic as a theoretical science. Logic was neither derived from psychology, nor was it what others called a normative science. The new conception of logic was that of a pure theory of science; it is to yield "knowledge of the constituents of theoretic unity in science."

This was the phase of Husserl's thought which paved the way for his phenomenological excursions. Soon he came to be convinced that the theoretical foundations of human knowledge lay neither in psychology nor in logic. That which is to afford such a foundation is itself to be absolutely presuppositionless. Psychology, as a science of fact (mental fact), (see Husserl's Preface to the English Edition of "Idea") is no better than the other sciences. Logic alone has a claim to be considered. Yet, it is the problem of the "founding" of logic which, according to Marvin Farber, provided the initial motivation for the development of a universal phenomenological method. Logic is not presuppositionless. Deductive demonstration requires always an assumed basis. Further every system of logic, traditional or symbolic, presupposes a possible world for its realisation. Lastly, study of logic demands a prior analysis of the concepts of meaning and of reality. These concepts, according to Husserl, are to be traced to their "origin" in pre-logical experience, — "origin", not in the empirical, factual, or historical sense, "but in the sense of the intentional reference of all ideas or principles to their "original" evidences.

We can now note the following propositions about this science of phenomenology, which is to provide the absolute foundation of human knowledge.

(i) Phenomenology is to be a science, as it will provide a completely systematic body of knowledge.

(ii) Unlike Mathematics, this science will not consist of a series of logical deductions, but will be *descriptive science*, relying on intuitive clarity and self-evidence.

(iii) Unlike all other sciences, this science alone will fulfil the ideal of presuppositionlessness, and hence will be the *science of sciences*.

(iv) Since this science is to be presuppositionless, it cannot take *its start* in naive straightforward fashion. It can take root "only in radical reflection upon the meaning and possibility of its own scheme." Through such reflection, it shall first take hold of "the absolute ground of pre-conceptual experience" and then,

self-active again, it must create original concepts. (Preface to the Eng. Edn. of "Idea").

(v) *Phenomenological method* proceeds entirely through reflection. An act of reflection consists in directing the mental "glance" from the objects perceived to the functioning of consciousness itself. "It is the name we give to consciousness' own method for the knowledge of consciousness generally."

(vi) Phenomenological science, therefore, is no science of facts; the phenomena revealed by it are not facts. They are characterised by Husserl as non-real (irreal). The transcendental findings are to be distinguished from factual findings.

(vii) The most important thing about the science of knowledge is the *phenomenological point of view*. If the necessary readjustment of point of view can be effected, if the motivation for reflection can be irresistibly felt, phenomenological enquiry becomes a comparatively easy task.

(viii) Though descriptive, phenomenology differs from positivism in recognising the value of all grades of intuition. There is sense-seeing and also rational "seeing". Here is a departure from Kantian rejection of intellectual intuition.

IV

The affinity between Fichte's conception of a "Science of Knowledge" and Husserl's Phenomenology and of both with Kant's conception of the science, for which he claims to have paved the way, is only too obvious. The same speculative spirit animates all three.

But certain points, above all others, require to be isolated.

1. One is not prepared to take easily the claim of epistemology to be a science. Fichte calls it the science of sciences; and Husserl spares no pains to emphasize the same claim. Kant, as we have seen, speaks of a science of human reason to be constructed. What exactly is meant to be conveyed by this claim? Kant, of course, had the ideal of putting philosophical speculation on "the sure road of science". This sure road of science consisted in steady progress of knowledge combined with the attainment of universality and necessity. Kant's analysis of the foundations of the sciences revealed to him certain essential pre-requisites for such scientific attainment. Is Kant's own Critique a specimen of that scientific philosophy in the sense of satisfying those essential pre-

requisites revealed by Kant's own enquiry into the foundations of the sciences? Kant considered sense-intuition an indispensable element in knowledge. What, then, about our knowledge of the critical philosophy itself? The transcendental enquiry into the foundations of scientific knowledge has no sense-intuition to support it. How then is it knowledge; and more so, how can it prepare the way for what is claimed to be a perfectly systematic science?

The fact is, transcendental enquiry belongs to a different level than scientific enquiry. The claim is not to make of it one science amongst others. To call it the "science of sciences" does not dispel all difficulties. The "science of sciences" may be considered one science — though a privileged one — amongst others, only if it be constantly borne in mind that here we are raising ourselves to a totally different point of view, and that our pretensions to be scientific are more out of modesty than out of attachment to the scientific spirit. Kant, Fichte and Husserl are not merely voicing the common claim of making philosophy "scientific".

2. The above-mentioned point comes to clearer relief as we ponder over the claim of all the three to perfect clarity, absolute certainty and total exhaustiveness of the epistemological theme. Clarity there is to be, but not mere logical clarity. Here Kant is claiming, in addition, intuitive clarity, — a claim which refuses to fit in with orthodox Kantianism. If no sort of rational "seeing" be accepted, how can transcendental enquiry yield intuitive clarity? Here, Husserl is on a stronger ground, by admitting rational "seeing" along with sense-seeing. Certainly follows from the nature of reason itself; Fichte clarifies by meaning a relation of complete mutual determination between form and content. This is possible only where both form and content belong to human reason, but not when either is borrowed from extraneous sources. Our idea of certainty follows from rationality; the manner of working of our reason must have, therefore, an inherent necessity about it. Hence follows exhaustiveness. Exhaustiveness is possible and demanded on two grounds: firstly, here the subject matter is not alien to us, but is inside us, so that a complete survey of the realm, despite all complexities and subtleties, is possible. Secondly, as insisted on by Kant, the unity of human reason is such that either all the questions must be answered or none. One is not free here to pick and choose according to convenience; nor can the process continue endlessly as in the case of the other sciences. As Fichte emphasizes, here in the science of knowledge

we can have absolute totality, while all other sciences must be unending.

The claim to exhaustiveness and completeness is not merely an arrogant pretension. There is a real core of truth in it. Knowledge, here, is essentially self-knowledge and not knowledge of an 'other'. And self-knowledge has this advantage over other-knowledge, that once set on the right track, the former will lead to necessary truths; while in the case of the latter, there is no 'right' track, but only hypothetical ones, to be constantly replaced one after another. Human reason is a system in a more primary, more rigid and more fundamental sense than any scientific system is. That is because, the very idea of a system belongs to reason as an ideal, whose only embodiment is human reason in its pure working.

There can, nevertheless, be doubt as to the truth of Kant's claim that "there is not a single metaphysical problem which has not been solved, or for the solution of which the key at least has not been supplied." The ideal of completeness is not alien to self-knowledge as it is to other-knowledge; but that does not make complete self-knowledge an easy task or a task to be achieved in the near future. At least, Kant has not given us that.

3. Further thought is needed to unravel the significance of the constant emphasis laid on the method of "reflection" in epistemological enquiry. Though epistemology is to be a science, its method is never claimed to be "scientific". On the other hand, we are told about "reflection", about the "phenomenological point of view", about turning of the mental "glance", about reason's criticism of itself. Fichte draws out the central point when he says that the science of knowledge is a product of human freedom, of an activity which is "free". Fichte at one place says that his whole philosophy is an analysis of human freedom and spontaneity at its highest form of activity.

The science of knowledge contains only the necessary. But it itself is the product of an act which is free. This freedom consists in directing the "glance" to the general manner of acting of the intelligence, in making the "form" of reason its own content. Once this free "act" is consciously undertaken, or as Husserl would put it, once the phenomenological "motive" is irresistibly felt, the investigation begins and the necessary propositions follow one upon another in systematic unity. But is there any necessity that this necessity should be "felt", or that the "free" act should be undertaken at all?

If not, what is the truth-giving value of all that will be revealed to us in the course of the enquiry?

Indeed, this is a question which goes to the very foundations of any philosophising. We are here raising the fundamental question of the validity of our reflective experience. Reflection comes as annulling unreflective experience. But is the former accompanied by the same sense of compulsion as the latter? Are the two merely two alternatives, between which one can oscillate with equal ease and self-confidence? One cannot so oscillate; for philosophising requires above all sincerity, and sincerity means placing oneself firmly at any point of view. This is done when the "motive", as Husserl demands, is irresistibly felt.

Fichte shows that the other sciences also originate from freedom, from a determination of such range of freedom, as the science of knowledge spares. Origination in freedom is not, thus, the prerogative of the science of knowledge alone. But is there not a difference between the freedom that the sciences determine and the freedom that produces the science of knowledge?

There is a difference; and this difference is decisive. The freedom from which the spirit of self-knowledge ensues is an original freedom, a freedom which is yet necessary as a natural gift in man. (Fichte p. 47). The freedom of the sciences is derivative. Fichte points this out in a passage which is highly meaningful. Speaking about the origin of the sciences, in the manner above described, Fichte remarks that this conception of self-limitation (on the part of the original freedom) does not arise from the conception of the science of knowledge itself, but merely from the presupposition that there exist also other separate sciences. The derivation of the sciences is, therefore, not a necessary phase in the free life of human reason. Fichte is satisfied merely to show the possibility of such derivation. He is not concerned with showing if the limitation is a true limitation. (Fichte, p. 40).

This original freedom is nothing but man's spirituality. Spiritual life is a life in pursuit of self-knowledge. This is an old truth, but like many old truths, it contains ever new implications. We are here examining such an implication, full of philosophical promise.

Types of Metaphysical Thinking

BY

G. R. MALKANI

I

1. What is metaphysics ? Is metaphysics possible ? These are questions which are often raised. There is a view that any study of the nature of reality must be based upon experience, and that it must be conducted with the sole instrumentality of reason. This is evidently true of science. Some philosophers have therefore regarded science as the only form of knowledge of reality. Philosophy may still be possible. But it cannot give us knowledge of reality. It can at best determine the limits of knowledge, and delimit knowledge from other modes of experience with which it is often confounded in philosophical discourse. We can, for instance, through syntactical analysis of various kinds of what are called metaphysical statements, show that they are meaningless as statements of fact or as statements concerning reality. If they have any significance in our experience, that has reference to some form of non-cognitive experience, such as feeling, imagination, etc. Metaphysical knowledge, understood as knowledge of any kind of super-sensible reality, is not possible.

2. This view makes much of logic and logical analysis ; for that enables us to give a rigid and exact meaning to all statements. But it is vitiated by an initial metaphysical premise which can never be proved, namely that all statements of fact or statements about reality must in the end be capable of being verified in sensible experience. Metaphysical knowledge is ruled out at the very start ; but at the same time a questionable form of metaphysics is substituted for the genuine variety arrived at consciously and in full recognition of the claims of reason. It is not only experience that is given a narrow interpretation. Reason too is similarly treated. It is reduced to analysis in accordance with certain accepted rules, which are not to be questioned. They are just the rules of the game.

It may be an entertaining occupation to dissipate the metaphysical illusions of other men. But in the end it pleases neither

the spirit of man, nor his larger reason. A denial is always a hazardous thing. There are more things in earth and heaven than we can dream of. The denial of all metaphysics is itself a form of metaphysics. It is negative metaphysics. The person who makes the statement that metaphysical knowledge is not possible must have exhausted *all possibilities* of a metaphysical knowledge, if he is right; and in the end, he communicates to us a certain kind of knowledge for which there is no proof or evidence, but which we must accept as a kind of revelation to us, super-sensible in character, of a superior person. Have we really got rid of metaphysics, or only brought it in through the back-door? The best interpretation that we can put upon this anti-metaphysical bias is that it is a reaction inspired by certain spurious forms of metaphysical thought, which make high claims which they cannot sustain.

3. Kant is an example of this. Kant was dissatisfied with the rationalistic metaphysics of his day. He naturally recoiled from it. He assigned to philosophy a humbler task, that of making us conscious of the transcendental presuppositions of all knowledge. It is a task which science cannot undertake; for it involves a spiritual process of going beyond all knowledge, and even criticising knowledge from a transcendental stand-point. The value of philosophical thinking is no longer in the knowledge which it can give, but in the rational clarification of the scope of human reason itself. This enables us to know what is possible to reason and what is not, and where we must draw the line between knowledge and faith. Knowledge is in this way saved from the attacks of scepticism, and religion is saved from the attacks of science. Clearly, it is a negative aim only. Philosophy does not advance our understanding of reality.

This delimitation of knowledge was hemmed in by metaphysical presuppositions, if not actual metaphysical knowledge. The *a priori* synthetic propositions presupposed by scientific knowledge were certainly known. So was in some sense the thing-in-itself that provided the objective limitation of our knowledge. Kant could not get rid of all metaphysical knowledge. In fact, no philosopher can, if he seriously philosophises. There can be difference only of conscious metaphysics and unconscious metaphysics, or of well-thought-out metaphysics and one that is ill-thought-out. Kant, for example, regarded the knowledge of the transcendental principles as quite certain and beyond doubt. And yet it stands to reason that this knowledge may itself be open to criticism of a higher reason, and thus degraded from its position of a kind of unquestioned

philosophical knowledge that carried apodeictic certainty with it. Hegel, for instance, subjected the categories of reason to further analysis, and rejected them one by one as not being adequate to reality. The essential truth of reason could only be determined by an arduous dialectical process. In the end there was only one kind of absolutely true knowledge; and that was of the nature of self-consciousness, or the consciousness of the Absolute Idea of itself as Object. Whatever the merits of this process, criticism cannot rest with the acceptance of the common categories of thought, but has to be carried farther to yield some kind of higher, uncommon and purely rational knowledge of reality. Philosophy cannot rest with a negative conclusion. It aims at positive knowledge of a higher reality. Kant inevitably led to Hegel. We have in Hegel metaphysical knowledge with vengeance. There is no other knowledge except the knowledge of the inner movement of reason itself towards its own self-sufficiency and wholeness. "No metaphysics" has been carried to its logical conclusion in "metaphysics only" or "logic only".

II

4. There is another type of metaphysical thinking which does not deny the possibility of a rational metaphysics. But any such metaphysics cannot be absolutist. Reason cannot get at the *whole truth* about reality. There is no royal road to truth, no method by which we can get at what is called the Absolute. All that we can rationally do is to coin newer and newer concepts to fit in with the complexities of our experience and to explain this experience. We must build up a system of concepts that will do justice to every aspect of our experience and constitute a sort of an architectonic plan for the whole of reality. In this way we rationalise our experience, and rationalise our understanding of reality. The process is bound to be endless. No system of concepts can be sacrosanct. It will require modification endlessly in order to become more and more adequate to reality. Metaphysics has to do with concepts. But for that very reason there can be no finality about it. The concepts can be infinitely varied. Greater our understanding of reality, greater the need for such variation. Metaphysics has not only to devise new concepts, but it has also to devise a new language to keep pace with our progressive understanding and rationalization. In the end, we may have a system of thought which has nothing in common with traditional philosophy, either in its content or in its expression. Philosophy can thus be

made a rational business, progressive in its aim and true to reality. There can be nothing stereotyped about it or final. It will be a free adventure of thought to comprehend reality progressively in its truth.

5. There is no doubt that most European philosophy has this character to a more or less extent. It is always an "adventure of ideas" or a game of concepts. Every philosopher is free to devise a fresh new system of his own. In this way there can be an infinite variety of systems, all based upon the same experience, and claiming to explain the same human experience. Reason is great; but what appears to be greater than reason is the *freedom to rationalise*. Reason is not tied to any human or non-human authority. This conception of philosophy has a wide sway. It is supposed to be the privilege of a philosopher to differ, to criticise and to construct freely,—and all in the name of reason. Philosophy in Europe is said to be progressive, and that in India stagnant. Can there be any other reason for this view except that European philosophy is free in its reasoning, while we in India seem to be playing with reason in a make-believe sort of way?

All this may be true. Unfortunately, we cannot see where all this reason is leading us to. A system of concepts may be ingeniously and laboriously devised. But what claim has it to truth? Is it anything more than subjective truth? If it lays claim to objective truth, there must be a way of knowing the true from the false, and evolving a sort of universal system which all must accept. As it is, this is impossible. What one man devises, another can easily demolish with a different set of concepts. No philosopher ever really refuted another philosopher. Each is right and each is wrong. There is simply *no universal criterion* of truth about concepts. In any case, a humanly devised system of concepts cannot amount to truth about reality or knowledge of reality. The conclusion is forced upon us that in rationalizing, we are merely playing a game of concepts, which has only an aesthetic sort of value, but no value as truth. There is neither progress towards Truth, nor a higher or metaphysical knowledge of reality.

III

6. There is a third type of metaphysical thinking. It seeks to evolve an absolutist metaphysics. Metaphysics is taken to be a matter of pure reason alone. But how can reason be satisfied? It can only be satisfied, when there is a criterion of truth within

reason itself. What is this criterion? It may be differently formulated, but it is always the same. Reason cannot tolerate a contradiction. In pursuance of this ideal, it can evolve a conception of reality that is free from contradiction, stable in itself and adequate to the whole of reality. It is possible that reason, guided by its own logic of non-contradiction and adequacy, can find a concept which is most coherent and inclusive. In that case, the concept will constitute the very essence of all reality, and the knowledge of it will be the knowledge of Absolute Truth. It may be that reason is dissatisfied with every possible concept known to man, and therefore seeks satisfaction in some kind of experience above the level of reason itself. What is important to note is that reason, with its ideal of non-contradiction or coherence or wholeness is the way to metaphysical truth. Once this truth is philosophically visualised, there can be no progress beyond it. There can be progress only towards the realization of it in some kind of experience not yet available to us; but this can be no matter for philosophy itself.

7. It appears to us that this way of reason is bound in the end to prove a blind alley. There are certain limitations on reason, which reason by itself can never shake off. (a) Reason can only deal with concepts. It can never get out of concepts to reality. Reality is greater than any concept. The concept is ours, reality is not ours. The concept is something abstract and general in character. Reality is nothing abstract or general. (b) Again, the criterion of non-contradiction is a negative criterion of truth. It can never tell us what reality is in its positive character. There can be no *super-sensible reality* for reason. The only thing super-sensible for it is the concept. But the concept is not any kind of reality. A system of concepts or even the concept of the Highest Reality or the Absolute, even if it is free from internal contradiction and so free from criticism, will not amount to *knowledge* of the Real or to metaphysical knowledge. Absolutist metaphysics sets itself a great and ambitious goal, but its achievement is extremely poor, almost nil, in terms of real knowledge. It is not knowledge at all. It is just imagination. All speculative systems of philosophy are just so much imagination.

In general, we might say that reason, when used reflectively as in philosophy, is the faculty of doubt, not the faculty of arriving at positive truth. It is best at criticism. But even so; if it relies upon its own resources only, there can be no end to criticism. What can we not criticise or reject? Where can we stop? Can

anything conceived by man be self-evidently true for reason? A different approach is necessary in order to help reason achieve its object. Reason must be provided with new dimensions of thought based upon new intuitions. It cannot evolve these by its own unaided light. Reason left to its own resources can only give us scientific knowledge, the limitations of which knowledge are evident to reason itself. Reason must be helped by a revelation from above to cognise what went unnoticed before.

8. This raises the whole question of sources and methods of knowledge in general, or what is called *pramāṇa* in Indian philosophy, a question not common to European philosophy in a strictly philosophical form. If a piece of knowledge is to arise, there must be a source of knowledge or an instrument of knowledge. A thing that does not reveal itself requires to be revealed through the employment of an appropriate method of knowledge. This is so about all matters of fact in the outer world that we seek to know in our daily life or in science. The methods are the well-known methods of perception and of inference in its various forms. Philosophy is not concerned with such knowledge. It is concerned with a higher kind of knowledge not accessible to science, or a species of supersensible knowledge. If that is so, such knowledge can only arise through the appropriate *pramāṇa* or instrument of knowledge. What is this instrument? We might be inclined to say that it must be some kind of rational intuition. That may be so. If sensible intuition is superseded, there must be a non-sensible or super-sensible intuition. We can only conceive of this as some kind of rational intuition. Even European philosophers have spoken of this in one form or another. Spinoza speaks of an "intellectual love of God." Kant visualises the possibility of an intellectual intuition on the part of God, whereby the mere idea of a thing gives being to the thing, so that nothing is given to God from the outside. Hegel carries this idea to fruition by making reason the omniscient seer, so that what reason knows is the reality. We have similar ideas of a higher kind of knowledge both in Buddhist philosophy (on a certain interpretation of it) and in Vedantic philosophy. But what cannot be denied is that we do not have any rational intuition to start with. It is not an accepted form of intuition. If it is at all possible, it is possible only as the end of the philosophical adventure. But how is this end to be achieved? It cannot be achieved as naturally and as effortlessly as the knowledge of the sensible in perception. If we turn to reason, we are no better-off. Our reason is naturally based upon the sensible. It seeks truth without. It

can never give us knowledge of the super-sensible or metaphysical truth. If such knowledge is possible, there is only one method open to us, and that is not an empirical method used in the knowledge of the physical or the mental world. Reason has no power within it to transform itself into an intuition. It can only conceive ideas. And when it analyses an idea, all that the analysis will ever yield will only be another idea, not reality. Hegel in fact committed the fallacy of the ontological argument to which Kant had drawn pointed attention. There is a fundamental distinction between the ideas of reason and reality. Reason has to rise beyond its own resources to contact reality intuitively. The only way to do this, where a natural intuition is unavailable, is through a supernatural revelation or the revealed Word or *Śruti* as it is called in Vedānta. This has therefore to be admitted as a new source of knowledge not available to reason at the purely empirical level. *Śabda-pramāṇa* is the only source of that higher knowledge that philosophy seeks.

IV

Here then is another type of metaphysical thinking different in method and procedure from all other types of metaphysical thinking. It seeks to know a truly metaphysical reality which is beyond the sensible world, and which at the same time constitutes its essential ground. It finds that this knowledge is only possible through the acceptance of *Śabda-pramāṇa*. Does not this however transform philosophy into a form of dogmatic theology, where scriptural authority dominates reason from beginning to end? Such knowledge is neither intuitive nor even rational. Faith in the scripture cannot take the place of a direct intuition of reality; and where the latter is lacking, the former can give us no help. We may try to rationalize faith. But when we bring reason to bear upon faith, with the avowed object of confirming and consolidating faith and not disputing it, we make reason itself subservient to authority and therefore less than reason. The trouble is that reason that is free never gets to anywhere. It requires to be directed and controlled. This control is best exercised by faith. There is no other way, equally efficacious and equally respectable. At the same time, reason can be relieved of its authoritarian or dogmatic character. It need not be, and it should not be, a form of theological thinking seeking merely to interpret the revealed Word without reference to its objective truth or without reference to our experience of reality.

9. It is evident that if *Śabda* is a *pramāṇa*, it must lead to knowledge. If it leads merely to a dogma or a creed, accepted on

faith, then *Śabda* is not a *pramāṇa*. But then do we really get *knowledge in this way*? If we do, we have merely to read the *scripture*, and that will be the end of the matter. We ought to get the higher knowledge straight-away. There is no room for reasoning, or for philosophising as a matter of that. There is no sense in speaking of a higher philosophical knowledge as a kind of "rational intuition." Reason does not figure anywhere. We are merely confusing dogmatic belief with knowledge. There is science on the empirical plane and dogmatic religion on the non-empirical plane; and between them there is no kind of knowledge called rational knowledge or philosophical knowledge.

We contend that the revealed Word, if it is a *pramāṇa*, ought to lead directly to knowledge, and not to a mere belief. If it leads to the latter, let us admit that it is not a method of knowledge at all. There is a qualitative distinction between the theoretical state of belief and the theoretical state of knowledge. A belief cannot be transformed by any amount of reasoning into knowledge. We need therefore to discriminate between a revealed word and a revealed word. The Word that directly *reveals* a super-sensible reality is *pramāṇa*, but the Word that merely *asserts* a super-sensible reality is not a *pramāṇa*. The latter may give rise to a useful belief or even a true belief; but a belief will always remain a belief, whatever arguments reason may advance to consolidate it. If, for instance, one scripture says, there is God, gives the attributes of God both *inherent* and *accidental*, but goes no farther, we may have a true belief which we entertain in faith. But the faith will always remain, rationally speaking, a faith. Nothing that the theologian can do about it will ever transform it into knowledge. The revealed Word does not become a basis for metaphysical knowledge. It is not *pramāṇa*. Another scripture not only says that there is God, and not only gives the attributes of God, but goes further and says that God or the Highest Reality is your own Self (*ātma*). It has certainly brought the Supersensible Reality straight within the scope of my intuitions or direct knowledge; for, what cannot be denied is that we have in some sense a direct and immediate intuition of the Self as we have of no other thing. If the Absolute Reality is identified with the Self and is the very Self, can we seriously argue that the Word has failed to reveal Reality to us? This accounts for the importance which Indian Metaphysicians attach to the revealed Word or *Sruti*. God or Brahman is described in His essential nature (*svarupalakṣṇā*), and in His accidental nature (*taṭasthalakṣṇā*), and revealed as identical with the Self or *ātman*.

10. This however leaves our original question unsolved. Even if we suppose that knowledge follows directly upon the operation of the so-called *pramāṇa*, or *Śabda-pramāṇa*, reason does not come in anywhere. The knowledge that we get is the most empty and the most unconvincing of all species of knowledge. If it is more than this or supremely valuable, that may be possible in the region of religious mysticism but not in that of reason. It is not rational knowledge.

We now contend that reason has a necessary place in this kind of knowledge, and that is what invests it with supreme philosophical value. Indeed reason has no positive contribution to make. It does not construct a speculative system. When it does that, we call it imagination. No system, with its rigidity, can ever satisfy the claims of truth. It can always be shown to be open to objections both from within and from without. It can never have the stamp of truth about it. The role of reason in metaphysics is necessarily negative.

Knowledge follows directly upon the operation of the *Pramāṇa*. But there are certain obstacles (*pratibandhās*) to its complete fruition. The result is that we know, and yet we do not know. We have doubts. The removal of these doubts requires reason. Thus reason comes to work only after knowledge has been initiated through the appropriate *pramāṇa*. It does not work in a vacuum. Its job is cut out for it. It is the removal of doubts; and these can be of various sorts. A person who has no doubts may be a superman. Reason can do nothing for him. But then he has got the value without reason. Why should we force reason upon him? After all, reason is only an instrument of truth, not the truth itself. We may not call his knowledge "philosophical" but only mystical. But there is a point where philosophy must transform itself into a mystical experience; and that is the point where, with the aid of reason, all doubts have been resolved. It is the point which is called in Vedānta "*Sākṣātkāra*". Here truth becomes life. There is no distinction.

We said that different kinds of doubt assail us. Our reasoning must be appropriate to those kinds. There are three main forms of this doubt. (a) We can doubt, for instance, the significance of the revealed Word or *Śruti*. There can be different interpretations of it. To misunderstand or to understand differently is only human. But there are certain rules which reason can observe in order to

resolve such doubts. They relate mainly to textual interpretation, such as the *context*, the beginning as well as the end of a discourse, the real *purport* of the writer that gives unity to all his statements, etc. Is there a single meaning in it all, or divergent meanings conflicting with each other? This reasoning is technically called *śravaṇa* or hearing. All doubts about the *pramāṇa*, i.e., what it conveys, are thus resolved. It is a strictly theological kind of reasoning. The coherence it seeks is the coherence of meaning through the texts. Most outsiders, misled by the importance which the Indian metaphysicians attach to *Śrūti*, regard this kind of reasoning as the only reasoning employed in Indian philosophy. They naturally equate Indian philosophy with a kind of theology, that sticks to the texts without regard to truth in a larger and freer sense. This conclusion however would be wrong. For it has reference merely to the first step in reasoning.

(b) The next step is to resolve doubts that arise from experience itself in respect to the purported truth. When the significance of the texts has been clarified and rendered coherent, it has to meet the challenge of experience. Do the statements of *Śrūti* make sense in our experience and conform to it? In other words, we have to see the truth of *Śrūti* not in the abstract, but in our own experience. This is only possible by analysing our experience and eliciting its true meaning. Here reason is free to raise every kind of doubt that naturally arises and to resolve it in the only way such doubts can be resolved, namely by deepening our consciousness of reality. It is a process of self-analysis and self-education. Reason here is quite free. It is not coerced in any way. *Śrūti* is a guide that points the way; it is not an imposition. The truth of *Śrūti* must be seen, not merely believed. This is as much as any rationalist can demand. The very problem of an opposition between reason and revelation disappears. As a matter of fact, reason becomes complementary to revelation. Left to itself, it has no genuine philosophical problem. All its problems refer to the sensible world with which it is confronted in ordinary experience. There is no experience which has any reference to a super-sensible or metaphysical reality. The revealed Word, for the first time, initiates reason to a new world of experience. It not merely asserts a metaphysical reality, but throws it straight in the very centre of our experience where it cannot be missed,—that Absolute Reality is your own Self (*Tat tvam āsi*), thou art that. Here experience is automatically raised to a new level, and all the problems of reason

arise at that level. We have to ask, what is *that*, and what is *thou*, and how is the *identity* to be realized. What is the relation of *that* to the sensible world? The three metaphysical entities,—God, soul and the world,—are intrinsically related. The Western distinction of cosmology, psychology and Theology as separate metaphysical studies appears most artificial.

Reason is thus guided by *Śrūti*, not towards the ends of religious dogmatism, but towards the ends of freedom from dogmatism and Truth. Our only bondage, according to this way of thought, is our misunderstanding or wrong knowledge. To put our understanding right through knowledge of the Truth is the only business of philosophy. Can we still argue that reason has no vital part to play in Indian philosophy? Can the state of being without a doubt be realized, without the help of reason in its most critical and incisive form? The fact is that most European philosophy, so highly praised for its so-called rationality, appears, from this point of view, as not critical enough. The truth which it enunciates in the end is just a set of dogmatic beliefs or assumptions, not self-evident truth. It is the product of a half-mature reason, or reason groping in the dark.

(c) Lastly, there may be doubts that persist because of wrong habits of thought and certain practical requirements of life. Truth may appear, and is bound to appear, very strange to the common man and opposed to all common-sense beliefs. These doubts cannot be eliminated through any amount of mere theoretical reasoning. Reason understands, but it tends to forget itself and to lose its grip on truth through the habit of irrationality and non-discrimination which is common to man in the natural or the unreflective state. The doubts in question can only be eliminated by persisting in the new outlook, confirming it, and disciplining the mind to think the truth always and to live the truth. This is a form of spiritual culture called *niditdhyāsan*, i.e., correcting wrong feelings about reality. It is thus that reason, following the lead of *Śrūti*, comes to its own, and realizes the higher metaphysical truth without any doubt whatsoever. It now sees the truth; and this is what we can rightly understand by a rational intuition. The whole process can be expedited through a teacher who has himself realized the truth. There is then both simplicity and certainty about it.

We conclude that reason as employed in European philosophy can only enable us to build castles in the air. But if we want to

build on rock, reason must be guided by a revelation from above. The philosophy of Vedanta is like a beacon-light to all those who are conscious of a developing gloom in this sphere of human effort and aspiration. Hindus believe in Śrūti or the Word that reveals Ultimate Reality, they believe in the institution of *gurus* or real and living Teachers of the Truth, and they believe in the possibility of realizing the Absolute Truth in individual human experience.

A Note on Time and Space

BY

C. T. K. CHARI

The Special Theory of Relativity and Minkowski's geometrical rendering of it have been with us for over four decades. Nevertheless, as I have pointed out in some of my recent papers and notes,¹ the misconception that time has been reduced without any remainder to one of the four dimensions of an unfamiliar space dies hard. The fantasies about the "Time Traveller" have not lost their popular appeal. My object in this postscript to my already published work is to bring into focus some recent statements by mathematical physicists.

(1)

I have explained how the popular doctrine of the indistinguishability of space and time owes its plausibility to Hermann Minkowski's demonstration in 1908 that, if in the mathematical expression for the spatio-temporal separation" of two events, $x^2 + y^2 + z^2 - c^2 t^2$, we introduce the fourth coordinate $\tau = ict$ where i is the "imaginary" number $\sqrt{-1}$, the "four-dimensional distance" can be written down as $x^2 + y^2 + z^2 + \tau^2$. We seem to have obtained a simple generalization of the expression for the ordinary three-dimensional Euclidean distance, i.e. $x^2 + y^2 + z^2$. Henry Margenau in a recent authoritative survey² of the philosophy of modern physics has observed: "If we are willing to look upon τ as a fourth coordinate, and upon $ds^2 - c^2 dt^2$ as a generalized line element in four dimensions for which we may introduce the symbol dS^2 , nothing very extraordinary seems to have happened. Our space is still Euclidean; it retains its well-known properties"

But the formal simplicity conferred upon space-time by the coordinate τ cloaks the physical implications and invites serious

1. *Mind*, April 1949; *The Philosophical Quarterly*, April 1950; *British Mathematical Gazette*, September 1951.

2. *The Nature of Physical Reality* (McGraw-Hill Book Co., New York, 1950), Ch. VII, §. 8, p. 150.

philosophical misconceptions. I have shown elsewhere³ that, so far as the Special Theory of Relativity goes, the earlier statements by P. Langevin, R. D. Carmichael, R. C. Tolman, Eddington and Robb, arguing for the uniqueness of time as the "fourth dimension", have not lost their force. It is significant that G. Y. Rainich, in his recently published *Mathematics of Relativity*⁴ has found it necessary to devote a special section to "Complications Resulting From Imaginary Coordinate". The time-dimension in Special Relativity is always distinguishable from the three spatial dimensions even when it is inseparably united with them. "They can be treated alike in many respects, but they are different in that they have squares of different sign. Moreover, unlike the situation in Euclidean spaces, coordinate transformations never take a space-like vector into a time-like one, or vice versa. Finally, the time-like vectors are divided into two distinct categories or funnels, corresponding to the distinction between past and future (this property of time is sometimes called irreversibility, a distinction that has no counterpart either in Euclidean space or in space-like vectors of Ninkowski space).⁵ Pointing out that, under the Lorentz-Einstein transformations, the expression

$$-x_1^2 - x_2^2 - x_3^2 + x_4^2 = -x_1'^2 - x_2'^2 - x_3'^2 + x_4'^2$$

is invariant, E. Schrödinger has recently said: "Indeed it is well-nigh an exhaustive definition distinguishing Lorentz-transformations among all possible homogeneous linear transformations of the four coordinates".⁶

(2)

I have more than once deplored the web of mystification spun round the $\sqrt{-1}$ associated with time in the relativistic equations. The dismissal of it by Relativists as a mere analytical tool, a piece of mathematical scaffolding, "un simple artifice de calcul, qui permet de se placer dans des conditions mathématiquement bien connues",⁷ has fostered the misconception that it plays the part

3. The 1952 Annual (January) Number of the *Indian Astrological magazine* (edited by Sri B. V. Raman, Bangalore 3, South India).

4. (Applied Mathematical Series, edited by I. S. Sokolnikoff, John Wiley, New York, 1950), Ch. 2.

5. Rainich, *op. cit.*, pp. 59-60.

6. *Space-Time Structure* (Cambridge University Press, 1950), p. 77.

7. F. Gonseth, *Les Fondements des Mathématiques* (Préface de M. Jacques Hadamard, Albert Blanchard, Place de la Sorbonne, 1928), Ch. VIII, p. 137.

of the familiar "operator" which turns a straight line through a right angle. Popularizers like J. W. Dunne, on the one hand, and responsible philosophers like E. B. McGilvary, on the other, were led away by this misconception. An important contribution to current speculation made by the late E. A. Milne's *Kinematic Relativity*, apart from its controversial aspects, is the attempt to rescue physics from the confusion between spatial and temporal judgments which occurs when a merely *geometrical* order is substituted for a *spatio-temporal* order. Martin Johnson, a sympathetic exponent of Milne's ideas, has written: "Minkowski's diagram, so useful in demonstrating absolute and relative succession and simultaneity, was a disastrous gift to those who accepted uncritically his overstatement that 'hereafter time and space do not exist save as shadows of a single reality'. The notion that the time variable is merely a fourth dimension became even more harmfully fastened upon popular exposition through the purely analytical technique of making the interval equation homogeneous by multiplying time by $\sqrt{-1}$ ".⁸ Unfortunately, Johnson himself, in discussing the relativistic $\sqrt{-1}$, does not quite dissipate what he calls the "misleading psychology of its associations". He says: "But the fact that time becomes 'imaginary' in this system has no metaphysical significance, and we recollect that multiplication by $\sqrt{-1}$ in a physical diagram merely means a turning of the picture from horizontal to vertical".⁹ This gives an excuse for reviving the confusion to which Dunne and McGilvary succumbed. Margenau¹⁰ does not enlighten us by referring to the use of complex numbers in the studies of electrical inductance. The situation provides no useful analogy to Minkowski's "imaginary" time-coordinate T.

I should like to reiterate a point I have made which, trivial as it may seem to the mere mathematician, is philosophically of some consequence. The term "distance" in generalized or projective geometry is a relative term. It is not, as in elementary geometry, an inherent property of two points, but a property of them in relation to certain other points known as the metric-gauge points. Whereas in elementary geometry it is usual to assume that the distance between two points is a real number, in projective geometry it can be "real" or "imaginary"; both numbers

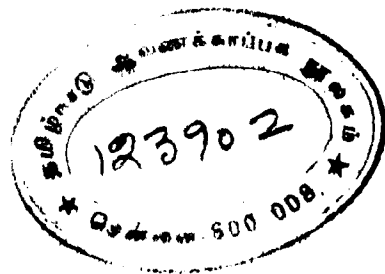
8. *Time, Knowledge and the Nebulae* (Faber & Faber, London, 1945), p. 114.

9. *Op. cit.*, p. 64.

10. *Op. cit.*, p. 151.

are on the same footing. In a projective treatment, Classical Euclidean geometry has an imaginary metric-gauge. In the Euclidean plane, defined by the coordinates, x, t , two of the metric-gauge lines, analytically represented say by the equation $x = \pm it$ where $i = \sqrt{-1}$, are on any ordinary point. Minkowski's geometry of space-time in two dimensions, x, t , has the metric-gauge lines analytically represented by $x = \pm ct$ on any ordinary point.

In changing t into ict or $\pm \frac{c}{i} t$, we assimilate the lines $x = \pm ct$ to the lines $x = \pm it$ and attempt a translation of the geometry of Special Relativity into the language of another geometry, namely Classical Complex Euclidean geometry.¹¹ There is no metaphysical "objectivity" or "reality" about this "picture" in which the fact of "consciousness moving in one direction" seems to be adventitious. It is one of several possible "pictures" of the geometry of Special Relativity in another geometry. A "picture" in the language of Laguerre's geometry of oriented circles and spheres¹² is quite possible, though seldom mentioned in popular expositions of Relativity. Professor P. W. Bridgman¹³ warned us not long ago: "Whether the question as to why it is that time moves forward can be given any meaning in terms of any possible concept of time may well be open to doubt, but it certainly cannot be given meaning in terms of the dead time of the mathematician". The ghost of time "survives", however, even in the mathematics of Relativity.



11. Gonsseth (*op. cit.*, p. 137), notwithstanding his dismissal of the relativistic $\sqrt{-1}$ as an "artifice", almost gave its true interpretation. He remarked that a Euclidean rotation becomes the Minkowskian hyperbolic transformation "si l'on remplace les directions absolues $+i$ et $-i$ du plan euclidien (x, t) par les directions absolues $+c$ et $-c$ du plan einsteinien (x, t) ".

12. See my article in the *Astrological Magazine*, *op. cit.*

13. *The Nature of Physical Theory* (Princeton University Press, 1936), pp. 30-1.

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